I-70 COVER PLANS

DENVER, COLORADO

CCD TRANSPORTATION ENGINEERING PLAN (TEP) GENERAL NOTES

1. DS APPROVAL DOES NOT CONSTITUTE A NOTICE TO PROCEED. THE DEVELOPER IS RESPONSIBLE FOR OBTAINING APPROPRIATE CONSTRUCTION PERMITS.
2. IMPROVEMENTS MADE WITHIN THE PUBLIC ROW SHALL BE PERFORMED BY A LICENSED AND BONDED ROW CONTRACTOR AND REQUIRE INSPECTION BY THE CITY AND COUNTY PRIOR TO ISSUANCE OF A TEMPORARY CERTIFICATE OF OCCUPANCY (TCO) OR CERTIFICATE OF OCCUPANCY (CO).
3. ALL WORK SHALL CONFORM TO CURRENT CITY AND COUNTY OF DENVER SPECIFICATIONS. IF THE CONSTRUCTION ENGINEERING INSPECTOR FINDS A PROBLEM ON THE APPROVED PLANS DURING CONSTRUCTION THAT CONFLICT WITH A CCD STANDARD, THE INSPECTOR MAY HALT CONSTRUCTION UNTIL THE ISSUE IS RESOLVED.
4. CONSTRUCTION SHALL COMMENCE WITHIN ONE YEAR OF TEP APPROVAL. AFTER ONE YEAR, TEP APPROVAL EXPIRES AND RESUBMITTAL/APPROVAL OF TEP IS REQUIRED. CONSTRUCTION SHALL BE COMPLETED WITHIN TWO YEARS OF DS APPROVAL OR AN EXTENSION IS REQUIRED.
5. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PROJECT PERMITS ASSOCIATED WITH CONSTRUCTION. IMPROVEMENTS MADE WITHIN THE PUBLIC ROW TOTALING MORE THAN $20,000 REQUIRE A PERFORMANCE BOND PRIOR TO BEGINNING ANY WORK IN THE ROW. CONTACT CONSTRUCTION ENGINEERING AT (303 446-3469) TWO WEEKS BEFORE ANY CONSTRUCTION PERMIT NEEDS.
6. PERMITTEE SHALL NOTIFY THE CONSTRUCTION ENGINEERING INSPECTOR: 1) TWO WORKING DAYS BEFORE COMMENCING WORK IN ROW; 2) WHEN SUSPENDING OPERATIONS IN ROW FOR 5 OR MORE WORKING DAYS; 3) TWO WORKING DAYS BEFORE RESUMING SUSPENDED ROW WORK; 4) UPON COMPLETION OF ROW WORK.
7. CONTRACTOR SHALL MAINTAIN AT LEAST ONE PRINTED COPY OF THE APPROVED PLANS, SPECIFICATIONS AND STANDARDS ON THE JOB SITE AT ALL TIMES.
8. CONTRACTOR IS RESPONSIBLE FOR BEING AWARE OF, NOTIFYING, COORDINATING AND SCHEDULING ALL INSPECTIONS REQUIRED FOR FINAL APPROVALS AND PROJECT ACCEPTANCE.
9. PRIOR TO FINAL ACCEPTANCE, ALL DISTURBED PORTIONS OF ROADWAY ROW SHALL BE CLEANED UP AND RESTORED TO THEIR ORIGINAL CONDITION, SUBJECT TO CITY AND COUNTY APPROVAL.
10. ALL WORK, INCLUDING CORRECTION WORK, IS SUBJECT TO NOTIFICATION AND INSPECTION REQUIREMENTS.
11. ALL WORK SHALL BE PROPERLY BACKFILLED PRIOR TO THE END OF WORKDAY. NO OPEN HOLES ARE ALLOWED OVERNIGHT. ALL WORK IS TO BE IN ACCORDANCE WITH PERMIT REQUIREMENTS AND APPLICABLE STANDARDS.
12. NO WORK SHALL BE PERMITTED AT NIGHT OR ON SATURDAYS, SUNDAYS, OR HOLIDAYS WITHOUT PRIOR AUTHORIZATION OR UNLESS OTHERWISE SPECIFIED IN THE PERMIT. THE CITY AND COUNTY MAY RESTRICT WORK IN ROW DURING ADVERSE WEATHER CONDITIONS OR DURING PERIODS OF HIGH TRAFFIC VOLUME.
13. COORDINATE ALL STREET OCCUPANCY OR STREET CUT PERMITS WITH CONSTRUCTION ENGINEERING 2 WEEKS PRIOR TO COMMENCEMENT OF WORK.
14. IN THE EVENT THAT AN EMERGENCY REPAIR TO EXISTING FACILITIES IS NECESSARY, THE CONSTRUCTION ENGINEERING INSPECTOR SHALL IMMEDIATELY BE NOTIFIED OF POSSIBLE TRAFFIC HAZARDS. EMERGENCY PROCEDURES SHALL BE COORDINATED BEFOREHAND, WHERE POSSIBLE. NO WORK WILL BE ALLOWED UNTIL NOTIFICATION IS RECEIVED. EMERGENCY TELEPHONE NOTIFICATION MUST BE FOLLOWED UP WITH A LETTER A SOON AS POSSIBLE.
15. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE TRAFFIC CONTROL THROUGHOUT THE PROJECT, INCLUDING PROPER TRAFFIC CONTROL DEVICES AND/OR PERSONNEL AS REQUIRED. A TRAFFIC CONTROL PLAN (TCP) IS SUBJECT TO CCD AND/OR CDOT APPROVAL PRIOR TO COMMENCING WORK ON ROADWAY ROW. A COPY OF APPROVED TCPS MUST BE AVAILABLE ON SITE DURING WORK. TRAFFIC CONTROL IS TO BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), SECTION VI.
16. CLOSURES OF ARTERIAL ROADS OR INTERSECTIONS SHALL REQUIRE SITE SPECIFIC TRAFFIC CONTROL PLANS.
17. ALL TRAFFIC CONTROL PLANS AND SCHEDULES MUST BE APPROVED BY CONSTRUCTION ENGINEERING PRIOR TO STREET OCCUPANCY OR STREET CUT PERMIT SUBMITTAL.
18. THE DEVELOPER IS RESPONSIBLE FOR ANY MODIFICATIONS TO EXISTING PAVEMENT MARKINGS NECESSITATED BY THIS DEVELOPMENT. PROPOSED PAVEMENT MARKING MUST BE PER PUBLIC WORKS TRAFFIC ENGINEERING SERVICES (TES) STANDARDS. ALL MARKINGS MUST BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
19. OWNER MUST ACQUIRE A MGPEC COMPLIANT QUALITY CONTROL LABORATORY PRIOR TO STARTING CONSTRUCTION AND MUST PERFORM ALL QUALITY CONTROL TESTING WITHIN THE RIGHT-OF-WAY FOLLOWING THE MGPEC FREQUENCY FOR TESTING. THE CCD WILL ONLY PROVIDE QUALITY ASSURANCE.
20. A MONUMENT RECORD MUST BE FILED WITH THE CITY AND COUNTY SURVEYOR'S OFFICE, THROUGH PUBLIC WORKS PLANS REVIEW SERVICES (PWPRS), ON ALL CROSSES ON CURB HEADS, BENCHMARKS, RANGE POINTS AND SECTION CORNERS SO THEY CAN BE REPLACED AFTER CONSTRUCTION. THE MONUMENT RECORD MUST BE FILED WITH THE CITY AND COUNTY SURVEYOR'S OFFICE BEFORE THE PLAN AND PROFILES CAN BE APPROVED. THIS MUST BE DONE BY A PROFESSIONAL LICENSED LAND SURVEYOR. THESE MONUMENTS MUST BE REPLACED BY THE DEVELOPER'S SURVEYOR BEFORE NEW CONSTRUCTION CAN BE ACCEPTED BY CCD.
21. ALL RANGE POINTS, TIES, BENCHMARKS, OR OTHER CCD SURVEY CONTROL POINTS, WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION, MUST BE PRESERVED.
22. THE CONTRACTOR SHALL CONTACT ALL APPROPRIATE UTILITY COMPANIES AND CONSTRUCTION ENGINEERING THREE DAYS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ANY EXISTING UTILITY (INCLUDING DEPTHS) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES FROM DAMAGE. DAMAGED UTILITIES SHALL BE REPAIRED BY AND AT THE EXPENSE OF THE CONTRACTOR.
23. RELOCATION OF UTILITIES SUCH AS POWER POLES AND FIRE HYDRANTS THAT LIE WITHIN THE PUBLIC ROW WILL BE THE COST OF THE DEVELOPER AND SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY OR AGENCY.
24. PROPOSED LIGHT FIXTURES INSTALLED ON PRIVATE PROPERTY ADJACENT TO THE PUBLIC ROW SHALL BE ORIENTED IN SUCH A MANNER OR LIMITED IN LUMEN OUTPUT TO PREVENT GLARE PROBLEMS AND SHALL NOT EXCEED NATIONAL I.E.S. LIGHTING STANDARDS FOR DISABILITY GLARE.
25. THE DEVELOPER SHALL PAY XCEL ENERGY FOR THE CONSTRUCTION AND/OR RELOCATION OF STREETLIGHTS WITHIN THE PUBLIC ROW. THE STREETLIGHTS SHALL BE CONSTRUCTED AND/OR RELOCATED TO THE CURRENT CITY AND COUNTY STANDARDS AND COORDINATED THROUGH XCEL ENERGY.
26. WHEN AN EXISTING ASPHALT STREET IS CUT, THE STREET MUST BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION. THE EXISTING STREET CONDITION SHALL BE DOCUMENTED BEFORE ANY CUTS ARE MADE. PATCHING SHALL BE DONE IN CONFORMANCE WITH THE PROJECT STANDARDS. THE FINISHED PATCH SHALL BLEND SMOOTHLY INTO THE EXISTING SURFACE. ALL LARGE PATCHES SHALL BE PAVED WITH AN ASPHALT LAY-DOWN MACHINE.
27. PATCH ASPHALT PAVING AS NECESSARY TO JOIN NEW GUTTERS WITH THE EXISTING PAVEMENT. REMOVAL AND REPLACEMENT OF ASPHALT SHALL BE PER THE LATEST STANDARDS AND DETAILS FOR ENGINEERING DIVISION.
28. CONSTRUCTION OF ANY PORTION OF THE ROADWAY FACILITY, INCLUDING THE PAVEMENT STRUCTURE, SUBSURFACE SUPPORT, DRAINAGE, LANDSCAPING ELEMENTS, AND ALL APPURTENANT FEATURES SHALL COMPLY WITH THE PROVISIONS OF THE CITY AND COUNTY STANDARD SPECIFICATIONS AND STANDARD PLANS.
29. WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES.
30. ALL CONCRETE WORK REQUIRES FULL PANEL REPLACEMENT.
31. MATERIAL REMOVED FROM ANY PORTION OF THE ROADWAY PRISM MUST BE REPLACED IN LIKE KIND WITH EQUAL OR BETTER COMPACTION. NO SEGREGATION OF MATERIAL WILL BE PERMITTED.
32. ANY EXISTING CURB, GUTTER, DRIVEWAYS, AND SIDEWALK THAT IS FAILING OR DAMAGED MUST BE REPAIRED OR REPLACED AT THE DIRECTION OF CONSTRUCTION ENGINEERING.
33. PROTECTION AND REPLACEMENT OF STREET IMPROVEMENTS ARE THE RESPONSIBILITY OF THE OWNER UNTIL THESE IMPROVEMENTS ARE FULLY COMPLETED AND ACCEPTED BY THE CITY AND COUNTY.
34. THE PERMITTEE SHALL NOT SPRAY, CUT, OR TRIM TREES OR OTHER LANDSCAPING ELEMENTS WITHIN ROW UNLESS SUCH WORK IS OTHERWISE SPECIFIED IN THIS PERMIT OR CLEARLY INDICATED ON THE APPROVED PLANS.
35. SEEDING, SODDING, AND PLANTING IN THE ROW SHALL BE AS SPECIFIED OR OTHERWISE APPROVED BY THE CITY AND COUNTY. CONSTRUCTION, MAINTENANCE, AND WATERING REQUIREMENTS SHALL CONFORM TO CITY AND COUNTY STANDARD SPECIFICATIONS. WHERE LANDSCAPE RESTORATION MUST BE DELAYED DUE TO SEASONAL REQUIREMENTS, SUCH WORK MAY BE AUTHORIZED BY A SEPARATE PERMIT.
36. UNLESS STREETSCAPE HAS BEEN APPROVED, THE DEVELOPER SHALL LANDSCAPE ALL ROW WITH SOD AND TREES. ALL LANDSCAPING WITHIN THE ROW SHALL BE IN CONFORMANCE WITH THE LATEST STREETSCAPE DESIGN MANUAL. NO LOOSE MATERIAL (I.E., ROCK, BARK, GRAVEL, ETC.) SHALL BE ALLOWED. DECORATIVE CONCRETE OR LOW GROWING PLANT MATERIAL MAY BE ALLOWED ONLY WITH THE SPECIFIC APPROVAL OF DS. TREES SHALL BE PRE-APPROVED BY THE CITY AND COUNTY FORESTER'S OFFICE AND SHALL BE A MINIMUM OF 20' FROM PROPERTY CORNERS AT INTERSECTIONS, 25' FROM STREET LIGHTS AND 10' FROM EDGE OF DRIVEWAYS.
37. THE PERMITTEE SHOULD REMOVE MATERIALS AND EQUIPMENT FROM THE ROADWAY ROW AT THE CLOSE OF DAILY OPERATIONS. THE TRAFFIC CONTROL PLAN (TCP) MUST INCLUDE PROTECTIVE MEASURES WHERE MATERIALS AND EQUIPMENT MAY BE STORED IN ROW, BUT ENSURE FIVE FEET OF PEDESTRIAN CLEARANCE ON SIDEWALKS.
38. NO CLEATED OR TRACKED EQUIPMENT MAY WORK IN OR MOVE OVER PAVED SURFACES WITHOUT MATS.
39. STREET CUTS IN TO MORATORIUM STREETS WILL REQUIRE EITHER AN OVERLAY OR INFRA-RED PATCH. COORDINATE MORATORIUM STREET REQUIREMENTS WITH CONSTRUCTION ENGINEERING.

CCD TRANSPORTATION ENGINEERING PLAN (TEP) SITE SPECIFIC NOTES

1. COORDINATE ALL TRAFFIC SIGNAL EQUIPMENT RELOCATIONS WITH PUBLIC WORKS TRAFFIC ENGINEERING SERVICES (TES).
2. REQUESTS FOR A TRAFFIC SIGNAL AT A FULL MOVEMENT INTERSECTION MUST FIRST MEET WARRANT CRITERIA IN THE MUTCD. UPON MEETING THESE CRITERIA, THE SIGNAL MUST STILL BE APPROVED BY THE CITY AND COUNTY TRAFFIC ENGINEER.
3. A SEWER USE AND DRAINAGE PERMIT, ISSUED BY PUBLIC WORKS PERMIT OPERATIONS (PWPO), MUST BE OBTAINED FOR CONSTRUCTION INVOLVING SANITARY OR STORM SEWER FACILITIES.
4. A PERMIT MUST BE OBTAINED FOR PRIVATE IMPROVEMENTS CONSTRUCTED WITHIN THE PUBLIC RIGHTOF-WAY. CONTACT PWPO AND/OR THE CONSTRUCTION ENGINEERING INSPECTOR.
5. WHERE RIGHT-OF-WAY FENCES NEED TO BE REMOVED OR CUT TO FACILITATE CONSTRUCTION, APPROVAL MUST BE GIVEN BY CCD BEFORE WORK IS DONE. EXISTING ROW/FENCE LINE MUST BE ESTABLISHED BY GOOD SURVEY PRACTICES. THE UTILITY COMPANY SHALL SUPPLY AND INSTALL NEW MATERIALS REQUIRED TO RESTORE FENCE TO ACCEPTABLE CONDITION. NEW POSTS AND WIRE WILL BE REQUIRED INCLUDING CORNER POSTS FOR GATES PLACED IN LOCATIONS AS DETERMINED BY ORIGINAL SURVEY. FENCES WILL BE REPLACED IN KIND ACCORDING TO CCD FENCING STANDARDS .
6. IF LIVESTOCK ARE PRESENT IN AREA OF FENCE REMOVAL, A TEMPORARY FENCE (EQUIVALENT TO THE EXISTING) SHALL BE REQUIRED TO CONTAIN LIVESTOCK

GENERAL NOTES

1. DENVER SHALL APPROVE CUT SHEETS FOR THE PAVERS THAT WILL BE PLACED IN THE ROW ONCE THE SPECIFIC MATERIAL IS SELECTED BY THE DEVELOPER.
2. ALL PAVER AND STREETSCAPE SURFACE MATERIALS SHALL COMPLY WITH ADA.
3. THE STREETSCAPING SHALL ALLOW FOR A CONTINUOUS 5' CLEAR ADA ACCESSIBLE PATH, WITH A 1.8% CROSS-SLOPE.

SITE KEYNOTES:

		REFERENCE
1.0	**PAVEMENTS, RAMPS, AND CURBS**	
1.1	CIP Concrete Paving, Sawcut Joints, Standard Grey, Broom Finish	
1.2A	CIP Concrete Paving, Sawcut Joints, Light Sandscape Finish, Integral color	
1.2B	CIP Concrete Paving, Sawcut Joints, Medium Sandscape Finish, Integral color	
1.3	Concrete/Stone Unit Pavers Type 1	
1.4	Concrete/Stone Unit Pavers Type 2	
1.5	Concrete/Stone Unit Pavers Type 3	
1.6	CIP Concrete Band	
1.7	Precast Concrete Band	
1.8	Playground Asphalt	REF CCD STDS
1.9	Rubberized Play Tiles	REF CCD/DPS STDS
1.10	Protective Play Surface	REF CCD/DPS STDS
1.11	Asphalt Parking Paving / Parking Striping	REF CCD STDS
1.12	Playground Pit ADA Ramp	
1.13	ADA Ramp	REF CCD STDS
1.14	CIP Concrete Curb and Gutter	REF CCD STDS
2.0	**NOT USED**	
3.0	**STEPS, CURBS AND WALLS**	
3.1	CIP Concrete Murat Wall	
3.2	CIP Concrete Curb	
3.3A	CIP Concrete Wall, 8" Wide	
3.3B	CIP Concrete Wall, 12" Wide	
3.3C	CIP Concrete Wall, 18" Wide	
3.4A	Precast Concrete Seat Wall, 18" Wide	
3.4B	Precast Concrete Seat Wall, 36" Wide	
3.5	Precast Concrete Retaining Wall	
3.6	Precast Concrete Step	
3.7	CMU Screen Wall	
3.8	Trash Enclosure	
4.0	**RAILINGS, BARRIERS AND FENCING**	
4.1	Stainless Steel Handrail	
4.2A	Custom Fencing Type 1	
4.2B	Custom Fencing Type 2	
4.3A	Fencing Gates Type 1	
4.3B	Fencing Gates Type 2	
4.3C	Fencing Gates Type 3	
4.3D	Fencing Gates Type 4	
5.0	**SPECIALTY ELEMENTS**	
5.1	Shade Structure, Events Lawn Pavilion	
5.2	Shade Structure, Type 1	
5.3	Shade Structure, Type 2	
5.4	Overlook	
5.5	Concessions/Restroom Building	REF SCHED 10
5.6	Maintenance Building	REF SCHED 10
5.7	Splash Pad Water Elements	REF SCHED 10
5.8	Tot Lot Play Elements	REF SCHED 10
5.9	Playground Play Element	REF SCHED 10
5.10	Synthetic Turf	REF SCHED 10
5.11	Removable Soccer Goal	REF CCD STDS
5.12	Basketball Goal	REF DPS STDS
5.13	Primary Play Structure at School Playground	REF DPS STDS
5.14	Intermediate Play Structure at School Playground	REF DPS STDS
5.15	Swings at School Playground	REF DPS STDS
5.16	Painted Courts : Hop Scotch	REF DPS STDS
5.17	Painted Court : Hop Scotch ADA	REF DPS STDS
5.18	Painted Court : Foursquare	REF DPS STDS
5.19	Painted Court : Tether Ball	REF DPS STDS
5.20	Shade Structure at School Playground	REF DPS STDS
5.21	Sandstone Boulder	
6.0	**FURNISHINGS**	
6.1A	8' Diameter Precast Concrete Seating Pod	
6.1B	10' Diameter Precast Concrete Seating Pod	
6.2A	Bike Rack	REF SCHED 10
6.2B	Bike Share	REF SCHED 10
6.3	Tables and Chairs	REF SCHED 10
6.4	Trash/Recycle Receptacle	REF SCHED 10
6.5	Bench	REF SCHED 10
6.6	Custom Aluminum Bench	
6.7	Removable Bollard	REF SCHED 10
6.8	Interpretive Sign	REF CDOT STDS
6.9	Drinking Fountain	REF SCHED 10
6.10	Picnic Table	REF SCHED 10
6.11	Tree Grate	REF SCHED 10
7.0	**SITE LIGHTING AND ELECTRICAL**	
7.1	Pedestrian Lighting	REF SCHED 10
7.2	Central Plaza Lighting	REF SCHED 10
7.3	Field Lighting	REF SCHED 10
7.4	Parking Lot Lighting	REF SCHED 10
7.5	Accent Lighting	REF SCHED 10
7.6	Tree Accent Lighting	REF SCHED 10
7.7	Electrical Outlets	REF SCHED 10
8.0	**REFERENCE SECTIONS AND ELEVATIONS**	
8.1	46th Avenue at Multi-Use Field	
8.2	Clayton Street Cover Extension, South	
8.3	Columbine Street Cover Extension, North	
8.4	Clayton Street Cover Extension, North	
8.5	Columbine Street Cover Extension, South	
8.6	46th Avenue at Event Lawn	
8.7	Tot Lot and Splash Pad	
8.8	Multi-Use Field Fencing	
8.9	Columbine Street	
8.10	Central Plaza Space and Event Lawn	
8.11	East Side Community Space	
9.0	**PLANTING AND LANDSCAPE**	
9.1	Ornamental Tree Planting Over Structure	REF SCHED 10
9.2	Street Tree Planting Over Structure	REF SCHED 10
9.3	Shade Tree Planting Over Structure	REF SCHED 10
9.4	Shade Tree Planting Off Structure	REF SCHED 10
9.5	Enhanced Landscape	REF SCHED 10
9.6	Transitional Landscape	REF SCHED 10
9.7	Naturalized Turf	REF SCHED 10

SITE KEYNOTES:

1.0 PAVEMENTS, RAMPS, CURBS

	Text description	DETAIL / SHEET	SPEC. SECTION
1.1	Text description	0 / L0-01	000000

KEYNOTE HEADING (PROPOSED IMPROVEMENT SYSTEM)

KEYNOTE CALL-OUT

KEYNOTE (SYSTEM) ITEM AND BRIEF DESCRIPTION

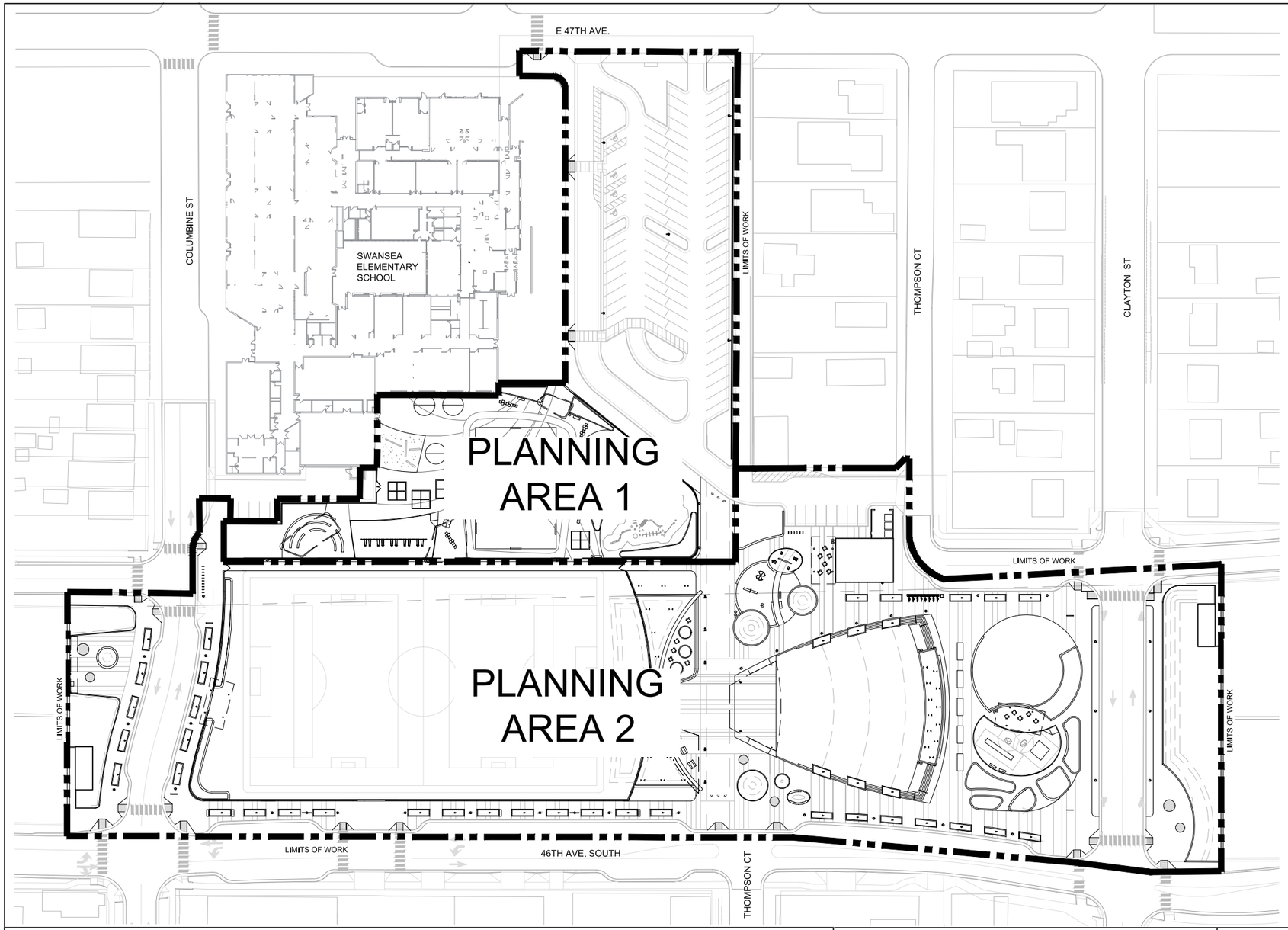
DETAIL REFERENCE (NUMBER AND SHEET) NOTE: MULTIPLE DETAILS MAY BE REFERENCED

SPECIFICATION REFERENCE (CSI SECTION NUMBER MASTER FORMAT 2004) NOTE: MULTIPLE SPECIFICATIONS MAY BE REFERENCED

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER PARK NOTES & KEYNOTES				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets:	4 of 36	Sheet Number 18



1 **PLANNING AREA REFERENCE PLAN**
1" = 60'

Kiewit meridiam PARTNERS

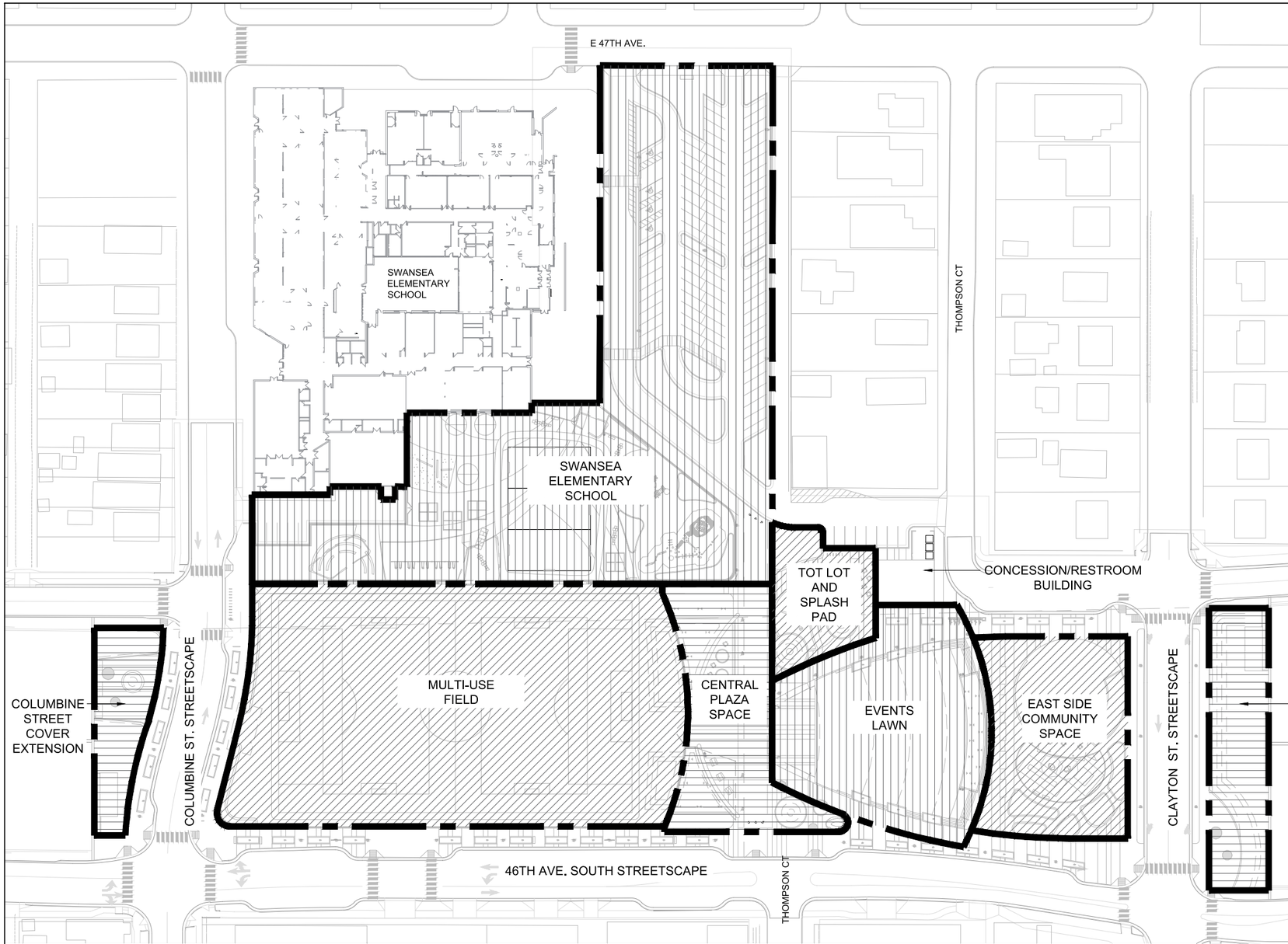
Central 70

0 30' 60' 120'
ORIGINAL SCALE: 1"=60'-0"

NORTH

CENTRAL 70 COVER PARK PLANNING AREAS				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets:	5 of 36	Sheet Number 19

NOTE: PROGRAM AREA REFERENCE PLAN REFERS TO DISTINCT PROGRAM AREAS AS DEFINED IN SCHEDULE 10, SECTION 14.



1 PROGRAM AREA REFERENCE PLAN

1" = 60'

Kiewit meridiam PARTNERS

Central 70

0 30' 60' 120'
ORIGINAL SCALE: 1"=60'-0"

NORTH

CENTRAL 70 COVER PARK PROGRAM AREAS				Project No./Code
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Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
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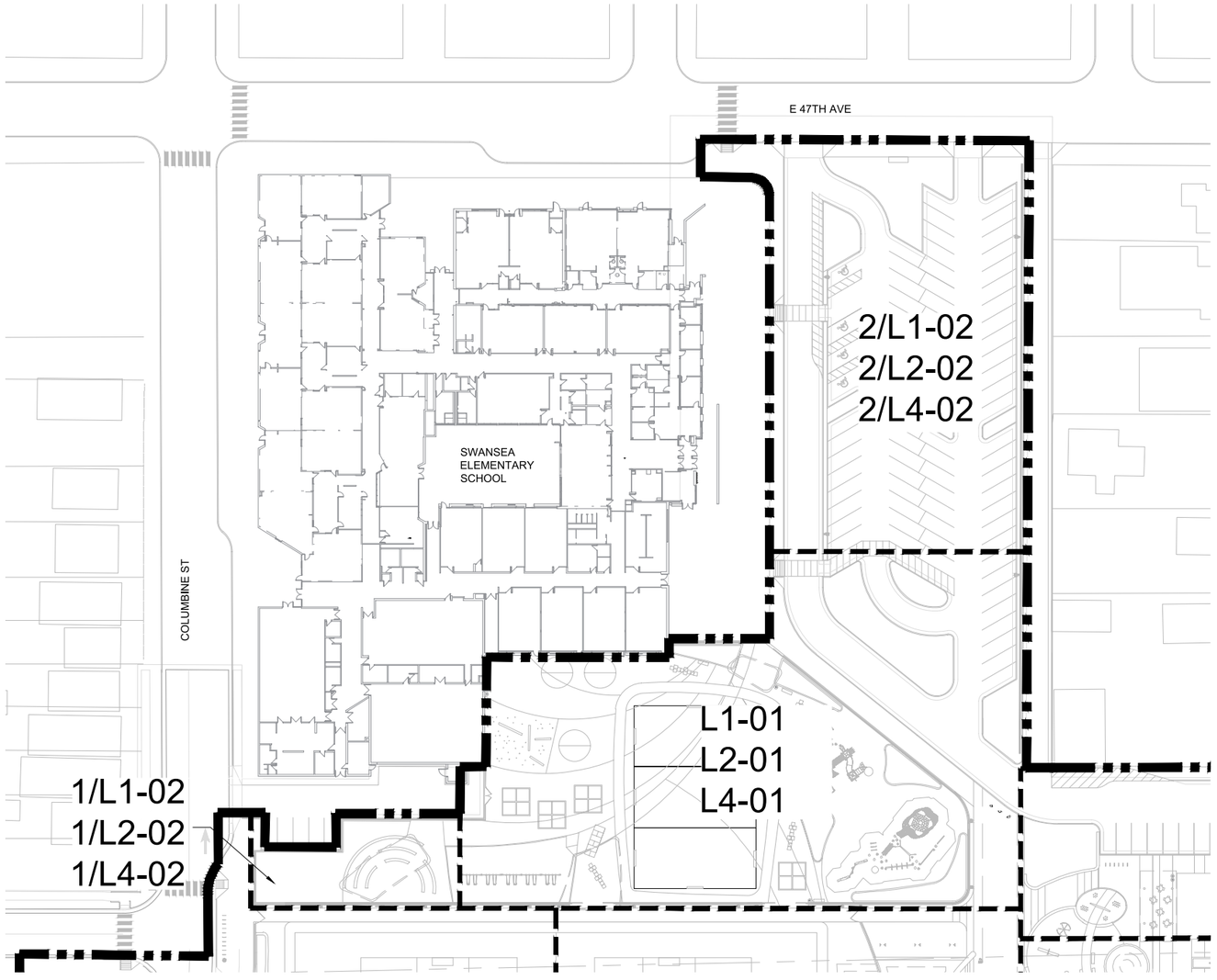

1 **PLANNING AREA 1 SITE REFERENCE PLAN**
1" = 40'

Kiewit meridiam PARTNERS

Central 70

0 20' 40' 80'
ORIGINAL SCALE: 1"=40'-0"

NORTH

CENTRAL 70 COVER PARK SHEET KEY PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
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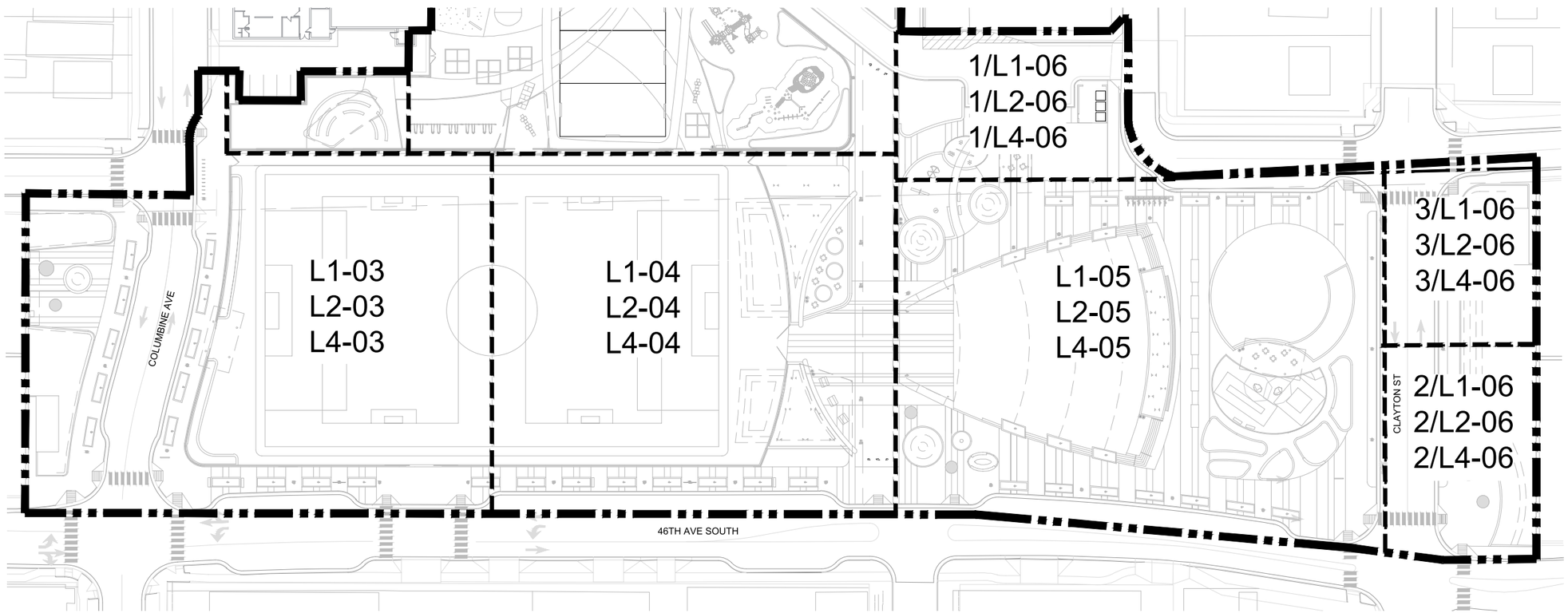

1 PLANNING AREA 2 SITE REFERENCE PLAN

1" = 40'

Kiewit meridiam PARTNERS

Central 70

0 20' 40' 80'
ORIGINAL SCALE: 1"=40'-0"

NORTH

CENTRAL 70 COVER PARK SHEET KEY PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
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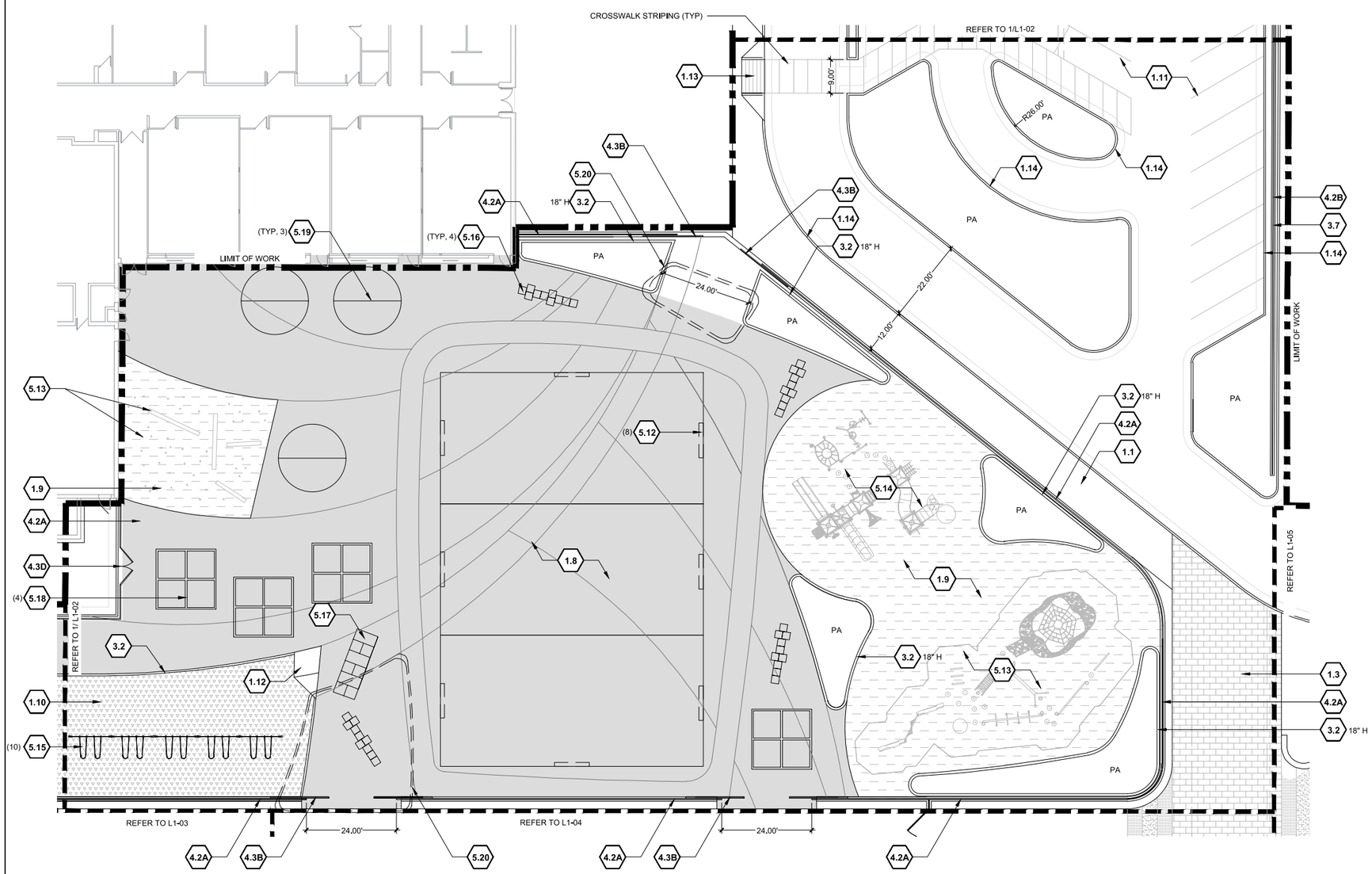
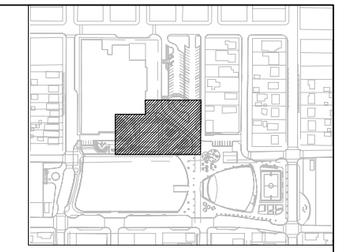


1 **LAYOUT AND MATERIALS PLAN**

1" = 16'-0"



KEY PLAN

NOTES

REFER TO KEYNOTES AND LEGEND ON PAGE L0-00 AND L0-01

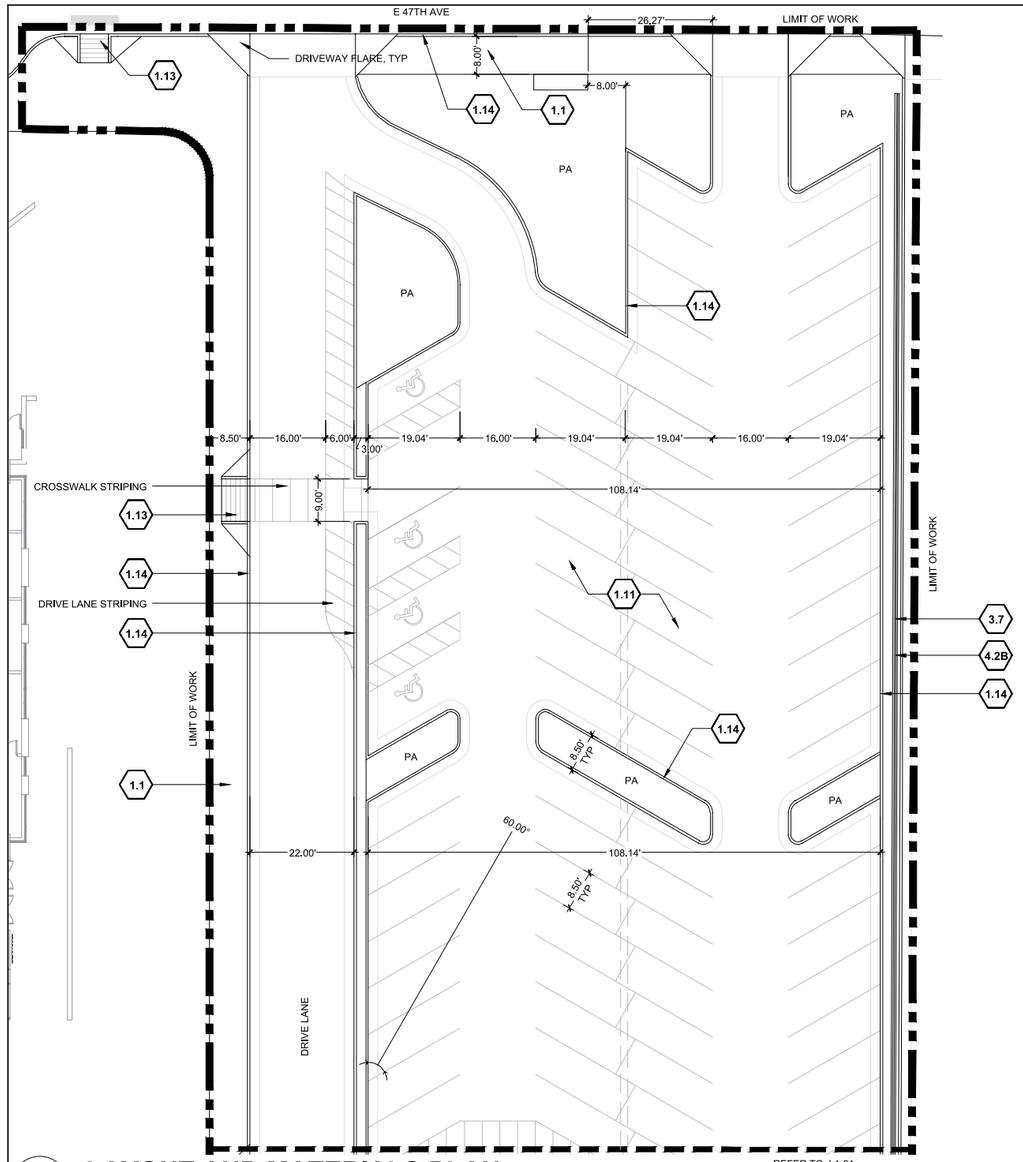
Kiewit meridiam PARTNERS

Central 70

0 8' 16' 32'
ORIGINAL SCALE: 1"=16'-0"

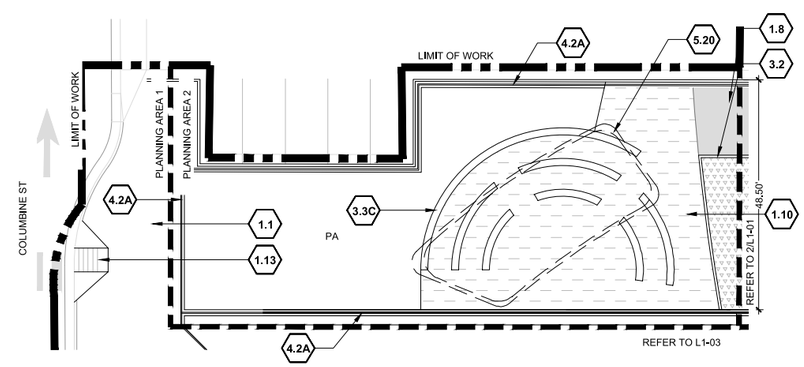
NORTH

CENTRAL 70 COVER PARK LAYOUT AND MATERIALS PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets:	9 of 36	Sheet Number 23



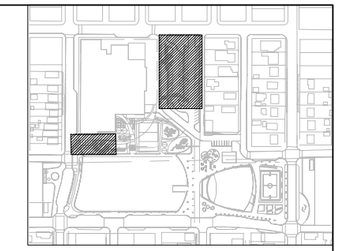
2 LAYOUT AND MATERIALS PLAN

1" = 16'-0"



1 LAYOUT AND MATERIALS PLAN

1" = 16'-0"



KEY PLAN

NOTES

REFER TO KEYNOTES AND LEGEND ON PAGE L0-00 AND L0-01

Kiewit meridiam PARTNERS

Central 70

0 8' 16' 32'
ORIGINAL SCALE: 1"=16'-0"

NORTH

CENTRAL 70 COVER PARK LAYOUT AND MATERIALS PLAN			Project No./Code
			FBR 0704-234
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Detailer:	KMP		–
			19631
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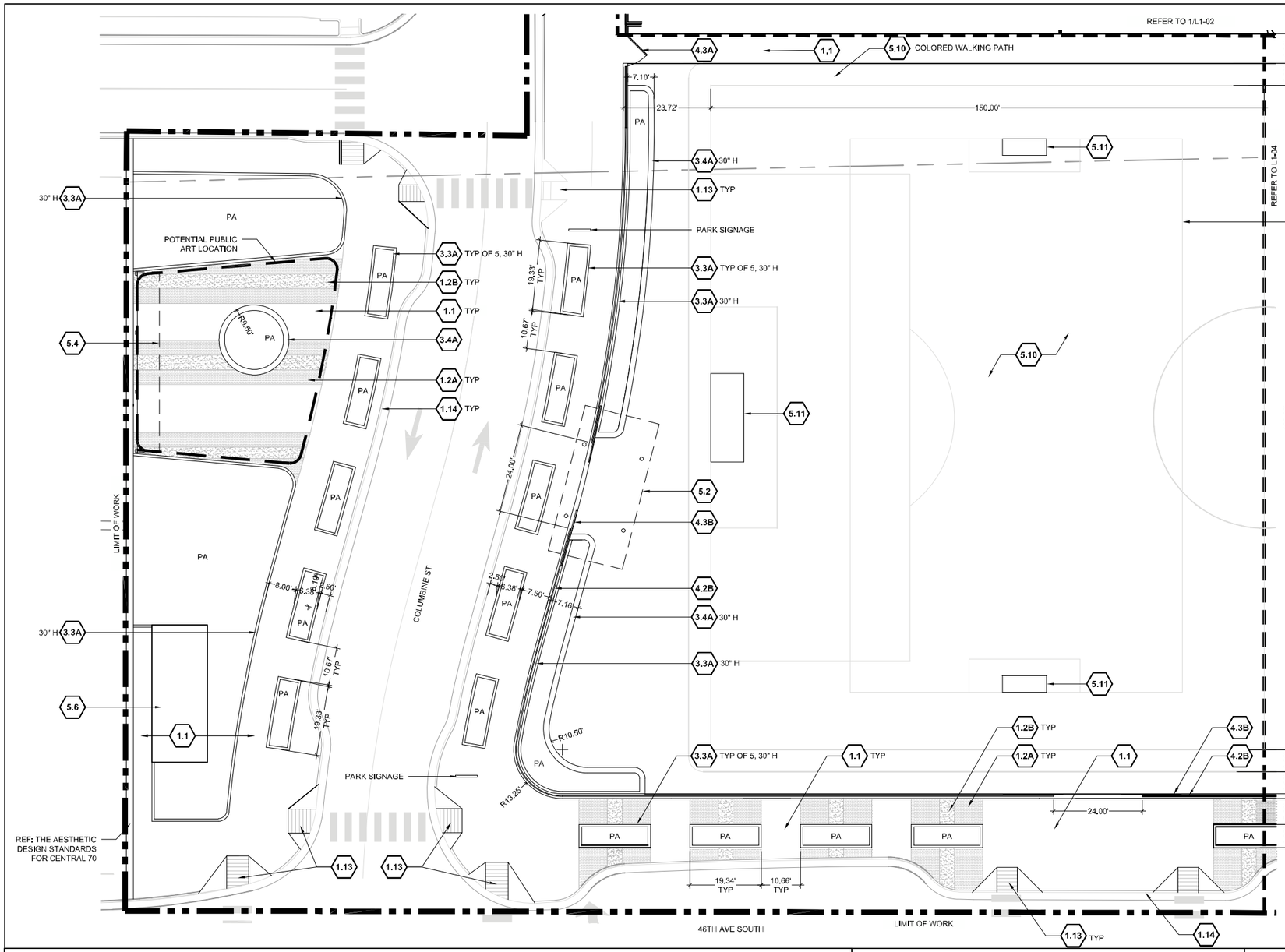
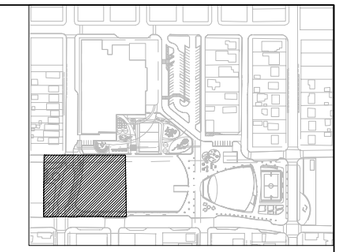




KEY PLAN

NOTES

REFER TO KEYNOTES AND LEGEND ON PAGE L0-00 AND L0-01

1 LAYOUT AND MATERIALS PLAN

1" = 16'-0"

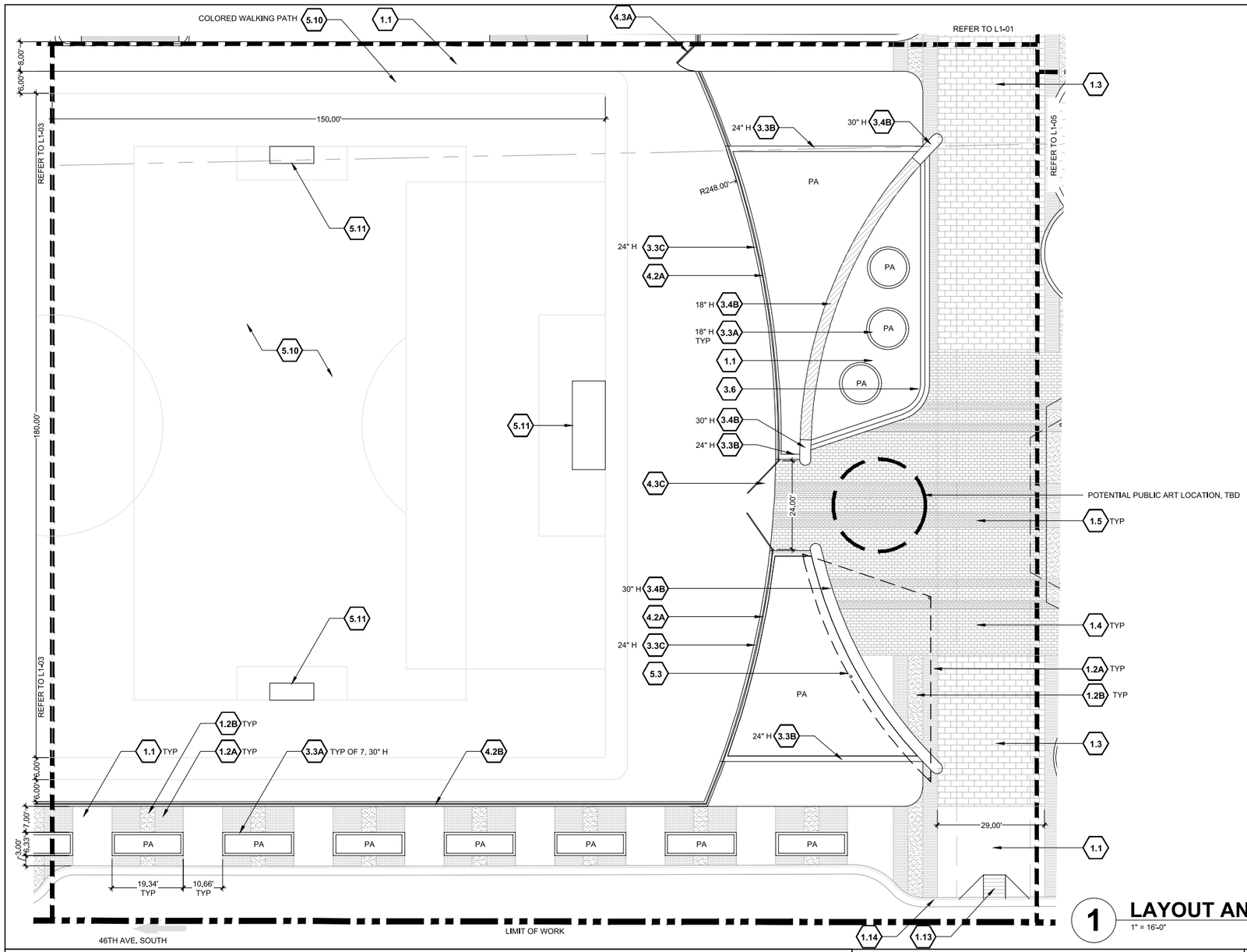
Kiewit meridiam PARTNERS

Central 70

0 8' 16' 32'
ORIGINAL SCALE: 1"=16'-0"

NORTH

CENTRAL 70 COVER PARK LAYOUT AND MATERIALS PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets:	11 of 36	Sheet Number 25



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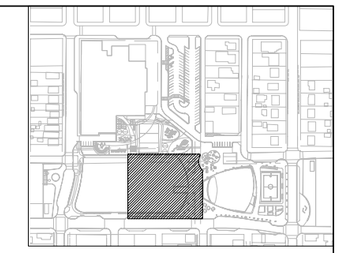

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Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
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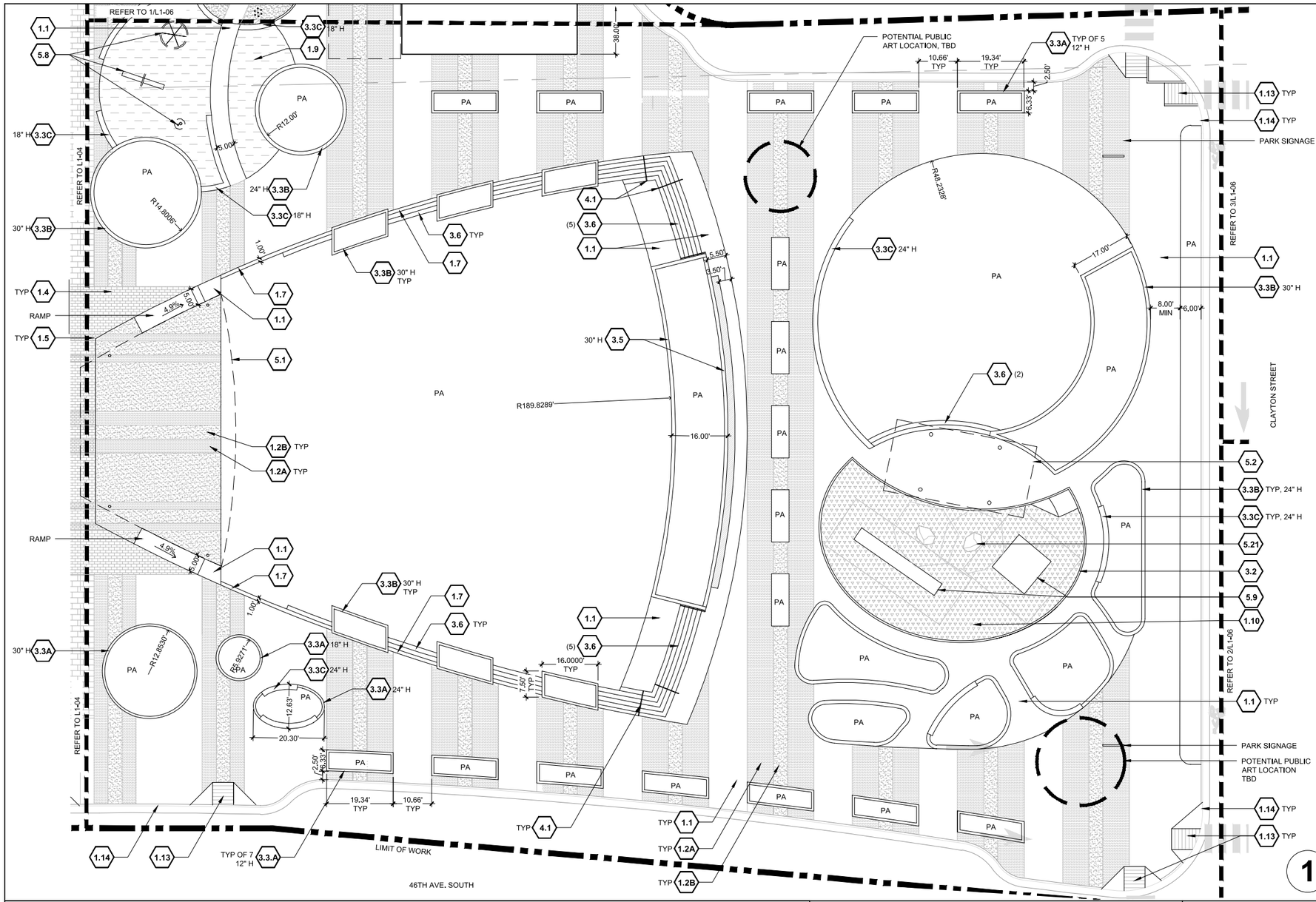

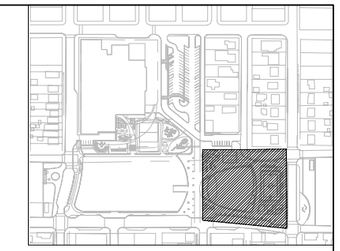

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				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
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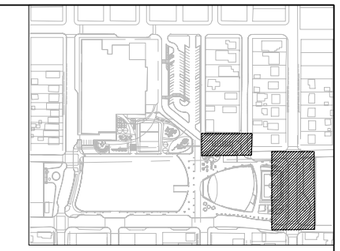

KEY PLAN

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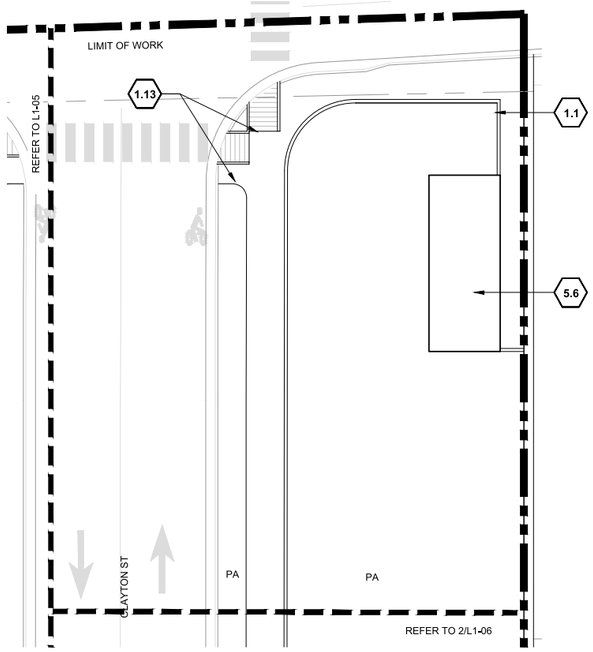

3 LAYOUT AND MATERIALS PLAN

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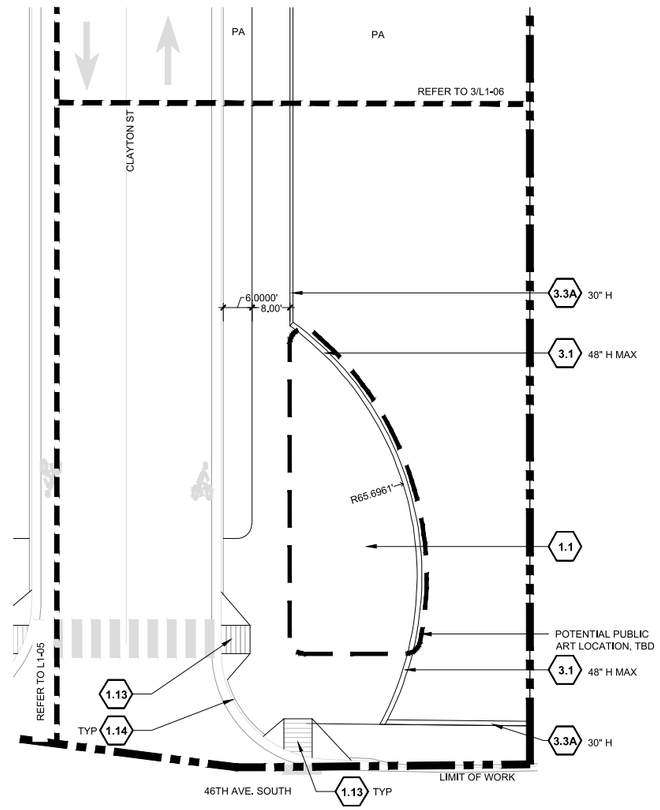

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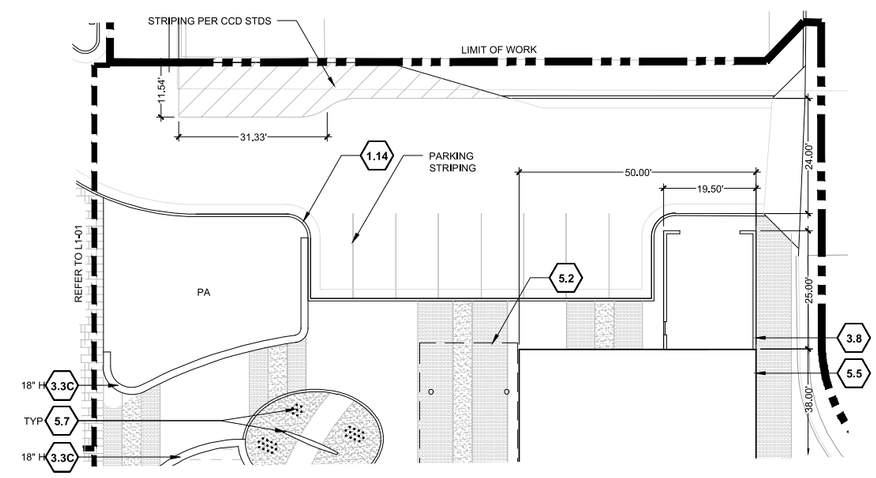

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				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
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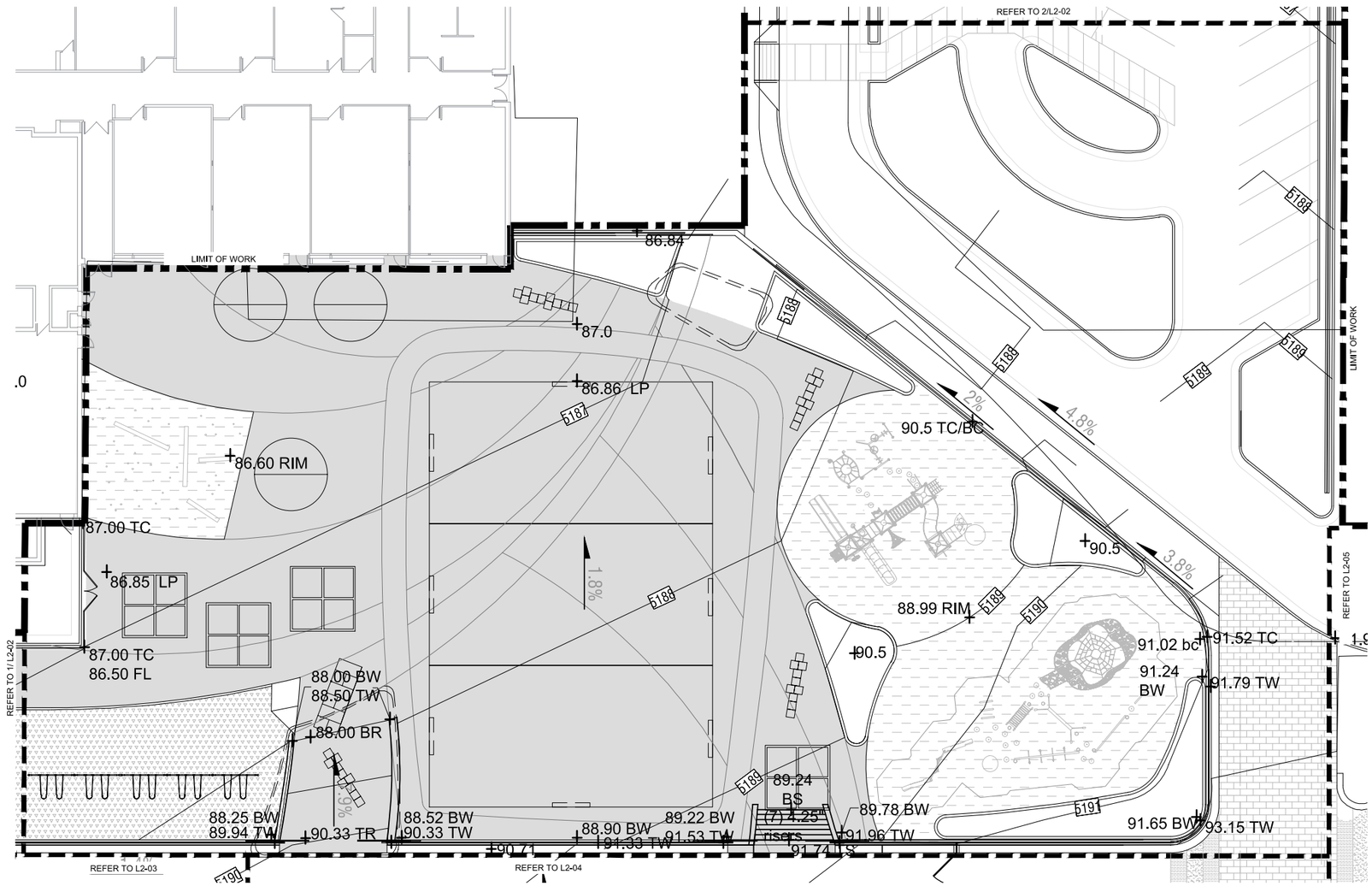
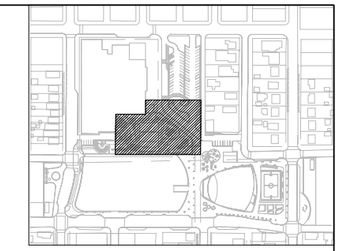


1 **GRADING PLANS**
1" = 16'-0"



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CENTRAL 70 COVER PARK SITE GRADING PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
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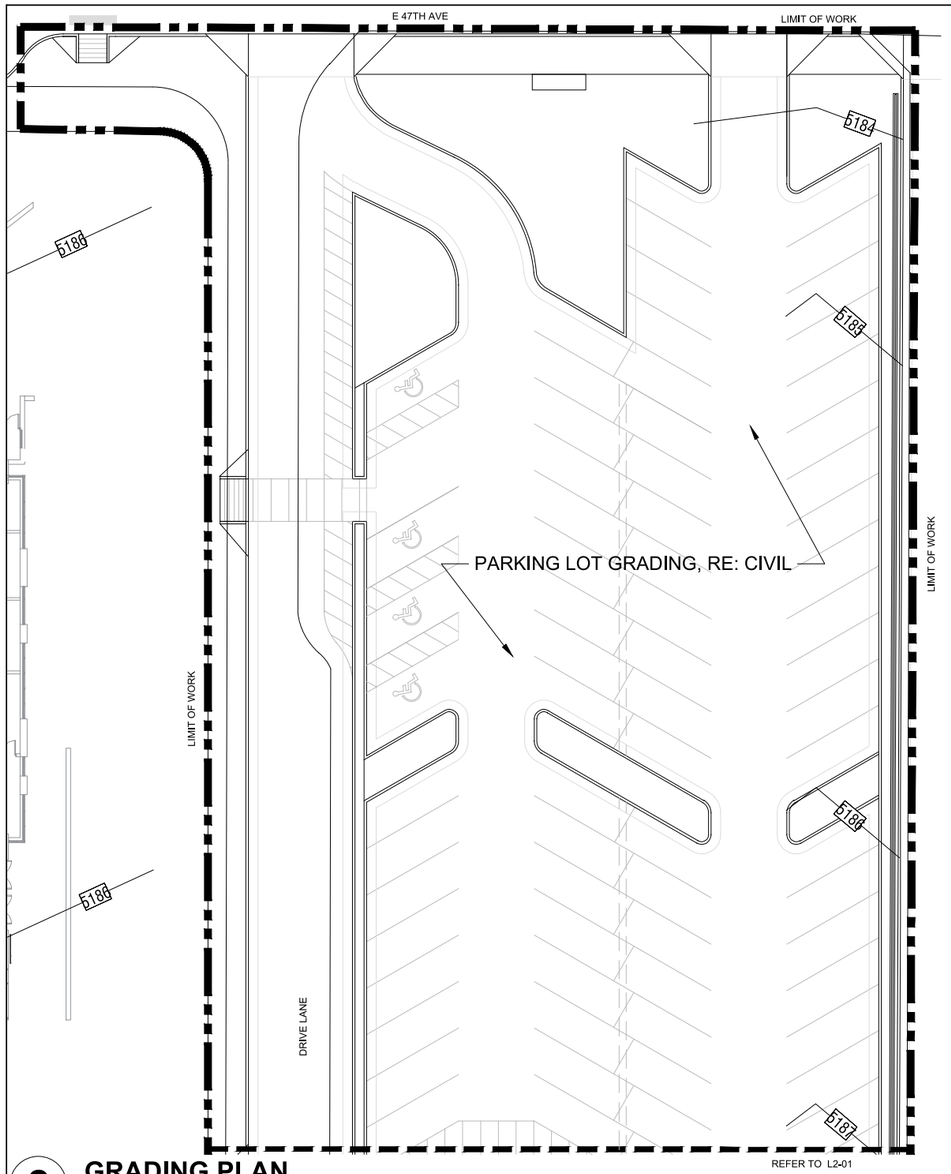

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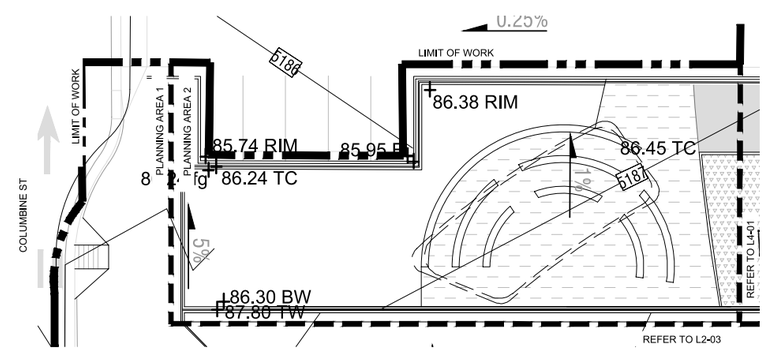

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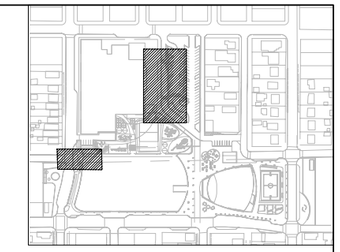

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CENTRAL 70 COVER PARK SITE GRADING PLAN				Project No./Code
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Detailer:	KMP		–	
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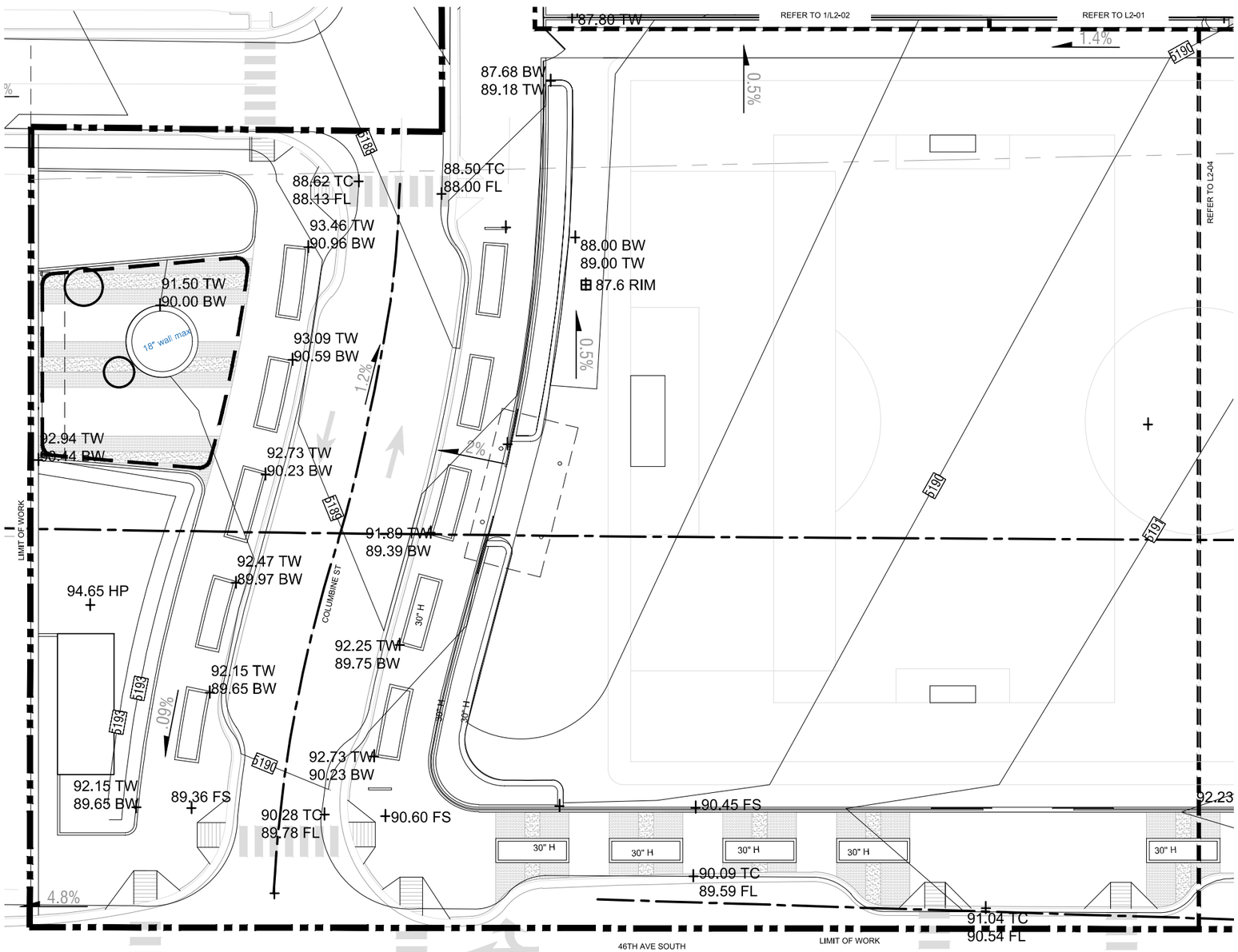

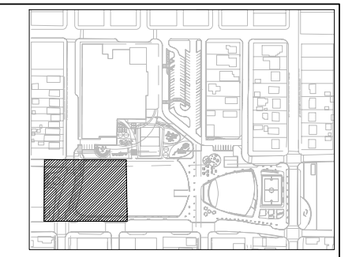

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				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
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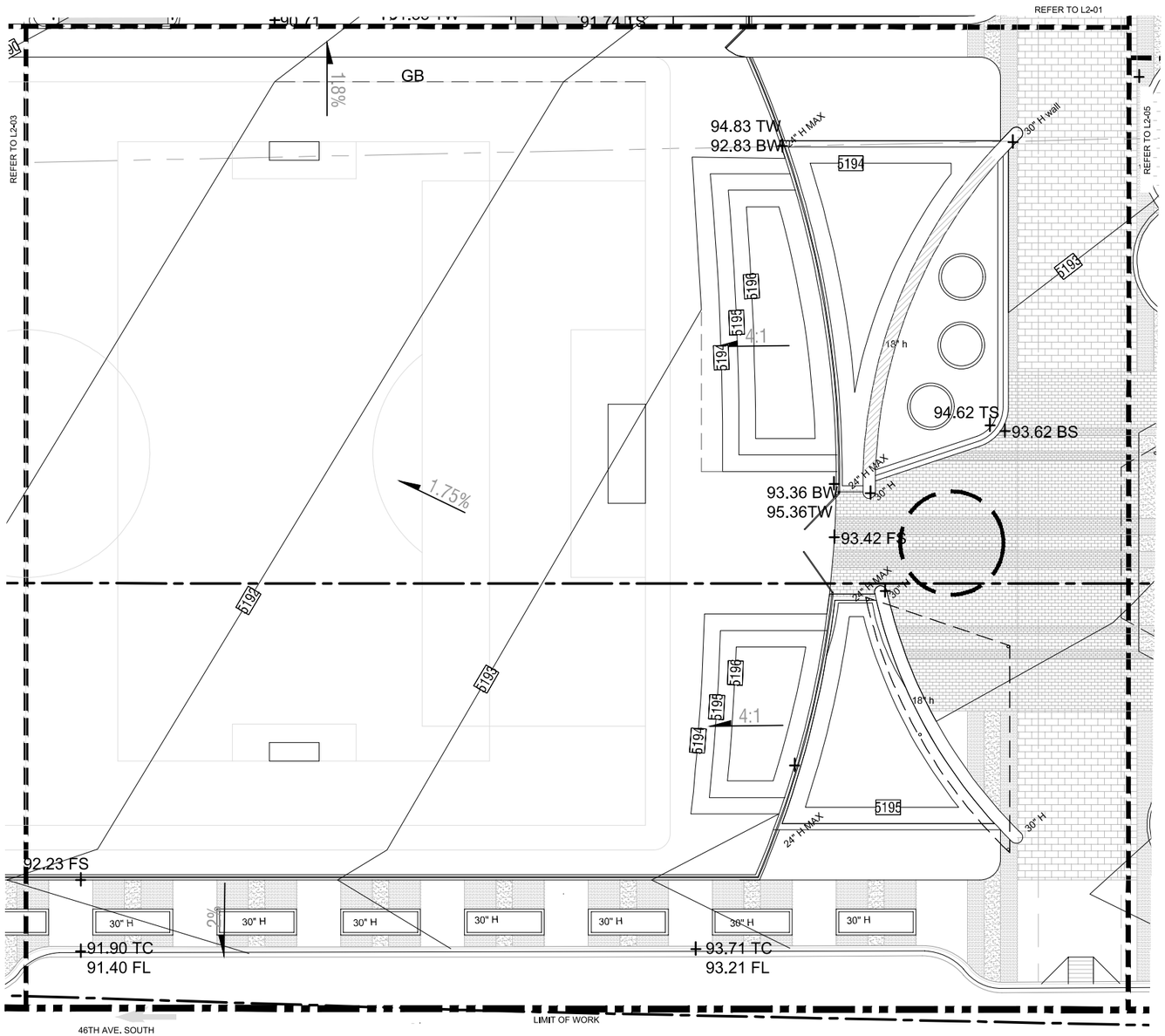

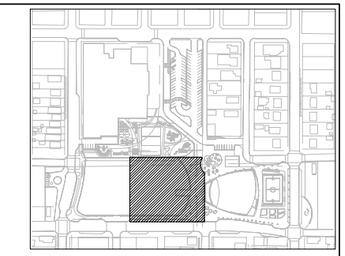

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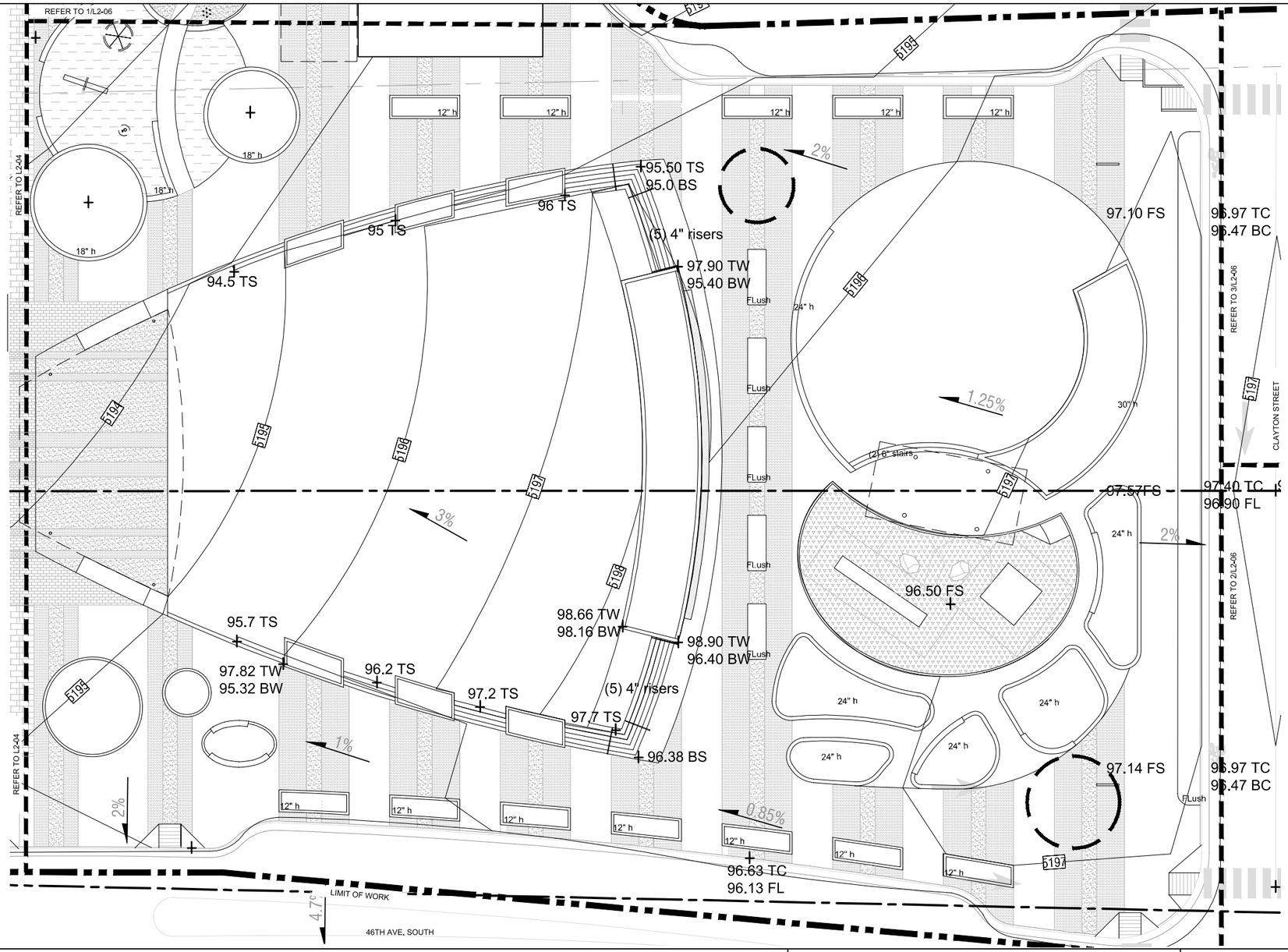

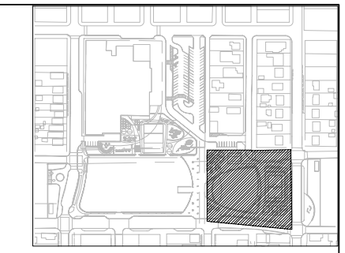

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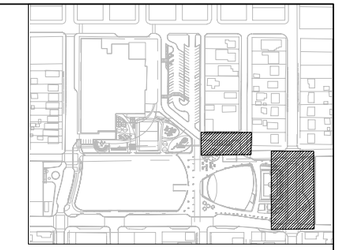

KEY PLAN

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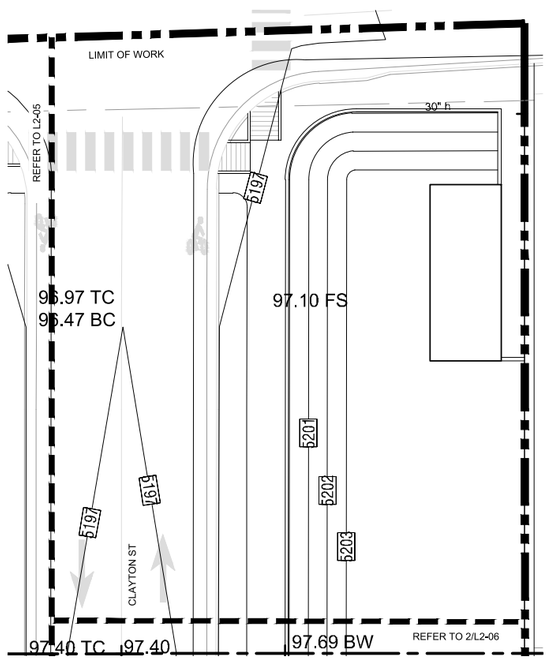

3 **GRADING PLAN**
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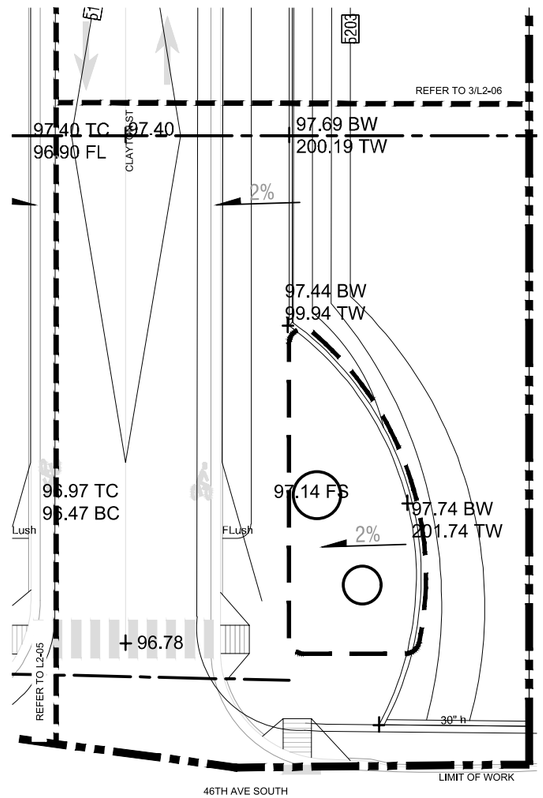

2 **GRADING PLAN**
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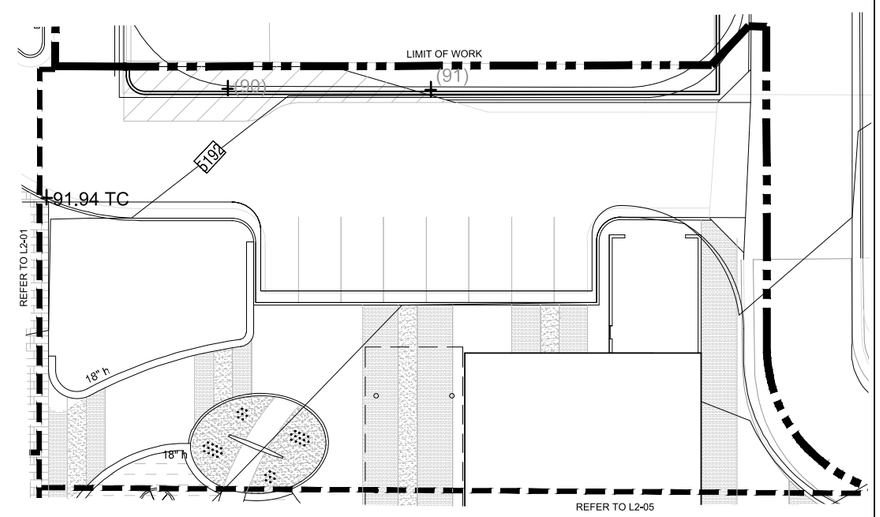

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CENTRAL 70 COVER PARK SITE GRADING PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets: 20 of 36		Sheet Number 34

IRRIGATION SCHEDULE - DENVER PARKS & RECREATION

SYMBOL	MANUFACTURER	MODEL NO.	DESCRIPTION	DETAIL NO.
	RAIN BIRD	1806-SAM-PRS WITH U-SERIES NOZZLE	POPUP SPRAY HEAD	DP&R 9
	RAIN BIRD	1812 SAM PRS WITH U-SERIES NOZZLE	HI-POP SPRAY HEAD	DP&R 9
L R S	RAIN BIRD	1812 SAM-PRS WITH SST, CORNER NOZZLE	HI-POP SPRAY HEAD	DP&R 9
	RAIN BIRD	1812 SAM PRS WITH 5' SQ NOZZLE	HI-POP SPRAY HEAD	DP&R 9
#6 #6 #6	RAIN BIRD	5006-PL-FC-SAM-R-SS WITH #NOZ	GEAR DRIVEN ROTOR	DP&R 10
#6	RAIN BIRD	5006-PL-FC-SAM-R-SS WITH #NOZ	GEAR DRIVEN ROTOR	DP&R 10
	RAIN BIRD	PEB-PRS-D	ELECTRIC CONTROL VALVE	DP&R 5 & 6
	BUCKNER	Q44LRCAR10	QUICK COUPLING VALVE	DP&R 7
N/S	MACDONALD AY	3061 - 1"	MANUAL DRAIN VALVE	DP&R 13
	MATCO	10RS	GATE VALVE	DP&R 11
B	TORO	SENTINEL - MODEL NUMBER T.B.D.	ELECTRIC CONTROLLER	DP&R 20
R	HUNTER	WR-CLIK	RAIN SENSOR	DP&R 24
	SUPERIOR	3100 SERIES - NORMALLY OPEN	MASTER CONTROL VALVE	DP&R 23
FS	DATA INDUSTRIAL	IR250B	FLOW SENSOR	DP&R 23
		CLASS 200 BE - 2½" & SMALLER	PVC MAINLINE	DP&R 1
		#100 NSF	POLY LATERAL	DP&R 1
		CLASS 200	PVC SLEEVING	DP&R 2
N/S			WIRE SPLICE	DP&R 19
	FEBCO	825YA	RP BACKFLOW PREVENTER	DW 69
N/S	GUARDSHACK	GS-1	BACKFLOW PREVENTER ENCLOSURE	H1

GPM — CONTROLLER & STATION NO. / CONTROL VALVE SIZE

A (controller) — NUMBER OF SPARE WIRES - 2 CONTROL AND 1 SPARE WIRES TO WHICH CONTROLLER - SEE CONSTRUCTION NOTES

1 POINT OF CONNECTION #1 - 2"

PEAK FLOW REQUIREMENT: 60 GPM. REQUIRED STATIC PRESSURE: 75 PSI MIN.

TIE ONTO EXISTING 2" COPPER STUB-OUT DOWNSTREAM OF WATER METER AT 54" DEPTH IN THIS APPROXIMATE LOCATION (BY OTHERS - REFER TO CIVIL PLANS). EXTEND 2" TYPE K SOFT COPPER AT 54" MINIMUM DEPTH TO BACKFLOW PREVENTER LOCATION. INSTALL ONE 2" STOP AND WASTE VALVE, ONE 2" REDUCED PRESSURE BACKFLOW PREVENTER WITH PROTECTIVE ENCLOSURE, ONE MANUAL DRAIN VALVE, ONE QUICK COUPLING VALVE, ONE 2" 250B INSERT TEE DATA INDUSTRIAL FLOW SENSOR, ONE 2" NORMALLY OPEN SUPERIOR 3100 VALVE AS A MASTER VALVE, ONE 2½" GATE VALVE, AND EXTEND PVC MAINLINE AS SHOWN. EXTEND ONE PAIGE 7171D-A SIGNAL CABLE FROM FLOW SENSOR TO DATA RETRIEVAL UNIT LOCATED IN CONTROLLER "A". EXTEND 4 UFUL14# WIRE (ONE GREEN COMMON, ONE BLUE HOT, ONE GREEN EXTRA COMMON AND ONE BLUE EXTRA HOT) AND CONNECT 2 OF THE WIRES FROM THE MASTER VALVE TO THE DATA RETRIEVAL BOARD IN CONTROLLER "A". SEE DETAIL SHEET FOR REQUIRED PIPE LENGTHS UPSTREAM AND DOWNSTREAM OF FLOW SENSING UNIT. WORK SHALL CONFORM TO LOCAL CODE. FEES AND PERMITS ASSOCIATED WITH WORK ARE TO BE OBTAINED AND PAID FOR BY CONTRACTOR. FINAL BACKFLOW PREVENTER LOCATION SHALL BE REVIEWED AND APPROVED BY CONSULTANT PRIOR TO INSTALLATION.

A CONTROLLER LOCATION "A"

PEDESTAL MOUNT ONE TORO SENTINEL FIELD UNIT AND ENCLOSURE (MODEL # TBD), AT INDICATED LOCATION. 120 VOLT POWER IS AVAILABLE WITHIN 40 LF. OF CONTROLLER LOCATION FROM TRANSFORMER/BUILDING/RESIDENTIAL PEDESTAL. ELECTRICAL METER, WIRE/CONDUIT, STEP-DOWN TRANSFORMER (IF REQUIRED) AND POWER CONNECTION TO CONTROLLER IS BY CONTRACTOR WITH WORK CONFORMING TO LOCAL CODES. EXTEND ONE PAIGE 7171D-A SIGNAL CABLE FROM THE FLOW SENSOR AND 4 #14 UFUL WIRES (ONE GREEN COMMON, ONE BLUE HOT, ONE GREEN EXTRA COMMON AND ONE BLUE EXTRA HOT) FROM MASTER VALVE TO ASSOCIATED CONTROLLER. CONNECT WIRES TO THE APPROPRIATE SENSOR INPUT PORTS. FEES AND PERMITS ASSOCIATED WITH WORK ARE TO BE OBTAINED AND PAID BY CONTRACTOR. FINAL CONTROLLER LOCATION SHALL BE APPROVED BY CONSULTANT PRIOR TO INSTALLATION. MOUNT ONE RAIN SENSOR ON A POLE WHERE THERE IS 20 FT. OF CLEARANCE FROM ANY OVERHANG OR OBSTRUCTING FEATURE. INSTALL RAIN SENSOR RECEIVER IN CONTROLLER ENCLOSURE. FINAL RAIN SENSOR LOCATION SHALL BE APPROVED BY CONSULTANT PRIOR TO INSTALLATION.

REFER TO SHEET

L3-01 IRRIGATION NOTES & SCHEDULE - DP&R
L3-02 IRRIGATION NOTES & SCHEDULE - DPS
L3-03 - L3-05 IRRIGATION PLANS
L3-06 - L3-07 IRRIGATION DETAILS - DP&R
L3-08 IRRIGATION DETAILS - DPS

IRRIGATION CONSTRUCTION NOTES - DENVER PARKS & RECREATION

1. DRAWINGS AND BASE INFORMATION - ALL BASE AND PLANTING INFORMATION HAVE BEEN PROVIDED BY CIVITAS. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY HYDROSYSTEMS*KDI OF ANY DISCREPANCIES BETWEEN THE UTILITY OR PLANTING PLANS AND THE IRRIGATION PLAN. IF CONTRACTOR FAILS TO NOTIFY HYDROSYSTEMS*KDI AND MAKES CHANGES TO THE IRRIGATION SYSTEM DESIGN, HE ASSUMES ALL COSTS AND LIABILITIES ASSOCIATED WITH THOSE FIELD CHANGES. REFER TO SPECIFICATIONS FOR ADDITIONAL PROJECT REQUIREMENTS.

2. SYSTEM PRESSURE - HYDROSYSTEMS*KDI HAS CONTACTED THE LOCAL WATER DISTRICT THAT SERVES THIS SITE AND THEY HAVE BEEN TOLD THAT THE STATIC WATER PRESSURE IN THIS AREA SHOULD BE **80** PSI. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY PRESSURE PRIOR TO COMMENCING ANY CONSTRUCTION AND NOTIFY HYDROSYSTEMS*KDI OF ANY VARIANCE FROM THE STATED PRESSURE IMMEDIATELY. WRITTEN DOCUMENTATION OF PRESSURE TEST AND RESULTS SHALL BE PROVIDED TO HYDROSYSTEMS*KDI AT CONSTRUCTION ONSET. IF CONTRACTOR FAILS TO FIELD VERIFY PRESSURE AND/OR NOTIFY HYDROSYSTEMS*KDI OR ANY VARIATIONS FROM THIS PRESSURE, THEN HE ASSUMES ALL CONSTRUCTION AND ENGINEERING COSTS ASSOCIATED WITH SYSTEM MODIFICATIONS REQUIRED TO ACCOMMODATE ACTUAL SITE PRESSURE. THIS SYSTEM HAS BEEN DESIGNED FOR A REQUIRED STATIC PRESSURE OF **75** PSI MINIMUM.

3. IRRIGATION SYSTEM OPERATION INTENT - THIS IRRIGATION SYSTEM HAS BEEN DESIGNED TO IRRIGATE THE ESTABLISHED LANDSCAPE WITHIN A THREE NIGHT PER WEEK, EIGHT HOUR PER NIGHT WATERING WINDOW. ESTABLISHMENT WATERING WILL REQUIRE UP TO TWICE AS MUCH IRRIGATION FOR A FOUR TO SIX WEEK PERIOD. THE DESIGN IS BASED ON THE FOLLOWING PROJECTED WEEKLY APPLICATION RATES AFTER ESTABLISHMENT. THESE FIGURES ARE BASED ON A 30-YEAR AVERAGE WEATHER DATA AND WILL NEED TO BE ADJUSTED DUE TO SEASONAL CHANGES AND WEATHER CONDITIONS ABOVE AND BELOW THE AVERAGE VALUES UTILIZED.
   BLUEGRASS TURF 2.22" PER WEEK PEAK SEASON
   ORNAMENTAL PLANTINGS 1.26" PER WEEK PEAK SEASON
   NOTE: DENVER WATER WILL NOT ALLOW ANY GIVEN ZONE TO OPERATE MORE THAN THREE DAYS PER WEEK. CONTROLLER SHALL BE PROGRAMMED TO ALTERNATE ZONE OPERATION.

4. EQUIPMENT INSTALLATION - IT IS THE INTENT OF THIS DESIGN THAT ALL IRRIGATION EQUIPMENT BE INSTALLED WITHIN PROPERTY LIMITS AND WITHIN LANDSCAPED AREAS. ANY EQUIPMENT OTHER THAN VALVE BOXES OR SLEEVING THAT CONTAINS PIPE OR WIRES SHOWN OUTSIDE OF THESE LIMITS IS SHOWN IN THAT LOCATION FOR GRAPHICAL CLARITY ONLY. ALL VALVE BOXES SHALL BE INSTALLED A MINIMUM OF 2'-0" FROM EDGE OF ANY PAVED SURFACES UNLESS SPECIFICALLY INDICATED ON PLANS. BOXES INSTALLED IN OPEN TURF AREAS SHALL BE KEPT TO EDGES AND STAKED FOR REVIEW IF ALONG HIGH TRAFFIC AREAS. ALL VALVE BOXES SHALL BE PLACED A MINIMUM OF 3'-0" FROM THE CENTERLINE OF ANY DRAINAGE SWALE. ALL VALVE BOXES WITHIN PAVEMENT SHALL BE TIER 15 RATED BOXES FOR HEAVY DUTY NON-DELIBERATE TRAFFIC. BOX LID COLOR SHALL MATCH ADJACENT MATERIALS, I.E. GREEN IN TURF, TAN IN WOOD MULCH, GRAY IN STONE MULCH, PURPLE FOR RECLAIMED WATER SYSTEMS (IF REQUIRED). REFER TO LANDSCAPE PLANS FOR MATERIAL COLORS AND TYPES. ALL BOXES SHALL BE INSTALLED TO BE FLUSH WITH GRADE AND IN AN ORDERLY MANNER.

5. MANUAL DRAIN VALVES - CONTRACTOR TO INSTALL ONE MANUAL DRAIN VALVE ON PRESSURE SUPPLY LINE DIRECTLY DOWNSTREAM OF BACKFLOW PREVENTER AND AT ALL LOW POINTS AND DEAD ENDS OF PRESSURE SUPPLY PIPING TO INSURE COMPLETE DRAINAGE OF SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THESE LOCATIONS IN-FIELD AND INSTALLATION LOCATIONS SHALL BE NOTED ON AS-BUILTS.

6. POP-UP SPRAY NOZZLES - CONTRACTOR TO INSTALL PLASTIC NOZZLES ON ALL POP-UP SPRAY HEADS. INSTALL 15 SERIES NOZZLES ON ALL HEADS SPACED AT 12' TO 14'. INSTALL 12 SERIES NOZZLES ON ALL HEADS SPACED 10' TO 11'. INSTALL 10 SERIES NOZZLES ON ALL HEADS SPACED AT 8' TO 9'. INSTALL 8 SERIES NOZZLES ON ALL HEADS SPACED AT 6' TO 7'. INSTALL 5' NOZZLES ON ALL HEADS SPACED AT 5'. INSTALL SIDE STRIP NOZZLES ON ALL HEADS WITH AN "S" DESIGNATION AND RIGHT AND LEFT CORNER STRIP NOZZLES ON ALL HEADS WITH AN "L" OR "R" DESIGNATION. VARIABLE ARC NOZZLES SHOULD BE UTILIZED ADJACENT TO CURVILINEAR SHRUB BEDS OR FOR ANY ANGLES THAT ARE NOT A STANDARD NOZZLE ANGLE. WHERE INDICATED, INSTALL LOW FLOW SQ SERIES SQUARE NOZZLES AT SPACING SHOWN.

7. UNLABELED PIPING - ALL UNLABELED LATERAL PIPING SHALL BE 1" MINIMUM UNLESS OTHERWISE NOTED.

8. SLEEVING - ALL SLEEVING UNDER PAVED SURFACES SHOWN ON PLANS IS BY CONTRACTOR UNLESS OTHERWISE NOTED. SLEEVING SHALL BE INSTALLED IN THE SIZES AND QUANTITIES SHOWN ON PLANS OR BASED ON THE SCHEDULE BELOW. WHERE SLEEVES ARE SHOWN, BUT NOT LABELED, FOLLOW THE SCHEDULE BELOW. ALL MAINLINE, CONTROL WIRES AND DRIP LINES UNDER PAVED SURFACES ARE TO BE INSTALLED IN SLEEVING. ALL MAINLINE SLEEVE LOCATIONS TO INCLUDE A SEPARATE WIRE SLEEVE.

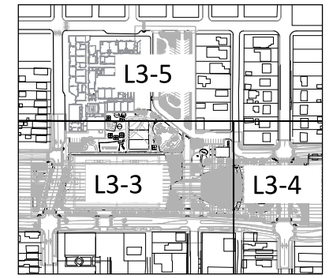
SLEEVED PIPE SIZE/WIRE QUANTITY	REQUIRED SLEEVE SIZE & (QUANTITY)
¾" - 1¼" PIPING	2" PVC (1)
1½" - 2" PIPING	4" PVC (1)
2½" - 3" PIPING	6" PVC (1)
1-50 CONTROL WIRES	3" PVC (1)
51-100 CONTROL WIRES	3" PVC (2)
COMMUNICATION CABLE	3" PVC (1)

9. SPARE CONTROL WIRES - CONTRACTOR SHALL EXTEND THREE SPARE WIRES (ONE COMMON AND 2 CONTROL WIRES) FROM EACH CONTROLLER TO THE END OF THE MAINLINE SERVING THAT CONTROLLER OR AS SHOWN ON THE PLANS. INSTALL SPARE WIRES IN 10" ROUND VALVE BOX WITH QUICK COUPLING VALVE. REFER TO SPECIFICATIONS FOR WIRE COLOR. SEE IRRIGATION SCHEDULE FOR ADDITIONAL INFORMATION.

10. ADJUSTMENT - CONTRACTOR SHALL FINE TUNE/ADJUST THE IRRIGATION SYSTEM TO REDUCE/AVOID OVERSPRAY ONTO HARD SURFACES BY ADJUSTING NOZZLE DIRECTION AND NOZZLE RADIUS.

11. PLANS AND SPECIFICATIONS - CONTRACTOR RESPONSIBLE TO ENSURE WORK CONFORMS TO PLANS AND SPECIFICATIONS. AT ONSET OF CONSTRUCTION, VERIFY PLANS ARE CURRENT. WHERE REQUIRED BY CITY, CONTRACTOR SHALL CONSTRUCT ONLY OFF CITY STAMPED PLANS. REVISIONS TO CITY STAMPED PLANS SHALL CONFORM TO CITY FIELD CHANGE PROCEDURES AND DOCUMENTATION.

12. CITY DETAILS - HYDROSYSTEMS-KDI WILL BE RESPONSIBLE FOR THE IRRIGATION DESIGN ITSELF. DETAIL #DP&R 1, 2, 5, 6, 7, 9, 10, 11, 13, 19, 20, 3, 24 & DW 69 ARE STANDARD DETAIL DESIGNED AND SPECIFIED BY THE APPLICABLE GOVERNING AUTHORITY, DENVER PARKS & RECREATION OR DENVER WATER. HYDROSYSTEMS*KDI DID NOT DESIGN AND SPECIFY THESE DETAILS. HYDROSYSTEMS*KDI IS NOT RESPONSIBLE, AND ACCEPTS NO RESPONSIBILITY, FOR THE SELECTION AND SPECIFICATION OF THESE DETAILS, AND HYDROSYSTEMS*KDI MAKES NO REPRESENTATIONS WITH REGARD TO THESE DETAILS.



KEY PLAN

IRRIGATION DEVELOPMENT DESIGN NOTES

1. THE IRRIGATION SYSTEM SHALL BE DESIGNED TO PROVIDE PEAK SEASON IRRIGATION WITHIN AN THREE NIGHT, EIGHT HOUR PER NIGHT WATERING PERIOD.

2. THE MAINLINE SYSTEM WILL BE DESIGNED SUCH THAT VELOCITIES WITHIN THE MAINLINE PIPING DO NOT EXCEED FIVE FEET PER SECOND.

3. THE MAXIMUM FLOW RATE REQUIRED FOR THE SITE IS 60 GPM. THE STATIC PRESSURE AVAILABLE AT THE SITE IS 75 PSI.

4. IRRIGATION DESIGN APPROACH
   4.1. TURF AREAS
      4.1.1. SMALL AREAS (25 FEET WIDE OR LESS) SHALL BE IRRIGATED WITH FIXED NOZZLE POP-UP SPRAY HEADS WITH MATCHED PRECIPITATION NOZZLES. NOZZLES SHALL BE SIZES TO PROVIDE HEAD TO HEAD COVERAGE.
      4.1.2. LARGE TURF AREAS (WIDER THAN 25 FEET) SHALL BE IRRIGATED WITH GEAR DRIVEN ROTOR HEADS WITH A MINIMUM PRECIPITATION RATE OF .45" PER HOUR FOR A FULL CIRCLE HEAD.
   4.2. SHRUB BED AREAS - BED AREAS SHALL BE SPRAY IRRIGATED WITH 12" POP-UP SPRAY HEADS.

5. THE IRRIGATION INFORMATION SHOWN ON THESE PLANS IS CONCEPTUAL.

6. IRRIGATION SYSTEM SHALL BE FULLY AUTOMATIC AND INCLUDE A RAIN SENSING DEVICE.

7. THE SIZE OF THE IRRIGATION LINE MUST BE THE SAME FROM THE TAP AT THE WATER MAIN THROUGH THE METER AND THE BACKFLOW PREVENTER, TO A DISTANCE OF 10 PIPE DIAMETERS PAST THE WINTERIZATION TEE.

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Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER PARK IRRIGATION NOTES AND SCHEDULE – DP&R			Project No./Code FBR 0704-234
Designer: JSB	Structure Numbers	–	19631
Detailer: KJD		–	
Subset: _SG	Subset Sheets: 21 of 36		Sheet Number 35

IRRIGATION SCHEDULE - DENVER PUBLIC SCHOOLS

SYMBOL	MANUFACTURER	MODEL NO.	DESCRIPTION	DETAIL NO.
▼	RAIN BIRD	44-LRC	QUICK COUPLING VALVE	3
N/S	BUCKNER	22000 SERIES	MANUAL DRAIN VALVE	1
⋈	MATCO	10RS	GATE VALVE	2
		CLASS 200 BE - 2½" & SMALLER	PVC MAINLINE	7
		CLASS 160	PVC SLEEVING	8
	TORO	BLUE STRIPE	POLY DRIP TUBING -¾" MIN. WIDTH	4 to 6
⊕	RAIN BIRD	XCZ-075-PRF	DRIP VALVE ASSEMBLY	4
▶			DRIP LINE BLOW-OUT STUB	5
N/S	RAIN BIRD	XERI-BUG	DRIP EMITTERS	6

CONTROLLER & STATION NO.
CONTROL VALVE SIZE

A (controller) — NUMBER OF SPARE WIRES - 2 CONTROL AND 1 SPARE
WIRES TO WHICH CONTROLLER - SEE CONSTRUCTION NOTES

IRRIGATION DEVELOPMENT DESIGN NOTES

1. THE IRRIGATION SYSTEM SHALL BE DESIGNED TO PROVIDE PEAK SEASON IRRIGATION WITHIN AN THREE NIGHT, EIGHT HOUR PER NIGHT WATERING PERIOD.

2. THE MAINLINE SYSTEM WILL BE DESIGNED SUCH THAT VELOCITIES WITHIN THE MAINLINE PIPING DO NOT EXCEED FIVE FEET PER SECOND.

3. THE MAXIMUM FLOW RATE REQUIRED FOR THE SITE IS 70 GPM. THE STATIC PRESSURE AVAILABLE AT THE SITE IS 70 PSI.

4. IRRIGATION DESIGN APPROACH
   - 4.1. TURF AREAS
     - 4.1.1. SMALL AREAS (25 FEET WIDE OR LESS) SHALL BE IRRIGATED WITH FIXED NOZZLE POP-UP SPRAY HEADS WITH MATCHED PRECIPITATION NOZZLES. NOZZLES SHALL BE SIZES TO PROVIDE HEAD TO HEAD COVERAGE.
   - 4.2. SHRUB BED AREAS - BED AREAS WITH PLANT MATERIAL ONE GALLON IN SIZE OR LARGER SHALL BE DRIP IRRIGATED.
   - 4.3. PERENNIAL AND ANNUAL BED AREAS - PERENNIAL AND ANNUAL BED AREAS SHALL BE SPRAY IRRIGATED WITH 12" POP-UP SPRAY HEADS WITH A MAXIMUM SPACING OF 10' O.C. OR IN AREAS ARE LESS THAN 10 FT. WIDE SHALL BE IRRIGATED WITH SUBSURFACE IRRIGATION.

5. THE IRRIGATION INFORMATION SHOWN ON THESE PLANS IS CONCEPTUAL.

6. IRRIGATION SYSTEM SHALL BE FULLY AUTOMATIC AND INCLUDE A RAIN SENSING DEVICE.

2 — CONTRACTOR TO LOCATE EXISTING MAINLINE AND EXISTING CONTROL WIRES AT THIS APPROXIMATE LOCATION. TIE ONTO AND EXTEND NEW 1½" MAINLINE AND 9 NEW CONTROL WIRES (FIVE HOT WIRES, ONE COMMON WIRE, TWO SPARE HOT WIRES AND ONE SPARE COMMON WIRE).

REFER TO SHEET

L3-01	IRRIGATION NOTES & SCHEDULE - DP&R
L3-02	IRRIGATION NOTES & SCHEDULE - DPS
L3-03 - L3-05	IRRIGATION PLANS
L3-06 - L3-07	IRRIGATION DETAILS - DP&R
L3-08	IRRIGATION DETAILS - DPS

IRRIGATION CONSTRUCTION NOTES - DENVER PUBLIC SCHOOLS

1. DRAWINGS AND BASE INFORMATION - ALL BASE AND PLANTING INFORMATION HAVE BEEN PROVIDED BY CIVITAS. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY HYDROSYSTEMS*KDI OF ANY DISCREPANCIES BETWEEN THE UTILITY OR PLANTING PLANS AND THE IRRIGATION PLAN. IF CONTRACTOR FAILS TO NOTIFY HYDROSYSTEMS*KDI AND MAKES CHANGES TO THE IRRIGATION SYSTEM DESIGN, HE ASSUMES ALL COSTS AND LIABILITIES ASSOCIATED WITH THOSE FIELD CHANGES. REFER TO SPECIFICATIONS FOR ADDITIONAL PROJECT REQUIREMENTS.

2. SYSTEM PRESSURE - HYDROSYSTEMS*KDI HAS CONTACTED THE LOCAL WATER DISTRICT THAT SERVES THIS SITE AND THEY HAVE BEEN TOLD THAT THE STATIC WATER PRESSURE IN THIS AREA SHOULD BE **80** PSI. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY PRESSURE PRIOR TO COMMENCING ANY CONSTRUCTION AND NOTIFY HYDROSYSTEMS*KDI OF ANY VARIANCE FROM THE STATED PRESSURE IMMEDIATELY. WRITTEN DOCUMENTATION OF PRESSURE TEST AND RESULTS SHALL BE PROVIDED TO HYDROSYSTEMS*KDI AT CONSTRUCTION ONSET. IF CONTRACTOR FAILS TO FIELD VERIFY PRESSURE AND/OR NOTIFY HYDROSYSTEMS*KDI OR ANY VARIATIONS FROM THIS PRESSURE, THEN HE ASSUMES ALL CONSTRUCTION AND ENGINEERING COSTS ASSOCIATED WITH SYSTEM MODIFICATIONS REQUIRED TO ACCOMMODATE ACTUAL SITE PRESSURE. THIS SYSTEM HAS BEEN DESIGNED FOR A REQUIRED STATIC PRESSURE OF **70** PSI MINIMUM.

3. IRRIGATION SYSTEM OPERATION INTENT - THIS IRRIGATION SYSTEM HAS BEEN DESIGNED TO IRRIGATE THE ESTABLISHED LANDSCAPE WITHIN A THREE NIGHT PER WEEK, EIGHT HOUR PER NIGHT WATERING WINDOW. ESTABLISHMENT WATERING WILL REQUIRE UP TO TWICE AS MUCH IRRIGATION FOR A FOUR TO SIX WEEK PERIOD. THE DESIGN IS BASED ON THE FOLLOWING PROJECTED WEEKLY APPLICATION RATES AFTER ESTABLISHMENT. THESE FIGURES ARE BASED ON A 30-YEAR AVERAGE WEATHER DATA AND WILL NEED TO BE ADJUSTED DUE TO SEASONAL CHANGES AND WEATHER CONDITIONS ABOVE AND BELOW THE AVERAGE VALUES UTILIZED.
   ORNAMENTAL PLANTINGS 0.91" PER WEEK PEAK SEASON
   NOTE: DENVER WATER WILL NOT ALLOW ANY GIVEN ZONE TO OPERATE MORE THAN THREE DAYS PER WEEK. CONTROLLER SHALL BE PROGRAMMED TO ALTERNATE ZONE OPERATION.

4. EQUIPMENT INSTALLATION - IT IS THE INTENT OF THIS DESIGN THAT ALL IRRIGATION EQUIPMENT BE INSTALLED WITHIN PROPERTY LIMITS AND WITHIN LANDSCAPED AREAS. ANY EQUIPMENT OTHER THAN VALVE BOXES OR SLEEVING THAT CONTAINS PIPE OR WIRES SHOWN OUTSIDE OF THESE LIMITS IS SHOWN IN THAT LOCATION FOR GRAPHICAL CLARITY ONLY. ALL VALVE BOXES SHALL BE INSTALLED A MINIMUM OF 2'-0" FROM EDGE OF ANY PAVED SURFACES UNLESS SPECIFICALLY INDICATED ON PLANS. BOXES INSTALLED IN OPEN TURF AREAS SHALL BE KEPT TO EDGES AND STAKED FOR REVIEW IF ALONG HIGH TRAFFIC AREAS. ALL VALVE BOXES SHALL BE PLACED A MINIMUM OF 3'-0" FROM THE CENTERLINE OF ANY DRAINAGE SWALE. ALL VALVE BOXES WITHIN PAVEMENT SHALL BE TIER 15 RATED BOXES FOR HEAVY DUTY NON-DELIBERATE TRAFFIC. BOX LID COLOR SHALL MATCH ADJACENT MATERIALS, I.E. GREEN IN TURF, TAN IN WOOD MULCH, GRAY IN STONE MULCH, PURPLE FOR RECLAIMED WATER SYSTEMS (IF REQUIRED). REFER TO LANDSCAPE PLANS FOR MATERIAL COLORS AND TYPES. ALL BOXES SHALL BE INSTALLED TO BE FLUSH WITH GRADE AND IN AN ORDERLY MANNER.

5. MANUAL DRAIN VALVES - CONTRACTOR TO INSTALL ONE MANUAL DRAIN VALVE ON PRESSURE SUPPLY LINE DIRECTLY DOWNSTREAM OF BACKFLOW PREVENTER AND AT ALL LOW POINTS AND DEAD ENDS OF PRESSURE SUPPLY PIPING TO INSURE COMPLETE DRAINAGE OF SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THESE LOCATIONS IN-FIELD AND INSTALLATION LOCATIONS SHALL BE NOTED ON AS-BUILTS.

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7. DRIP IRRIGATION - REFER TO IRRIGATION DETAIL SHEET FOR DRIP EMITTER QUANTITIES AND PLACEMENT.

8. UNLABELED PIPING - ALL UNLABELED LATERAL PIPING SHALL BE ¾" MINIMUM UNLESS OTHERWISE NOTED.

9. SLEEVING - ALL SLEEVING UNDER PAVED SURFACES SHOWN ON PLANS IS BY CONTRACTOR UNLESS OTHERWISE NOTED. SLEEVING SHALL BE INSTALLED IN THE SIZES AND QUANTITIES SHOWN ON PLANS OR BASED ON THE SCHEDULE BELOW. WHERE SLEEVES ARE SHOWN, BUT NOT LABELED, FOLLOW THE SCHEDULE BELOW. ALL MAINLINE, CONTROL WIRES AND DRIP LINES UNDER PAVED SURFACES ARE TO BE INSTALLED IN SLEEVING. ALL MAINLINE SLEEVE LOCATIONS TO INCLUDE A SEPARATE WIRE SLEEVE.

SLEEVED PIPE SIZE/WIRE QUANTITY	REQUIRED SLEEVE SIZE & (QUANTITY)
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COMMUNICATION CABLE	3" PVC (1)

10. SPARE CONTROL WIRES - CONTRACTOR SHALL EXTEND THREE SPARE WIRES (ONE COMMON AND 2 CONTROL WIRES) FROM EACH CONTROLLER TO THE END OF THE MAINLINE SERVING THAT CONTROLLER OR AS SHOWN ON THE PLANS. INSTALL SPARE WIRES IN 10" ROUND VALVE BOX WITH QUICK COUPLING VALVE. REFER TO SPECIFICATIONS FOR WIRE COLOR. SEE IRRIGATION SCHEDULE FOR ADDITIONAL INFORMATION.

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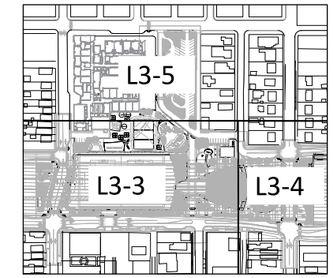
12. PLANS AND SPECIFICATIONS - CONTRACTOR RESPONSIBLE TO ENSURE WORK CONFORMS TO PLANS AND SPECIFICATIONS. AT ONSET OF CONSTRUCTION, VERIFY PLANS ARE CURRENT. WHERE REQUIRED BY CITY, CONTRACTOR SHALL CONSTRUCT ONLY OFF CITY STAMPED PLANS. REVISIONS TO CITY STAMPED PLANS SHALL CONFORM TO CITY FIELD CHANGE PROCEDURES AND DOCUMENTATION.

13. EXISTING IRRIGATION DAMAGE - CONTRACTOR SHALL REPAIR OR REPLACE ANY EXISTING IRRIGATION SYSTEMS DAMAGED DURING NEW INSTALLATION. REPAIR OR REPLACEMENT SHALL BE DETERMINED BY OWNER OR OWNER'S REPRESENTATIVE AND PAID FOR BY THE LANDSCAPE CONTRACTOR.

14. EXISTING IRRIGATION COORDINATION - EXISTING IRRIGATION SYSTEM SHALL NOT BE TURNED OFF FOR MORE THAN 24 HOURS MAXIMUM. CONTRACTOR SHALL COORDINATE TURN OFF OF SYSTEM WITH OWNER OR MAINTENANCE STAFF 72 HOURS PRIOR TO ANY NEW CONSTRUCTION.

15. SIMULTANEOUS ZONE OPERATION - THIS IRRIGATION SYSTEM HAS BEEN DESIGNED TO OPERATE MULTIPLE ZONES SIMULTANEOUSLY BASED ON INDIVIDUAL ZONE FLOW. THE DESIGN IS INTENDED TO OPERATE MULTIPLE VALVES, UP TO THE MAXIMUM FLOW IN THE POINT OF CONNECTION NOTE. REFER TO CONTROLLER SPECIFICATION FOR MAXIMUM SIMULTANEOUS VALVE COUNT.



KEY PLAN

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303-980-5384 (fax)

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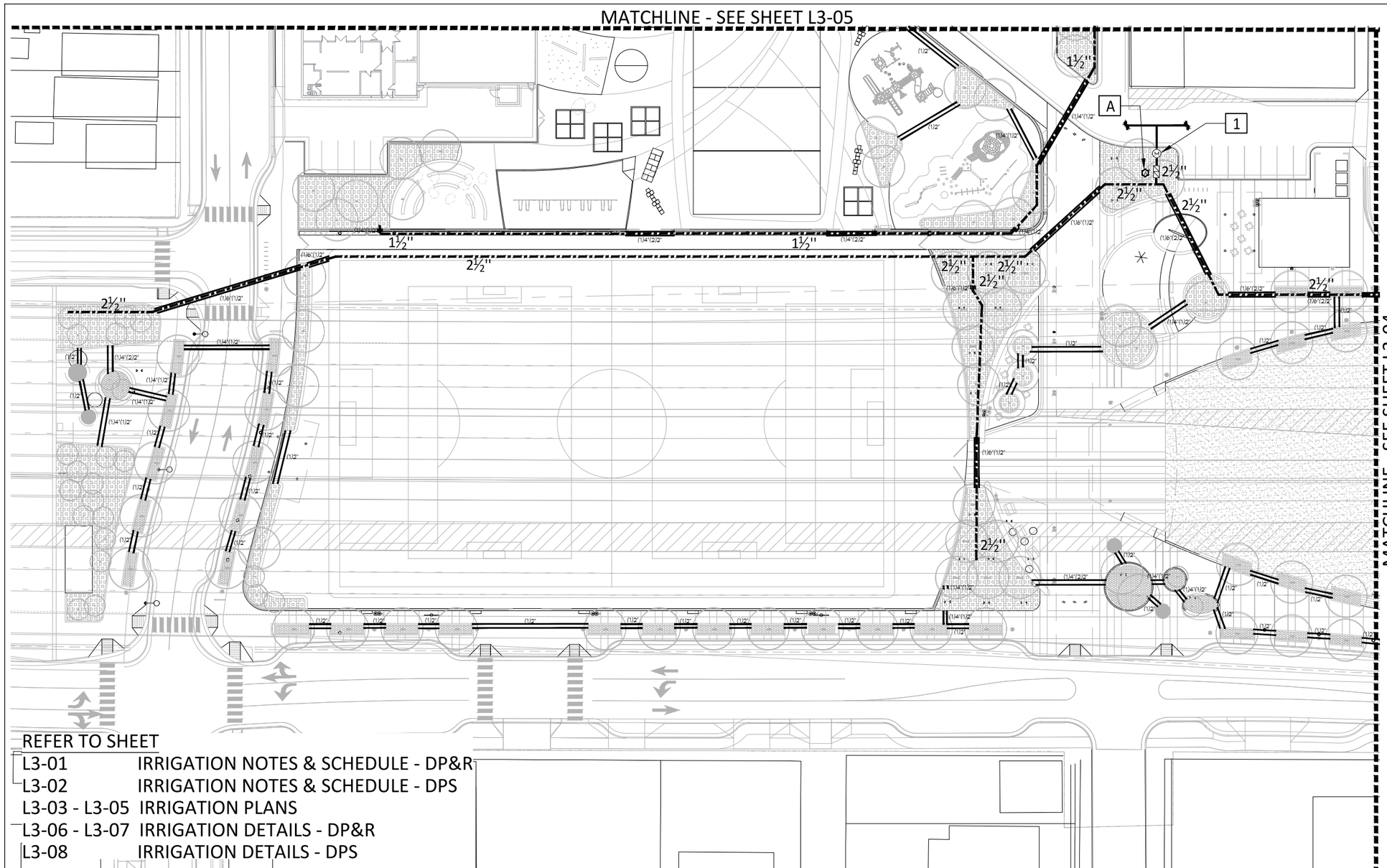
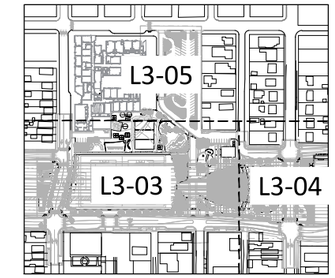
Central 70

CENTRAL 70 COVER PARK IRRIGATION NOTES AND SCHEDULE – DPS			Project No./Code FBR 0704-234
Designer: JSB	Structure Numbers	–	19631
Detailer: KJD		–	
Subset: _SG	Subset Sheets: 22 of 36		Sheet Number 36





KEY PLAN

REFER TO SHEET

L3-01	IRRIGATION NOTES & SCHEDULE - DP&R
L3-02	IRRIGATION NOTES & SCHEDULE - DPS
L3-03 - L3-05	IRRIGATION PLANS
L3-06 - L3-07	IRRIGATION DETAILS - DP&R
L3-08	IRRIGATION DETAILS - DPS

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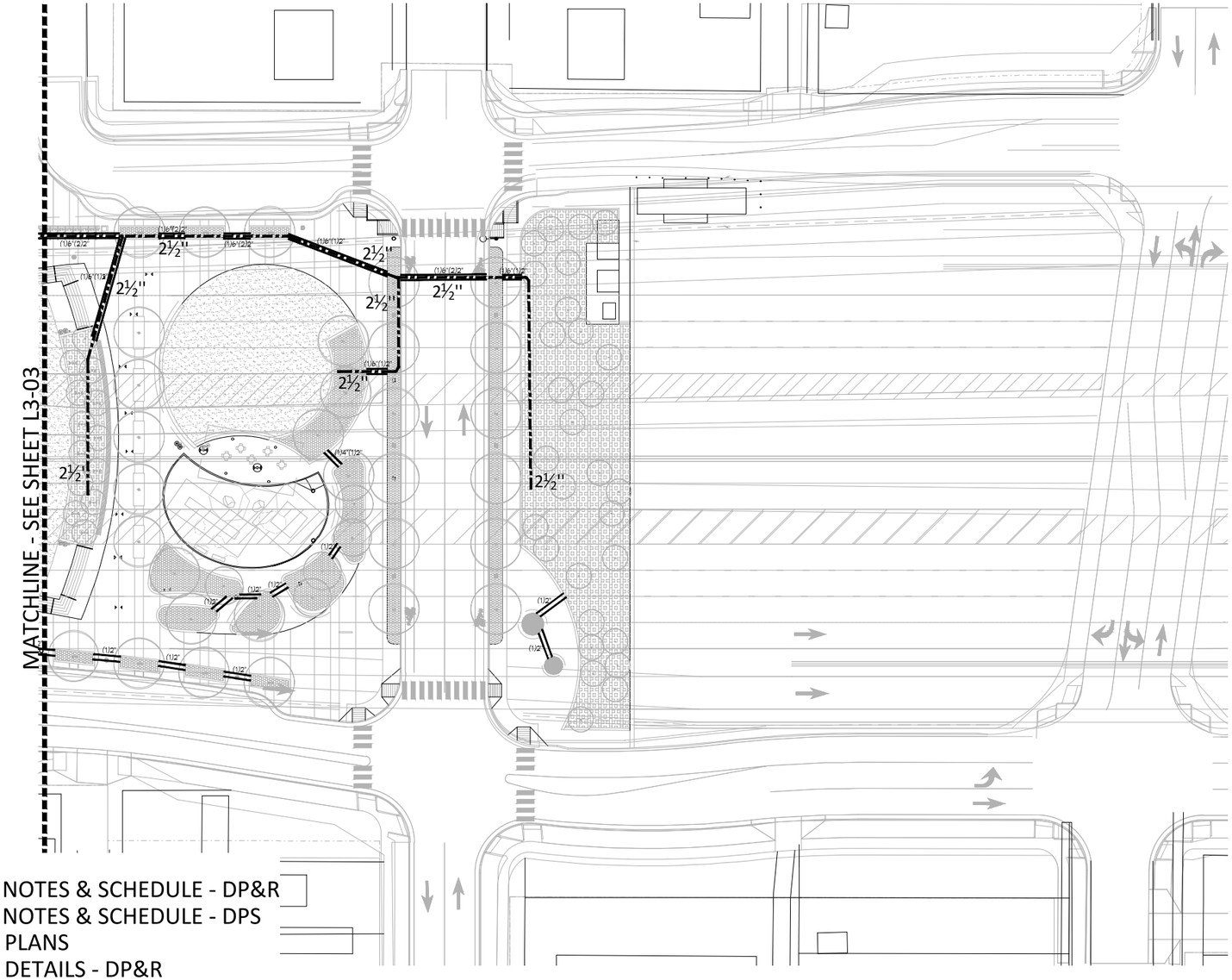
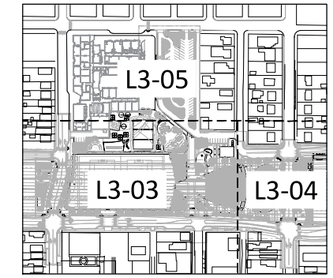
Central 70

Scale: 1" = 30'-0"
0 15' 30' 60'

CENTRAL 70 COVER PARK IRRIGATION PLAN				Project No./Code
				FBR 0704-234
Designer:	JSB	Structure Numbers	–	19631
Detailer:	KJD		–	
Subset:	_SG	Subset Sheets:	23 of 36	Sheet Number 37





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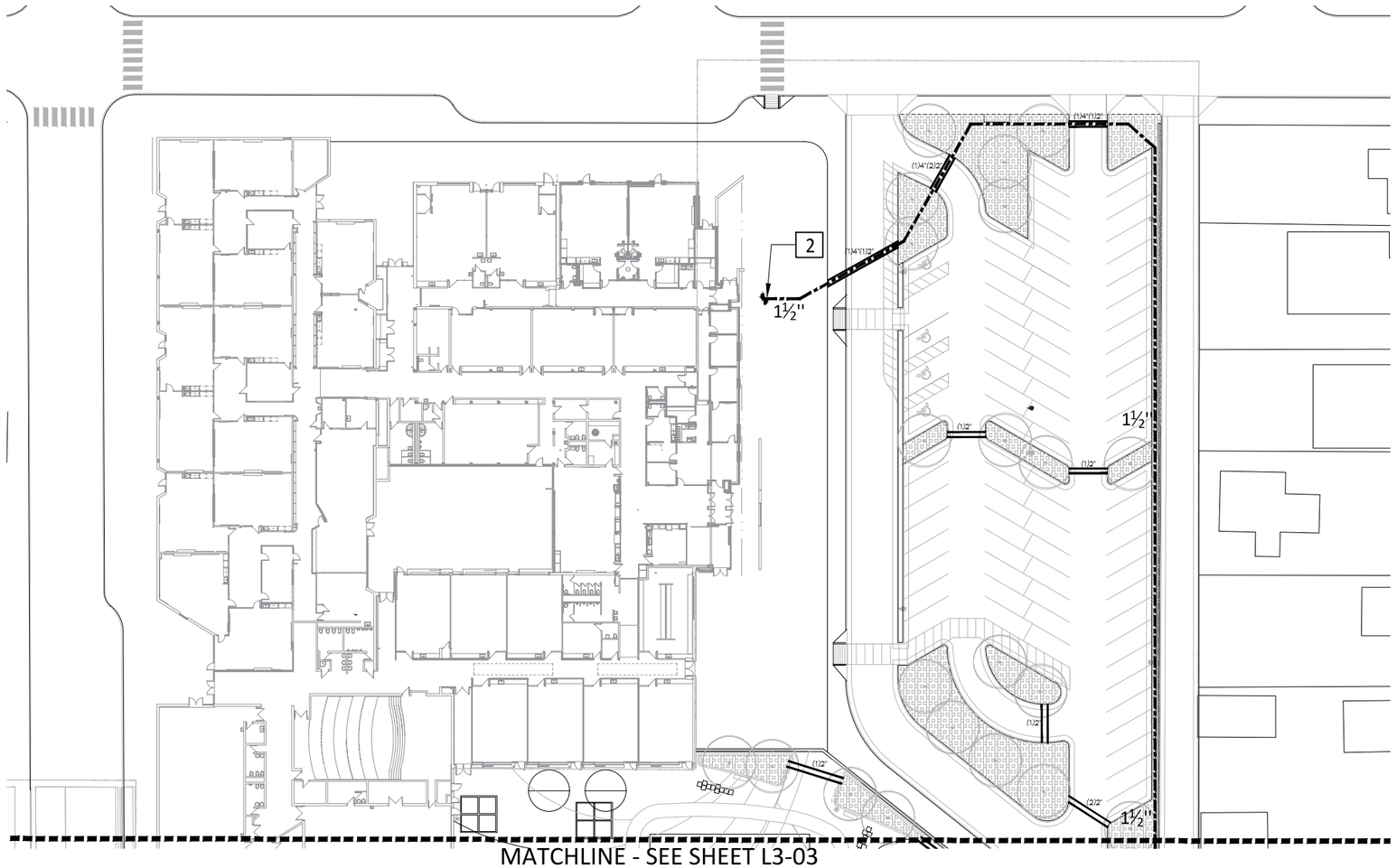
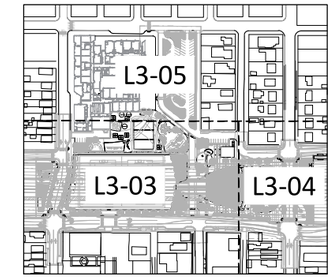
Central 70

Scale: 1" = 30'-0"
0 15' 30' 60'

CENTRAL 70 COVER PARK IRRIGATION PLAN			Project No./Code
			FBR 0704-234
Designer: JSB	Structure Numbers	–	19631
Detailer: KJD		–	
Subset: _SG	Subset Sheets: 24 of 36		Sheet Number 38



MATCHLINE - SEE SHEET L3-03



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CENTRAL 70 COVER PARK IRRIGATION PLAN				Project No./Code
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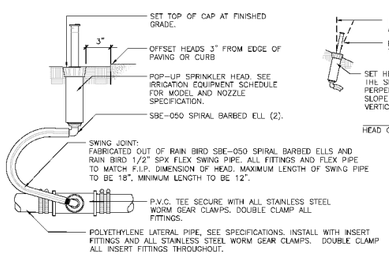
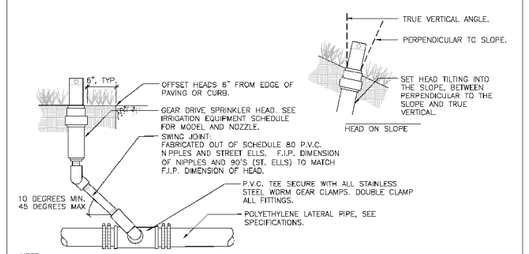


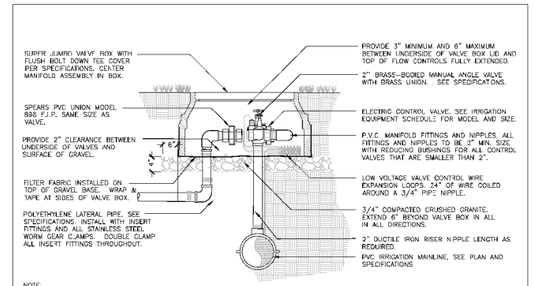
NOTE:
1. PLUMB HEAD PERPENDICULAR TO FINISHED GRADE OR AS SPECIFIED FOR HEADS ON A SLOPE.
2. SET TOP OF HEAD LEVEL WITH FINISHED GRADE IN TURF GRASS AREAS. SET TOP OF HEAD 1/2" ABOVE FINISHED GRADE IN SEEDED AREAS.
3. LATERAL PIPE TO BE PLACED 9" MIN FROM EDGE OF CURB/WALKS AND 36" MIN FROM THE CENTERLINE OF SWALES.

POP-UP SPRAY HEAD (9)



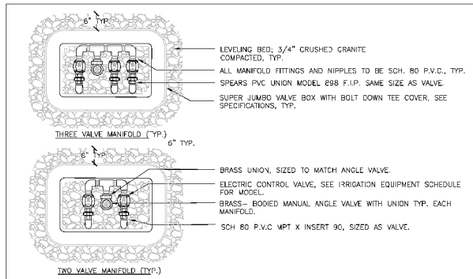
NOTE:
1. PLUMB HEAD PERPENDICULAR TO FINISHED GRADE OR AS SPECIFIED FOR HEADS ON SLOPE.
2. SET CAP OF HEAD LEVEL WITH FINISHED GRADE TURFGRASS AREAS. SET TOP OF HEAD 1/2" ABOVE FINISHED GRADE IN SEEDED AREAS.

GEAR DRIVE ROTOR (10)



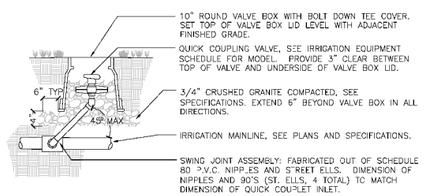
NOTE:
1. SET TOP OF VALVE BOX LID LEVEL WITH ADJACENT FINISHED GRADE.
2. BRAND (STATION NO.) INTO VALVE BOX LID WITH 1" HIGH LETTERS MIN. AND LOCK THE PLASTIC VALVE NO. TAGS TO FLOW CONTROL STEM ON EACH CONTROL VALVE.

REMOTE VALVE (5)



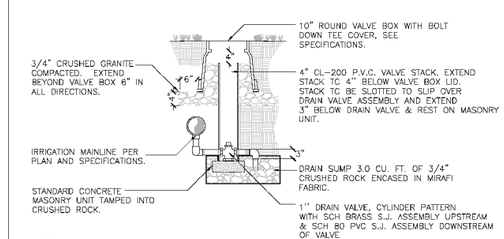
NOTE:
1. CENTER MANIFOLD ASSEMBLY IN BOX. ENSURE THAT LATERAL PIPE HAS 6" OF COVER MINIMUM WHERE IT PASSES UNDER VALVE BOX FRAME.
2. DO NOT MODIFY OR CUT SIDE WALLS OF VALVE BOX.
3. ASSEMBLE VALVE MANIFOLD ASSEMBLY FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
4. LOCATE VALVE BOXES AND MAINLINE A MINIMUM DISTANCE OF 24" FROM CURBS AND WALKS AND A MINIMUM OF 36" FROM CENTER LINE OF DRAINAGE SWALES.

REMOTE CONTROL VALVE (6)



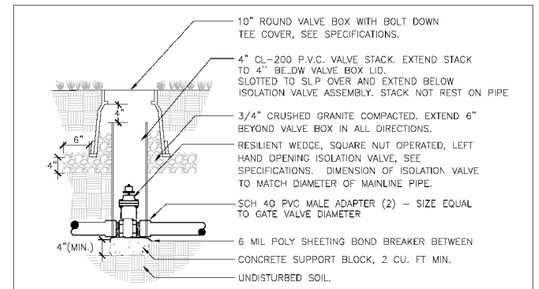
NOTE:
1. INSURE THAT HANDLE ON QUICK COUPLER KEY WILL CLEAR VALVE BOX IN ALL DIRECTIONS.
2. BRAND (QC) INTO VALVE BOX LID WITH 1" HIGH LETTERS MIN.
3. NIPPLE ANGLE TO BE 10 DEGREES MIN. AND 45 DEGREES MAX. INSTALL SWING JOINT SUCH THAT DOWNWARD PRESSURE ON VALVE WILL TIGHTEN FITTING INTO MAINLINE TEE.
4. FOR QUICK COUPLERS LOCATED WITHIN 100 FEET OF BACKFLOW PREVENTION DEVICES AND INTENDED FOR WINTERIZATION USE, ALL FITTINGS AND NIPPLES OF THE SWING JOINT ASSEMBLY MUST BE CONSTRUCTED ENTIRELY OF BRASS.

QUICK COUPLER VALVE (7)



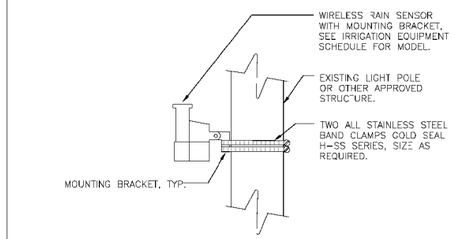
NOTE:
1. BRAND (DV) INTO VALVE BOX LID WITH 1" HIGH LETTERS MIN.
2. EXTEND VERTICAL DISCHARGE NIPPLE INTO DRAIN SUMP A MINIMUM OF 3".
3. SET TOP OF VALVE BOX LID LEVEL WITH FINISHED GRADE OF ADJACENT TURFGRASS AREAS.

DRAIN VALVE (13)



NOTES:
1. BRAND (GV) INTO VALVE BOX LID WITH 1" HIGH LETTERS MIN.
2. SET TOP OF VALVE BOX LID LEVEL WITH FINISHED GRADE OF ADJACENT TURF GRASS AREAS.
3. PROVIDE MINIMUM 4" CLEAR BETWEEN TOP OF STACK AND UNDERSIDE OF VALVE BOX LID.

GATE VALVE UNDER 3" (11)



NOTE:
1. MOUNT TO POLE OR LIGHT POLE WITHIN 200 FEET OF CONTROLLER.
2. INSTALL A MINIMUM OF 15' ABOVE GRADE.
3. ENSURE SENSOR IS NOT SHIELDED BY TREE CANOPIES OR STRUCTURES AND NOT AFFECTED BY IRRIGATION OVERSPRAY.

RAIN SENSOR (24)

REFER TO SHEET

L3-01	IRRIGATION NOTES & SCHEDULE - DP&R
L3-02	IRRIGATION NOTES & SCHEDULE - DPS
L3-03 - L3-05	IRRIGATION PLANS
L3-06 - L3-07	IRRIGATION DETAILS - DP&R
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303-980-5384 (fax)

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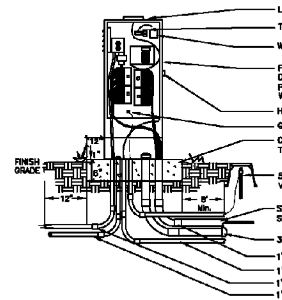
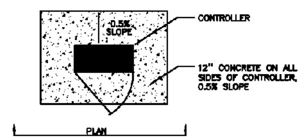
Central 70

CENTRAL 70 COVER PARK IRRIGATION DETAILS – DP&R				Project No./Code
				FBR 0704-234
Designer:	JSB	Structure Numbers	–	19631
Detailer:	KJD		–	
Subset:	_SG	Subset Sheets:	26 of 36	Sheet Number 40





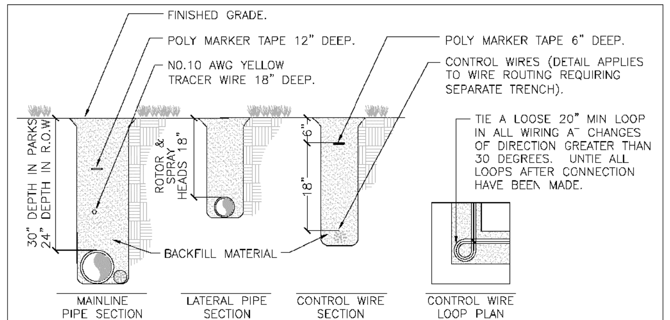
GENERAL NOTES AND REQUIREMENTS

1. 450 MHz RADIO COMMUNICATION SYSTEM SHALL BE FULLY COMPATIBLE WITH EXISTING DENVER DEPARTMENT OF PARKS AND RECREATION CENTRAL CONTROL UNIT RADIO FREQUENCY.
2. FLOW SENSOR SHIELDED CABLE (PAIGE 7171D–A) SHALL BE CONNECTED TO FLOW SENSOR TERMINAL AT TOP OF CONTROLLER.
3. MASTER VALVE WIRE SHALL BE CONNECTED TO THE MASTER VALVE TERMINAL AT THE TOP OF THE CONTROLLER.
4. ALL WIRE CONDUITS SHALL BE SCH. 40 PVC CONDUIT AND SHALL EXTEND A MINIMUM OF 12" BEYOND THE CONCRETE SLAB AND CUT FLUSH WITH CONCRETE PAD.
5. CONTRACTOR SHALL PROVIDE 48" LENGTH OF SPARE WIRES WITHIN ENCLOSURE. NEATLY COIL WIRES AT BASE OF ENCLOSURE. BUNDLE AND LABEL WIRES ACCORDING TO CONTROLLER DESIGNATION SHOWN ON PLANS.
6. LOCATE CONTROLLER ENCLOSURE SO THAT IRRIGATION HEADS DO NOT SPRAY INTO CABINET.
7. CONTRACTOR SHALL ARRANGE AND PAY FOR A SITE SURVEY FOR ANTENNA SET–UP FOR MAXIMUM SIGNAL QUALITY FOR EACH CONTROLLER SITE AND OPTIMIZATION OF CENTRAL CONTROL COMMUNICATION AFTER INSTALLATION. CONTACT BRANDON GULLY AT CPS (303) 961–6959). SURVEY TO BE CONDUCTED PRIOR TO CONSTRUCTION AND ORDERING OF EQUIPMENT AND IN SUMMER TIME DURING FULL TREE LEAF OUT.

ELECTRICAL AND GROUNDING NOTES:

1. CONTRACTOR TO GROUND AND PROVIDE SURGE PROTECTION FOR FIELD UNIT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GROUND ROD(S) SHOWN. 6 GA. (MIN) BARE COPPER GROUND WIRE SHALL BE CONNECTED AND CRIMPED TO STUDS ON THE BACKSIDE OF THE PANEL.
2. CONTROLLER(S) SHALL BE EARTH GROUND TESTED VIA MEGGER WITH ACCEPTABLE GROUND RESISTANCE OF 10 OHMS OR LESS. CONTRACTOR SHALL PERFORM GROUNDING TEST IN PRESENCE OF DENVER PARKS & RECREATION REPRESENTATIVE OR CONSULTANT.
3. EARTH GROUND MUST BE IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE (NEC).
4. ALL ELECTRICAL WORK TO CONFORM TO LOCAL AND STATE CODES.

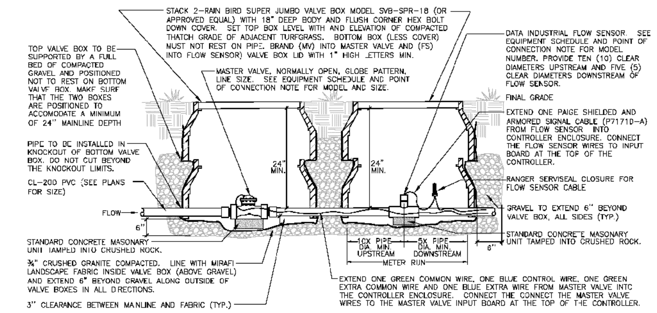
CONTROLLER – SINGLE DOOR Rev. 8/2/13 (20)



NOTE:

1. TRENCH DEPTHS ARE SHOWN AS MINIMUMS, MAXIMUM DEPTH VARIATION ALLOWABLE IS 2". SEE SPECIFICATIONS FOR MINIMUM TRENCH WIDTHS.
2. MULTIPLE IRRIGATION PIPES SHALL NOT BE INSTALLED IN THE SAME TRENCH.
3. IRRIGATION WIRE SHALL BE PLACED BESIDE IRRIGATION PIPE, NEVER STACKED.
4. BUNDLE AND TAPE ALL WIRES AT 10'–0" MINIMUM SECTIONS.
5. BACKFILL MATERIAL SHALL BE FREE OF RUBBISH, FROZEN MATERIALS AND STONES LARGER THAN 1". SEE SPECIFICATIONS FOR TYPICAL BACKFILL MATERIAL, PROCEDURES AND REGULATIONS.

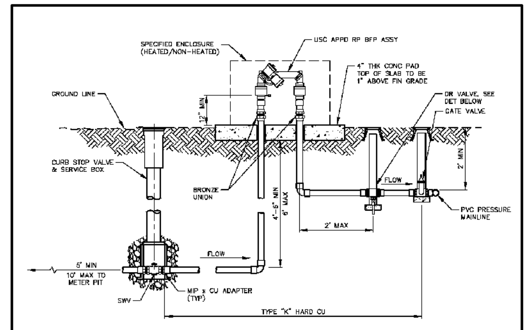
IRRIGATION TRENCH (1)



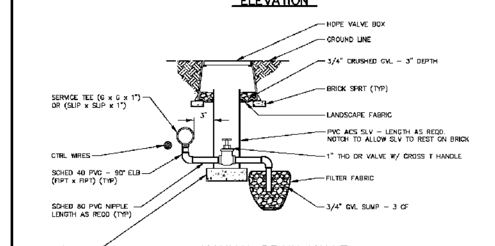
NOTES:

DOWNSTREAM OF THIS ASSEMBLY THE MAINLINE DEPTH WILL REMAIN AT 24" IF IN A RIGHT OF WAY PROJECT OR GO TO A 30" DEPTH FOR PROJECTS WITHIN PARKS, USING 45 DEGREE FITTINGS.
QUICK COUPLER FOR WINTERIZATION MUST BE LOCATED DOWNSTREAM OF THIS ASSEMBLY.

MASTER VALVE/FLOW SENSOR– MAINLINE 2–1/2 " & SMALLER Rev. 08/19/13 (21)



ELEVATION



MANUAL DRAIN VALVE

NOTES:

1. CONCRETE PAD PENETRATIONS SHALL BE 1" LARGER THAN PIPE DIAMETER.
2. DIAMETER OF FITTINGS, NIPPLE, AND TUBING SHALL BE EQUAL IN DIAMETER TO THE BACKFLOW PREVENTER.
3. REFER TO LOCAL CODES AND MANUFACTURER REQUIREMENTS FOR SPECIFIC INSTALLATION INSTRUCTIONS.

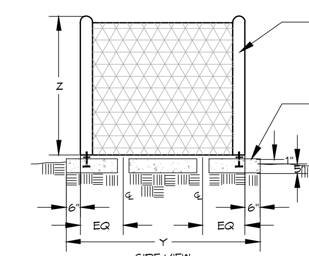
DENVER WATER
1600 West 12th Avenue–Denver, Colorado 80204
Phone(303)628–6000–Telecopier No.(303)628–6851

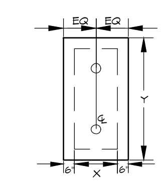
IRRIGATION OUTSIDE SETTING FOR 2" & SMALLER REDUCED PRESSURE PRINCIPLE ASSEMBLY IN ENCLOSURE

Scale: NONE	Date: June 2014
Drawn: C.A.M.	Ck: K ROSS
Approved: [signature]	Dr. 127 No. 35

SHEET 69

BFP MODEL/SIZE	ENCLOSURE MODEL	X	Y	Z
FEBCO 825YA 3/4" & 1"	GS-.5	10"	24"	18"
FEBCO 825YA 1½" & 2"	GS-1	10"	34"	24"



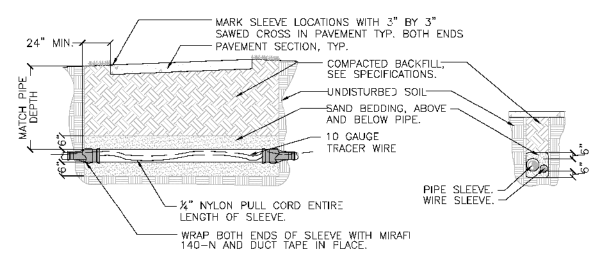


NOTES:

- PAD PENETRATIONS FOR BACKFLOW PREVENTER RISERS TO BE 1" LARGER THAN RISER DIAMETER.
- TOP SURFACE OF CONCRETE PAD SHALL BE 1" ABOVE FINISH GRADE.
- INSTALL ENCLOSURE ANCHORS AS PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE OWNER WITH KEYED PADLOCK FOR ENCLOSURE.
- PROVIDE ENCLOSURE IN FEDERAL GREEN COLOR, UNLESS OTHERWISE NOTED (SEE SCHEDULE).

BACKFLOW ENCLOSURE (H1)

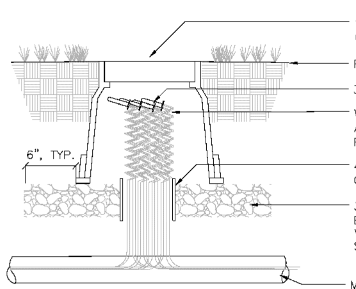
GUARDSHACK - 3/4" - 2" SYSTEMS



NOTES:

1. SLEEVING SHALL BE CL–200 P.V.C. UNLESS OTHERWISE NOTED ON PLAN.
2. ALL MAINLINE SLEEVES HAVE A SEPARATE COMPANION SLEEVE FOR WIRE, PLACED SIDE BY SIDE.
3. MULTIPLE SLEEVES INSTALLED ADJACENT TO ONE ANOTHER ARE TO BE PLACED SIDE BY SIDE, NEVER STACKED.
4. ALL MAINLINE AND LATERAL SLEEVES SHALL BE A MINIMUM OF 2 PIPE SIZES LARGER THAN THE PIPE BEING SLEEVED.
5. BACKFILL ANY RELATED SLEEVING EXCAVATIONS AND MECHANICALLY AND COMPACT IN 6" MAX. LIFTS TO 95% BY VIBRATORY COMPACTION METHOD UNDER ALL PAVEMENT SECTIONS.
7. SLEEVES SHALL BE INSTALLED AT SAME DEPTH AS MAINLINE OR LATERALS. SLEEVES TO BE INSTALLED AT 24" DEPTH MINIMUM UNDER ROADWAYS.
8. WATER SETTLING OF TRENCHES UNDER PAVEMENT IS NOT PERMITTED.

IRRIGATION SLEEVING – TRENCHED (2)



NOTE:

1. SET TOP OF BOX LEVEL WITH WITH FINISHED GRADE IN TURF AREAS AND LEVEL WITH TOP OF MULCH IN PLANTING BEDS.
2. USE STANDARD RECTANGULAR VALVE BOX WITH BOLT DOWN LID FOR SPLICES OF MORE THAN TWENTY (20) WIRES.

WIRE SPLICE (19)

REFER TO SHEET

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L3-02	IRRIGATION NOTES & SCHEDULE - DPS
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L3-06 - L3-07	IRRIGATION DETAILS - DP&R
L3-08	IRRIGATION DETAILS - DPS

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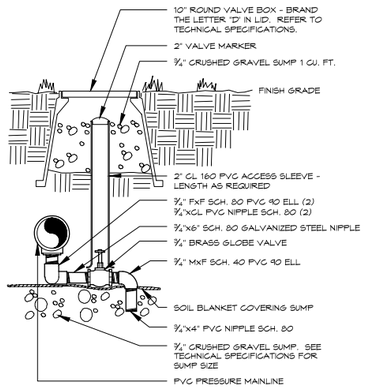
CENTRAL 70 COVER PARK
IRRIGATION
DETAILS – DP&R

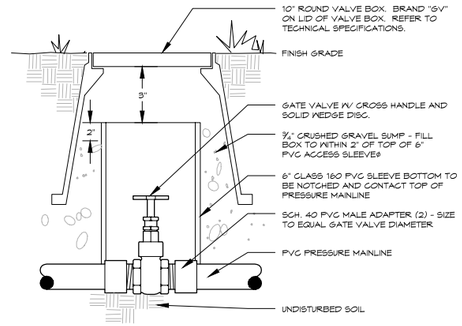
Designer: JSB	Structure Numbers	–	Project No./Code	
Detailer: KJD		–	FBR 0704–234	19631
Subset: _SG	Subset Sheets: 27 of 36		Sheet Number	41



APPLY TEFLON TAPE TO ALL MALE THREADED PVC FITTINGS AND ALL NIPPLES

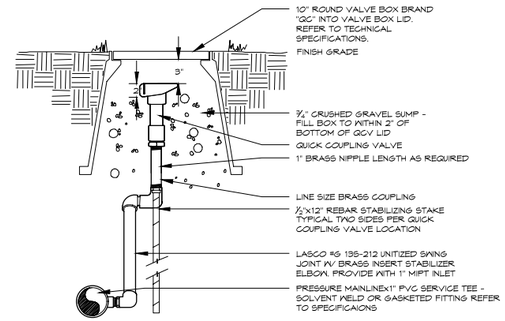
MANUAL DRAIN VALVE

1



GATE VALVE

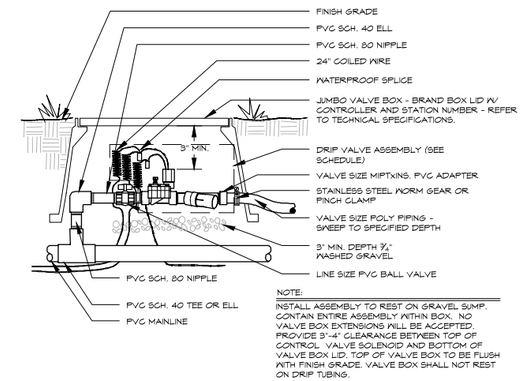
2



APPLY TEFLON TAPE TO ALL THREADED NIPPLES

QUICK COUPLING VALVE

3

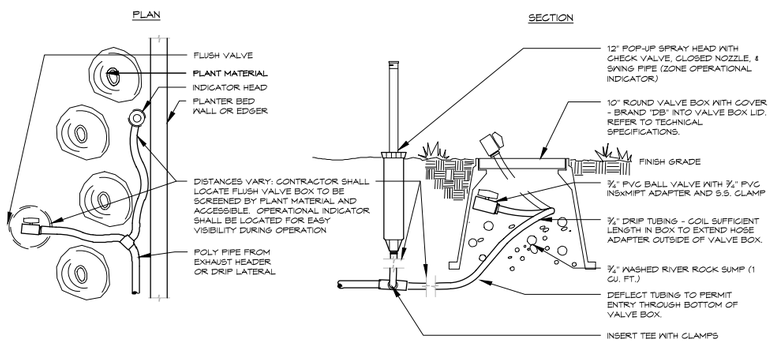


NOTE:
INSTALL ASSEMBLY TO REST ON GRAVEL SUMP. CONTAIN ENTIRE ASSEMBLY WITHIN BOX. NO VALVE BOX EXTENSIONS WILL BE ACCEPTED. PROVIDE 3"-4" CLEARANCE BETWEEN TOP OF CONTROL VALVE SOLENOID AND BOTTOM OF VALVE BOX LID. TOP OF VALVE BOX TO BE FLUSH WITH FINISH GRADE. VALVE BOX SHALL NOT REST ON DRIP TUBING.

DRIP VALVE

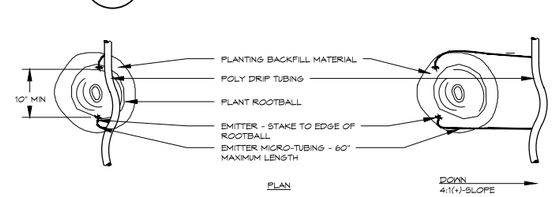
24V - POLY LATERAL

4

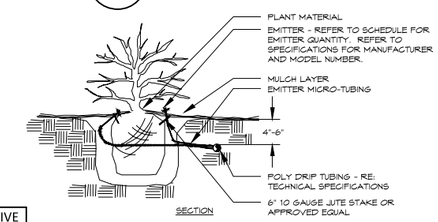


DRIP FLUSH VALVE

5



PLANT SIZE	EMITTER FLOW RATE	EMITTER QTY. AT MULCHED BED LOCATIONS	EMITTER QTY. AT NATIVE SEED LOCATIONS
1 - 2 GALLON MATERIAL	0.5 GPH	ONE EACH	ONE EACH
5 GALLON MATERIAL	0.5 GPH	TWO EACH	TWO EACH
1½" CALIPER TREE	1.0 GPH	THREE EACH	FOUR EACH
2" CALIPER TREE	1.0 GPH	FOUR EACH	SIX EACH
2½" CALIPER TREE	1.0 GPH	SIX EACH	EIGHT EACH
3" CALIPER TREE	1.0 GPH	EIGHT EACH	TEN EACH
3½" CALIPER TREE	1.0 GPH	NINE EACH	ELEVEN EACH
4" CALIPER TREE	1.0 GPH	TEN EACH	TWELVE EACH
6 FT. CONIFEROUS TREE	1.0 GPH	FOUR EACH	SIX EACH
8 FT. CONIFEROUS TREE	1.0 GPH	SIX EACH	NINE EACH
10 FT. CONIFEROUS TREE	1.0 GPH	EIGHT EACH	TWELVE EACH
12 FT. CONIFEROUS TREE	1.0 GPH	TEN EACH	FOURTEEN EACH



NOTES:
- INSTALL EMITTERS ON OPPOSING SIDES OF ROOTBALL. THREE OR MORE EMITTERS SHALL BE EQUALLY SPACED AROUND ROOT BALL.
- EMITTERS ARE TO BE INSTALLED TO CLEAR SURFACE BY A MINIMUM OF 1" AND A MAXIMUM OF 2".
- FLUSH ALL LINES THOROUGHLY, INCLUDING EMITTER MICRO-TUBING PRIOR TO EMITTER INSTALLATION.
- IF PLANTING ON A 4:1 SLOPE OR STEEPER, INSTALL BOTH EMITTERS ON UPHILL SIDE OF ROOT BALL.
- EMITTERS SHALL BE SELF-FLUSHING, PRESSURE COMPENSATING-TYPE UNLESS NOTED OTHERWISE WITHIN TECHNICAL SPECIFICATIONS.
- DRIP VALVE ZONES ARE DESIGNED TO ACCOUNT FOR DIFFERENCES IN PLANT REQUIREMENTS (HYDROZONES) AND SUN EXPOSURE.
- CONTRACTOR SHALL ENSURE HYDROZONES ARE VALVED SEPARATELY AS SHOWN ON PLAN.
- SITE CONDITIONS MAY DICTATE THAT MULTIPLE SUN EXPOSURES ARE VALVED TOGETHER DURING THE DESIGN PROCESS. CONTRACTOR SHALL ADJUST EMITTER SCHEDULE AS FOLLOWS:
  - EMITTER QUANTITIES SHALL REMAIN THE SAME BUT EMITTER GALLONAGES SHALL BE DOUBLED FOR PLANTS WITH SOUTH AND WEST EXPOSURES.
  - EMITTER QUANTITIES AND GALLONAGE SHALL BE AS SHOWN IN SCHEDULE FOR PLANTS WITH NORTH AND EAST EXPOSURES.
  - PLANTINGS WITH NORTH AND EAST EXPOSURE SHALL DICTATE VALVE RUN-TIMES AND CONTRACTOR SHALL ADJUST SCHEDULING ACCORDINGLY.

DRIP EMITTER

BELOW GRADE

6

REFER TO SHEET

L3-01	IRRIGATION NOTES & SCHEDULE - DP&R
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Central 70

CENTRAL 70 COVER PARK IRRIGATION DETAILS – DPS			Project No./Code FBR 0704-234
Designer: JSB	Structure Numbers	–	19631
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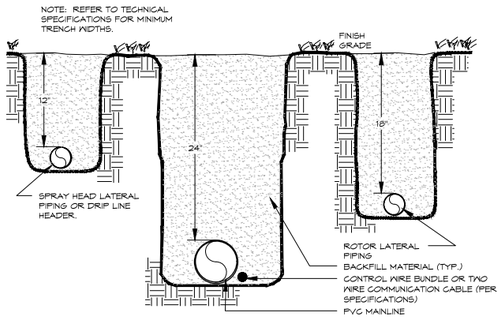
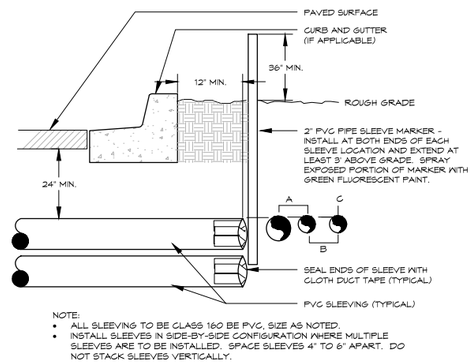
Subset: _SG	Subset Sheets: 28 of 36		Sheet Number 42



TRENCH

7



NOTE:
- ALL SLEEVING TO BE CLASS 160 BE PVC, SIZE AS NOTED.
- INSTALL SLEEVES IN SIDE-BY-SIDE CONFIGURATION WHERE MULTIPLE SLEEVES ARE TO BE INSTALLED. SPACE SLEEVES 4" TO 6" APART. DO NOT STACK SLEEVES VERTICALLY.

IRRIGATION SLEEVING

8

REFER TO SHEET

L3-01	IRRIGATION NOTES & SCHEDULE - DP&R
L3-02	IRRIGATION NOTES & SCHEDULE - DPS
L3-03 - L3-05	IRRIGATION PLANS
L3-06 - L3-07	IRRIGATION DETAILS - DP&R
L3-08	IRRIGATION DETAILS - DPS

811
Know what's below.
Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

HydroSystems-KDI, Inc.
Irrigation Consulting
860 Tabor Street, Suite 200
Lakewood, Colorado 80401
303-980-5327
303-980-5384 (fax)

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER PARK IRRIGATION DETAILS – DPS				Project No./Code
				FBR 0704–234
Designer:	JSB	Structure Numbers	–	19631
Detailer:	KJD		–	
Subset:	_SG	Subset Sheets:	29 of 36	Sheet Number 43

PLANTING KEYNOTES:

		DETAIL / SHEET REFERENCE
9.0	**PLANTING AND LANDSCAPE**	
9.1	Ornamental Tree Planting Over Structure	REF SCHED 10
9.2	Street Tree Planting Over Structure	REF SCHED 10
9.3	Shade Tree Planting Over Structure	REF SCHED 10
9.4	Shade Tree Planting Off Structure	REF SCHED 10
9.5	Enhanced Landscape	REF SCHED 10
9.6	Transitional Landscape	REF SCHED 10
9.7	Naturalized Turf	REF SCHED 10

	PLANTING TYPE, PLANTING CONDITION	MIN. CAL MIN.H	MIN.SOIL DEPTH	MIN.SOIL VOLUME
	OVER STRUCTURE			
9.1A	ORNAMENTAL TREE, RAISED PLANTER, MIN 18"/MAX 24" H	2.5" CAL 8' H	36"	300 CF
9.1B	ORNAMENTAL TREE, RAISED PLANTER, MAX 30" H	2.5" CAL 8' H	36"	300 CF
9.1C	ORNAMENTAL TREE, RAISED BOOKEND PLANTER	2.5" CAL 8' H	48"	300 CF
9.2A	STREET TREE, RAISED PLANTER, MAX 30" H	2.5" CAL	36"	270 CF
9.2B	STREET TREE, RAISED PLANTER, MAX 12" H	2.5" CAL	48"	235 CF
9.2C	STREET TREE, FLUSH PLANTER	2.5" CAL	48"	300 CF
9.3A	SHADE TREE, RAISED PLANTER, MAX 30" H	2.5" CAL	48"	500 CF
9.3B	SHADE TREE, RAISED PLANTER, MIN 18"/MAX 24" H	2.5" CAL	36"	300 CF
9.3C	SHADE TREE, FLUSH PLANTER	2.5" CAL	48"	300 CF
9.3D	SHADE TREE, RAISED PLANTER, MAX 24" H	2.5" CAL	42"	500 CF
9.3E	SHADE TREE, RAISED PLANTER, MAX 30" H	2.5" CAL	48"	300 CF
9.7A	TURF, TYPE 1	N/A	12"	N/A
9.7B	TURF, TYPE 2	N/A	18"	N/A
	OFF STRUCTURE			
9.4	SHADE TREE	2.5" CAL	N/A	N/A

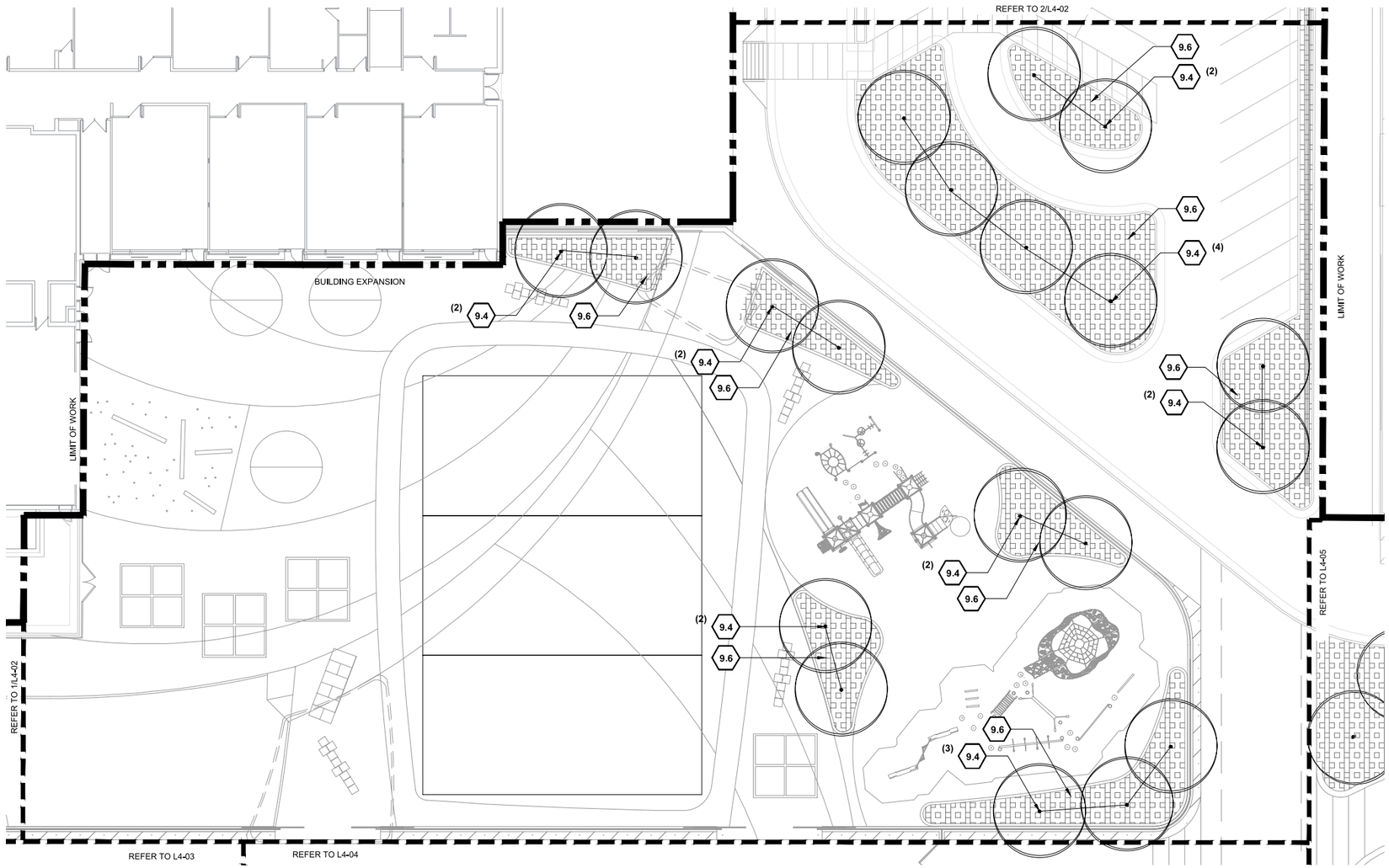
PLANTING LEGEND

- 9.5 ENHANCED LANDSCAPE
- 9.6 TRANSITIONAL LANDSCAPE
- 9.7 NATURALIZED TURF

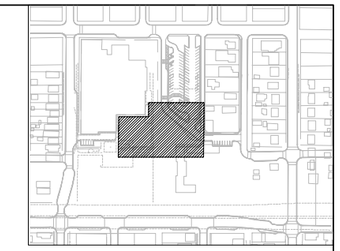
Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER PARK LANDSCAPE PLANTING COVER SHEET				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets: 30 of 36		Sheet Number 44



1 **PLANTING PLAN**
1" = 16'-0"



KEY PLAN

NOTES

REFER TO SHEET L4-00 FOR PLANT LIST, PLANT KEYNOTES, AND PLANT LEGEND

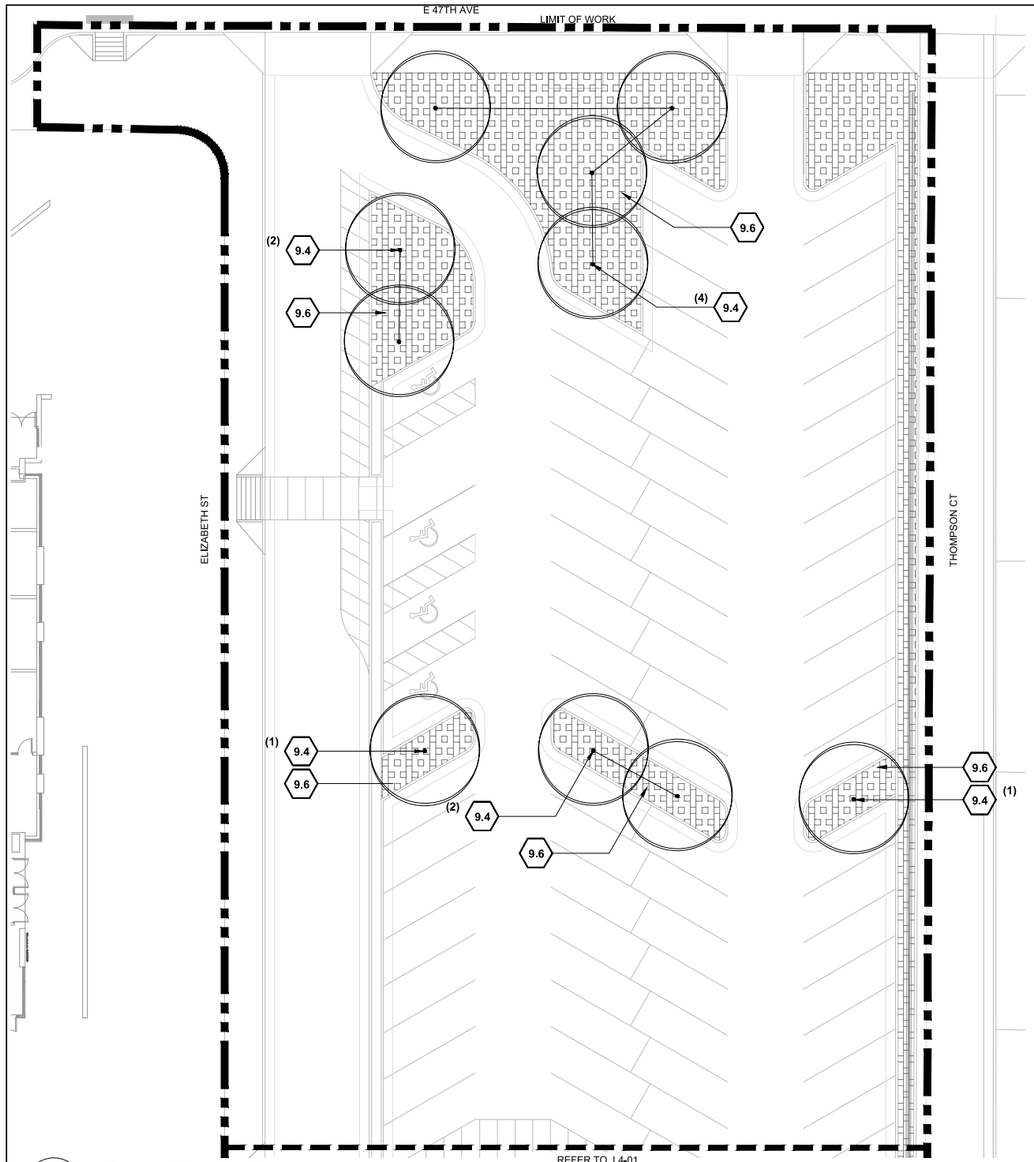
Kiewit meridiam PARTNERS

Central 70

0 8' 16' 32'
ORIGINAL SCALE: 1"=16'-0"

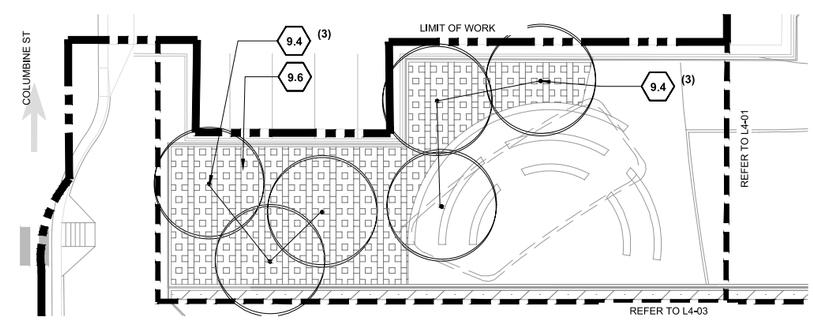
NORTH

CENTRAL 70 COVER PARK PLANTING PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets:	31 of 36	Sheet Number 45



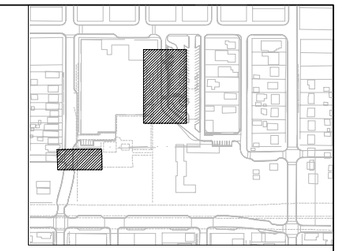
2 PLANTING PLAN

1" = 16'-0"



1 PLANTING PLAN

1" = 16'-0"



KEY PLAN

NOTES

REFER TO SHEET L4-00 FOR PLANT LIST, PLANT KEYNOTES, AND PLANT LEGEND

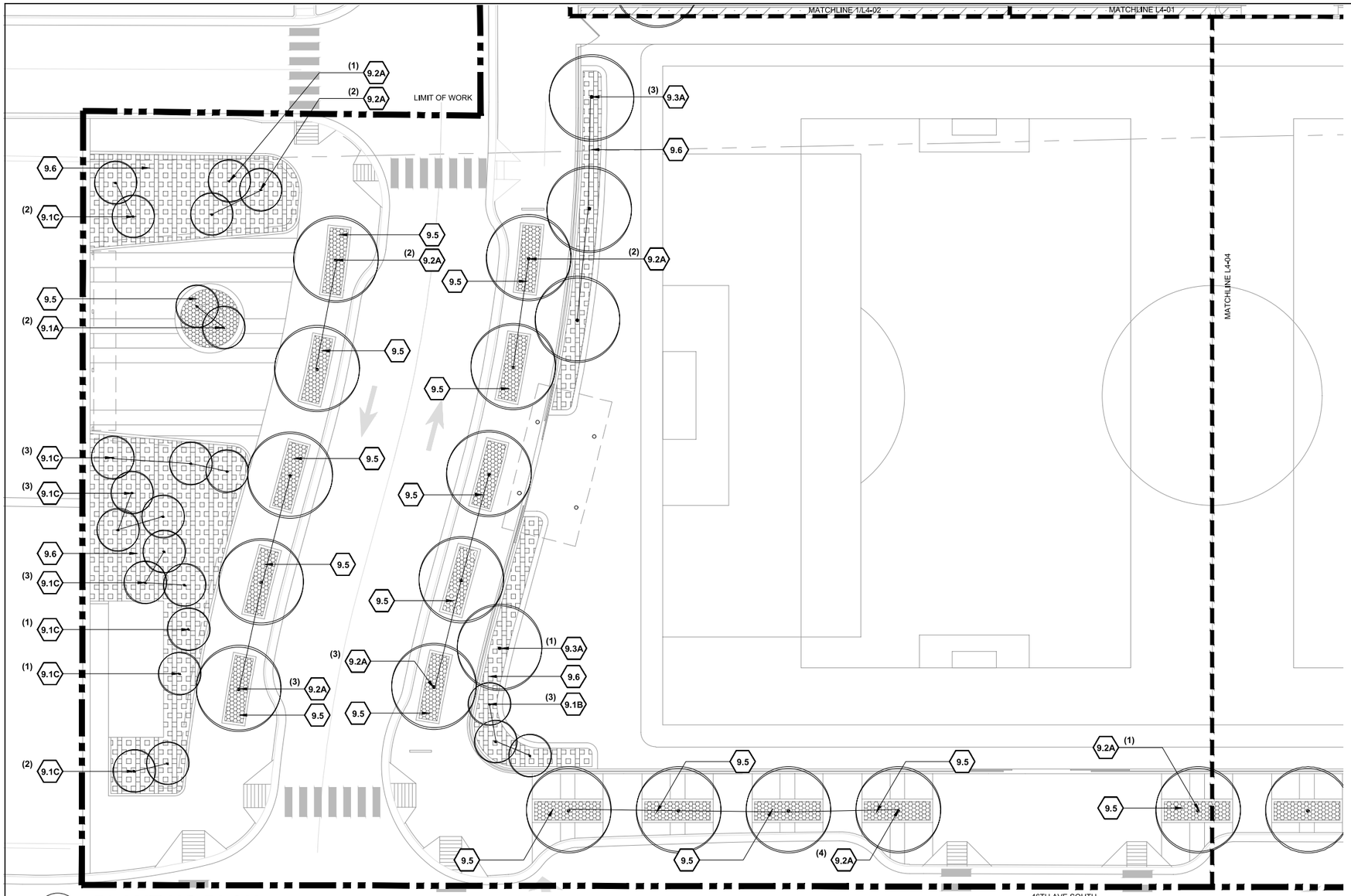
Kiewit meridiam PARTNERS

Central 70

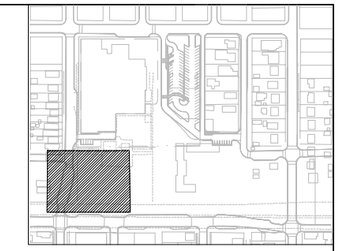
0 8' 16' 32'
ORIGINAL SCALE: 1"=16'-0"

NORTH

CENTRAL 70 COVER PARK PLANTING PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets: 32 of 36		Sheet Number 46



1 **PLANTING PLAN**
1" = 16'-0"



KEY PLAN

NOTES

REFER TO SHEET L4-00 FOR PLANT LIST, PLANT KEYNOTES, AND PLANT LEGEND

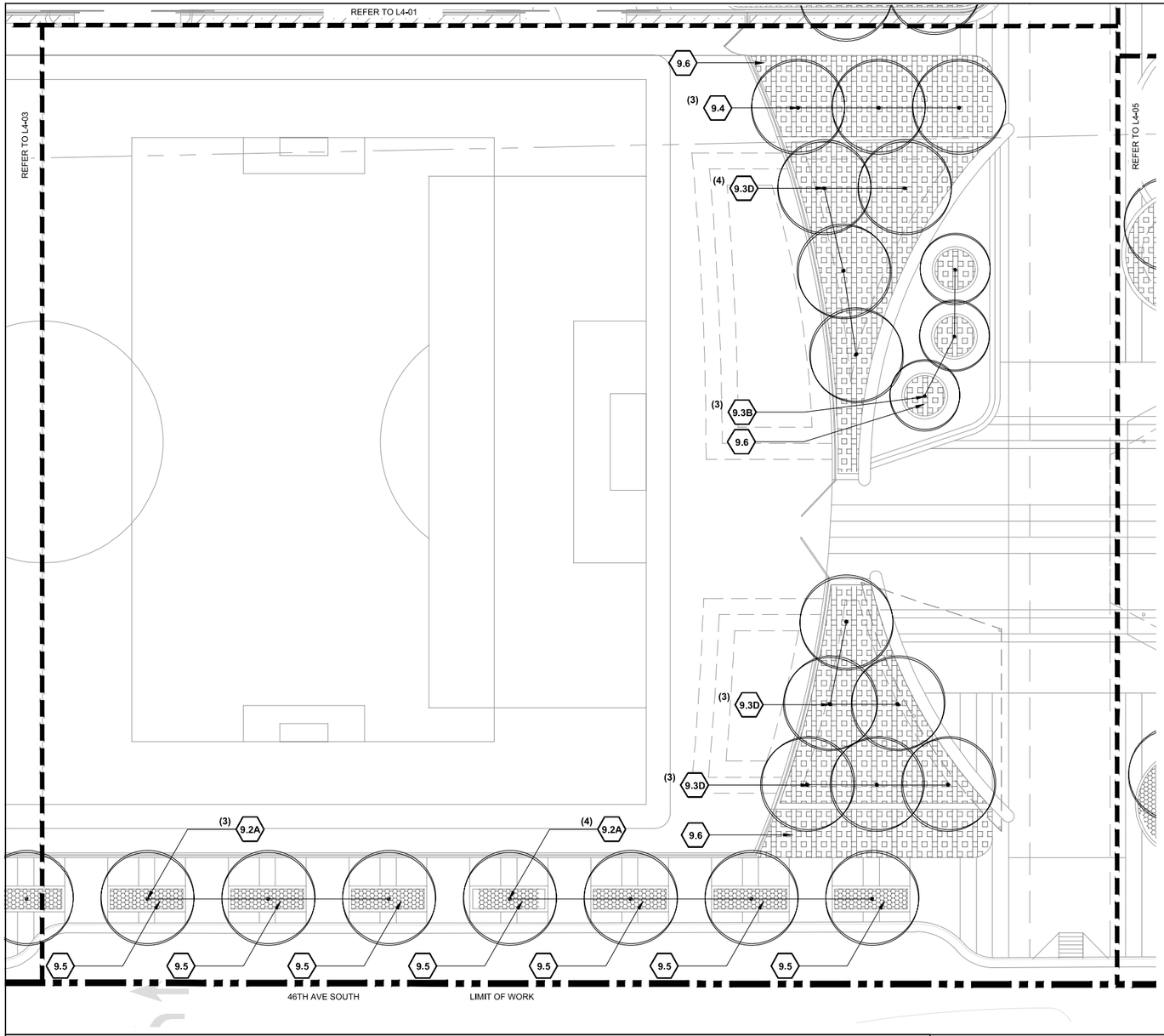
Kiewit meridiam PARTNERS

Central 70

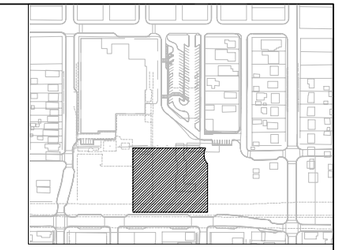
0 8' 16' 32'
ORIGINAL SCALE: 1"=16'-0"

NORTH

CENTRAL 70 COVER PARK PLANTING PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets: 33 of 36		Sheet Number 47



1 **PLANTING PLAN**
1" = 16'-0"



KEY PLAN

NOTES

REFER TO SHEET L4-00 FOR PLANT LIST, PLANT KEYNOTES, AND PLANT LEGEND

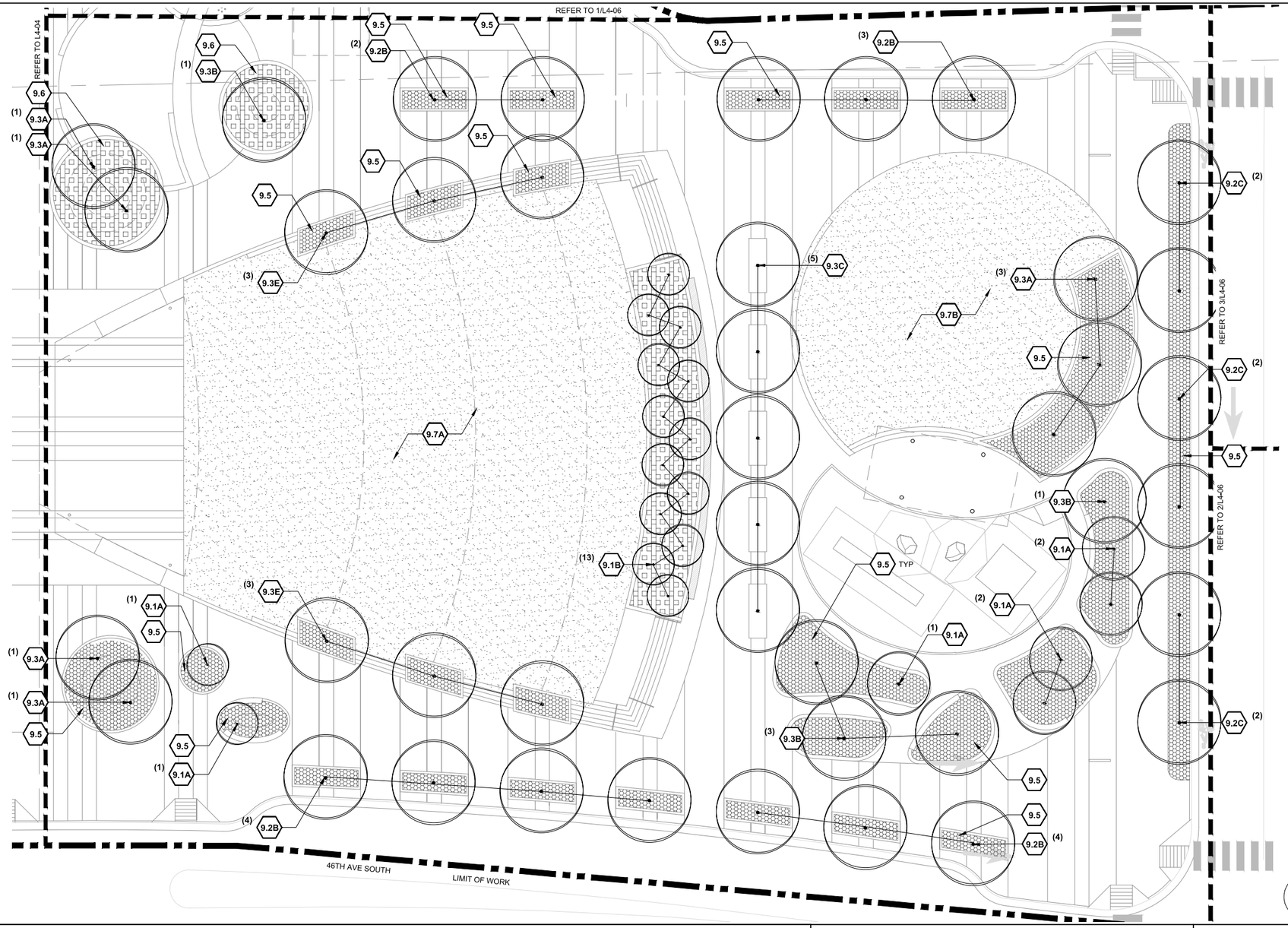
Kiewit meridiam PARTNERS

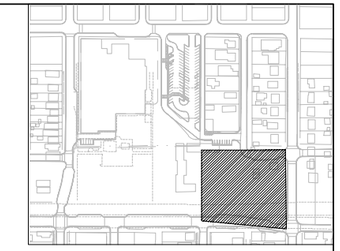
Central 70

0 8' 16' 32'
ORIGINAL SCALE: 1"=16'-0"

NORTH

CENTRAL 70 COVER PARK PLANTING PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets: 34 of 36		Sheet Number 48





KEY PLAN

NOTES

REFER TO SHEET L4-00 FOR PLANT LIST, PLANT KEYNOTES, AND PLANT LEGEND

1 PLANTING PLAN

1" = 16'-0"

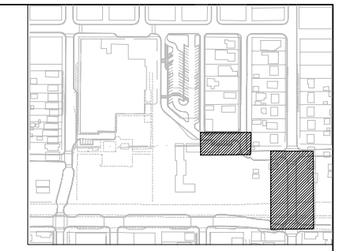
Kiewit meridiam PARTNERS

Central 70

0 8' 16' 32'
ORIGINAL SCALE: 1"=16'-0"

NORTH

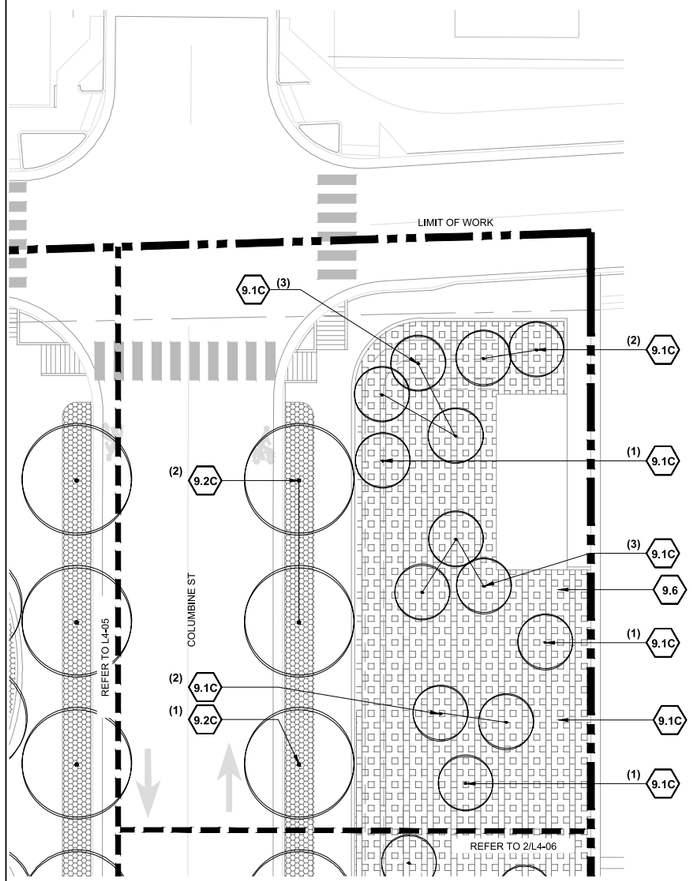
CENTRAL 70 COVER PARK PLANTING PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets: 35 of 36		Sheet Number 49



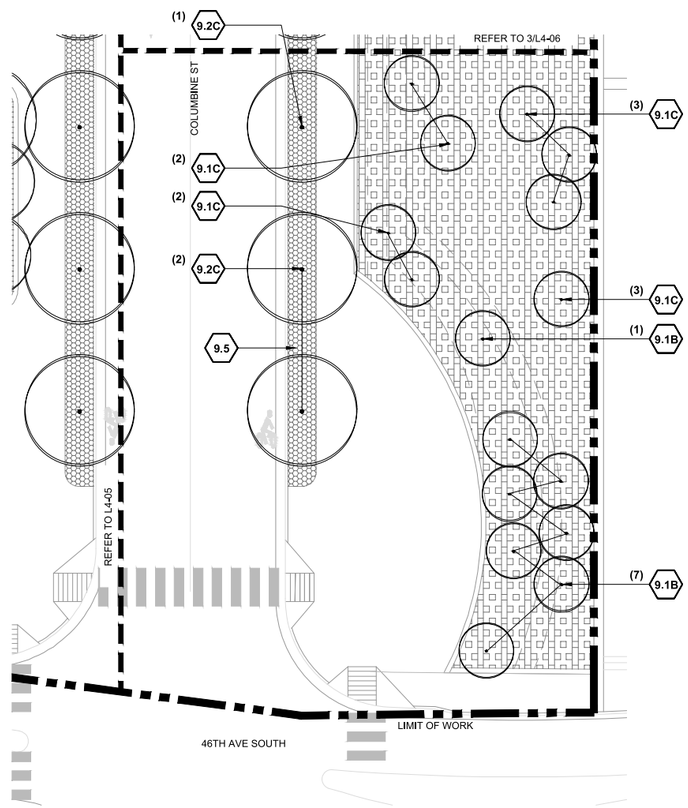
KEY PLAN

NOTES

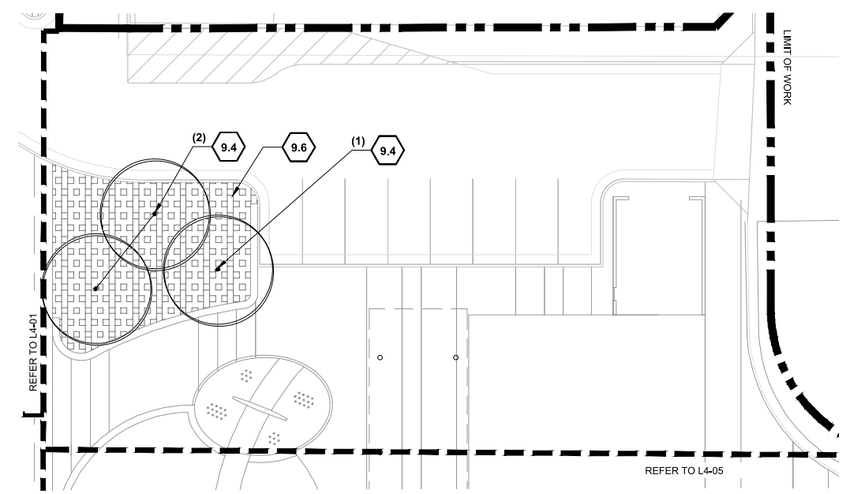
REFER TO SHEET L4-00 FOR PLANT LIST, PLANT KEYNOTES, AND PLANT LEGEND



3 **PLANTING PLAN**
1" = 16'-0"



2 **PLANTING PLAN**
1" = 16'-0"



1 **PLANTING PLAN**
1" = 16'-0"

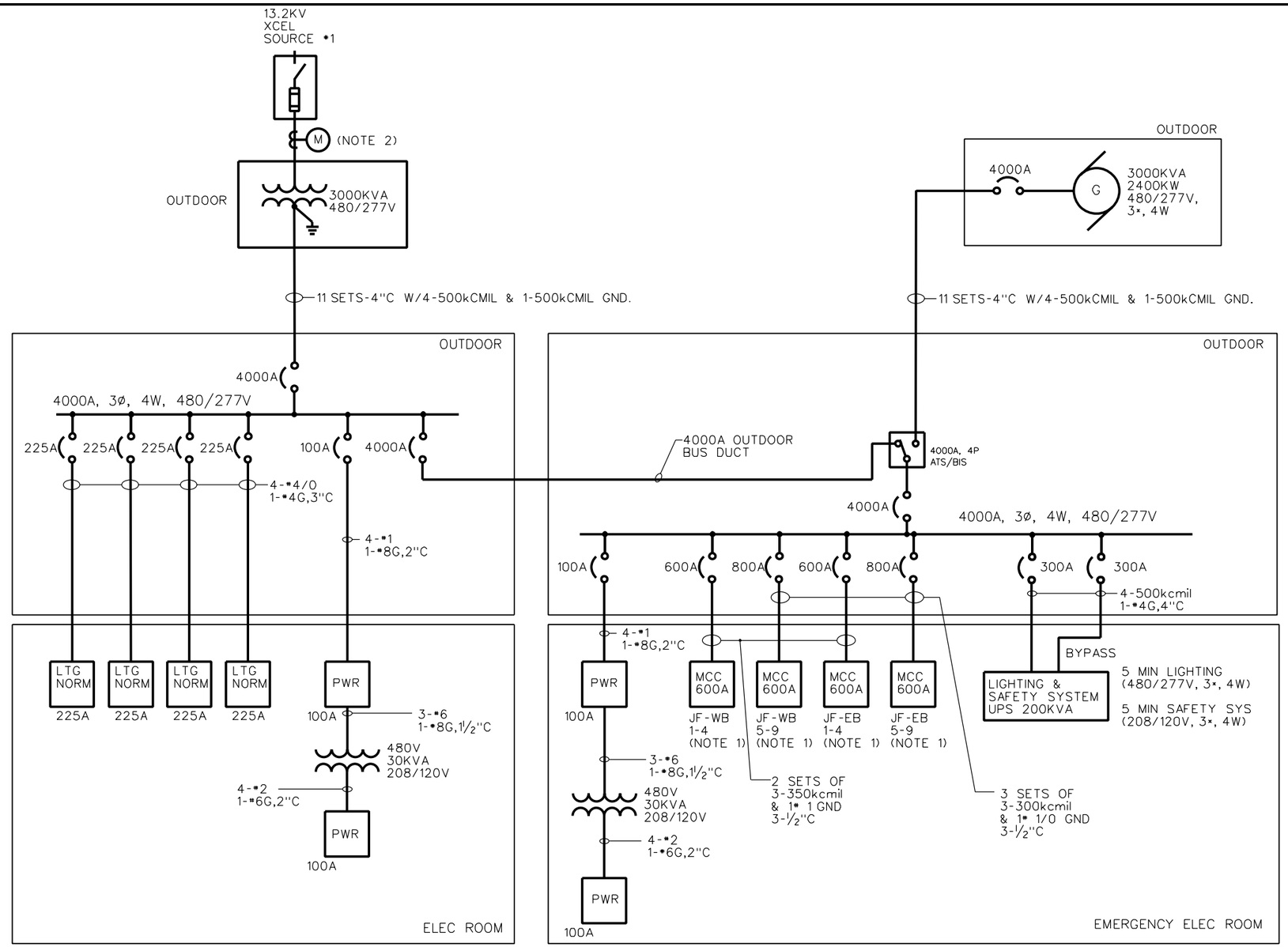
Kiewit meridiam PARTNERS

Central 70

0 8' 16' 32'
ORIGINAL SCALE: 1"=16'-0"

NORTH

CENTRAL 70 COVER PARK PLANTING PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	–	19631
Detailer:	KMP		–	
Subset:	_SG	Subset Sheets: 36 of 36		Sheet Number 50



NOTES:

1. EACH FEEDER FROM MCC TO RESPECTIVE JET FAN SHALL BE 3-# 2/0 & 1-#3 GND.
2. CUSTOMER SHALL PROVIDE & INSTALL METERING CABINETS, CABLING AND OTHER RACEWAY & PAD INFRASTRUCTURE TO SUPPORT PRIMARY METERED SERVICE FROM XCEL ENERGY PER THEIR STANDARD INSTALLATION REQUIREMENTS. XCEL ENERGY TO PROVIDE POTENTIAL AND CURRENT TRANSFORMERS & REVENUE METER ENCLOSURE FOR CUSTOMER INSTALLATION.
3. LOCAL DISCONNECTS ARE NOT REQUIRED FOR THE JET FANS. MCC UNITS SHALL BE PROVIDED WITH PADLOCKING MEANS FOR LOCKING OUT WITH MCP HANDLE IN OFF POSITION.

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER SYSTEMS ONE LINE DIAGRAM			Project No./Code
			FBR 0704-234
Designer: KMP	Structure Numbers	-	19631
Detailer: KMP		-	
Subset: COVER SYSTEMS	Subset Sheets: 1 of 33		Sheet Number 51

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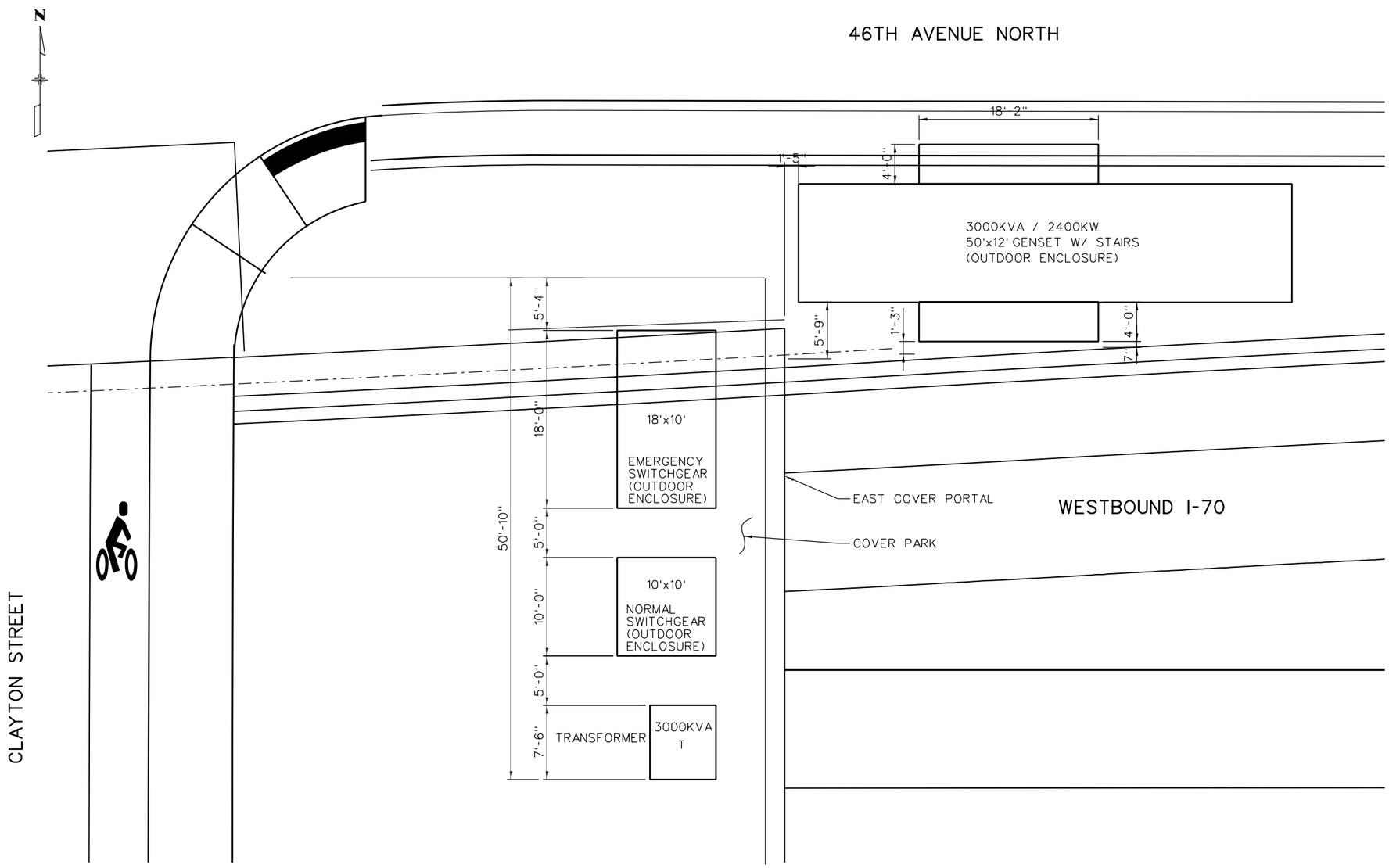

NOTES:

1. SEE DWG NO. E-010 FOR OVERALL LOCATION ON SITE PLAN.
2. SEE DWG. NO. E-001 FOR CIRCUIT INFORMATION BETWEEN TRANSFORMER AND NORMAL SWITCHGEAR AND GENERATOR AND EMERGENCY SWITCHGEAR.

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER SYSTEMS OUTDOOR EQUIPMENT LAYOUT PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	-	19631
Detailer:	KMP		-	
Subset: COVER SYSTEMS		Subset Sheets:	2 of 33	Sheet Number 52

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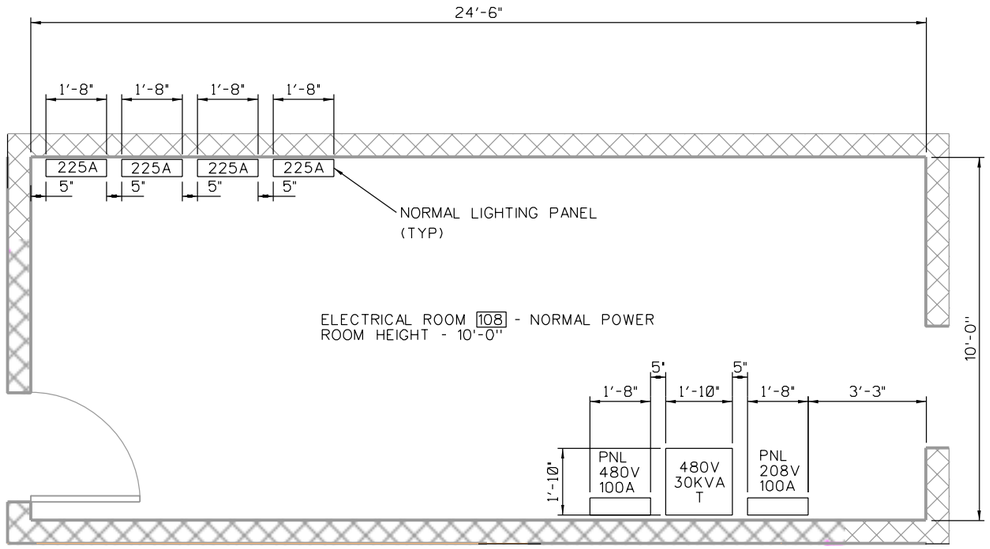
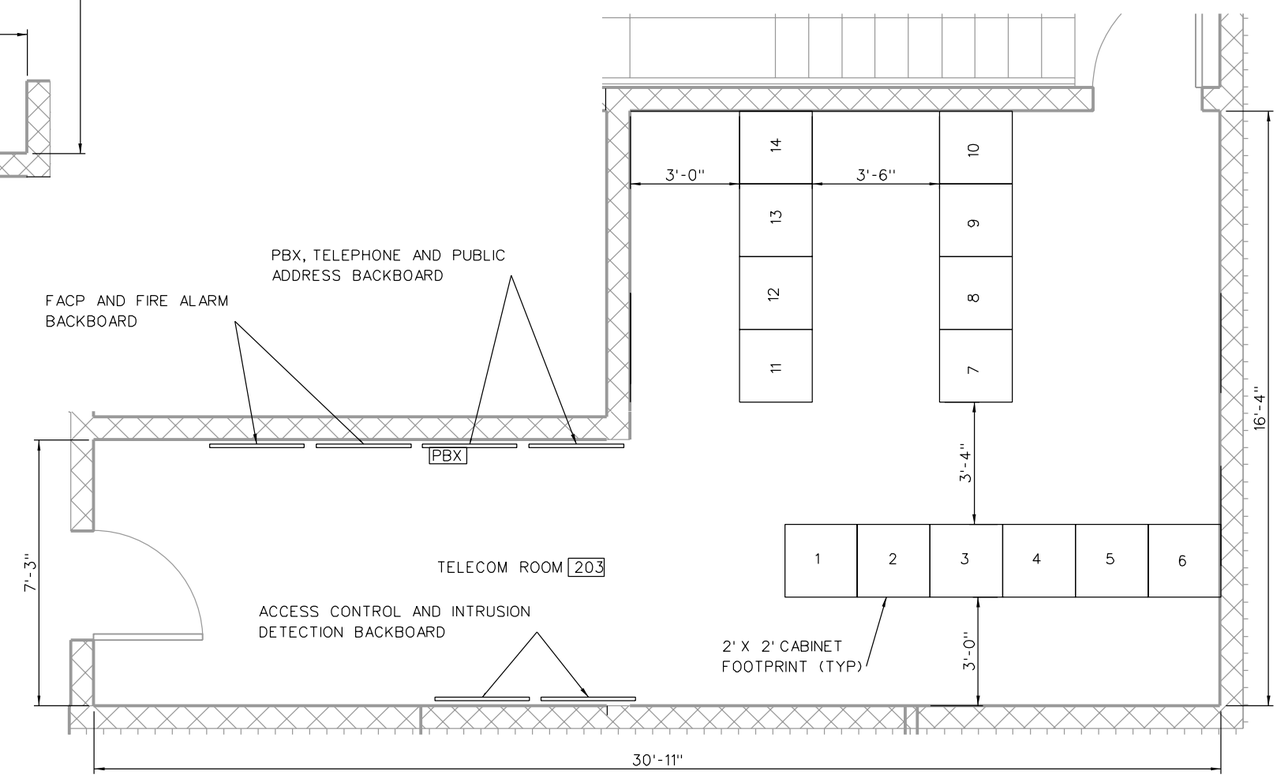


FIRST FLOOR

TELECOM LEGEND:

- 1 = FIBER OPTIC CABINET
- 2 = PATCH PANEL CABINET
- 3 = DATA SWITCH CABINET
- 4 = PRIMARY CCMS PLC CABINET
- 5 = LOCAL PLC I/O CABINET
- 6 = STANDBY CCMS PLC CABINET
- 7 = AM/FM REBROADCAST CABINET
- 8 = 2 WAY RADIO REBROADCAST CABINET (AGENCY/1ST RESPONDERS)
- 9 = CELLULAR REBROADCAST CABINET
- 10 = RADIO REBROADCAST CABLE TERMINAL CABINET
- 11 = CCTV DATA SWITCHES CABINET
- 12 = CCTV CABLING TERMINAL AND VEHICLE DETECTION INTERFACE CABINET
- 13 = LFC FOR DMS CABINET
- 14 = LFC FOR LUS CABINET



LEGEND

- 225A = LIGHTING POWER PANEL
- T = 30KVA TRANSFORMER
- ▭ = ELECTRICAL POWER PANEL

NOTES:

1. ROOMS LOCATED IN CONCESSION/BATHROOM BUILDING. SEE DWG NO. E-010 FOR OVERALL BUILDING LOCATION ON SITE PLAN.

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER SYSTEMS - NORMAL ELEC AND TELECOM ROOM LAYOUT			Project No./Code
			FBR 0704-234
Designer: KMP	Structure Numbers	-	19631
Detailer: KMP		-	
Subset: COVER SYSTEMS	Subset Sheets: 3 of 33		Sheet Number 53

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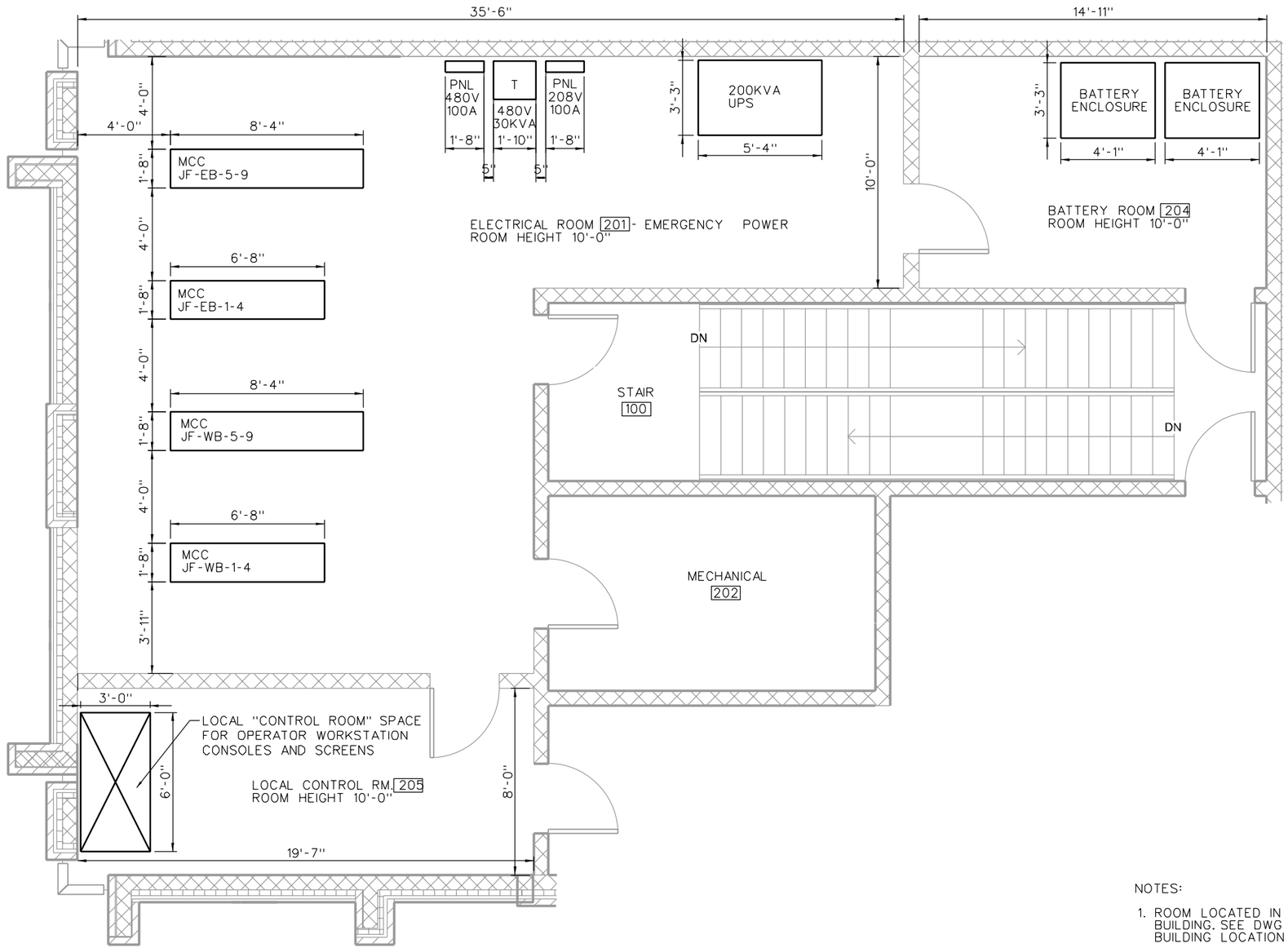

2ND FLOOR

NOTES:

1. ROOM LOCATED IN CONCESSION / BATHROOM BUILDING. SEE DWG NO. E-010 FOR OVERALL BUILDING LOCATION ON SITE PLAN.

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER SYSTEMS - EMERGENCY ELEC BATTERY AND CONTROL ROOM LAYOU			Project No./Code
			FBR 0704-234
Designer: KMP	Structure Numbers	-	19631
Detailer: KMP		-	
Subset: COVER SYSTEMS	Subset Sheets:	4 of 33	Sheet Number 54

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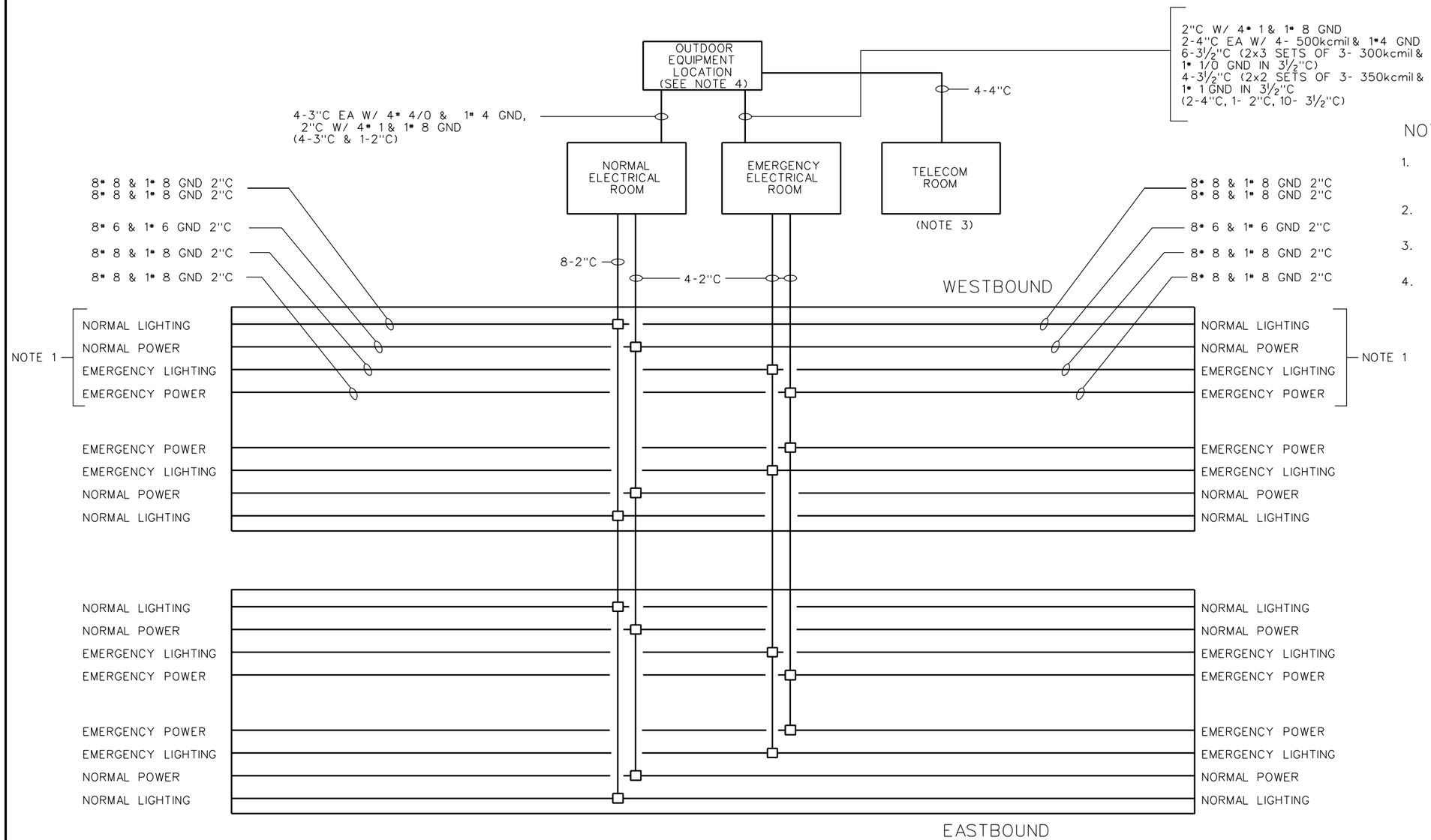

NOTES:

1. CONDUCTER SIZE AND QUANTITIES TYPICAL FOR WESTBOUND BORE AND EASTBOUND BORE.
2. JET FAN CONDUITS ARE SHOWN ON E-017 AND SECTION ON E-009.
3. COMM CONDUITS SHOWN ON E-006 AND E-008.
4. SEE DWG NO. E-002 FOR OUTDOOR EQUIPMENT LAYOUT PLAN AND E-010 FOR SITE CONDUIT ROUTING PLAN.

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER SYSTEMS POWER CONDUIT PLAN LAYOUT				Project No./Code
				FBR 0704-234
Designer: KMP	Structure Numbers	-		19631
Detailer: KMP		-		
Subset: COVER SYSTEMS	Subset Sheets: 5 of 33			Sheet Number 55

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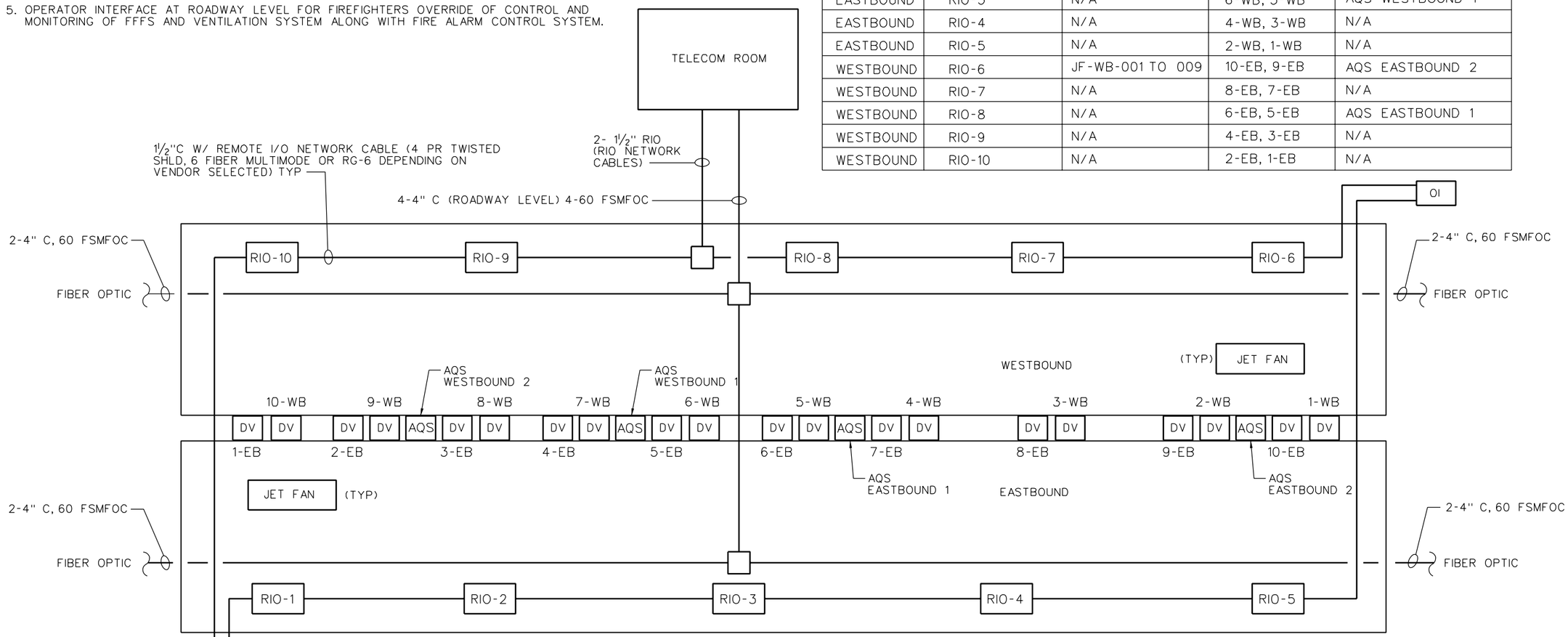
NOTES:

1. SEE DWG. NO. TV-001 FOR JET FAN ARRANGEMENT AND AQS LOCATION.
2. SEE DWG. NO. FP-001 FOR DELUGE VALVE ARRANGEMENT.
3. SEE DWG. NO. E-007 FOR TYPICAL JET FAN AND DELUGE VALVE WIRING TO RIO CABINET.
4. EACH AQS MONITOR SHALL HAVE 5-2/C #14 & 5-3/C #16 IN 1½" C TO RIO CABINET.
5. OPERATOR INTERFACE AT ROADWAY LEVEL FOR FIREFIGHTERS OVERRIDE OF CONTROL AND MONITORING OF FFFS AND VENTILATION SYSTEM ALONG WITH FIRE ALARM CONTROL SYSTEM.

RIO ASSIGNMENT MATRIX

LOCATION	RIO DESIGNATION	JET FANS	DELUGE VALVE	AIR QUALITY MONITOR
EASTBOUND	RIO-1	JF-EB-001 TO 009	10-WB, 9-WB	AQS WESTBOUND 2
EASTBOUND	RIO-2	N/A	8-WB, 7-WB	N/A
EASTBOUND	RIO-3	N/A	6-WB, 5-WB	AQS WESTBOUND 1
EASTBOUND	RIO-4	N/A	4-WB, 3-WB	N/A
EASTBOUND	RIO-5	N/A	2-WB, 1-WB	N/A
WESTBOUND	RIO-6	JF-WB-001 TO 009	10-EB, 9-EB	AQS EASTBOUND 2
WESTBOUND	RIO-7	N/A	8-EB, 7-EB	N/A
WESTBOUND	RIO-8	N/A	6-EB, 5-EB	AQS EASTBOUND 1
WESTBOUND	RIO-9	N/A	4-EB, 3-EB	N/A
WESTBOUND	RIO-10	N/A	2-EB, 1-EB	N/A



LEGEND:

RIO	REMOTE I/O CABINET
1-EB	DELUGE ZONE DESIGNATION
DV	DELUGE VALVE
FSMFOC	FIBER, SINGLE MODE FIBER OPTIC CABLE
AQS	AIR QUALITY MONITOR
OI	LOCAL FIREFIGHTERS OPERATOR INTERFACE AT PORTAL AREA (SEE NOTE 5)

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70
COVER SYSTEMS - CCMS & FIBER OPTIC CONDUIT LAYOUT

Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset: COVER SYSTEMS		Subset Sheets:	6 of 33

Project No./Code
FBR 0704-234
19631
Sheet Number 56

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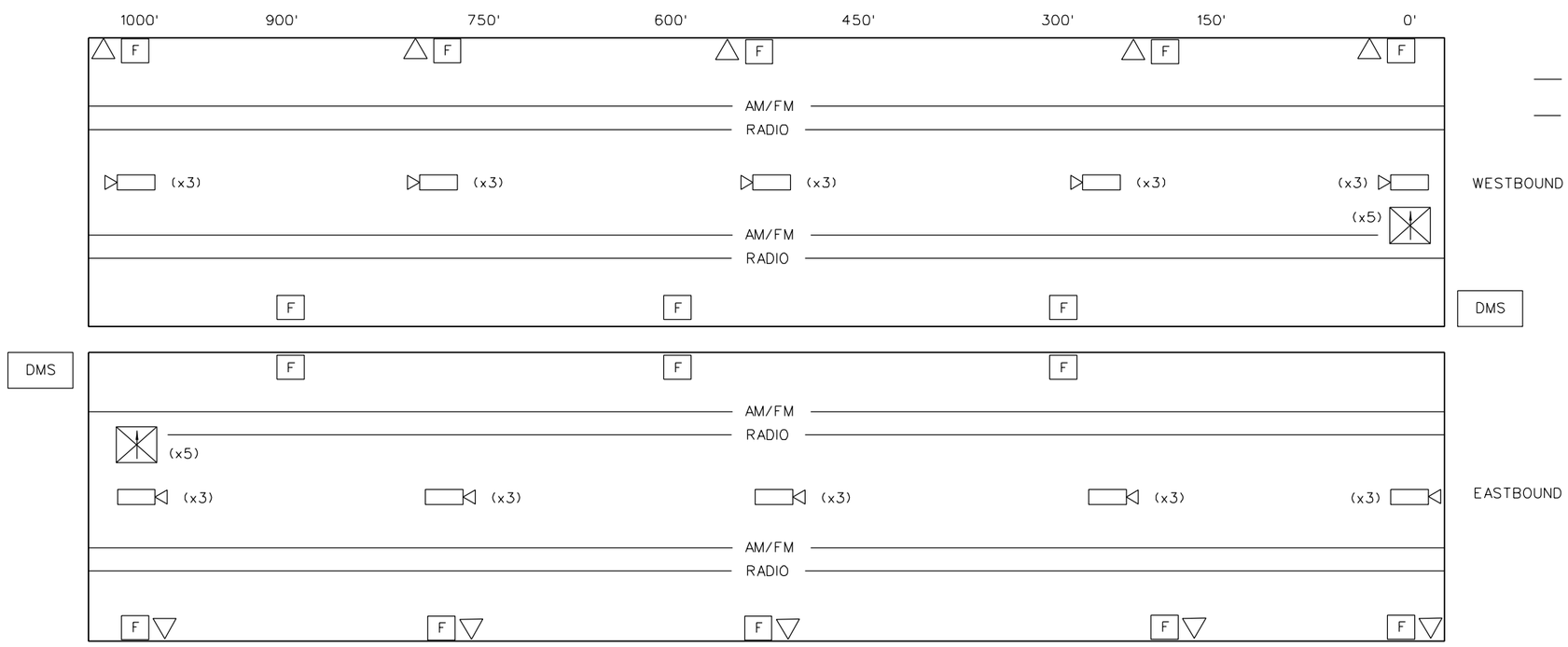
LEGEND:

F	FIRE ALARM PULL STATION 2-1 ½"C
▽	TELEPHONE 1-1 ½"C
▷▭	CCTV 2-1 ½"C
DMS	DYNAMIC MESSAGE SIGN 2-1 ½"C (AT PORTAL)
⊠	LANE USE SIGNAL 1-1 ½"C (AT PORTAL)
—— AM/FM ——	COMMERCIAL RADIO ANTENNA
—— RADIO ——	2 WAY RADIO/CELLULAR ANTENNA



Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER SYSTEMS - COMMUNICATIONS SYSTEM DEVICE LAYOUT			Project No./Code
			FBR 0704-234
Designer: KMP	Structure Numbers	-	19631
Detailer: KMP		-	
Subset: COVER SYSTEMS	Subset Sheets: 7 of 33		Sheet Number 57

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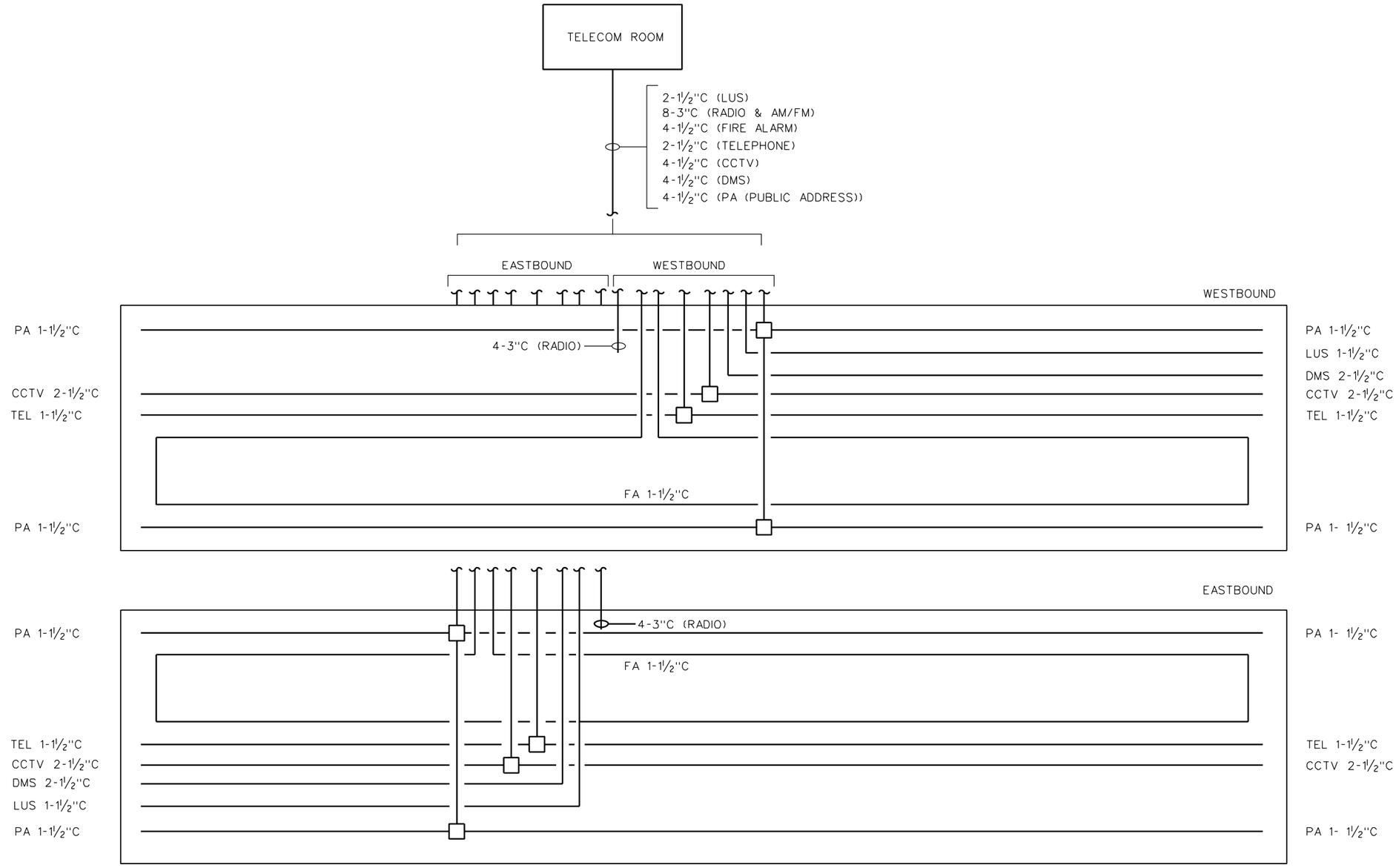

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70
COVER SYSTEMS - COMMUNICATIONS SYSTEM CONDUIT LAYOUT

Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset: COVER SYSTEMS		Subset Sheets:	8 of 33

Project No./Code
FBR 0704-234
19631
Sheet Number 58

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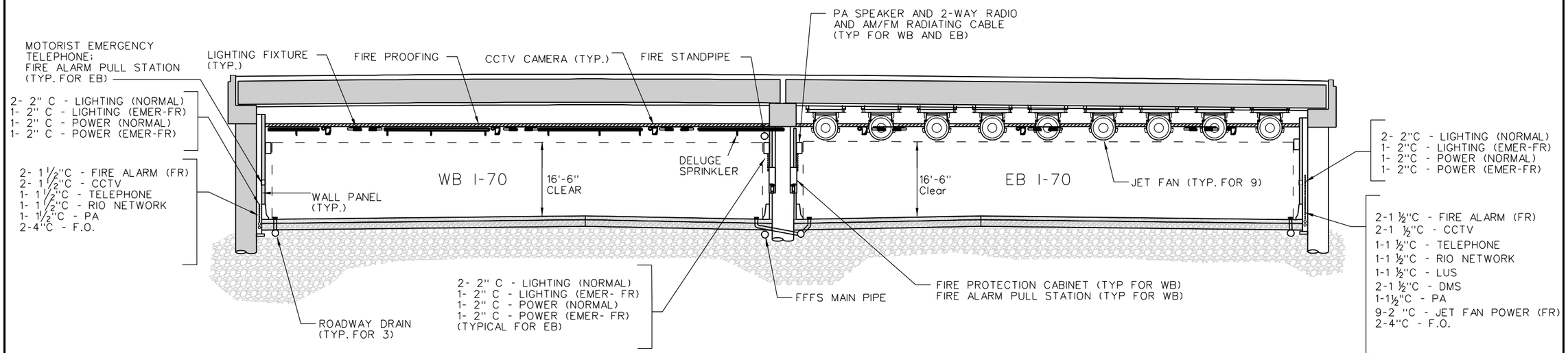
NOTES:

1. FR - INDICATES FIRE RATED CABLE/CONDUIT SYSTEM.
2. ALL RACEWAYS, CONDUITS, BOXES & SUPPORTS LOCATED IN THE COVER CROSS SECTION SHALL BE 316 SS PER PROJECT AGREEMENT SCHEDULE 10. SECTION 12.3.2. CONDUITS OUTSIDE THE COVER MAY BE SCHEDULE 40 PVC (CONCRETE ENCASED) FROM THE ELECTRICAL SPACES IN THE CONCESSION/BATHROOM BUILDING TO THE INTERFACE OF THE COVER STRUCTURE.



COMPOSITE SECTION AT COVER
(West Portal Looking Upstation)

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER SYSTEMS - CROSS SECTION CONDUIT ARRANGEMENT				Project No./Code
				FBR 0704-234
Designer: KMP	Structure Numbers	-		19631
Detailer: KMP		-		
Subset: COVER SYSTEMS	Subset Sheets: 9 of 33			Sheet Number 59

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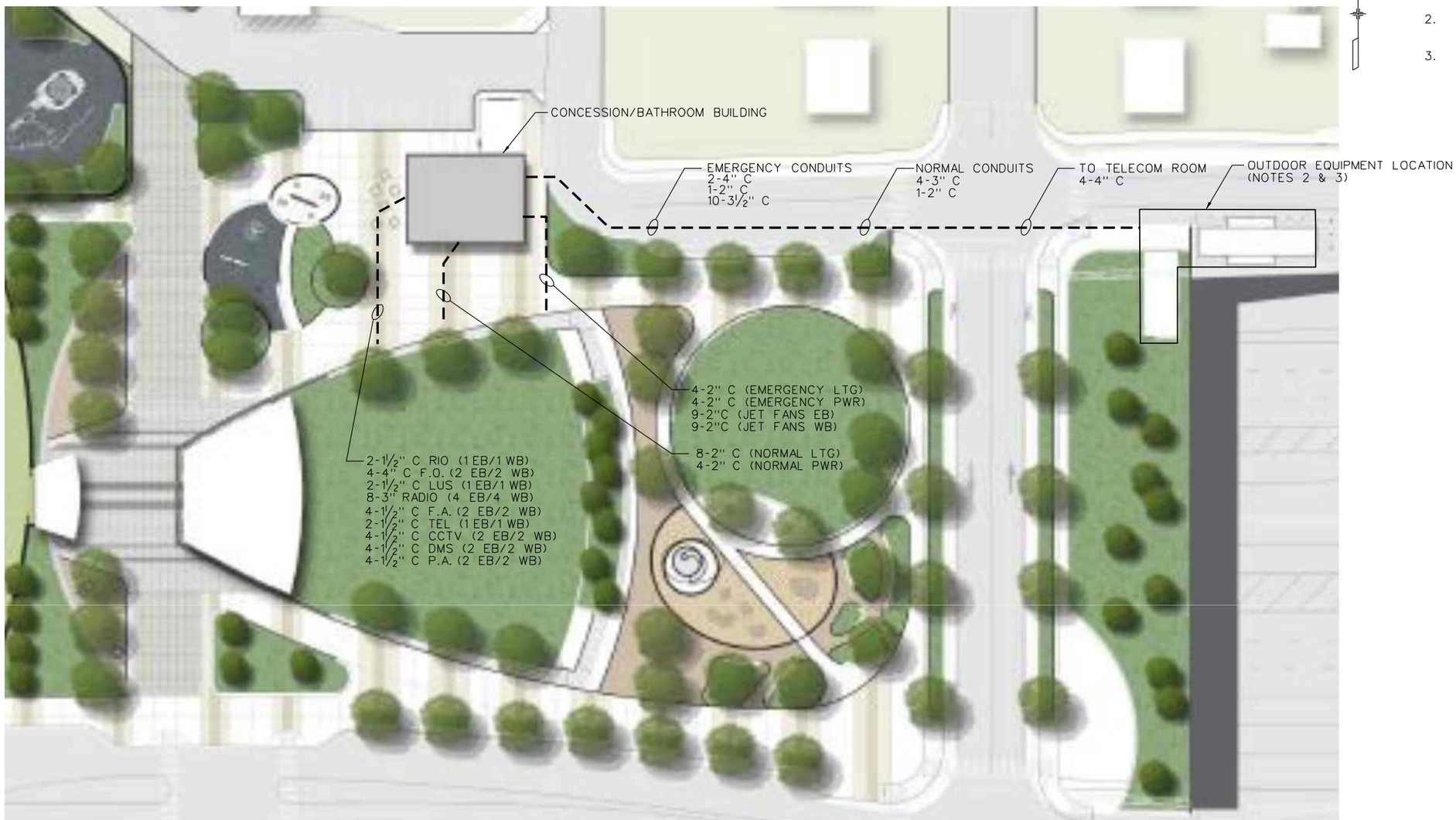

N

NOTES:

1. SEE DWG NO. E-003 FOR NORMAL ELECTRICAL & TELECOM ROOM; E-004 FOR EMERGENCY ELECTRICAL ROOM.
2. SEE DWG NO. E-002 FOR OUTDOOR EQUIPMENT LAYOUT.
3. SEE DWG NO. E-001 FOR CIRCUIT INFORMATION BETWEEN TRANSFORMER AND NORMAL SWITCHGEAR AND GENERATOR AND EMERGENCY SWITCHGEAR AT OUTDOOR EQUIPMENT LOCATION.

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Central 70

CENTRAL 70 COVER SYSTEMS SITE CONDUIT ROUTING PLAN				Project No./Code
				FBR 0704-234
Designer: KMP	Structure Numbers	-		19631
Detailer: KMP		-		
Subset: COVER SYSTEMS	Subset Sheets: 10 of 33			Sheet Number 60

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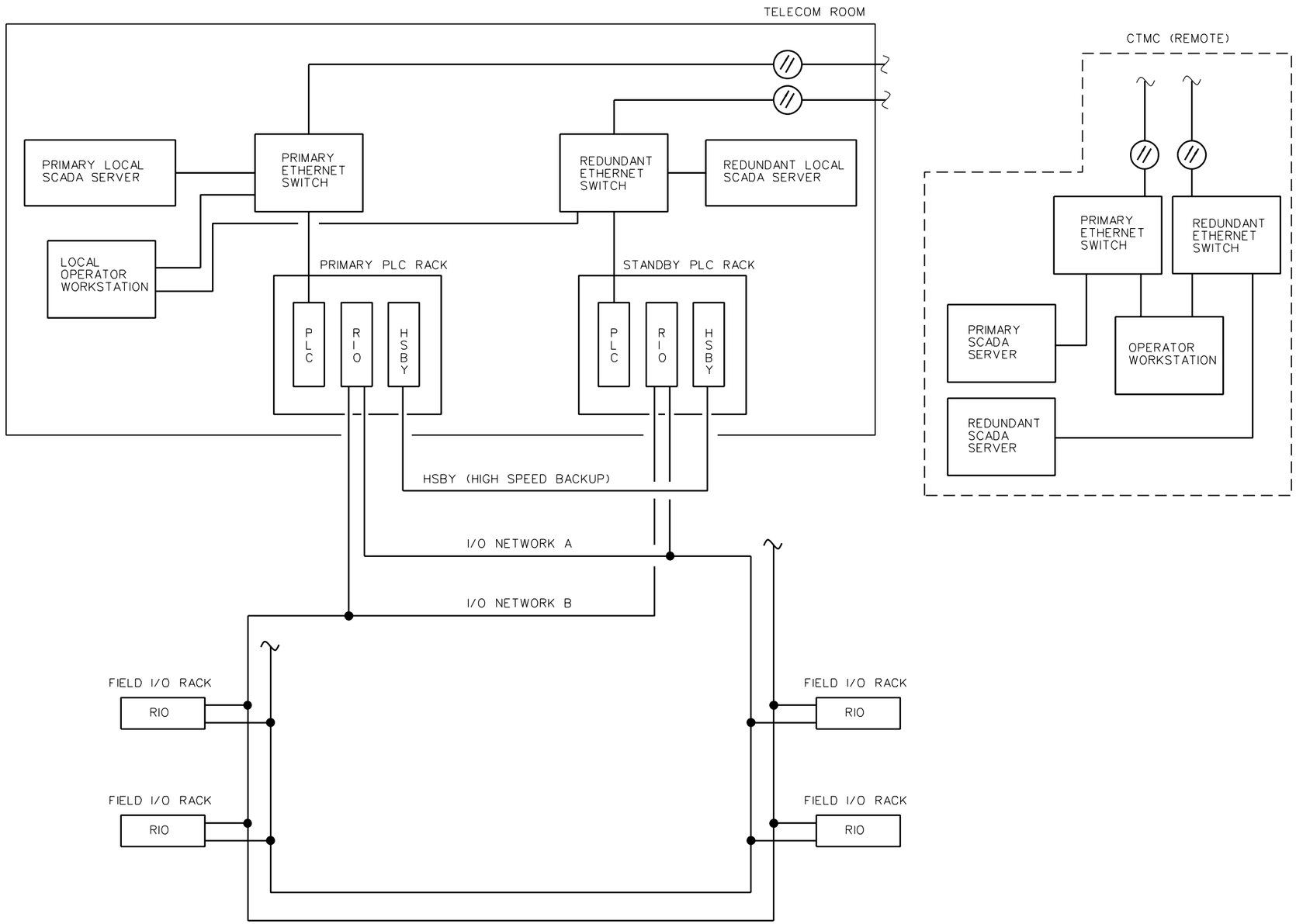

NOTES:

1. CCMS CONTROL AND MONITORING REQUIREMENTS FOR SUBSYSTEM INTEGRATION ARE DESCRIBED IN PROJECT AGREEMENT SECTION 12.16 OF SCHEDULE 10.

LEGEND:

PLC	PROGRAMMABLE LOGIC CONTROLLER
RIO	REMOTE I/O NETWORK COMMUNICATIONS MODULE
HSBY	HIGH SPEED COMMUNICATIONS BACKUP MODULE

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Central 70

CENTRAL 70 COVER SYSTEMS - CCMS SCADA SYSTEM RISER DIAGRAM			Project No./Code
			FBR 0704-234
Designer: KMP	Structure Numbers	-	19631
Detailer: KMP		-	
Subset: COVER SYSTEMS	Subset Sheets: 11 of 33		Sheet Number 61

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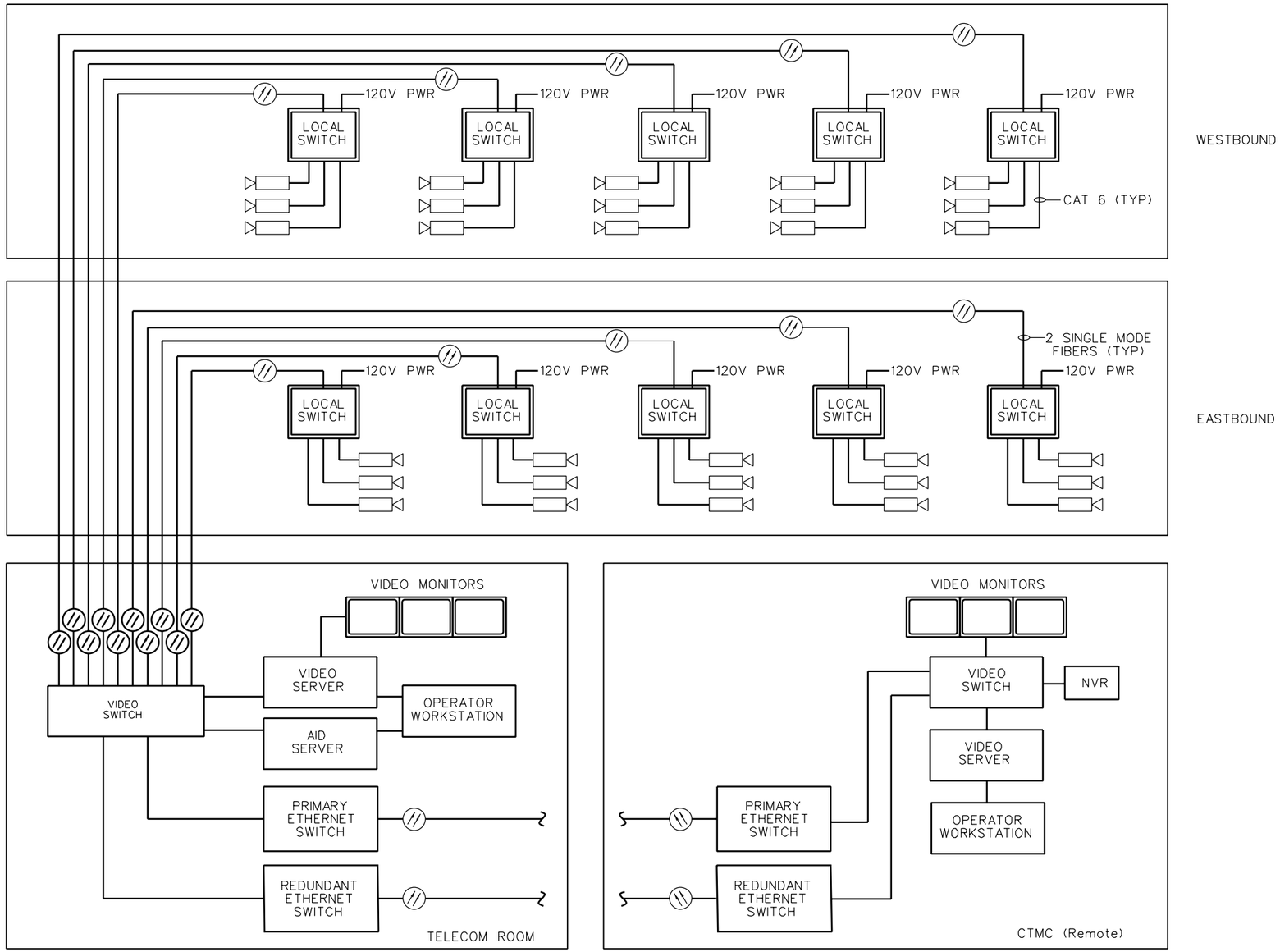

COVER CCTV

NOTES:

1. FIBER OPTIC CABLE SHALL BE ROUTED IN 1½"C IN COVER WITH 120V POWER ROUTED IN OTHER 1 ½"C

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Central 70

CENTRAL 70 COVER SYSTEMS CCTV SYSTEM RISER DIAGRAM				Project No./Code
				FBR 0704-234
Designer: KMP	Structure Numbers	-		19631
Detailer: KMP		-		
Subset: COVER SYSTEMS	Subset Sheets: 12 of 33			Sheet Number 62

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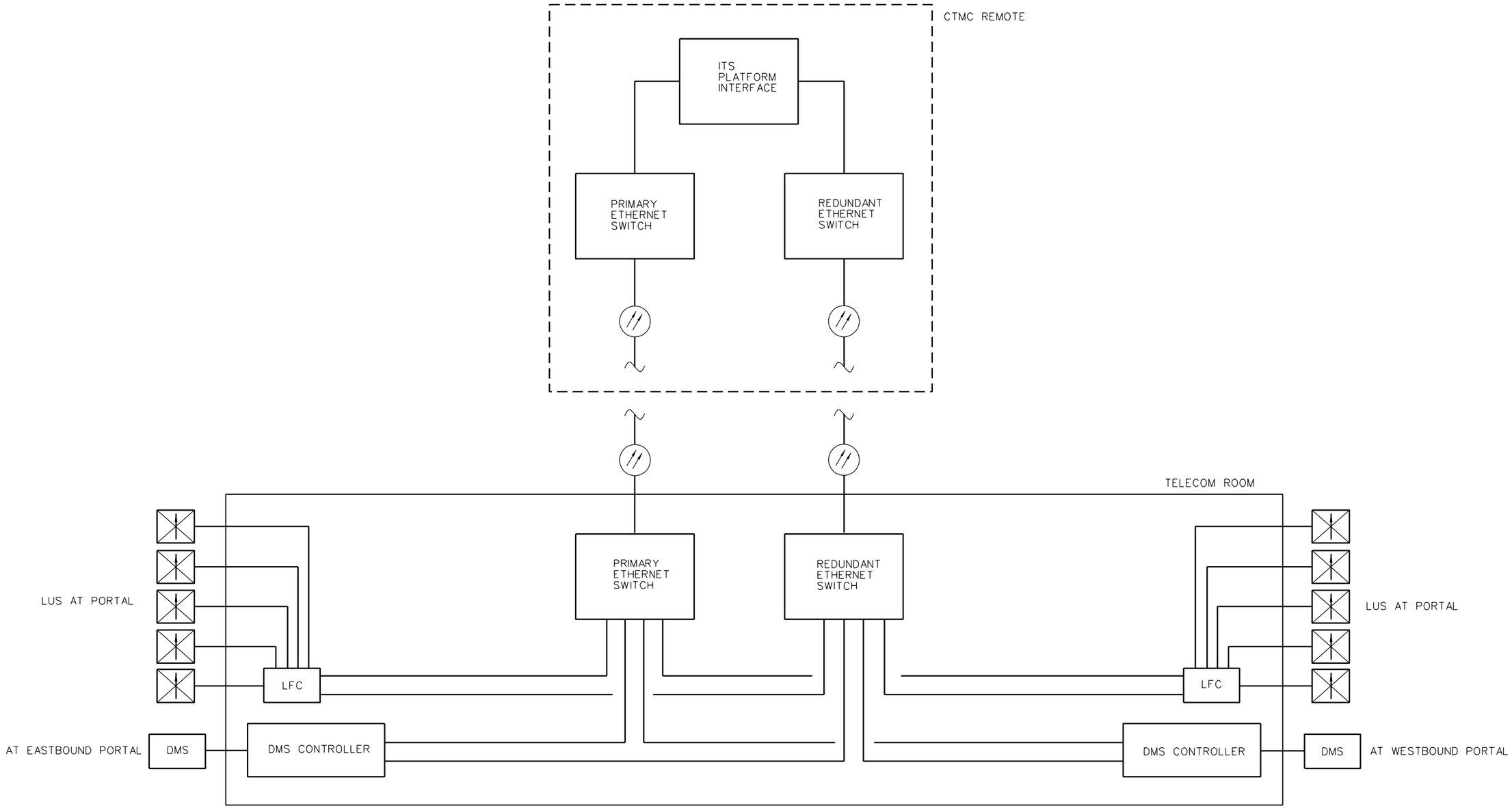

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Central 70

CENTRAL 70
COVER SYSTEMS
DMS & LUS RISER DIAGRAM

Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset: COVER SYSTEMS		Subset Sheets: 13 of 33	

Project No./Code
FBR 0704-234
19631
Sheet Number 63

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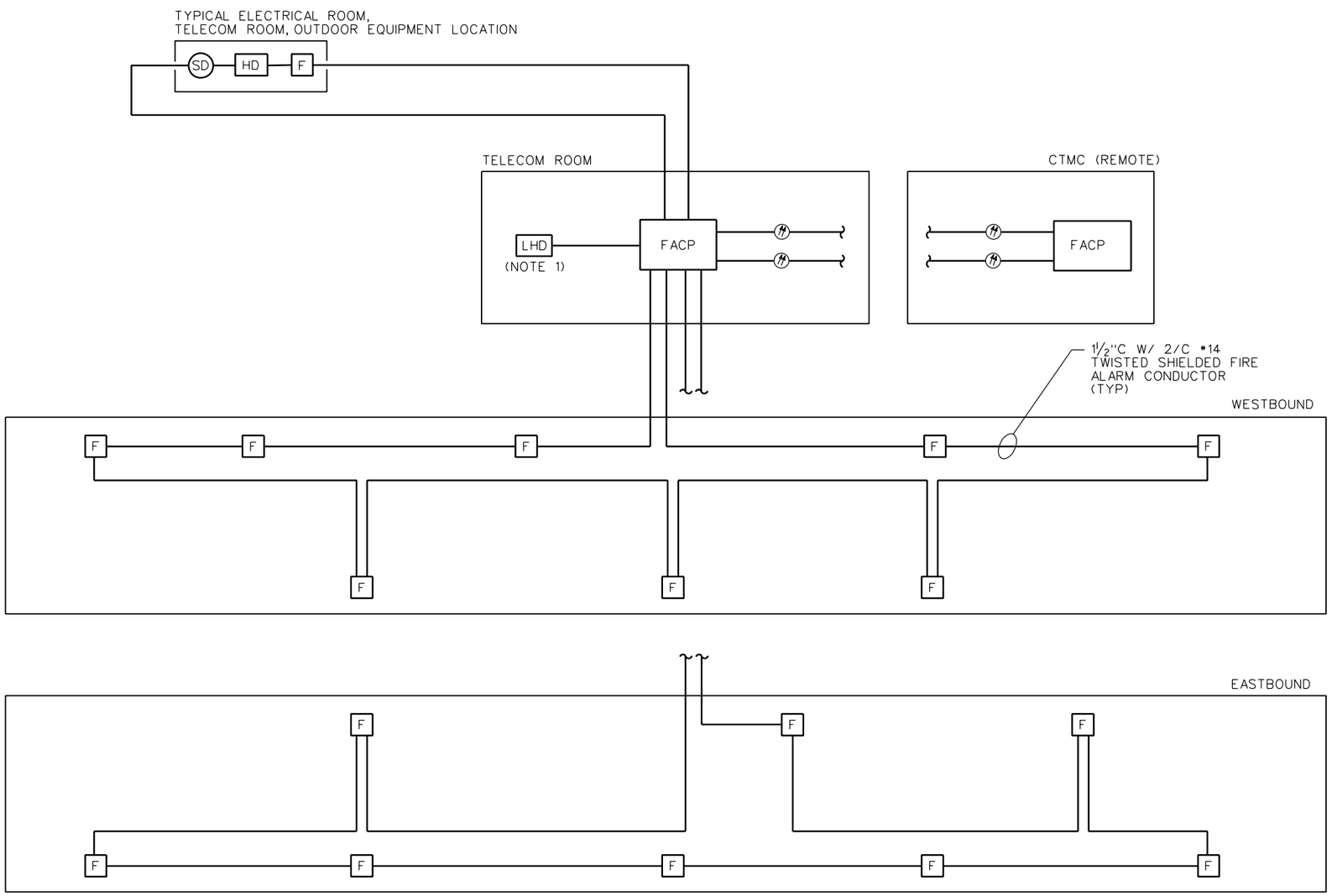

NOTES:

1. FIBER OPTIC LINEAR HEAT DETECTOR CABLE SHALL BE PLACED OVER THE CENTERLINE OF EACH TRAVEL LANE FROM PORTAL TO PORTAL. CABLES SHALL BE ROUTED OVER EACH LANE TO PROVIDE LINEAR COVERAGE.

LEGEND:

F	MANUAL PULL STATION
LHD	LINEAR HEAT DETECTOR CONTROL PANEL
FACP	FIRE ALARM CONTROL PANEL
HD	HEAT DETECTOR
SD	SMOKE DETECTOR

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Central 70

CENTRAL 70
COVER SYSTEMS
FIRE ALARM RISER DIAGRAM

Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset: COVER SYSTEMS		Subset Sheets: 14 of 33	

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19631	
Sheet Number	64

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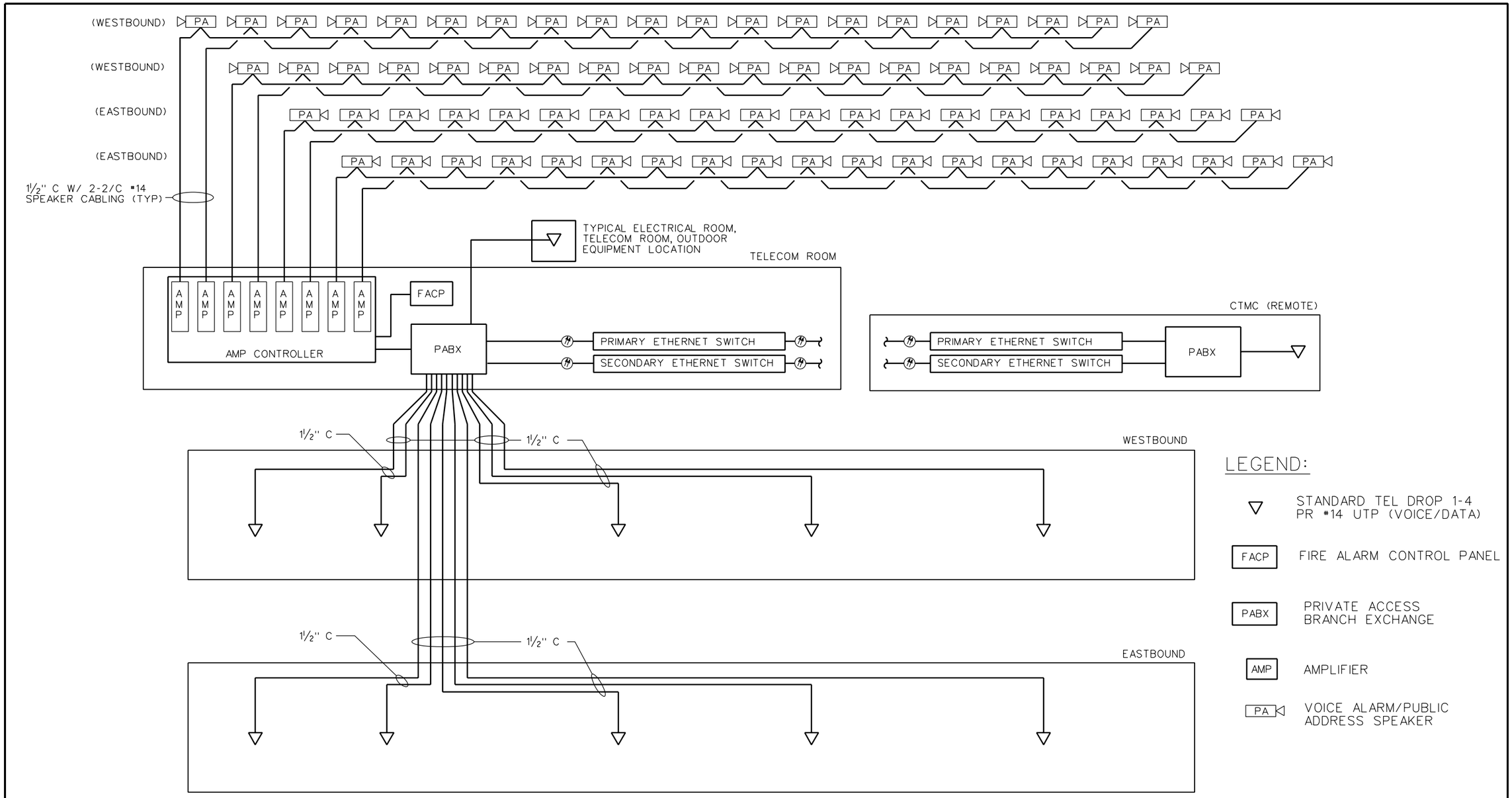

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Central 70

CENTRAL 70 COVER SYSTEMS - ROADSIDE EMERGENCY TEL & PUBLIC ADDRESS RISER DIAGRAM				Project No./Code
				FBR 0704-234
Designer: KMP	Structure Numbers	-		19631
Detailer: KMP		-		
Subset: COVER SYSTEMS	Subset Sheets:	15 of 33		Sheet Number 65

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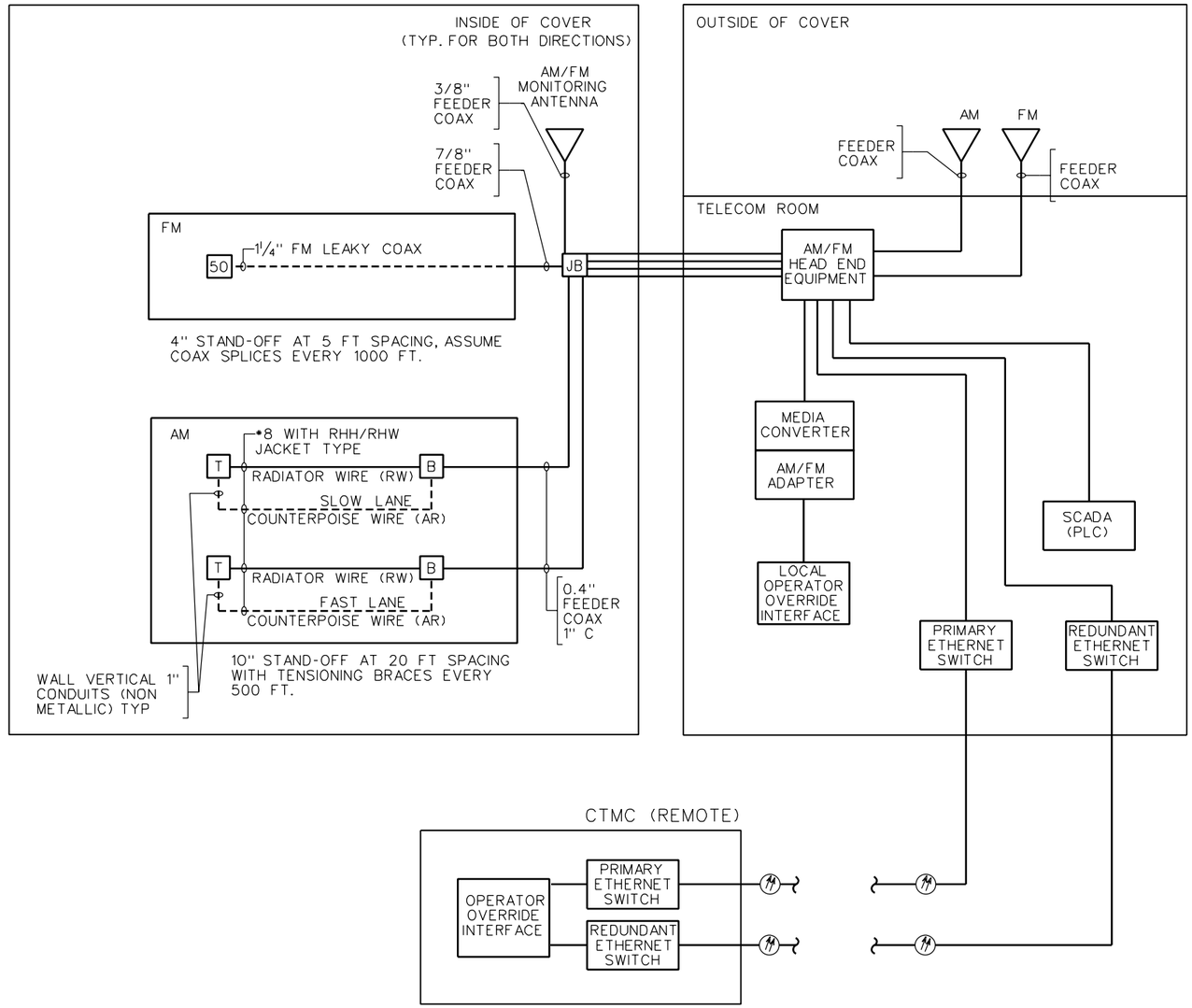

LEGEND:

- B — AM BALUN TRANSFORMER
- T — AM TERMINATION
- SINGLE MODE OPTICAL CABLE
- SHIELDED COAXIAL CABLE
- ANTENNA
- 50 — 50 OHM COAX TERMINATION

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Central 70

CENTRAL 70 COVER SYSTEMS - RADIO REBROADCAST SYSTEM RISER DIAGRAM			Project No./Code FBR 0704-234
Designer: KMP	Structure Numbers	-	19631
Detailer: KMP		-	
Subset: COVER SYSTEMS	Subset Sheets: 16 of 33		Sheet Number 66

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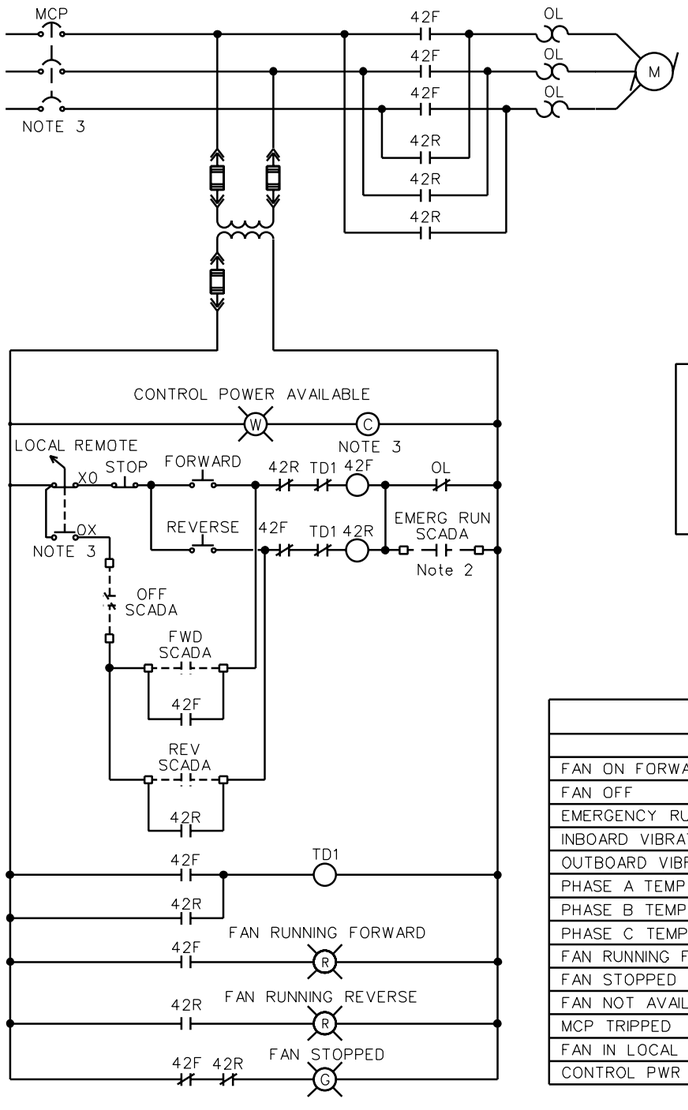
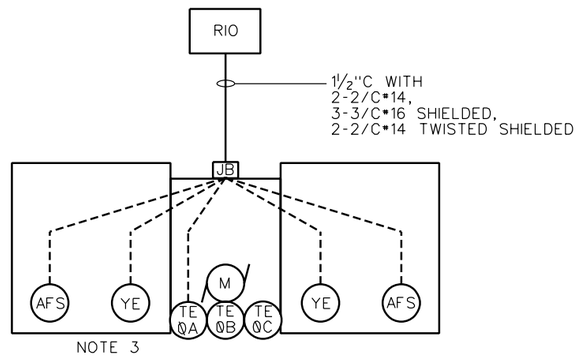
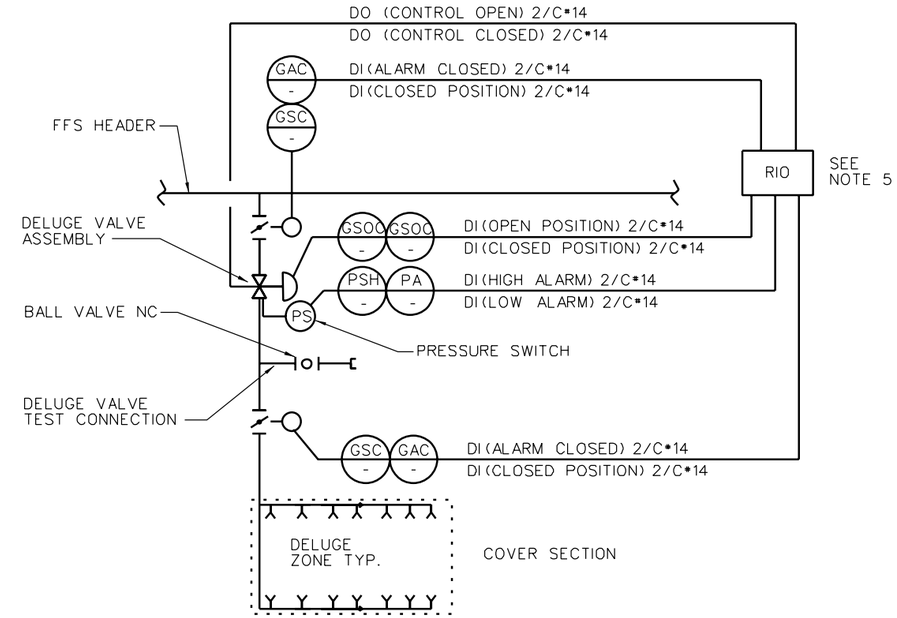


TYPICAL JET FAN MCC WIRING DIAGRAM



TYPICAL JET FAN RISER DIAGRAM

JET FAN SCADA POINTS						
	CONTROL	INDICATION	ALERT	ALARM	LOCATION	NOTES
FAN ON FORWARD	X				MCC RIO	
FAN OFF	X				MCC RIO	
EMERGENCY RUN	X	X	X	X	MCC RIO	
INBOARD VIBRATION		X	X	X	TUNNEL RIO	
OUTBOARD VIBRATION		X	X	X	TUNNEL RIO	
PHASE A TEMP		X	X	X	TUNNEL RIO	
PHASE B TEMP		X	X	X	TUNNEL RIO	
PHASE C TEMP		X	X	X	TUNNEL RIO	
FAN RUNNING FORWARD		X			TUNNEL RIO	
FAN STOPPED		X		X		NOTE 4
FAN NOT AVAILABLE		X		X		NOTE 4
MCP TRIPPED		X		X	MCC RIO	
FAN IN LOCAL		X	X		MCC RIO	
CONTROL PWR AVAILABLE		X			MCC RIO	



TYPICAL DELUGE VALVE
SCADA MONITORING & CONTROL

LEGEND:

- M — JET FAN MOTOR
- TE — TEMPERATURE SENSOR
- YE — VIBRATION SENSOR
- AFS — AIR FLOW SWITCH
- JB — NEMA 4X JUNCTION BOX
- RIO — REMOTE I/O CABINET

NOTES:

1. JUNCTION BOX PROVIDED WITH FAN. DASHED LINES INDICATE WIRING FROM FAN DEVICES TO JUNCTION BOX PROVIDED WITH FAN.
2. DURING AN EVENT IN THE COVER THE "EMERG RUN" CONTACT WILL BE ENERGIZED TO BYPASS OVERLOAD CONTACTS WITHIN MOTOR STARTER UNIT. SOFTWARE SCENARIOS SHALL IGNORE ALL VIBRATION, TEMPERATURE AND OTHER ASSOCIATED I/O THAT WOULD OTHERWISE SHUT DOWN THE JET FAN UNDER NORMAL OPERATING CONDITIONS.
3. PROVIDE AUXILIARY DEVICE CONTACTS OR CONTROL RELAY, WITH CONTACTS TO PROVIDE POINTS FOR CONTROL AND MONITORING FOR SCADA.
4. INDICATION IS A BOOLEAN "OR" OF DATA POINTS AND DOES NOT REQUIRE ANY FIELD WIRING TO THE RIO CABINET.
5. 2/C#14 CABLES SHOWN ROUTED IN COMMON 1½" FROM RIO CABINET TO EACH VALVE.

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Central 70

CENTRAL 70
COVER SYSTEMS - JET FAN AND DELUGE SYSTEM CONTROL SCHEMATIC

Designer: KMP	Structure Numbers	-	
Detailer: KMP		-	
Subset: COVER SYSTEMS	Subset Sheets: 17 of 33		

Project No./Code
FBR 0704-234
19631
Sheet Number 67

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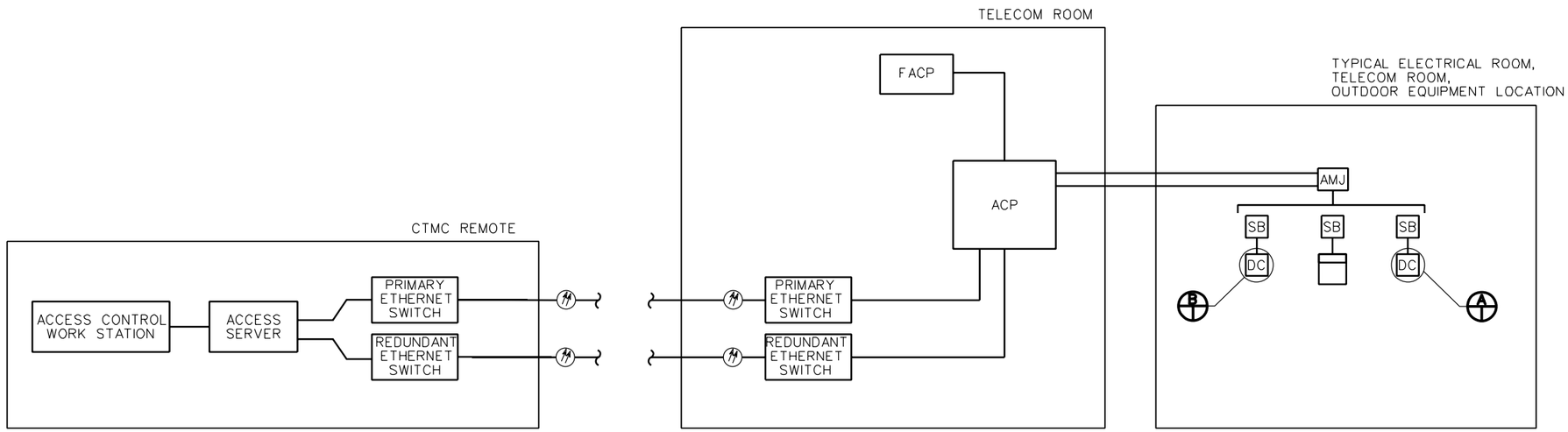
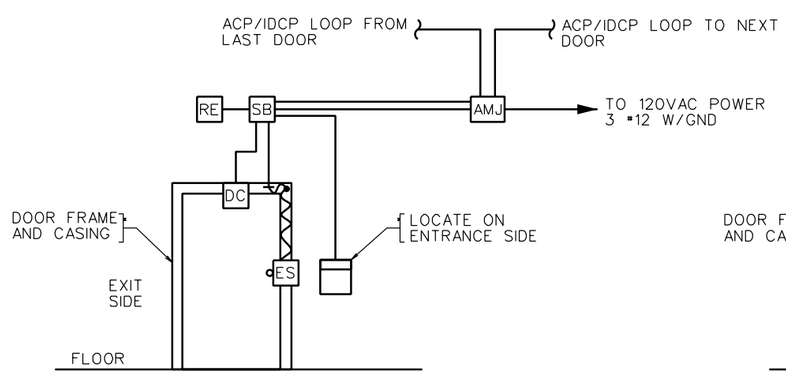
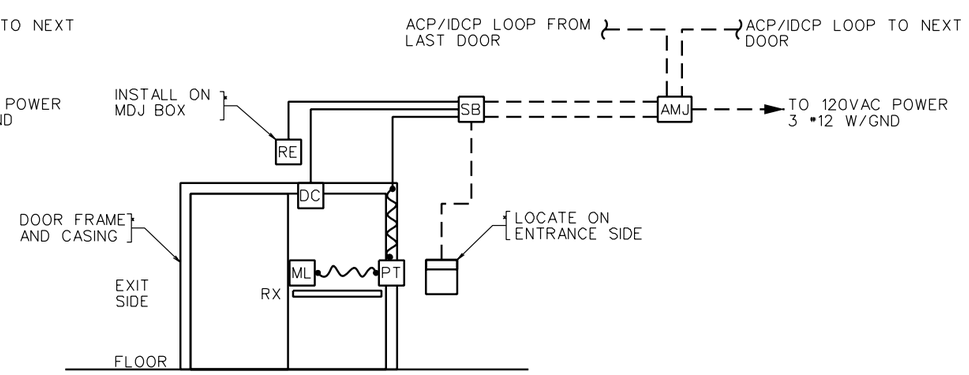




DETAIL 1 TYPICAL SINGLE DOOR (NON-EXIT) WITH CARD READER (A)



DETAIL 2 TYPICAL DOUBLE DOOR WITH CARD READER (B)

LEGEND:

ACP	ACCESS CONTROL PANEL
AMJ	ACCESS READER MODULE JUNCTION BOX
	CARD READER
DC	DOOR CONTACT
ES	ELECTRIC STRIKE
ML	MORTISE LOCK
PT	POWER TRANSFER
RE	REQUEST TO EXIT MOTION SENSOR
SB	SECURITY TERMINAL BOX
IC	INTERCOM
FACP	FIRE ALARM CONTROL PANEL

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Central 70

CENTRAL 70
COVER SYSTEMS - ACCESS CONTROL & INTRUSION DETECTION RISER DIAGRAM

Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset: COVER SYSTEMS		Subset Sheets:	18 of 33

Project No./Code
FBR 0704-234
19631
Sheet Number 68

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Central 70 Cover Park
Wireless CCTV Plan

Camera Schedule

1	101	1 - School Parking and Drop Off (* PTZ *)
2	102	1 - School Parking Spaces 1 to 20
3	103	1 - School Parking Spaces 21 to 40
4	104	1 - School Parking Spaces 41 to 60
5	105	1 - School Parking Spaces 51 to 70
6	106	1 - School Parking Spaces 71 to 78
7	107	1 - School Sidewalk
8	108	1 - School Service Area
9	201	2 - Play Courts and Playgrounds Play Court (* PTZ *)
10	202	2 - Play Courts Primary Playground
11	203	2 - Play Courts Intermediate Playground
12	204	2 - Play Court Outdoor Classroom / Gathering Space
13	205	2 - Play Court Basketball Court
14	206	2 - Play Court Handball Area
15	207	2 - Play Court Four Square Area
16	401	4 - Multi-use Field Adult Field 1 North-East
17	402	4 - Multi-use Field Adult Field 2 North-West
18	403	4 - Multi-use Field East Sidewalk
19	404	4 - Multi-use Field West Sidewalk
20	501	5 - Central Plaza Space Open Corridor 1 North Park Entrance
21	502	5 - Central Plaza Space Shade Structure
22	503	5 - Central Plaza Space Seating Area (* PTZ *)
23	504	5 - Central Plaza Center South
24	505	5 - Central Plaza Center North
25	506	5 - Central Plaza Space Open Corridor 2 South Park Entrance
26	601	6 - Event Lawn 1 East
27	602	6 - Event Lawn 2 West
28	701	7 - Tot Lot and Splash Pad 1
29	702	7 -Tot Lot and Splash Pad 2
30	801	8 - Concession / Restroom Building 1
31	802	8 - Concession / Restroom Building 2
32	803	8 - Concession / Restroom Telecom Room
33	804	8 - Concession / Restroom Enclosed Area Park Entrance
34	805	8 - Concession / Restroom Trash Enclosure
35	901	9 - East Side Community Garden Space Lawn Area 1
36	902	9 - East Side Community Garden Space Lawn Area 2 Park Entran
37	903	9 - East Side Community Garden Space Adventure Playground
38	904	9 - East Side Community Garden Space Covered Picnic Area
39	905	9 - East Side Community Garden Space Plaza (* PTZ *)
40	1001	10 - Columbine Street Cover Extension North
41	1002	10 - Columbine Street Cover Extension South
42	1101	11 - Clayton Street Cover Extension North
43	1102	11 - Clayton Street Electrical Building West
44	1103	11 - Clayton Street Electrical Building East
45	1104	11 - Clayton Street Cover Extension South Park Entrance
46	1201	12- 46th Avenue Streetscape East Park Entrance
47	1202	12 - 46th Avenue Streetscape West
48	1301	13 - Columbine Street Streetscape North
49	1302	13 - Columbine Street Streetscape South Park Entrance
50	1401	14 - Clayton Street Streetscape Park Entrance

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Central 70

CENTRAL 70
COVER SYSTEMS
PARK - WIRELESS CCTV PLAN

Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset: COVER SYSTEMS		Subset Sheets: 19 of 33	

Project No./Code
FBR 0704-234
19631
Sheet Number 69

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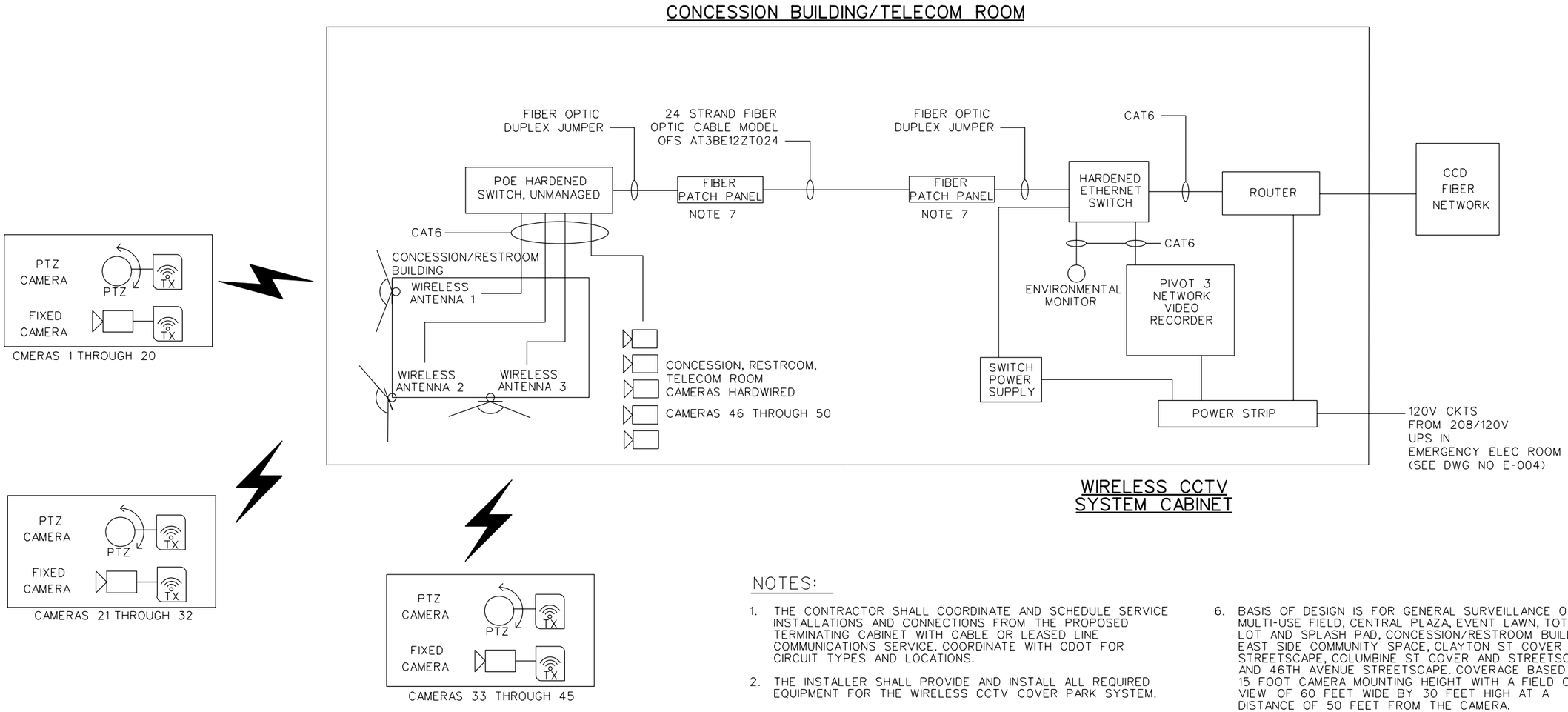

NOTES:

1. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE SERVICE INSTALLATIONS AND CONNECTIONS FROM THE PROPOSED TERMINATING CABINET WITH CABLE OR LEASED LINE COMMUNICATIONS SERVICE. COORDINATE WITH CDOT FOR CIRCUIT TYPES AND LOCATIONS.
2. THE INSTALLER SHALL PROVIDE AND INSTALL ALL REQUIRED EQUIPMENT FOR THE WIRELESS CCTV COVER PARK SYSTEM.
3. INTERNET SERVICE PROVIDER TO CONFIGURE A STATIC IP ADDRESS FOR THE CABLE/DSL MODEM/ROUTER FOR REMOTE ACCESS TO THE NVR AND IP CAMERAS. COORDINATE WITH CDOT FOR IP ADDRESSES.
4. REFER TO E-019 FOR LOCATIONS OF WIRELESS CAMERAS AND EQUIPMENT.
5. 120V POWER TO CCTV CAMERA WIRELESS TRANSMITTERS PROVIDED BY EXISTING LIGHT POLES.
6. BASIS OF DESIGN IS FOR GENERAL SURVEILLANCE OF MULTI-USE FIELD, CENTRAL PLAZA, EVENT LAWN, TOT LOT AND SPLASH PAD, CONCESSION/RESTROOM BUILDING, EAST SIDE COMMUNITY SPACE, CLAYTON ST COVER AND STREETSCAPE, COLUMBINE ST COVER AND STREETSCAPE, AND 46TH AVENUE STREETSCAPE. COVERAGE BASED ON 15 FOOT CAMERA MOUNTING HEIGHT WITH A FIELD OF VIEW OF 60 FEET WIDE BY 30 FEET HIGH AT A DISTANCE OF 50 FEET FROM THE CAMERA.
7. RF STUDY TO BE PERFORMED BY CONTRACTOR PRIOR TO THE INSTALLATION OF WIRELESS CAMERA EQUIPMENT. FIBER OPTIC CABLE AND FIBER OPTIC PATCH PANELS MAY NOT BE REQUIRED BASED ON RF STUDY.

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Central 70

CENTRAL 70 COVER SYSTEMS - PARK WIRELESS CCTV RISER DIAGRAM				Project No./Code
				FBR 0704-234
Designer: KMP	Structure Numbers	-		19631
Detailer: KMP		-		
Subset: COVER SYSTEMS	Subset Sheets: 20 of 33			Sheet Number 70

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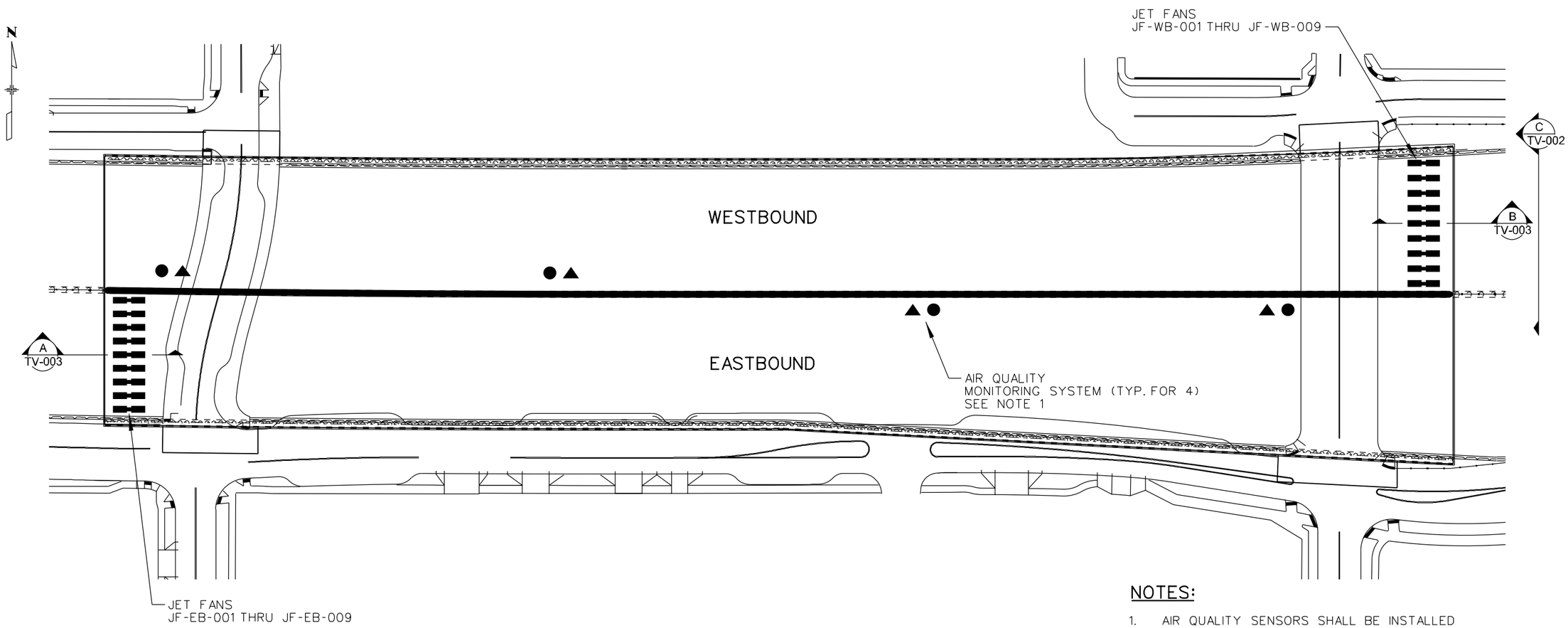

PLAN - COVER SECTION VENTILATION

NOT TO SCALE

NOTES:

1. AIR QUALITY SENSORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.

LEGEND:

- JET FAN
- ● AIR QUALITY SENSOR (CODEL TUNNELTECH 205 - NO2 MONITOR OR EQUIVALENT)
- ▲ AIR QUALITY SENSOR (CODEL TUNNELTECH 201 - CO, VIS AND NO OR EQUIVALENT)

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Central 70

CENTRAL 70 COVER SYSTEMS VENTILATION SYSTEM PLAN				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	-	19631
Detailer:	KMP		-	
Subset: COVER SYSTEMS		Subset Sheets:	21 of 33	Sheet Number 71

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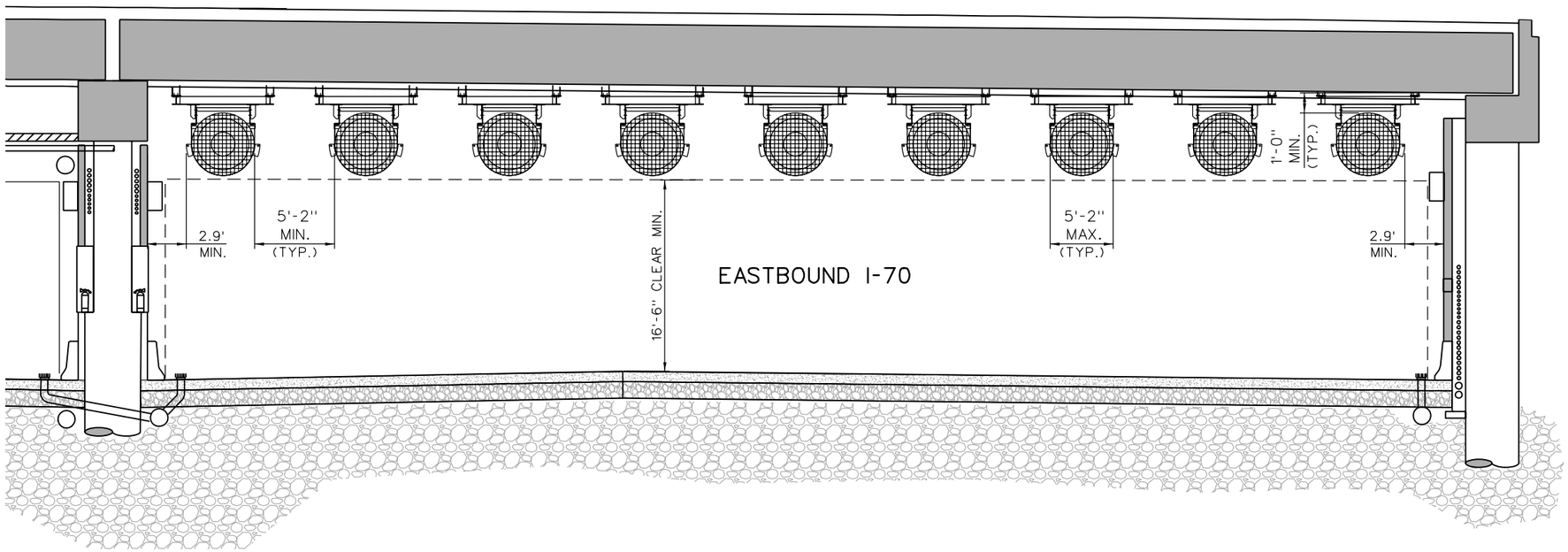

SECTION VIEW AT ENTRANCE PORTAL

C
TV-001

SCALE: NOT TO SCALE
(WEST PORTAL SHOWN, EAST PORTAL TYPICAL)

NOTE:

THIS SECTION VIEW IS INTENDED TO INDICATE CONCEPT ONLY AND IS NOT DIMENSIONALLY TO SCALE. DESIGN INTENTION IS TO POSITION FANS, EQUALLY SPACED, BETWEEN OUTER WALL AND CENTER WALL OF COVER WHILE MAINTAINING THE MINIMUM DIMENSIONS INDICATED.

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Central 70

CENTRAL 70 COVER SYSTEMS JET FAN DETAILS SHEET 1			Project No./Code
			FBR 0704-234
Designer: KMP	Structure Numbers	-	19631
Detailer: KMP		-	
Subset: COVER SYSTEMS	Subset Sheets: 22 of 33		Sheet Number 72

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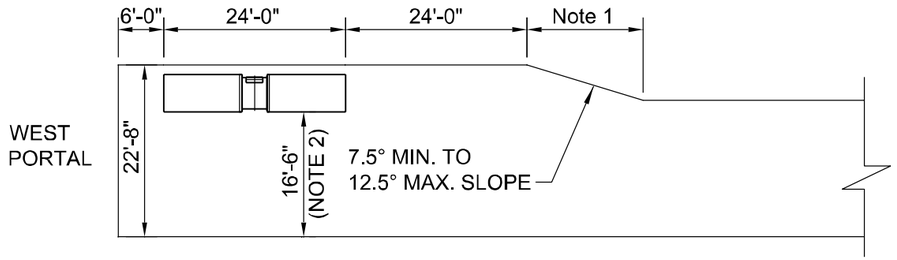
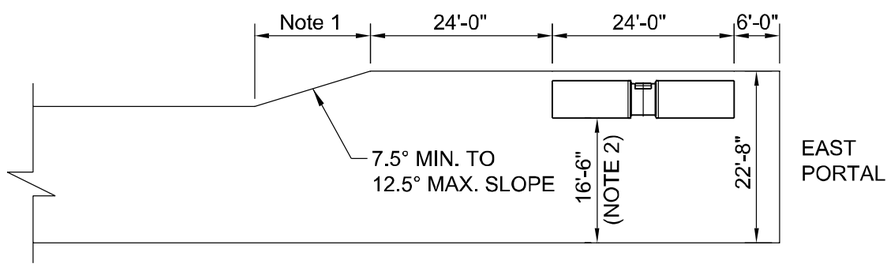
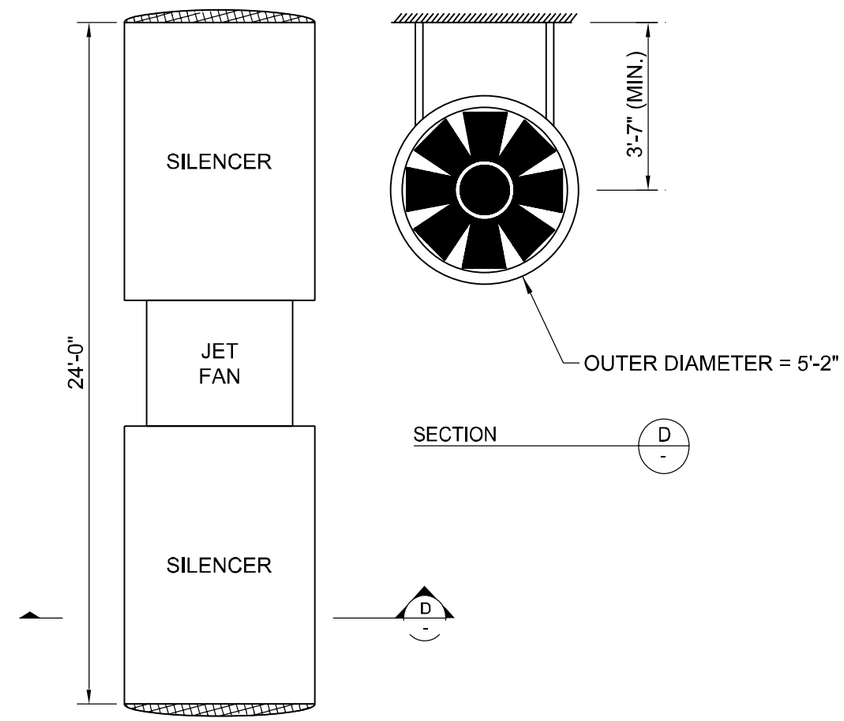


SECTION A TV-001
WEST PORTAL SECTION (EASTBOUND TUNNEL)



SECTION B TV-001
EAST PORTAL SECTION (WESTBOUND TUNNEL)

JET FAN DETAILS
NOT TO SCALE



JET FAN UNIT DIMENSIONS
NOT TO SCALE

NOTES:

1. LENGTH OF SLOPE WILL DEPEND ON ACTUAL CHANGE IN COVER CEILING HEIGHT.
2. THE 16'-6" HEIGHT IS UNDERSTOOD TO HAVE A TOLERANCE ALREADY INCLUDED. BASED ON THIS, THE MINIMUM CLEARANCE HAS BEEN SET TO 16'-6".
3. DIMENSIONS:

16'-6"	MIN ROADWAY VERT CLEARANCE
5'-2"	FAN
1'-0"	MOUNTING
22'-8"	TOTAL

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CENTRAL 70
COVER SYSTEMS
JET FAN DETAILS SHEET 2

Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset: COVER SYSTEMS		Subset Sheets:	23 of 33

Project No./Code
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Sheet Number 73

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FAN SCHEDULE AND OPERATION

FAN ID	STA (APPROX.)	LOCATION	INTERNAL DIAMETER (INCH)(MAX.)	EXTERNAL DIAMETER (INCH)(MAX.)	THRUST (LBF)(MIN.)	OUTLET VELOCITY (FPM)	MOTOR POWER (HP)(MAX.)	TOTAL WEIGHT (LB)(NOTE 1)	MAX. TEMP (DEG F)
JF-WB-001	2041+50	WESTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-WB-002	2041+50	WESTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-WB-003	2041+50	WESTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-WB-004	2041+50	WESTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-WB-005	2041+50	WESTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-WB-006	2041+50	WESTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-WB-007	2041+50	WESTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-WB-008	2041+50	WESTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-WB-009	2041+50	WESTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-EB-001	2031+80	EASTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-EB-002	2031+80	EASTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-EB-003	2031+80	EASTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-EB-004	2031+80	EASTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-EB-005	2031+80	EASTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-EB-006	2031+80	EASTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-EB-007	2031+80	EASTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-EB-008	2031+80	EASTBOUND, ENTRY	49.2	62	390	6908	100	5000	482
JF-EB-009	2031+80	EASTBOUND, ENTRY	49.2	62	390	6908	100	5000	482

NOTES:

1. JET FAN, MOTOR FRAME AND SOUND ATTENUATOR WEIGHTS SHALL NOT EXCEED VALUES LISTED HERE. SUPPLIER SHALL SUBMIT WEIGHTS FOR APPROVAL.
2. MAXIMUM ALLOWABLE FAN SOUND POWER LEVELS TO BE DETERMINED AND SPECIFIED IN FINAL DESIGN. COMBINED SOUND POWER LEVEL OF FANS SHALL NOT EXCEED 92 DBA AT ANY LOCATION 5 FEET ABOVE ROADWAY.
3. FAN PARAMETERS BASED ON A DENSITY OF 0.075 LBS PER CUBIC FOOT AT SEA LEVEL ATMOSPHERIC PRESSURE.
4. FAN MOTOR HORSEPOWER SHALL BE SELECTED USING AN AIR DENSITY OF 0.081 POUNDS PER CUBIC FOOT (30 DEG F AT SEA LEVEL ATMOSPHERIC PRESSURE).
5. FAN SELECTION IS BASED ON WITT AND SOHN FANS. OTHER ACCEPTABLE FAN MANUFACTURERS INCLUDE, BUT NOT LIMITED TO, CLARAGE AND HOWDEN.
6. FAN ASSEMBLIES SHALL BE EQUIPPED WITH 2' DIAMETER LONG SILENCERS AND SCREENS INSTALLED ON INLET AND OUTLET.
7. SEE SHEET NO. E-009 FOR ORIENTATION OF JET FANS WITH OTHER MEP ELEMENTS WITHIN COVER CROSS SECTION.

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CENTRAL 70
COVER SYSTEMS - VENTILATION
EQUIPMENT SCHEDULE AND GENERAL NOTES

Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset: COVER SYSTEMS		Subset Sheets:	24 of 33

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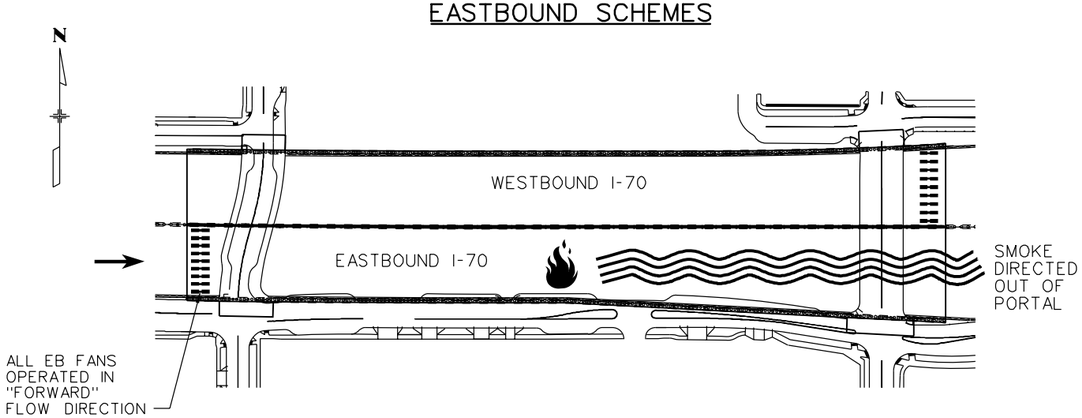
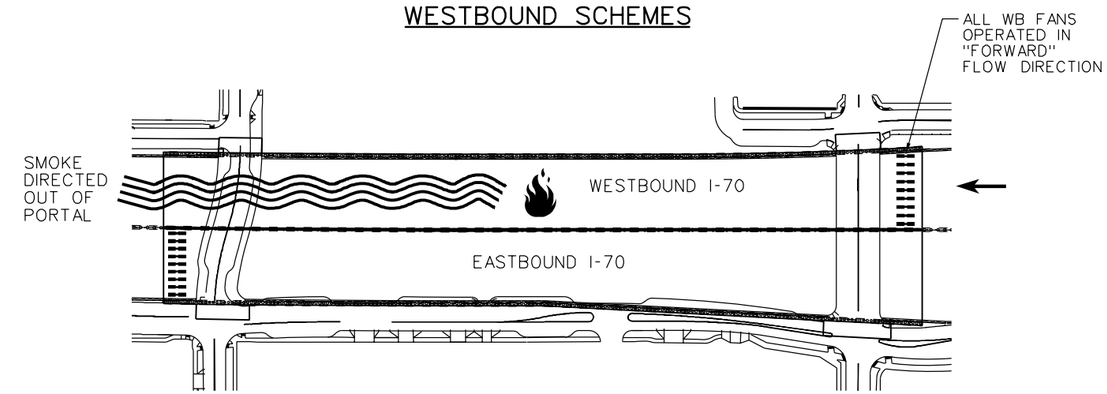
EASTBOUND SCHEMES

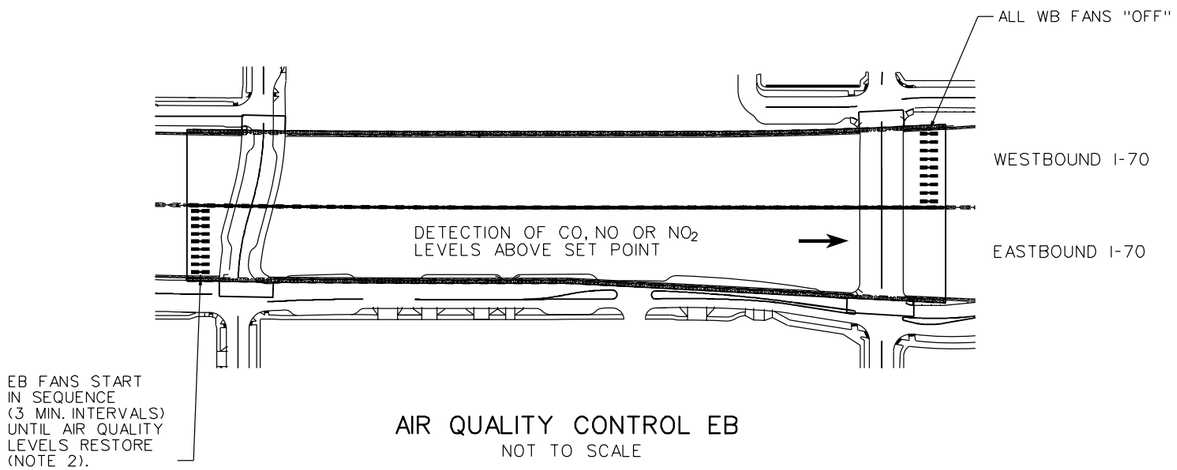


FIRE IN EB BORE
NOT TO SCALE

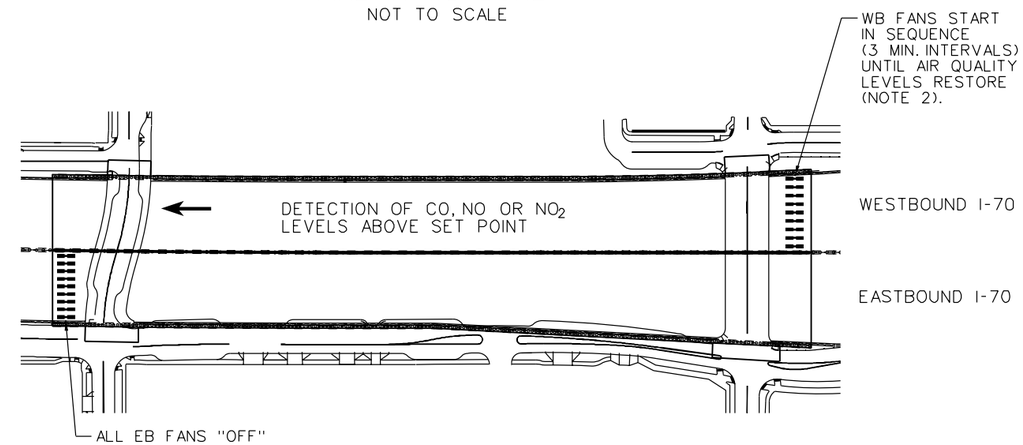
WESTBOUND SCHEMES



FIRE IN WB BORE
NOT TO SCALE



AIR QUALITY CONTROL EB
NOT TO SCALE



AIR QUALITY CONTROL WB
NOT TO SCALE

NOTES:

1. FORWARD FAN DIRECTION IN EACH SIDE IS IN THE DIRECTION OF TRAFFIC MOVEMENT.
2. START FANS IN CENTER FIRST AND THEN PROGRESS TOWARD OUTERMOST FANS ON ALTERNATE SIDE.

LEGEND:

- JET FAN
- AIRFLOW
- FIRE
- SMOKE

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CENTRAL 70 COVER SYSTEMS - VENTILATION SYSTEM OPERATIONAL SCHEME				Project No./Code
				FBR 0704-234
Designer:	KMP	Structure Numbers	-	19631
Detailer:	KMP		-	
Subset: COVER SYSTEMS		Subset Sheets:	25 of 33	Sheet Number 75

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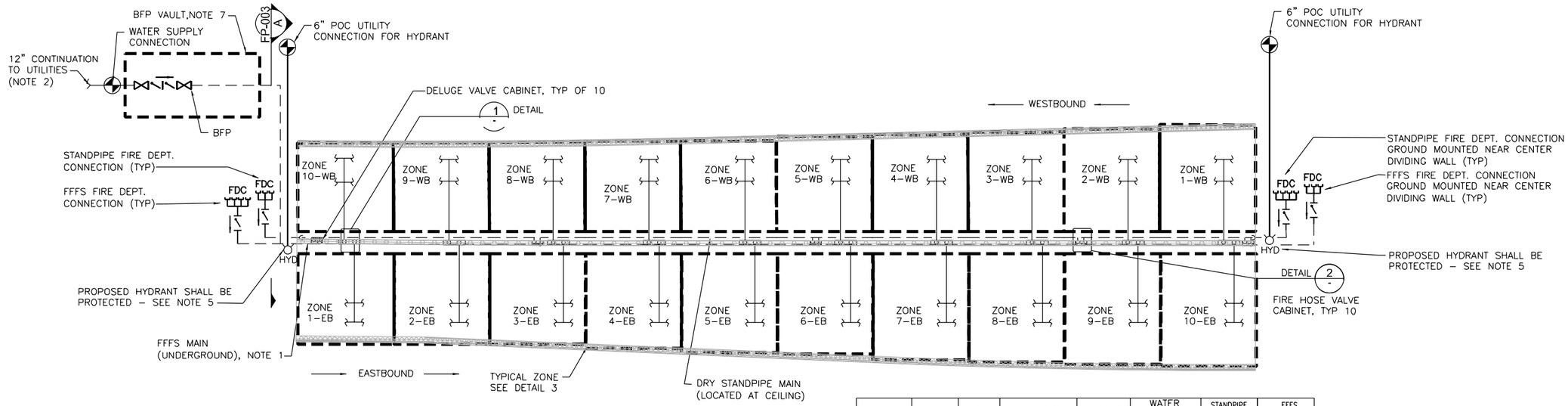

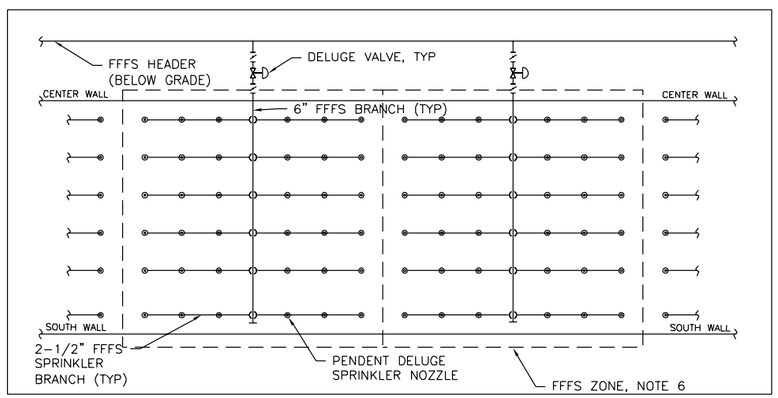

DETAIL 3
TYPICAL FFFS ZONE

ZONE OPTION	ZONE LENGTH	TOTAL ZONE QTY	ACTIVATED ZONES DURING EVENT	COVERAGE AREA, SQFT	WATER APPLICATION RATE (GPM/SQFT)	STANDPIPE DEMAND (NOTE 8)		FFFS DEMAND (NOTE 3,4)	
						GPM	PSI	GPM	PSI
PA REQ.	100 FT	20	2	20000	0.15	750	100	3750	7.8

MATERIAL TAKE-OFF*

COMPONENT	QUANTITY	LENGTH (ft)	MATERIAL
8" FFFS DELUGE VALVE ASSEMBLY	20		
6" STANDPIPE DELUGE VALVE ASSEMBLY	1		
10" BACKFLOW PREVENTERS	1		
FFFS DELUGE VALVE CABINETS	10		STAINLESS STEEL
FFFS FIRE DEPARTMENT CONNECTION (4 WAY)	2		
12" FFFS MAIN PIPING		1400	DUCTILE IRON
8" FFFS ZONE SUPPLY PIPING		200	DUCTILE IRON
6" BRANCH PIPING		2000	SCHEDULE 40, HOT DIPPED GALV.
2-1/2" BRANCH PIPING		12000	SCHEDULE 40, HOT DIPPED GALV.
HEAT TRACING (W/INSULATION)- 6" PIPE		200	
PENDENT DELUGE SPRINKLER NOZZLES	720		
FIRE HOSE VALVE CABINETS WITH EXTINGUISHERS	10		STAINLESS STEEL
STANDPIPE VALVE CABINET	1		
FIRE HOSE VALVES	20		
6" STANDPIPE MAIN PIPING		1400	SCHEDULE 40, HOT DIPPED GALV.
FIRE HYDRANTS	2		CITY AND COUNTY OF DENVER STD.
4" STANDPIPE BRANCH PIPING		200	SCHEDULE 40, HOT DIPPED GALV.
FIRE DEPARTMENT STANDPIPE CONNECTION (3 WAY)	2		
1" AIR RELEASE/VACUUM VALVE	2		

NOTES:
* QUANTIY, SIZE AND LENGTH ARE BASED ON CONCEPTUAL DESIGN SHOWN.

NOTES;

1. FIXED FIREFIGHTING SYSTEM (FFFS) SUPPLY PIPING TO BE BURIED BELOW ROADWAY GRADE TO REDUCE HEAT TRACING REQUIRED.
2. THE REQUIRED WATER SUPPLY FOR THE FFFS IS BASED ON A 12" SINGLE WATER SUPPLY CONNECTION TO THE PROPOSED CIVIL CONNECTION TO THE 36" TRANSMISSION LINE NEAR THE WEST PORTAL.
3. DELUGE SYSTEM WATER DEMAND APPLIES A 1.25 EFFICIENCY FACTOR.
4. MINIMUM PRESSURE FOR THE MOST REMOTE ZONE AND NOZZLE IS 23 PSI.
5. STANDPIPE AND DELUGE FDC'S ARE TO BE LOCATED WITHIN 100 FEET OF MUNICIPAL HYDRANTS.
6. LAYOUT IS SHOWN AS A SCHEMATIC. FINAL DESIGN LAYOUT WILL CONSIDER OBSTRUCTIONS, CEILING AND BEAMS.
7. LOCATION OF 10" BACKFLOW PREVENTER (BFP) TBD. UNDERGROUND VAULT SIZED TO 7'W X 11'L X 8'D. VAULT SHALL INCLUDE MAINTENANCE ACCESS.
8. STANDPIPE DEMAND BASED ON NFPA 502 SECTION 10.1.1 IN REFERENCE TO NFPA 14 SECTION 7.10.1.1.2
9. ADDITIONAL STANDPIPE COVERAGE BEYOND COVER PORTALS WILL BE REQUIRED BY THE AHJ WHERE ROADWAYS ARE LOWERED (BELOW GRADE) HIGHWAY IS CONSIDERED LIMITED ACCESS PER NFPA 502 SECTION 4.3.5.
10. SEE SHEET NO. E-009 FOR ORIENTATION OF FIXED FIREFIGHTING AND STANDPIPE SYSTEM COMPONENTS WITH OTHER MEP ELEMENTS WITHIN COVER CROSS SECTION.

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CENTRAL 70
COVER SYSTEMS - FIXED FIREFIGHTING SYSTEM AND STANDPIPE SYSTEM - SCHEMATIC PLAN

Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset: COVER SYSTEMS		Subset Sheets:	26 of 33

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Sheet Number 76

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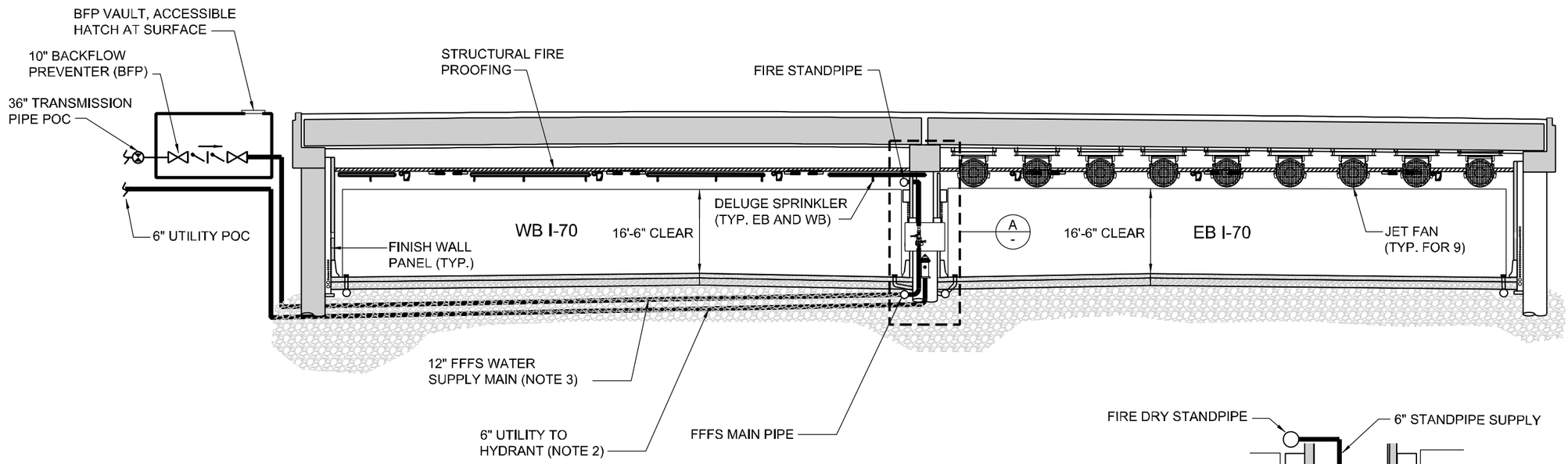
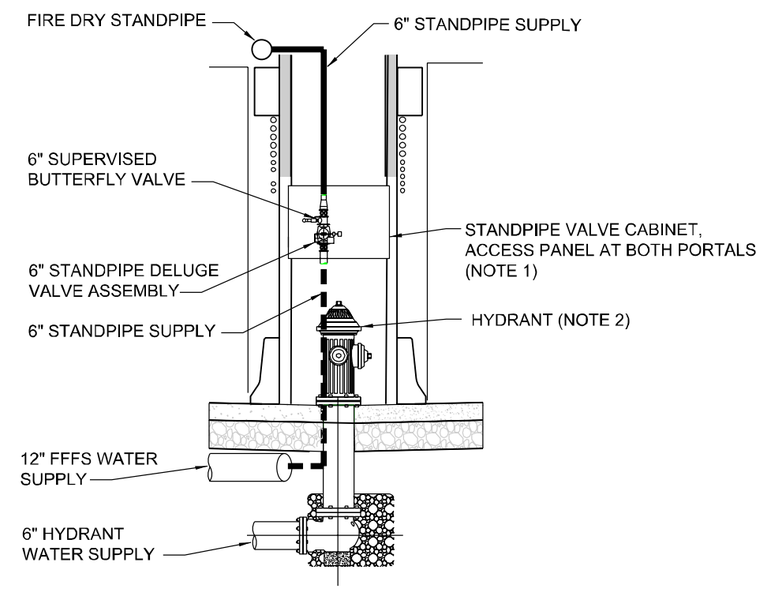


COMPOSITE SECTION AT COVER

(WEST PORTAL LOOKING UPSTATION)

NOTES:

1. SEMI-AUTOMATIC STANDPIPE DELUGE VALVE LOCATED AT WEST PORTAL. VALVE CAN BE CONTROLLED LOCALLY VIA MANUAL OPERATION OF VALVE (WEST PORTAL ONLY) OR CONTROL BUTTON (EAST PORTAL). REMOTE ONLY OPERATION VIA SCADA IS ALSO AVAILABLE AT THE CTMC AND FACP.
2. HYDRANTS LOCATED IN THE MEDIAN AT EAST AND WEST PORTALS. MUNICIPAL WATER SUPPLY CONNECTIONS AT COLUMBINE AND CLAYTON.
3. FFFS WATER SUPPLY AT WEST PORTAL ONLY. MUNICIPAL WATER SUPPLY CONNECTION AT COLUMBINE.



A - DETAIL A: STANDPIPE SEMI-AUTOMATIC FILL

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CENTRAL 70 COVER SYSTEMS FIRE PROTECTION SECTION				Project No./Code
				FBR 0704-234
Designer: KMP	Structure Numbers	-		19631
Detailer: KMP		-		
Subset: COVER SYSTEMS	Subset Sheets: 27 of 33			Sheet Number 77

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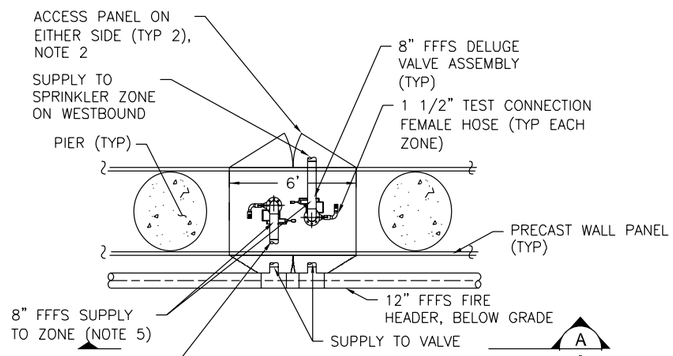
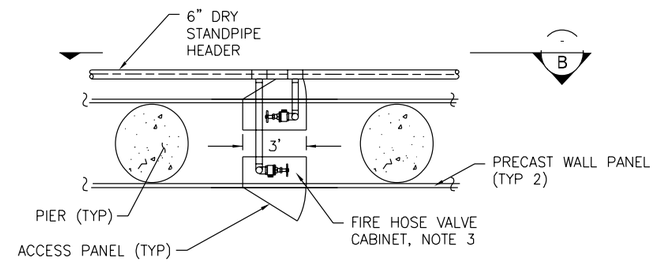
NOTES:

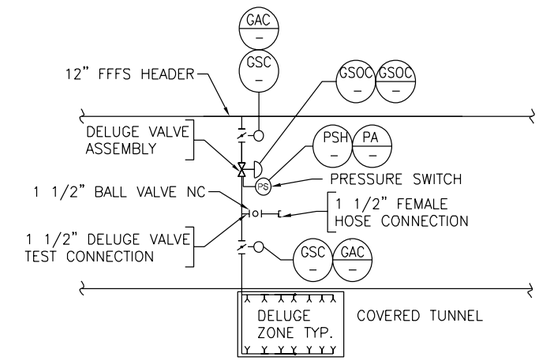
1. HEAT TRACE REQUIRED ON WET PIPE ABOVE GRADE AND BEHIND PRECAST FACING PANEL.
2. SINGLE DELUGE VALVE CABINET SERVING BOTH EASTBOUND AND WESTBOUND ROADWAYS. CABINET IS SHOWN IN VOID SPACE BETWEEN CENTER WALL PIERS.
3. WESTBOUND AND EASTBOUND HAVE SEPARATE FIRE HOSE VALVE CABINETS. DEPTH OF EACH CABINET IS 12" MINIMUM.
4. DELUGE VALVES TO BE OPERATED VIA SCADA BY OPERATORS AT THE CTMC AND FACP.
5. PIPE SIZES MAY INCREASE WITH WATER SUPPLY CONDITIONS.
6. PROVIDE AIR RELEASE/VACUUM VALVES AT HIGH POINT OF EACH END OF STANDPIPE HEADER.



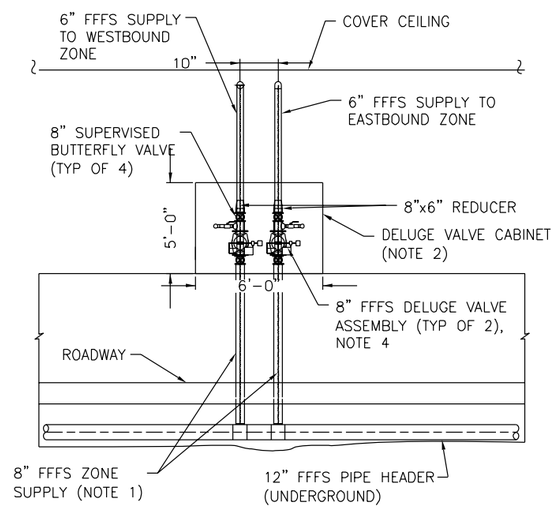
DETAIL 1
FFFS DELUGE VALVE STATION



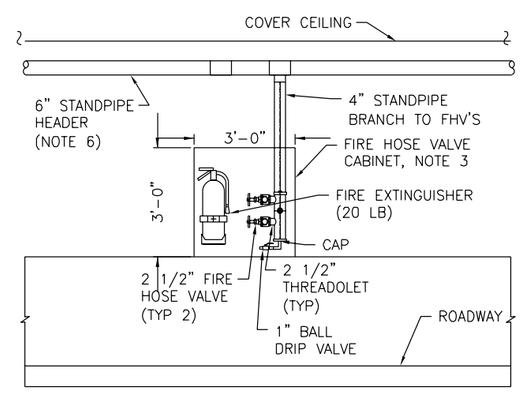
DETAIL 2
STANDPIPE VALVE STATION



TYPICAL DELUGE ZONE CONTROL SCHEMATIC 2



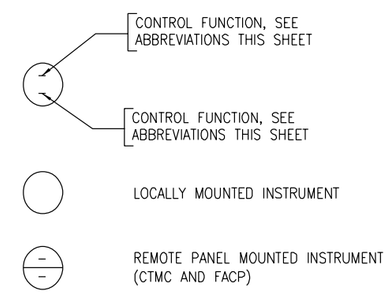
SECTION A
FFFS DELUGE VALVE STATION



SECTION B
STANDPIPE HOSE VALVE CABINET

CONTROLS ABBREVIATIONS:

GAC	POSITION ALARM CLOSED
GSC	POSITION SWITCH CLOSED
GSOC	POSITION SWITCH OPEN/CLOSED
PA	PRESSURE ALARM
PSH	PRESSURE SWITCH HIGH



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CENTRAL 70
COVER SYSTEMS - FIXED FIREFIGHTING SYSTEM AND STANDPIPE SYSTEM - DETAILS

Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset: COVER SYSTEMS		Subset Sheets:	28 of 33

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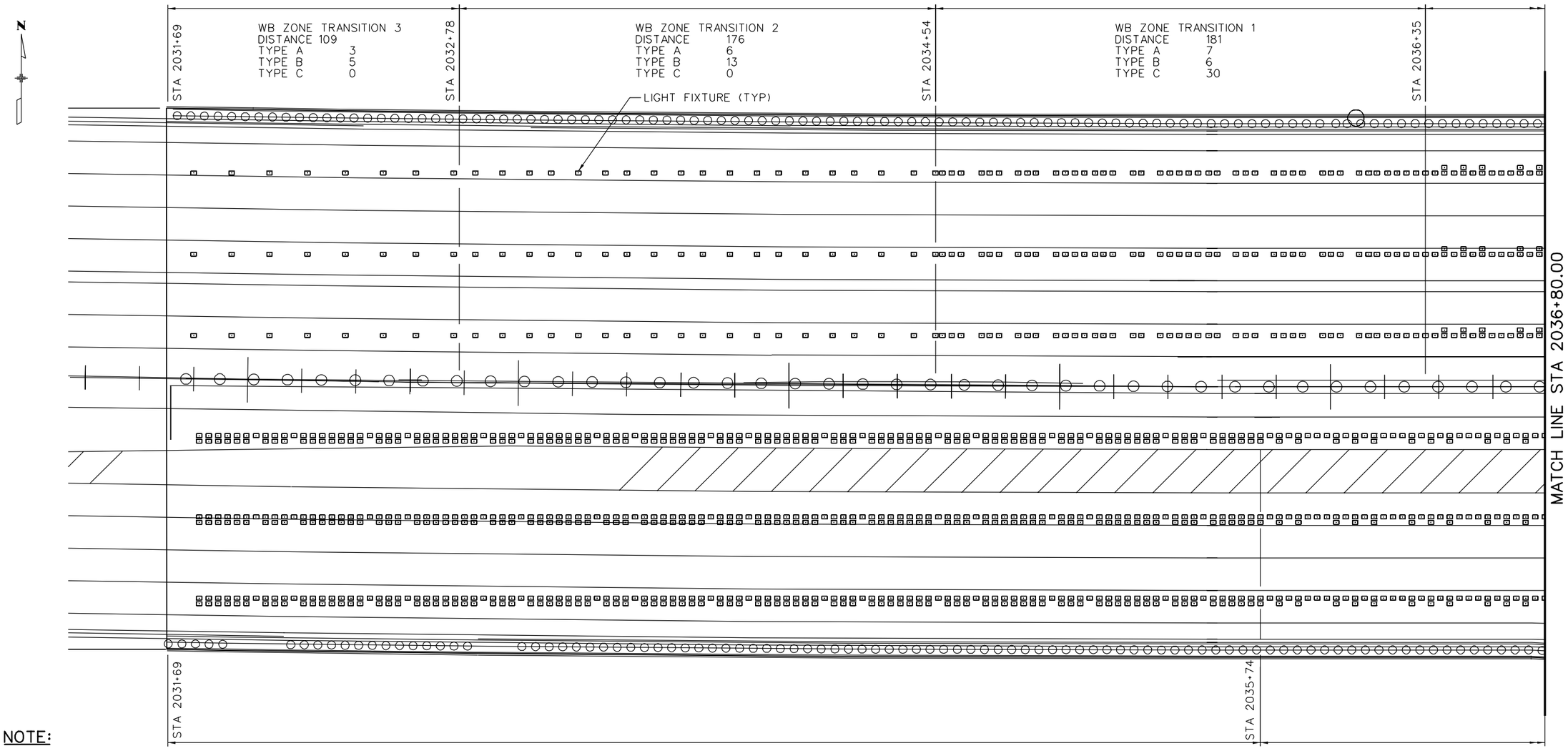

NOTE:

1. FOR ADDITIONAL HORIZONTAL AND VERTICAL GEOMETRY, SEE ROADWAY PLANS.
2. LUMINAIRE QUANTITIES SHOWN ON THIS SHEET ARE PER ROW, FOR ONE OF THREE ROWS PER BORE.
3. ALL TYPE A LUMINAIRES ARE ENERGIZED BY EMERGENCY POWER.

EB ZONE THRESHOLD 1
DISTANCE 405
TYPE A 15
TYPE B 14
TYPE C 179

EB ZONE THRESHOLD 2
DISTANCE 131
TYPE A 4
TYPE B 5
TYPE C 42

PLAN

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Central 70

CENTRAL 70 COVER SYSTEMS GENERAL LAYOUT PLAN (1 OF 2)			
Designer: KMP	Structure Numbers	-	
Detailer: KMP		-	
Subset: COVER SYSTEMS	Subset Sheets: 29 of 33		

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19631
Sheet Number 79

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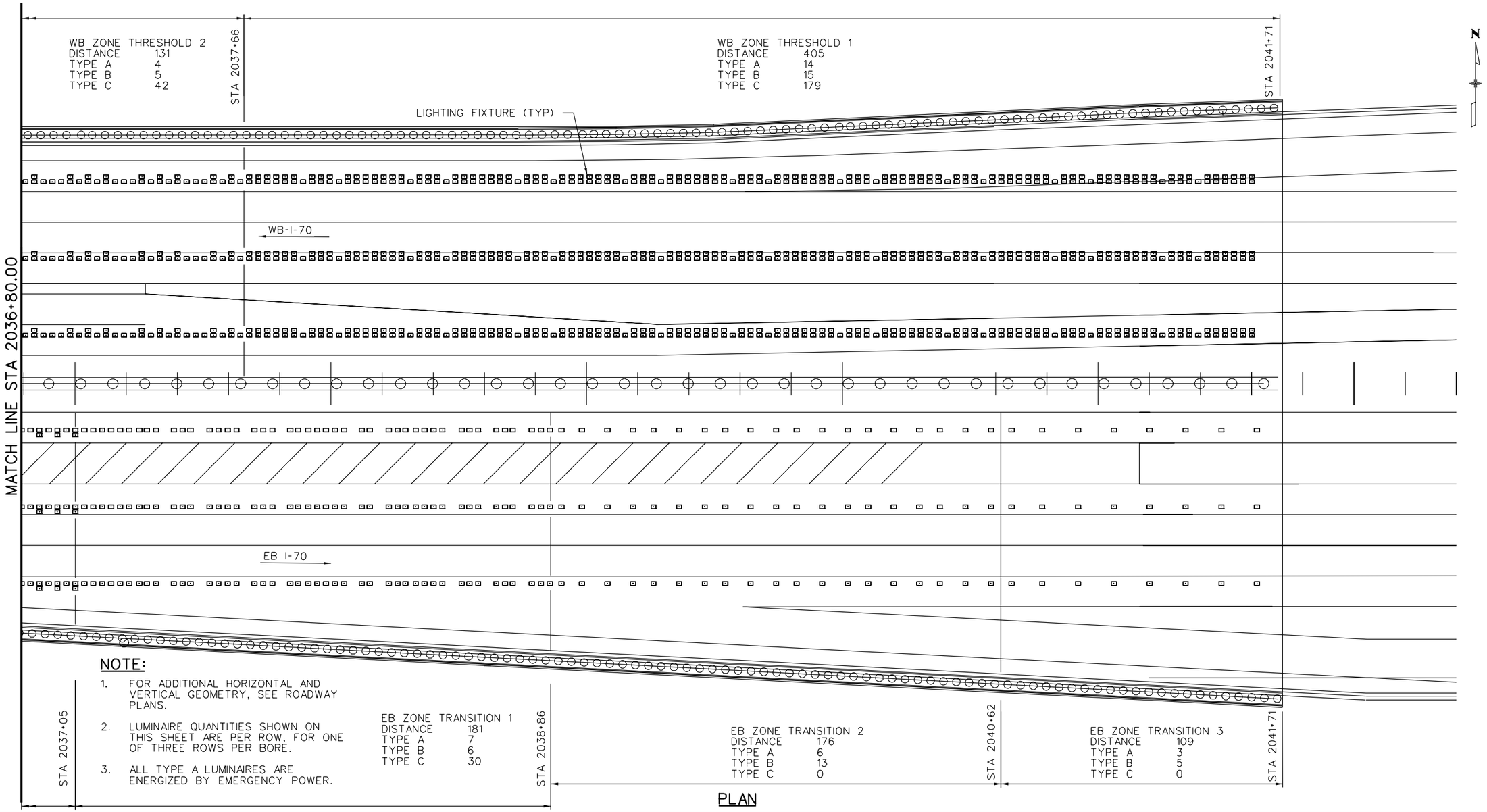

NOTE:

1. FOR ADDITIONAL HORIZONTAL AND VERTICAL GEOMETRY, SEE ROADWAY PLANS.
2. LUMINAIRE QUANTITIES SHOWN ON THIS SHEET ARE PER ROW, FOR ONE OF THREE ROWS PER BORE.
3. ALL TYPE A LUMINAIRES ARE ENERGIZED BY EMERGENCY POWER.

PLAN

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Central 70

CENTRAL 70 COVER SYSTEMS LIGHTING PLAN (2 OF 2)			Project No./Code
			FBR 0704-234
Designer: KMP	Structure Numbers	-	19631
Detailer: KMP		-	
Subset: COVER SYSTEMS	Subset Sheets: 30 of 33		Sheet Number 80

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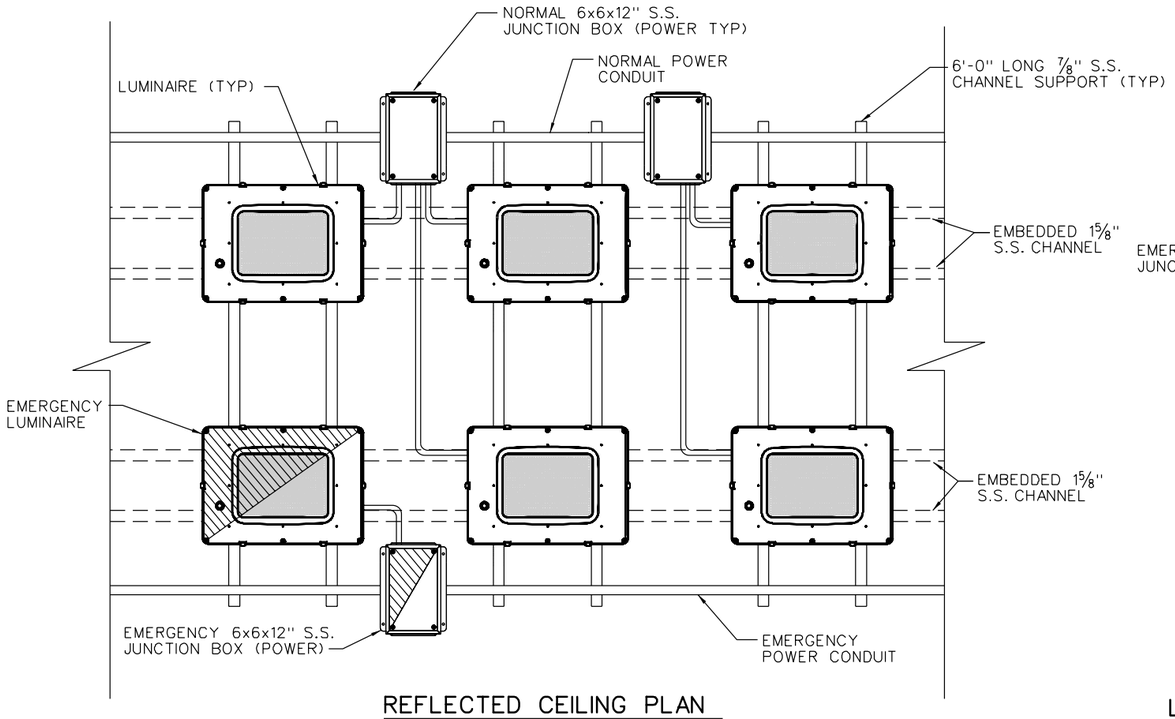
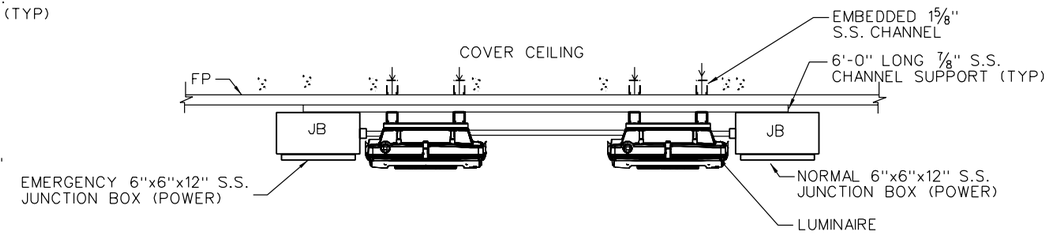
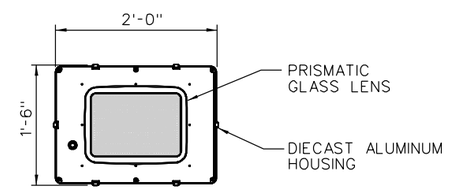


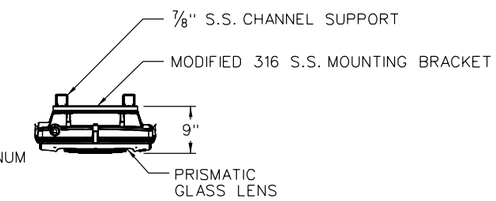
REFLECTED CEILING PLAN



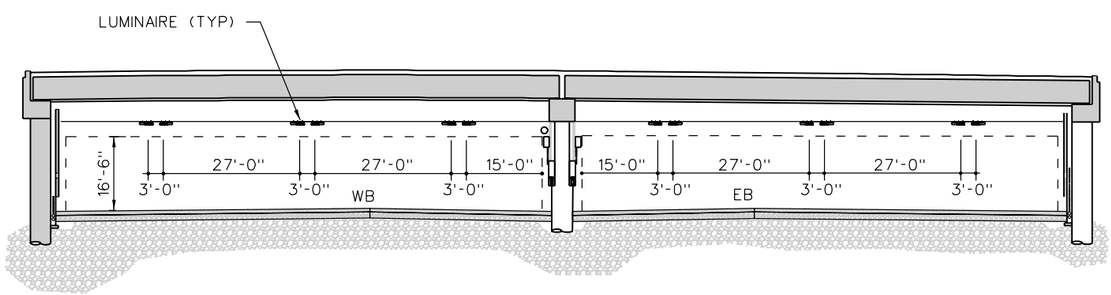
TRANSVERSE SECTION



LUMINAIRE FACE VIEW



LUMINAIRE SIDE VIEW



LUMINAIRE LOCATIONS
(TYPICAL CROSS SECTION)

LUMINAIRE SCHEDULE

TYPE	MFG	CAT*	MOUNTING	DISTRIBUTION	*LEDS	QTYS:	EB	WB	TOTAL
A	HOLOPHANE	TNLED 6 5K 1 AS CLN XX X	CEILING	LONG & NARROW	6		105	102	207
B	HOLOPHANE	TNLED 9 5K 1 AS CLN XX X	CEILING	LONG & NARROW	9		129	132	261
C	HOLOPHANE	TNLED 9 5K 1 AS CCB XX X	CEILING	COUNTERBEAM	9		753	753	1506

NOTES:

1. LUMINAIRE QUANTITIES SHOWN ON PLAN SHEETS ARE PER ROW, TOTAL QUANTITIES ARE SHOWN IN LUMINAIRE SCHEDULE.
2. ALL TYPE A LUMINAIRES ARE ENERGIZED BY EMERGENCY POWER.

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70
COVER SYSTEMS
LIGHTING DETAILS

Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset: COVER SYSTEMS		Subset Sheets:	31 of 33

Project No./Code
FBR 0704-234
19631
Sheet Number 81

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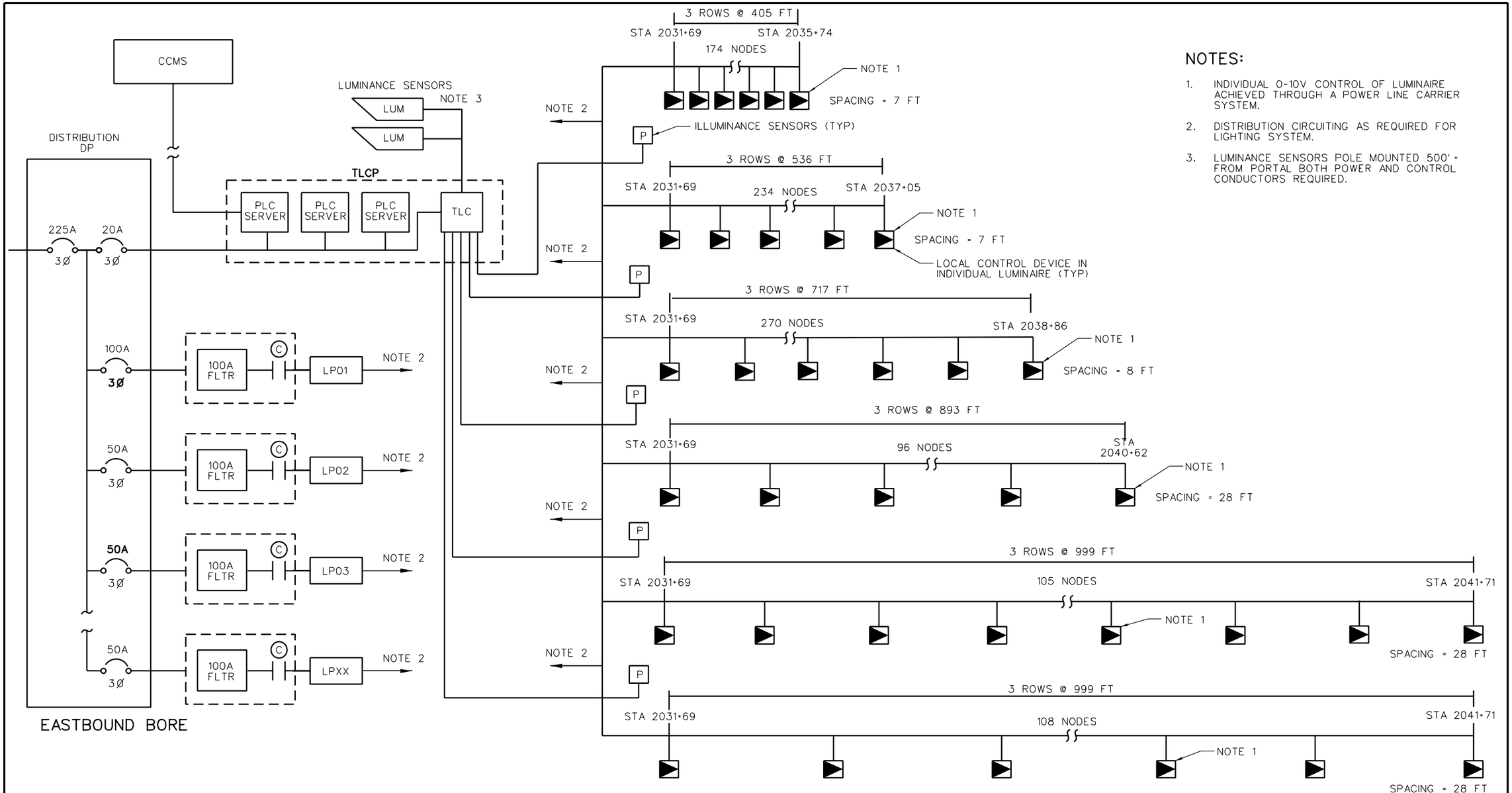

NOTES:

1. INDIVIDUAL 0-10V CONTROL OF LUMINAIRE ACHIEVED THROUGH A POWER LINE CARRIER SYSTEM.
2. DISTRIBUTION CIRCUITING AS REQUIRED FOR LIGHTING SYSTEM.
3. LUMINANCE SENSORS POLE MOUNTED 500' + FROM PORTAL BOTH POWER AND CONTROL CONDUCTORS REQUIRED.

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER SYSTEMS EB LIGHTING CONTROL SCHEMATIC				Project No./Code
				FBR 0704-234
Designer: KMP	Structure Numbers	-		19631
Detailer: KMP		-		
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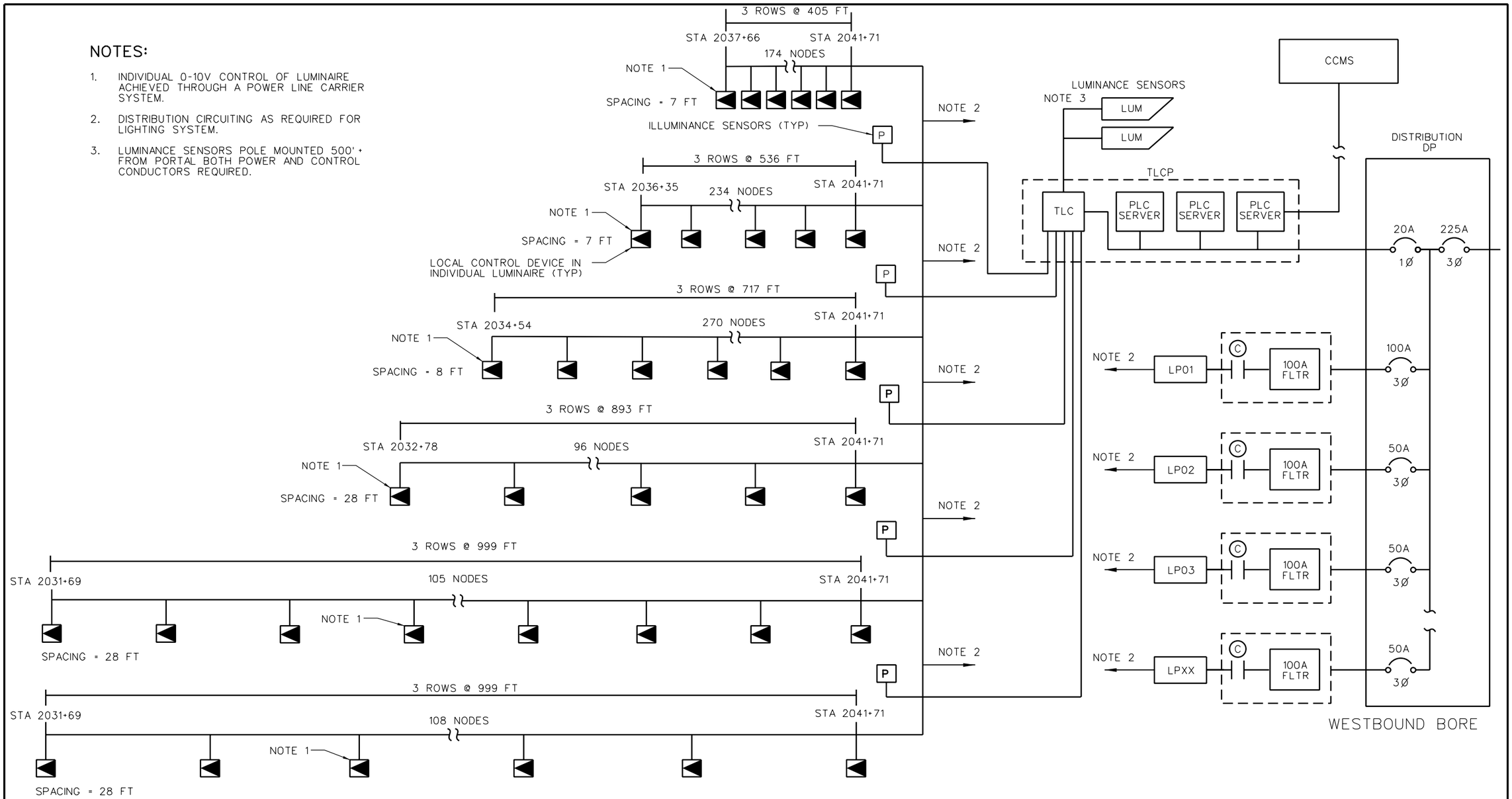
NOTES:

1. INDIVIDUAL 0-10V CONTROL OF LUMINAIRE ACHIEVED THROUGH A POWER LINE CARRIER SYSTEM.
2. DISTRIBUTION CIRCUITING AS REQUIRED FOR LIGHTING SYSTEM.
3. LUMINANCE SENSORS POLE MOUNTED 500'± FROM PORTAL BOTH POWER AND CONTROL CONDUCTORS REQUIRED.



Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 COVER SYSTEMS WB LIGHTING CONTROL SCHEMATIC				Project No./Code
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Detailer: KMP		-		
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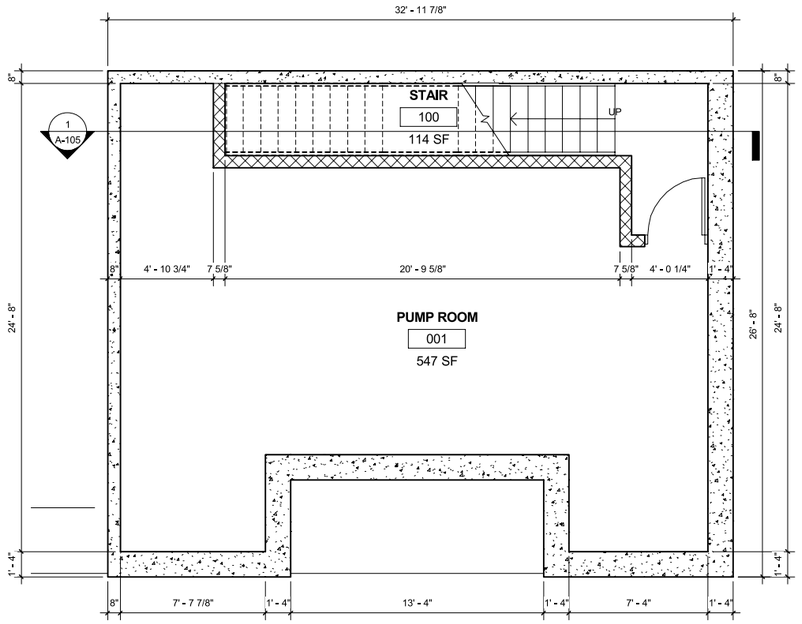
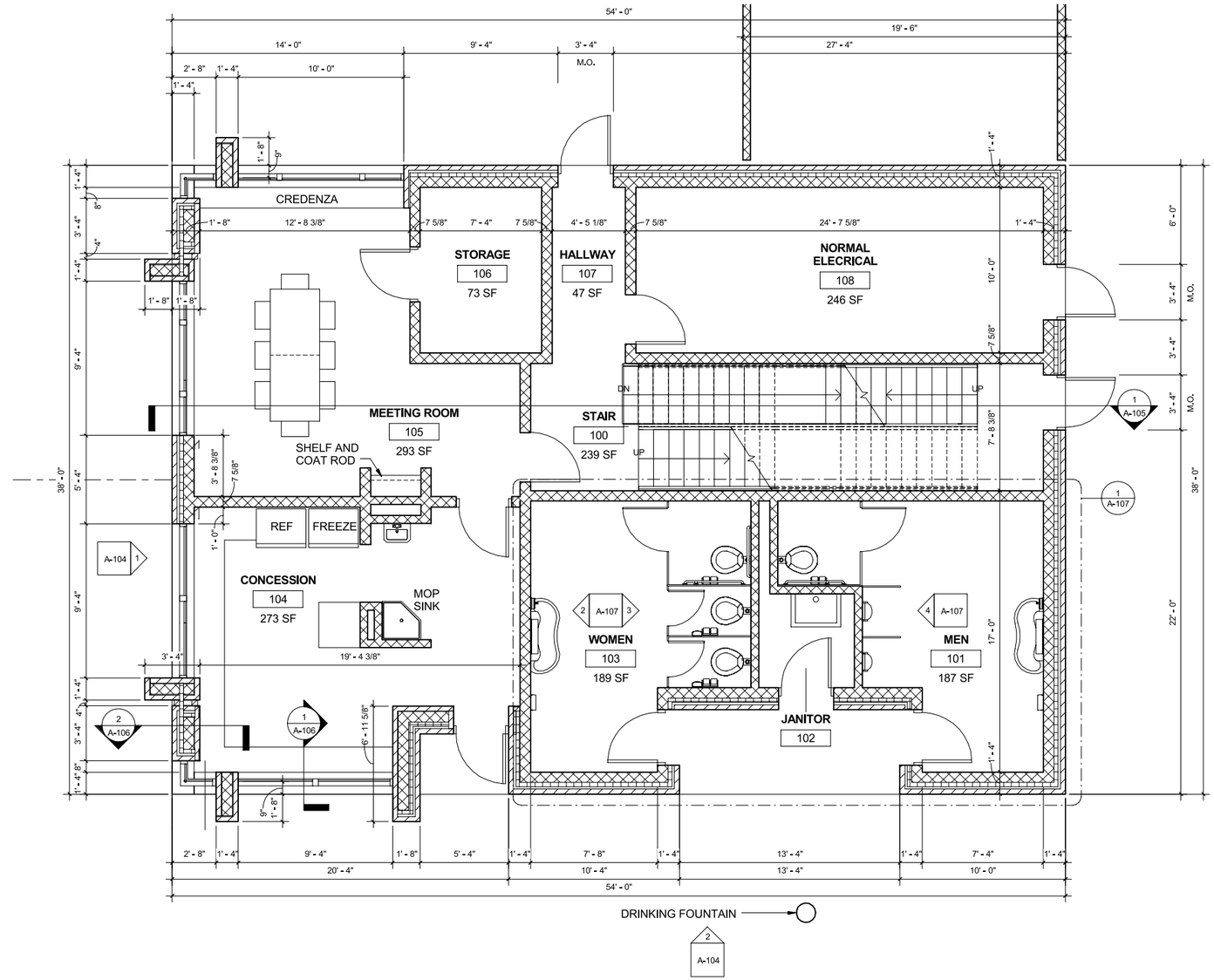


2 V2 BASEMENT
1/4" = 1'-0"



1 FIRST FLOOR PLAN
1/4" = 1'-0"

4' 2' 0' 4' 8'

Kiewit meridiam PARTNERS

Central 70

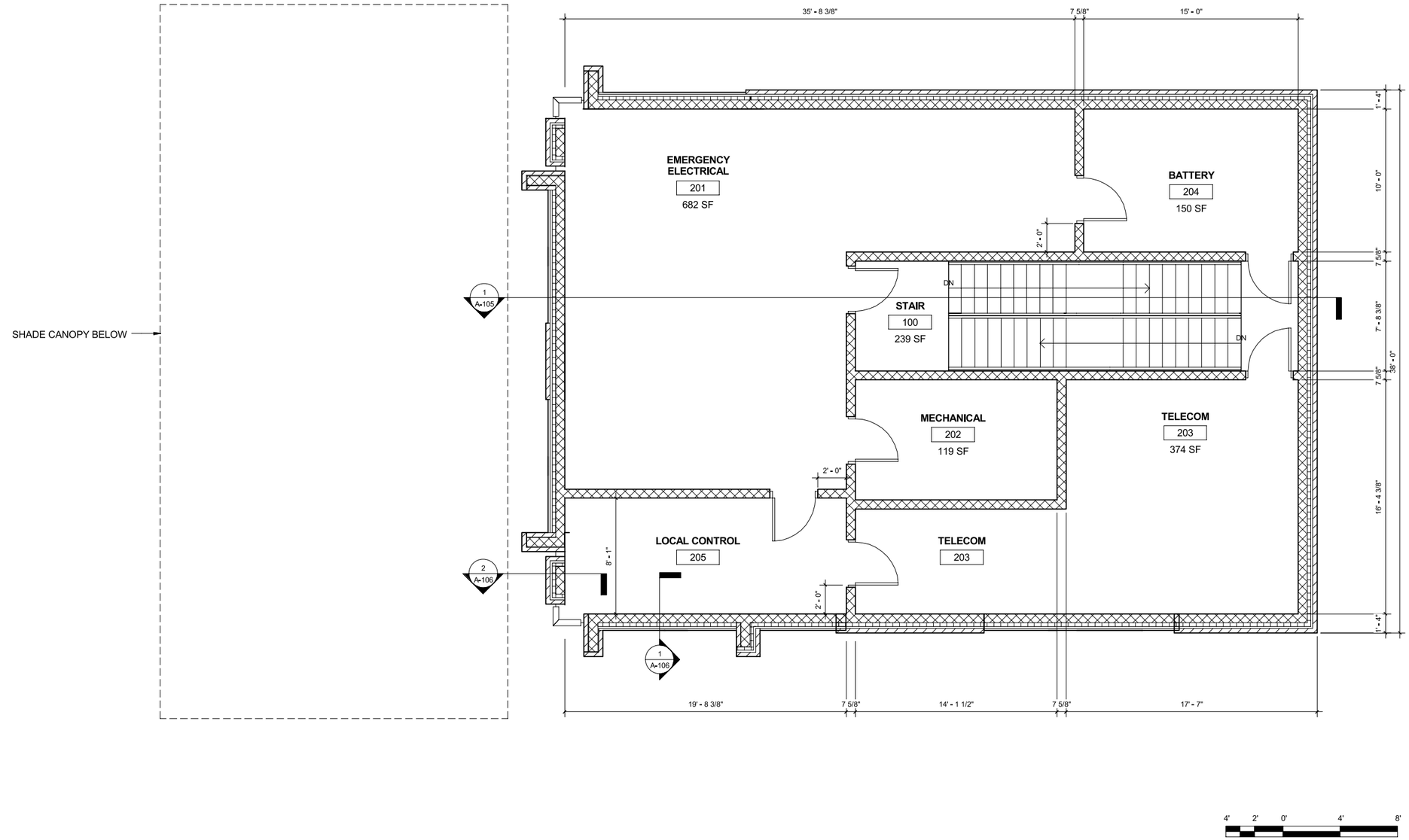
Designer:	KMP	Structure Numbers	-
Detailer:	KMP		-
Subset:	ARCHITECTURE	Subset Sheets:	1 of 7

Project No./Code

FBR 0704-234

19631

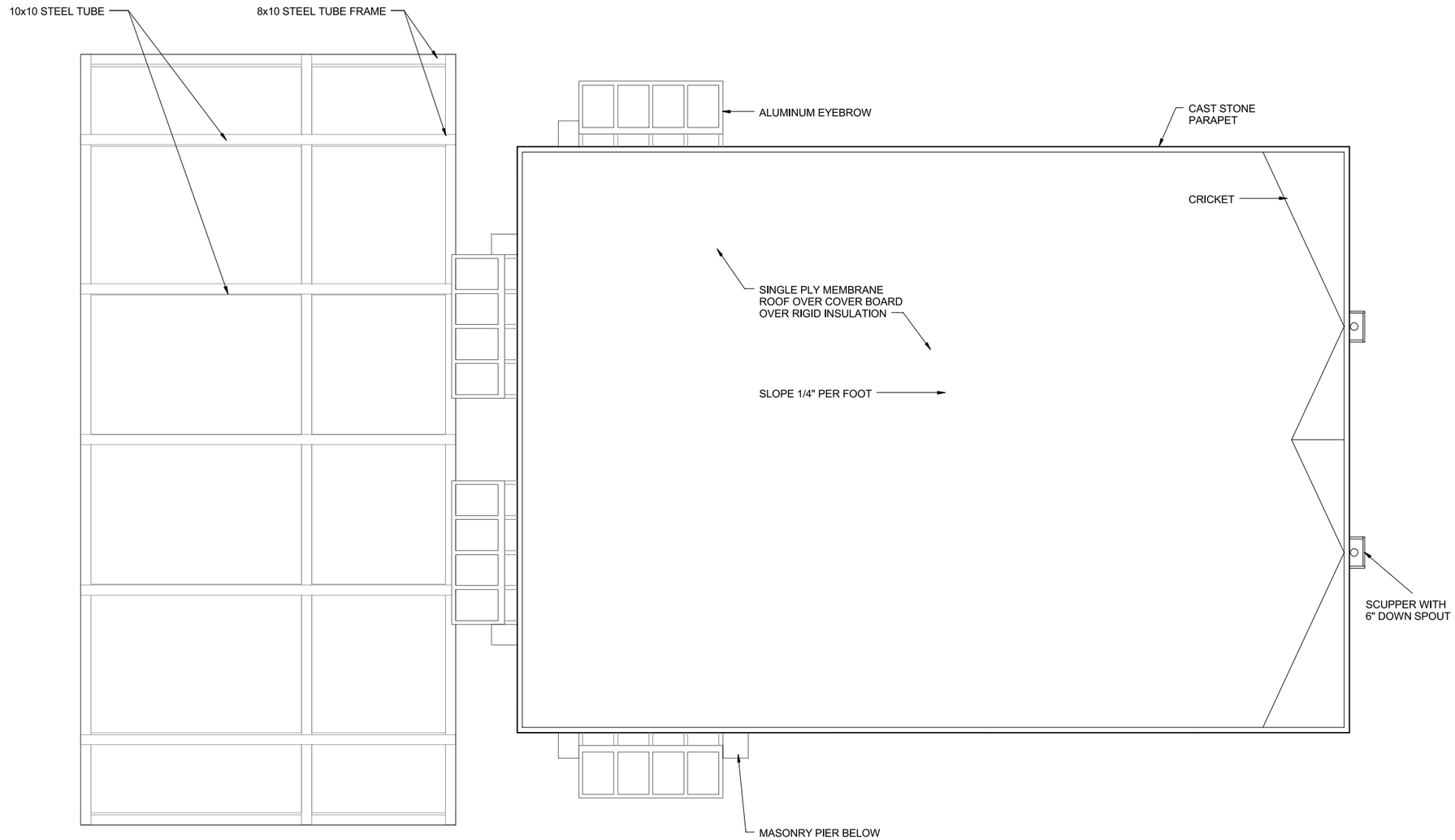
Sheet Number 84



Kiewit meridiam PARTNERS

Central 70

Designer:	KMP	Structure Numbers	-	Project No./Code
Detailer:	KMP		-	FBR 0704-234
Subset:	ARCHITECTURE	Subset Sheets:	2 of 7	19631
				Sheet Number 85



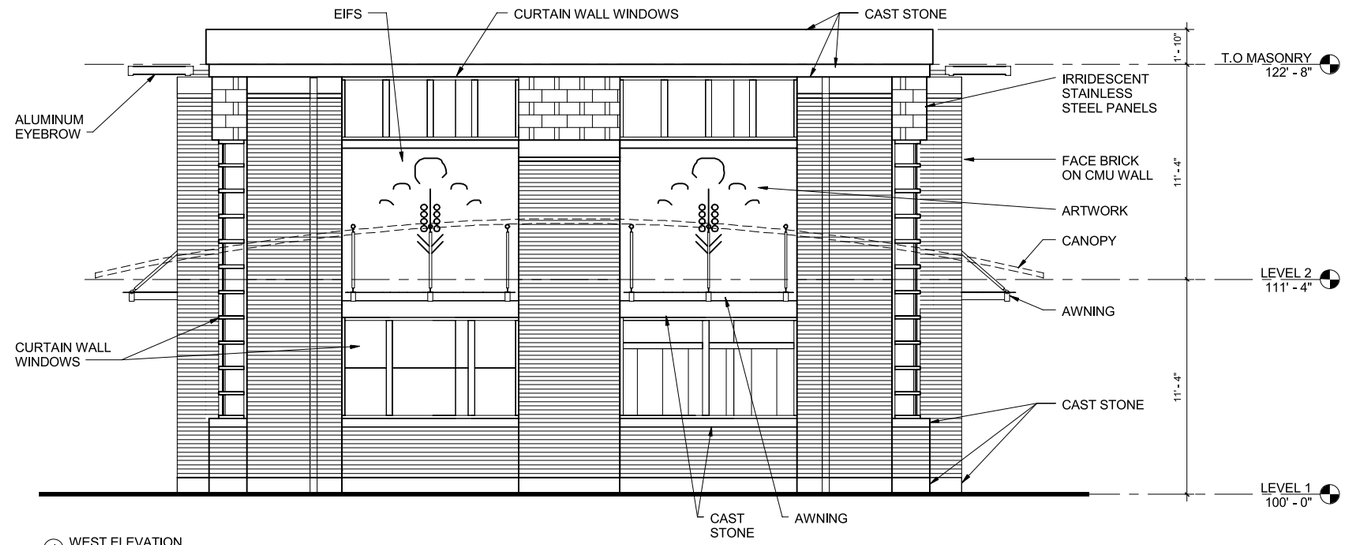
1 ROOF PLAN
1/4" = 1'-0"

4' 2' 0' 4' 8'

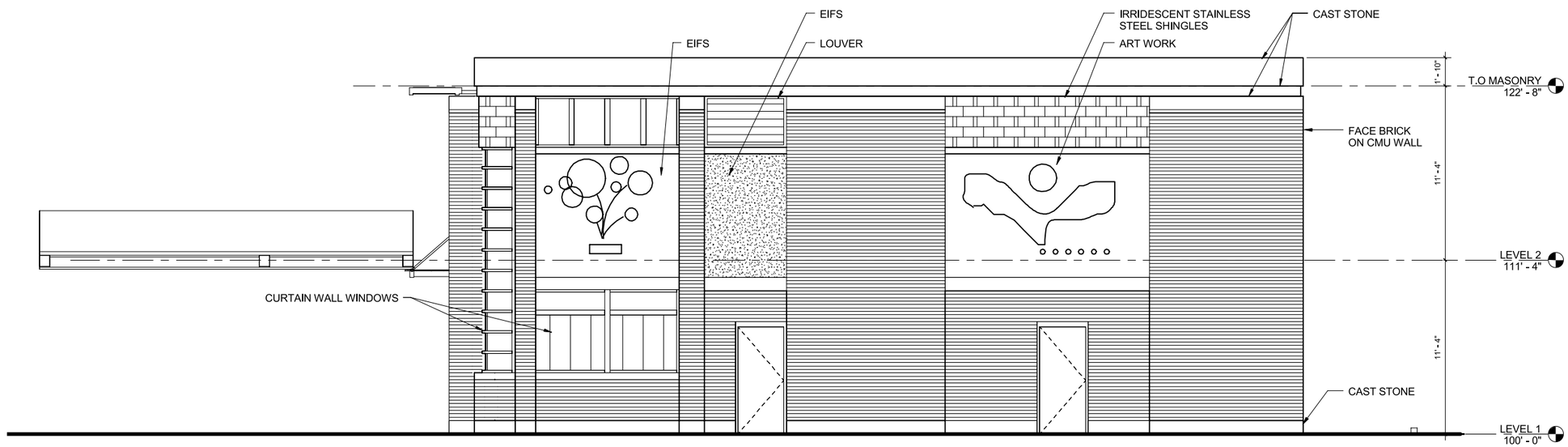
Kiewit meridiam PARTNERS

Central 70

Designer:	KMP	Structure Numbers	-	Project No./Code
Detailer:	KMP		-	FBR 0704-234
Subset:	ARCHITECTURE	Subset Sheets:	3 of 7	19631
				Sheet Number 86



1 WEST ELEVATION
1/4" = 1'-0"



2 SOUTH ELEVATION
1/4" = 1'-0"

4' 2' 0' 4' 8'

Kiewit meridiam PARTNERS

Central 70

Designer:	KMP	Structure Numbers	-	Project No./Code
Detailer:	KMP		-	FBR 0704-234
Subset:	ARCHITECTURE	Subset Sheets:	4 of 7	19631
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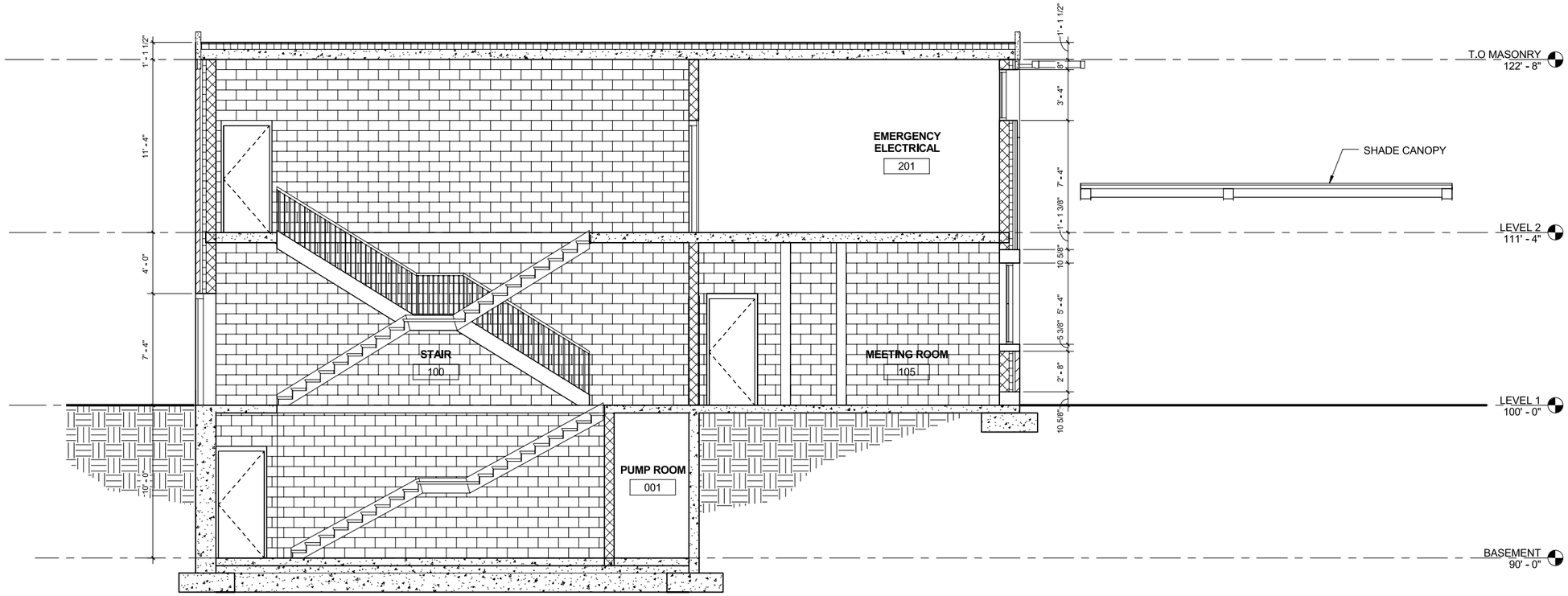

1 BUILDING SECTION 2
1/4" = 1'-0"

4' 2' 0' 4' 8'

Kiewit meridiam PARTNERS

Central 70

Designer:	KMP	Structure Numbers	-	Project No./Code
Detailer:	KMP		-	FBR 0704-234
Subset:	ARCHITECTURE	Subset Sheets:	5 of 7	19631
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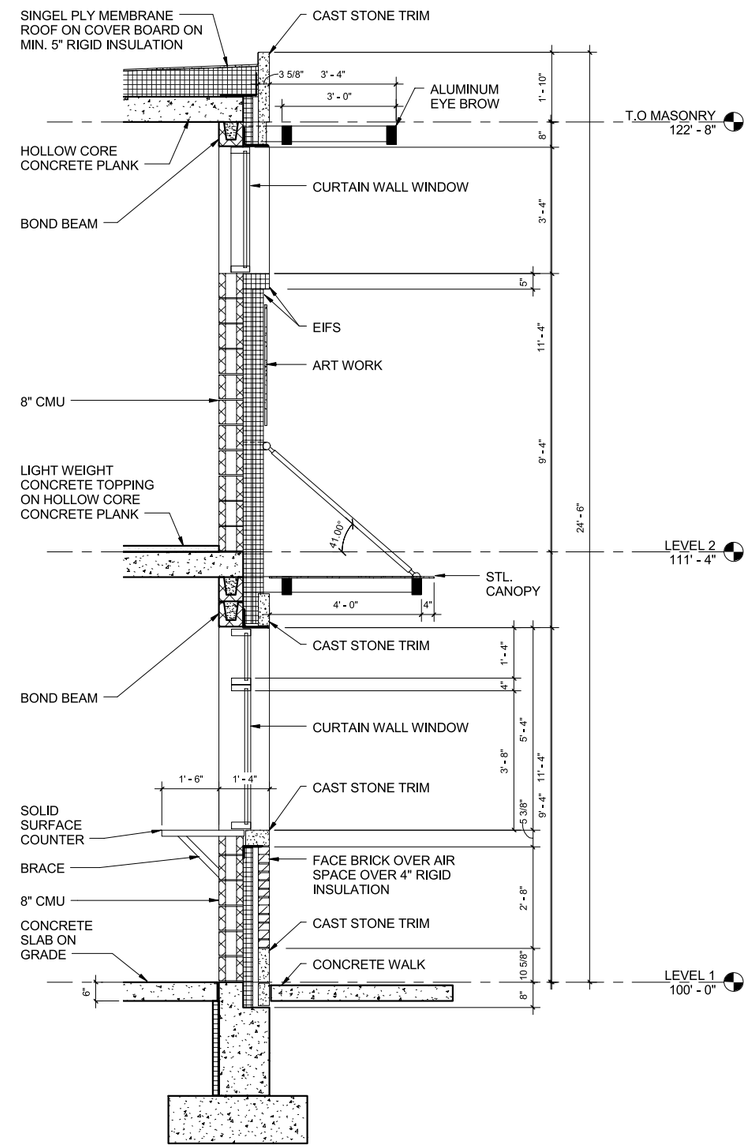
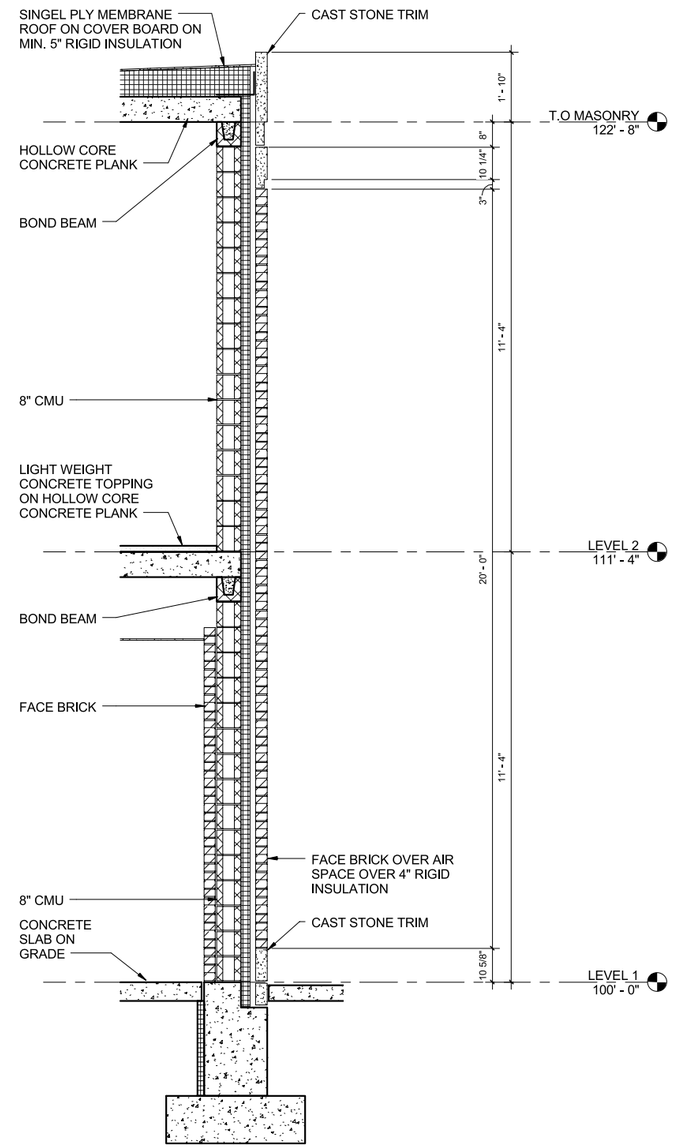


1 WALL SECTION
1/2" = 1'-0"



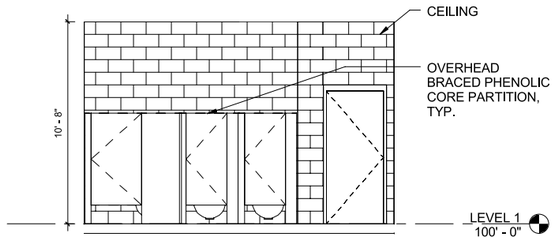
2 WALL SECTION
1/2" = 1'-0"

2' 1' 0' 2' 4'

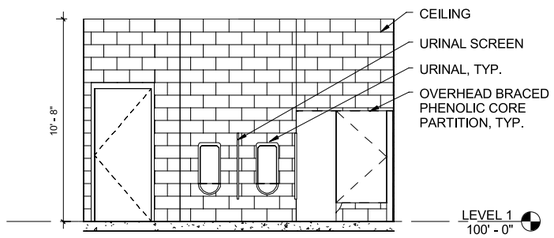
Kiewit meridiam PARTNERS

Central 70

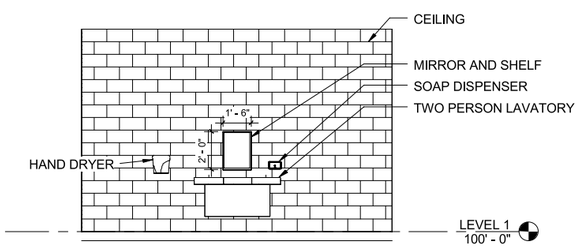
Designer: KMP	Structure Numbers	-	Project No./Code
			FBR 0704-234
Detailer: KMP		-	19631
Subset: ARCHITECTURE	Subset Sheets: 6 of 7		Sheet Number 89



3 WOMEN RESTROOM NORTH ELEVATION
1/4" = 1'-0"



4 MEN RESTROOM SOUTH ELEVATION
1/4" = 1'-0"



2 LAVATORY ELEVATION
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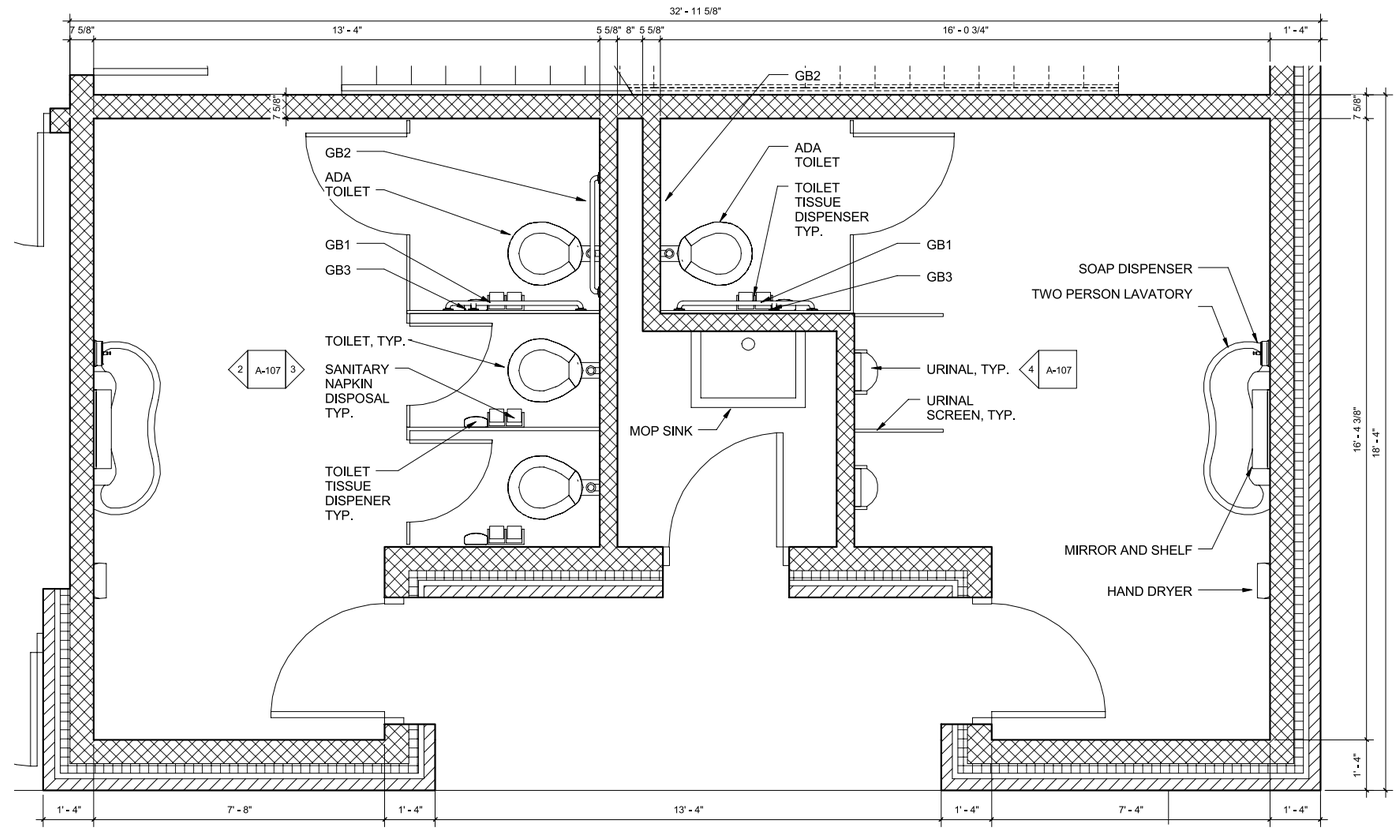

1 PLAN DETAIL
1/2" = 1'-0"

* CHECK MOUNTING HEIGHTS REQUIREMENT ON SHEET A-108

2' 1' 0' 2' 4' 4' 2' 0' 4' 8'

Kiewit meridiam PARTNERS

Central 70

Designer:	KMP	Structure Numbers	-	Project No./Code
Detailer:	KMP		-	FBR 0704-234
Subset:	ARCHITECTURE	Subset Sheets:	7 of 7	19631
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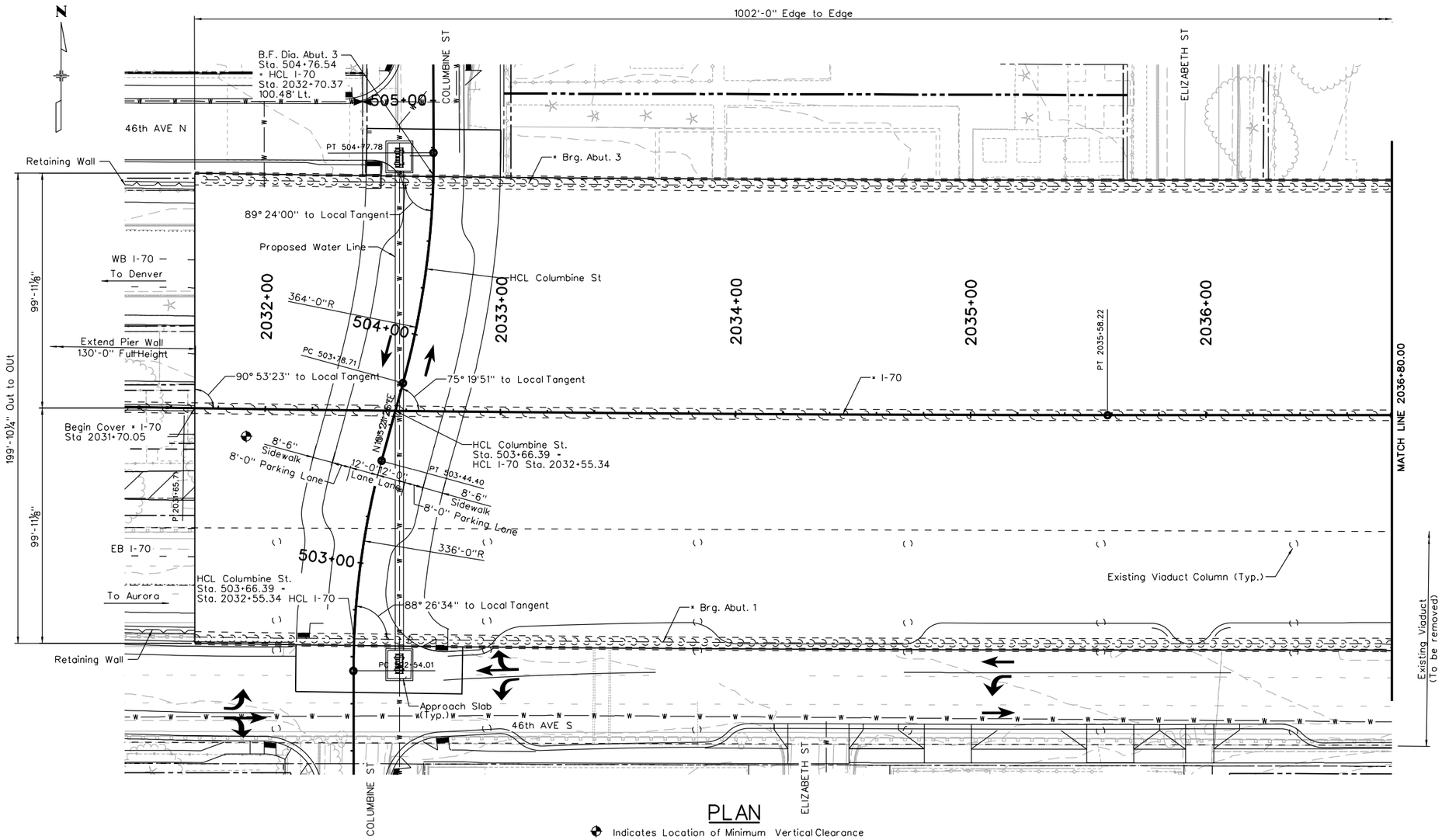

PLAN

Indicates Location of Minimum Vertical Clearance

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 I-70 PARTIAL COVER STRUCTURE GENERAL LAYOUT PLAN (1 OF 2)		Project No./Code
		FBR 0704-2
Designer: KMP	Structure Numbers E-17-AEL	19631
Detailer: KMP		
Sheet Subset: Bridge	Subset Sheets: 1 of 7	Sheet Number 91

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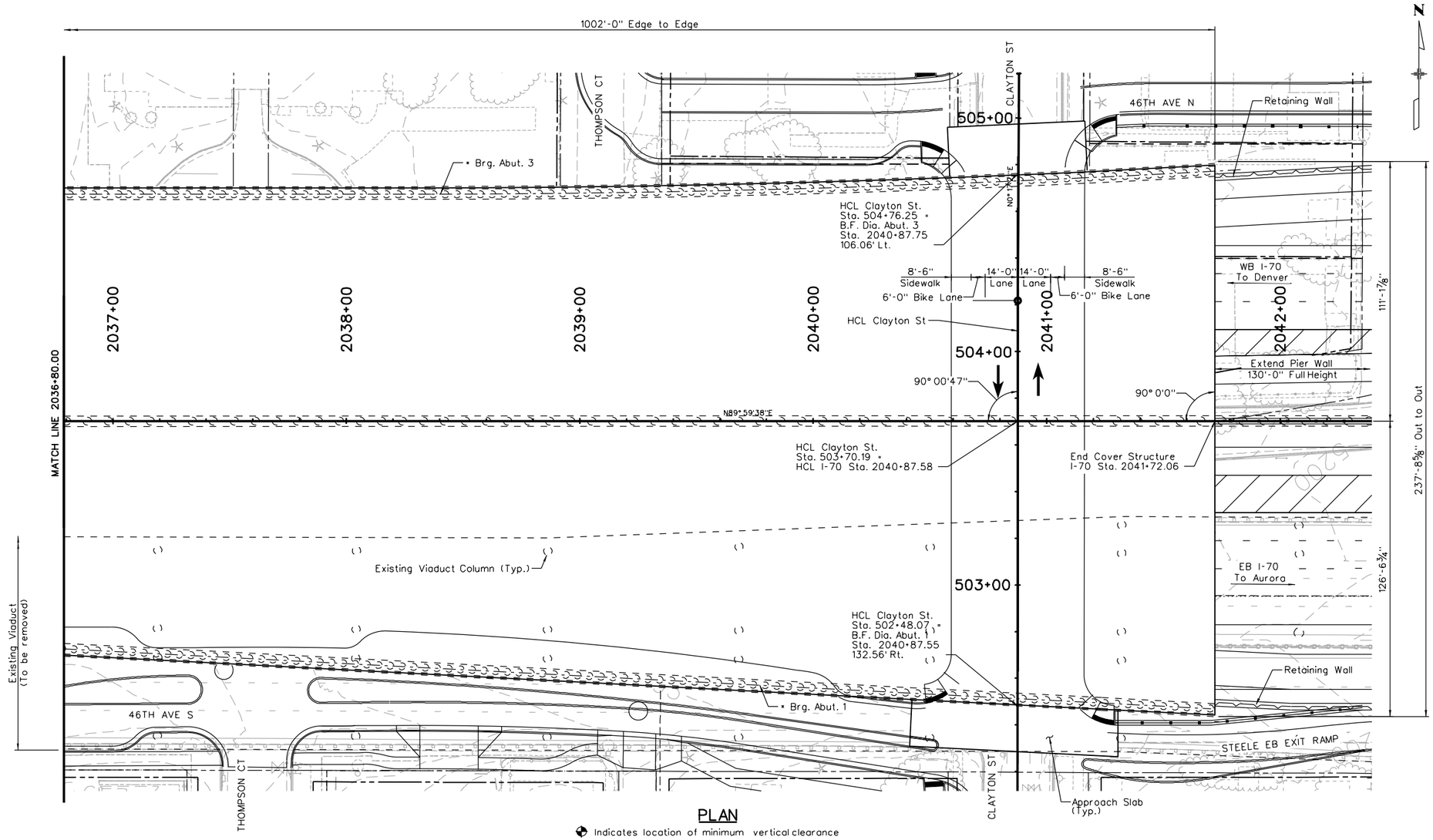
4/24/2017



PLAN

Indicates location of minimum vertical clearance

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 I-70 PARTIAL COVER STRUCTURE GENERAL LAYOUT PLAN (2 OF 2)			Project No./Code
			FBR 0704-2
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Detailer: KMP			
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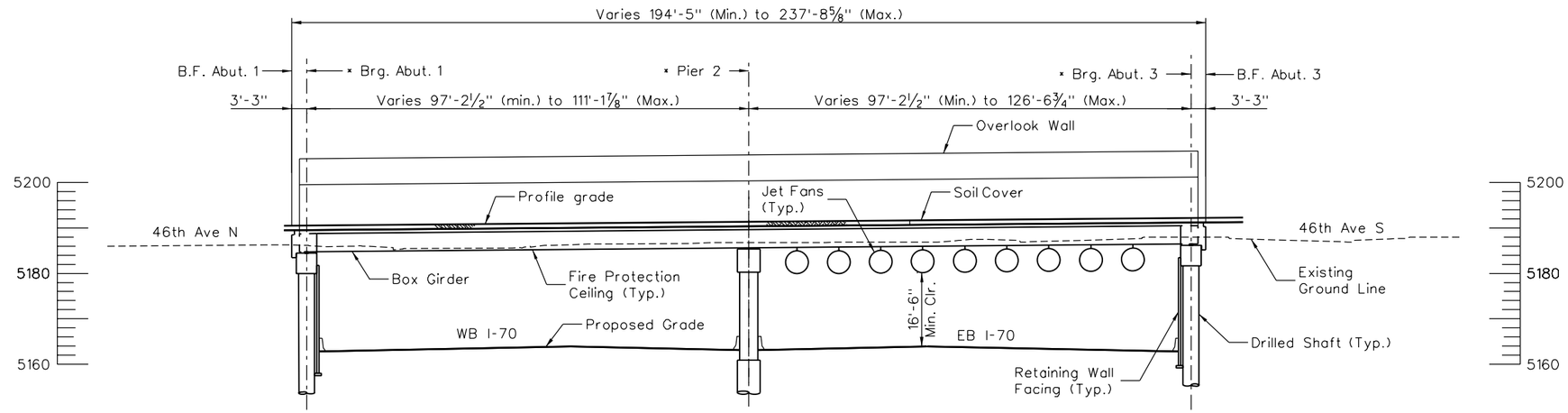
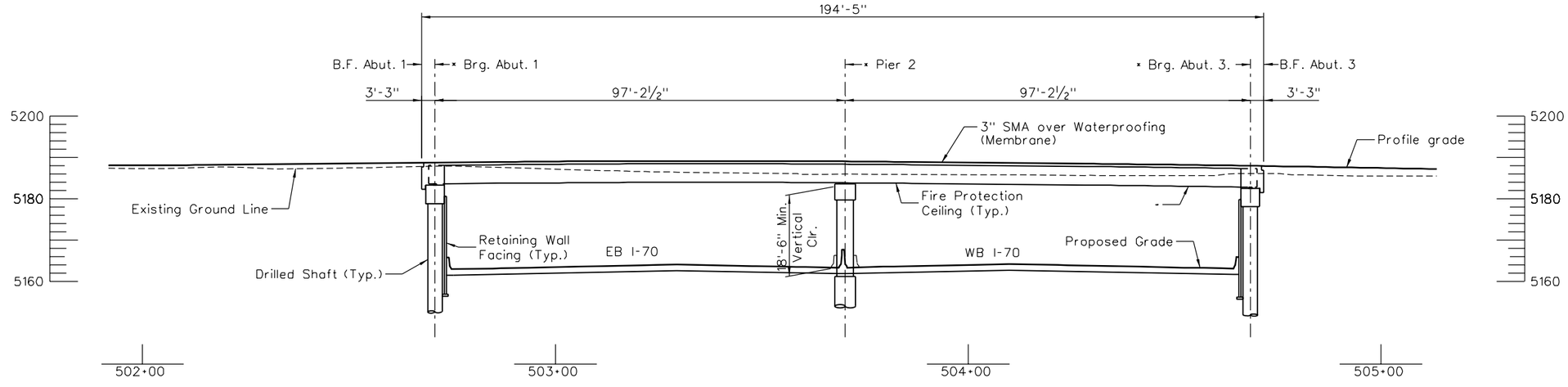


SECTION
(Looking Ahead Station I-70)



SECTION
(Taken along Columbine St. HCL)
(Looking Back Station I-70)

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 I-70 PARTIAL COVER STRUCTURE GENERAL LAYOUT PROFILE (1 OF 2)		Project No./Code
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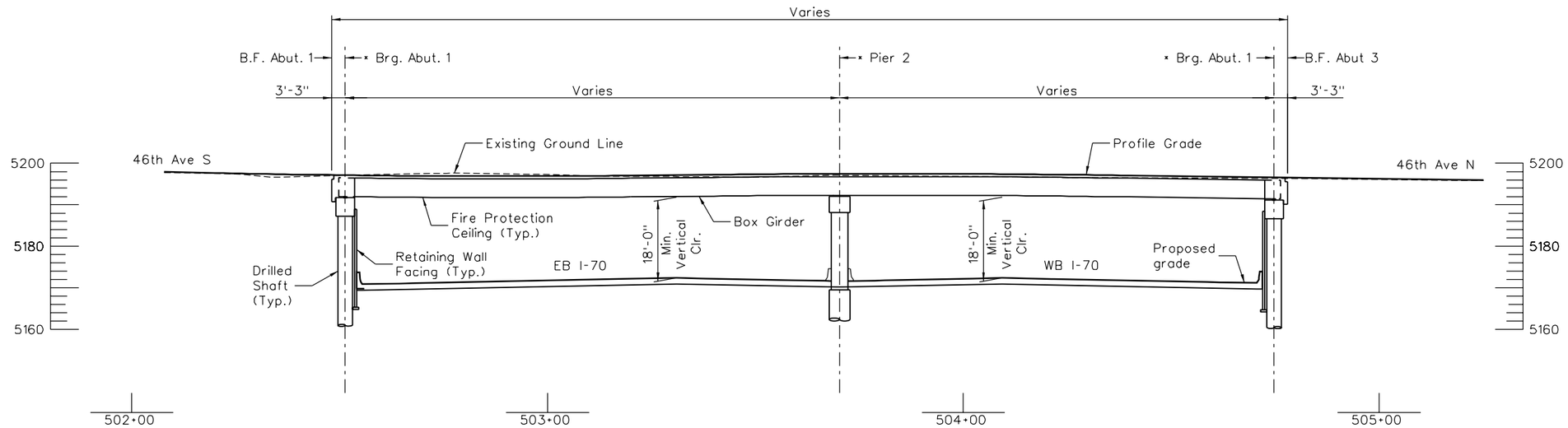

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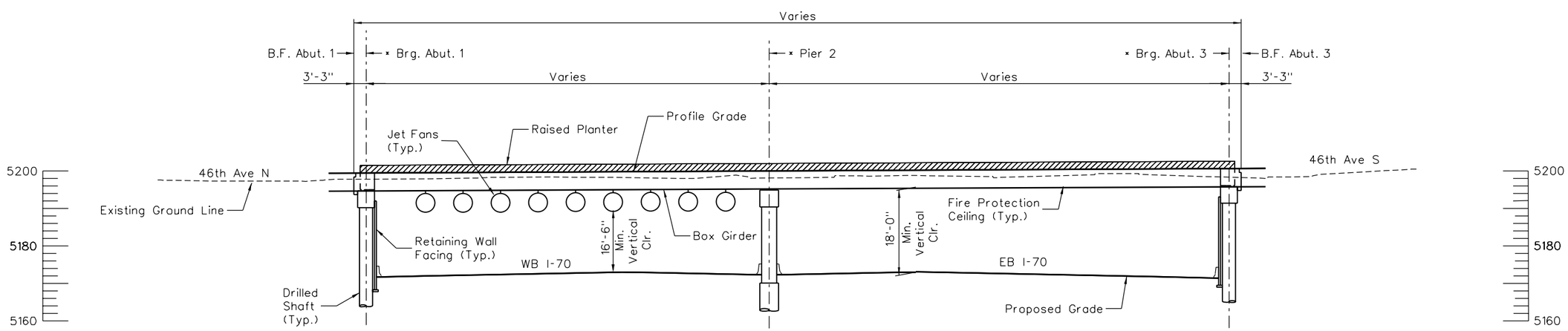
(Looking Back Station I-70)



SECTION

(Looking Ahead Station)

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 I-70 PARTIAL COVER STRUCTURE GENERAL LAYOUT PROFILE (2 OF 2)			Project No./Code
			FBR 0704-2
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Detailer: KMP			
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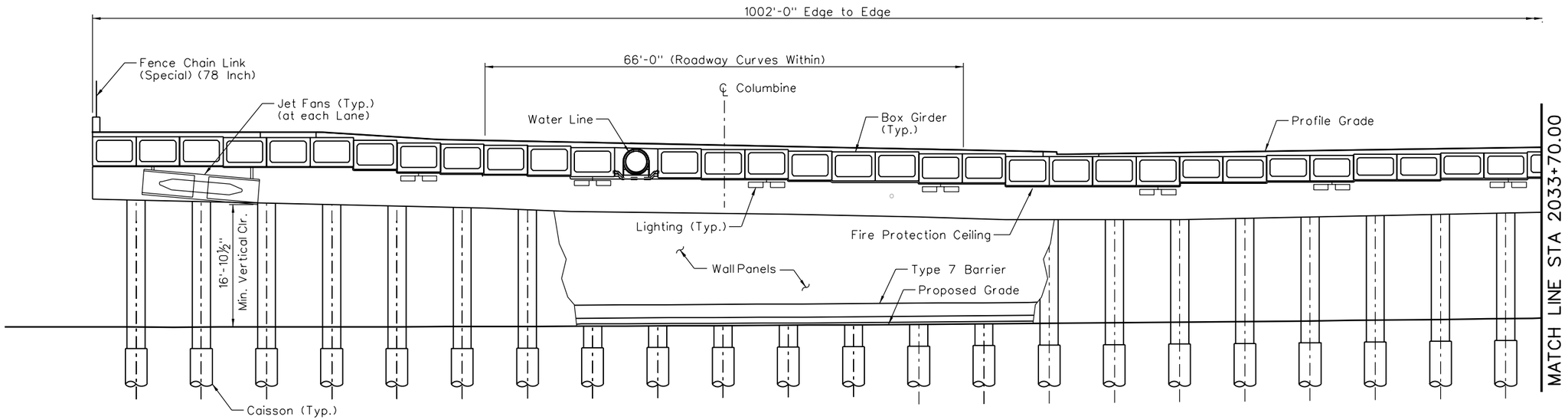

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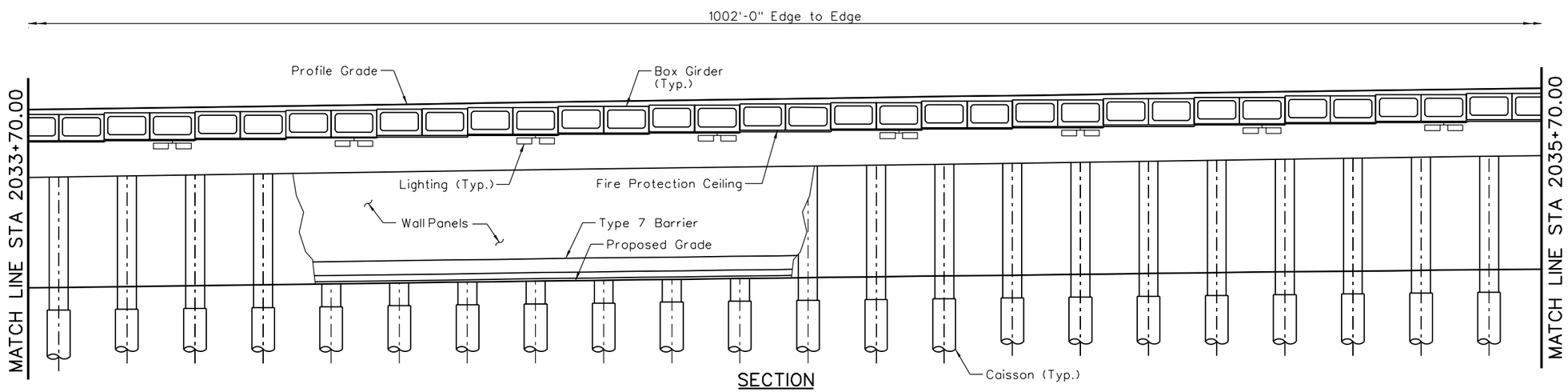

SECTION
(Taken along ⨯ I-70)

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 I-70 PARTIAL COVER STRUCTURE TYPICAL SECTION (1 OF 3)			Project No./Code
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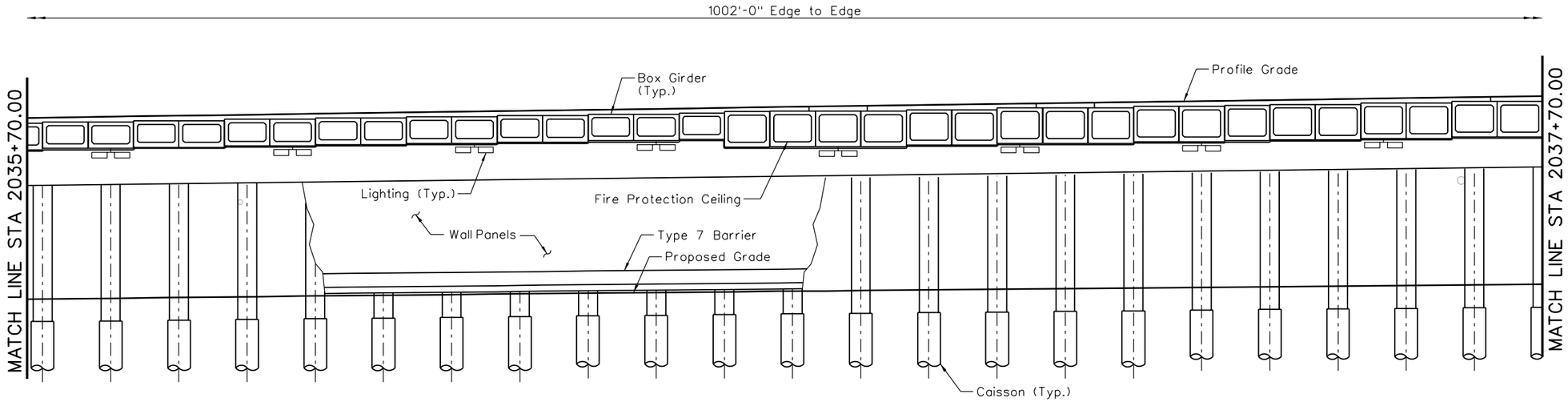

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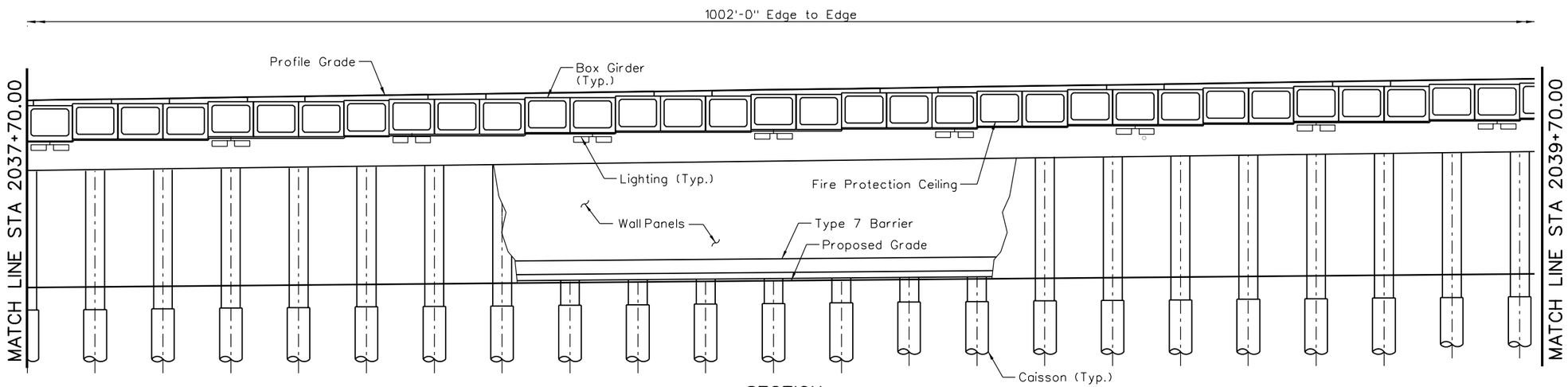

SECTION
(Taken along ≈ I-70)

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 I-70 PARTIAL COVER STRUCTURE TYPICAL SECTION (2 OF 3)			Project No./Code
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Detailer: KMP			
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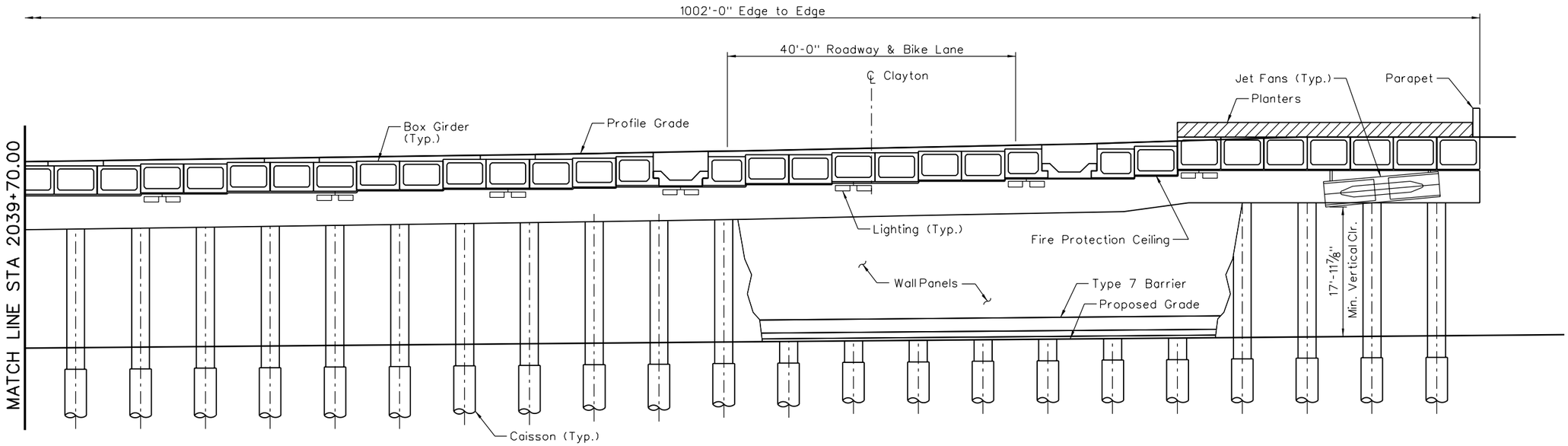
4/24/2017



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(Taken along × I-70)

Kiewit meridiam PARTNERS

Central 70

CENTRAL 70 I-70 PARTIAL COVER STRUCTURE TYPICAL SECTION (3 OF 3)			Project No./Code FBR 0704-2
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Detailer: KMP			
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4/24/2017

APPENDIX A

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Draft Remediation Activities Management Plan

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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APPENDIX A

Draft: May 18, 2017

PROJECT MANAGER DATE

ENVIRONMENTAL MANAGER DATE

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RECORD OF REVISIONS

Revision number	Date issued	Pages affected	Comments
0	5/18/2017	All	Proposal Draft Submittal

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2. Plan Administrator 1
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6. Description of Materials Handling and Spill Prevention 5

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1. Overview

Kiewit-Meridiam Partners' (KMP's) Draft Remediation Activities Management Plan (RAMP) guides the temporary treatment of water Onsite during the Construction Period for the Central 70 Project (Project). A final RAMP, including a detailed Site map, is submitted to the Department prior to NTP2. Importantly, KMP's Design does not require treatment of water Onsite during the Operating Period. This is because the final disposition of water, including considerations for typical fluctuations, is below our Design's pavement section.

To minimize the groundwater treatment associated with temporary dewatering, KMP uses groundwater cut-off walls. The cut-off walls are installed to bedrock, from west of the UPRR bridge to approximately Thompson Court, in two halves (westbound and eastbound) as the Lowered Section is excavated. Temporary dewatering is needed during and after installation of the cut-off walls, until the drainage construction is complete. This requires the use of a temporary treatment facility, outlined below, which is designed to treat all contaminants identified in the Ground Water Benchmark Concentrations.

2. Plan Administrator

The individual responsible for developing, implementing, maintaining, and revising the plan when necessary is Jenn Bradtmueller, Environmental Manager for the Central 70 Project. The RAMP is updated as needed, but annually at a minimum. The plan is kept Onsite at the treatment facility, as well as in the Project Office.

3. Facility Certified Operator

KMP provides a Class A Industrial Wastewater Operator and Certified Water Professional (CWP) for the water treatment facility. The qualifications of this individual are provided to the Department.

4. Site Map

A Site map is included in the final Remediation Activities Management Plan, submitted to the Department prior to NTP2. This map shows the following:

- The source of the dewatering excavations (the location where ground disturbing activities result in the uncovering of groundwater)
- Containment location of the groundwater
- Location of structural treatment practices, including tanks, filter systems, etc.
- Sampling locations
- Discharge point/outfall
- Identification of the conveyance into which the discharge point/outfall is directed

5. Description of Pollutant Control Practices

The sections below describe each step in the decontamination process. Each of these elements are shown on the Site map included with the final Remediation Activities Management Plan.

5.1 INTRODUCTION OF WATER

Groundwater to be treated prior to discharge is pumped to the treatment facility from the excavation. When the water enters the treatment system, it first passes through an influent flow meter. This not only tracks the number of gallons treated, but also serves as an important source of information to adjust the amount of chemicals needed throughout the system. Just past the influent flow meter, the water is dosed with its first chemical—sodium hydroxide (caustic). This chemical is stored in secondary containment and will be called out on the Site map) included in the final Remediation Activities Management Plan.

Sodium hydroxide raises the pH of the water to around 8.9-9.1, helping to bring manganese out of solution. After going through the flow meter and getting dosed with caustic, the groundwater passes through an aerator. This has two benefits. First, this starts the oxidation process of the water to help the dissolved metals come out of solution. Second, this burns off as much of the volatile organic compounds (VOCs) as possible via aeration.

5.2 TANK 1

After the aerator, the water enters the first weir tank of the system. This tank will be labeled on the site map included with the final Remediation Activities Management Plan. The first chamber of this weir tank is fitted with another bubbler/aerator unit. This again helps to oxidize the water, bringing dissolved metals out of solution, and aerates the water, removing some of the VOCs.

The second chamber of this tank is used to add ferric chloride, which is stored in secondary containment and will be shown on the site map included in the final Remediation Activities Management Plan. Ferric chloride is added as a coagulant to give the now suspended particles something to bind to. Ferric chloride was chosen over aluminum sulfate due to the ease of removing iron compared to aluminum, and the anticipated permit parameters.

The third and final chamber of this weir tank is for mixing, and it contains a pH monitor. An electric mixer is installed to ensure that all the ferric chloride and caustic come into contact with the heavily aerated water. This chamber of the tank also offers another caustic line, in case of higher influent flows, which require a second dose of caustic to raise the pH to 8.9-9.1. A pH probe hangs in the water, sending signals back to the chemical feed pumps for the caustic, and adjusting the amount of caustic added to keep the pH range where desired.

5.3 TANK 2

After leaving the third chamber of Tank 1, the water is fed by gravity into the first chamber of the second weir tank. This weir tank will be called out on the site map included in the final Remediation Activities Management Plan. This tank is primarily for mixing, and for creating particles that are more easily managed. Once the water has been aerated, dosed with caustic to raise the pH bringing the manganese out of solution, and dosed with ferric chloride as a coagulating agent, pin flock has been generated. This pin flock can be seen with the eye but is still too small to easily deal with.

The first chamber of Tank 2 simply has a mixer in it. The second chamber of Tank 2 is again used as a mixing chamber, allowing more contact time. The third and final chamber of Tank 2 is where the size of the pin flock becomes manageable via the addition of AP210 Flocculent, which is batched and stored in the same location as the caustic and ferric chloride.

5.4 TANK 3

After the addition of the AP210, the now heavily flocked water is gravity fed to the third tank in the treatment system, which is the clarifier tank. This tank will be labeled on the site map included in the final Remediation Activities Management Plan. This tank strips out much of the flock particles created in Tank 2. A polymer geo-grid media is installed throughout this tank, to which the particles cannot stick when settling out of solution. The water on the top of the clarifier tank flows into troughs which carry it to a small chamber at the end of the tank. The flock particles fall to the bottom of the “V” shaped tank. In the bottom of this trench is an auger system that takes the generated flock particles, now a sludge consistency, and pushes them to a cone bottom holding tank on the sludge trailer, discussed in Section 5.5.

Going back to the clean chamber of Tank 3, this water is sucked out of this chamber from the bottom by a 40 horsepower pump which pushes it towards and through the bag filters, carbon pods, pH adjustment pod, and resin pods, discussed in Sections 5.6 through 5.9 below.

5.5 SLUDGE TRAILER

The sludge trailer is a processing center for the flock particles created in Tanks 1 and 2, and stripped out by Tank 3. The sludge is pushed via auger into a cone bottom tank, allowed to settle, and the particle free water is then decanted off and put back into Tank 3. The sludge is pumped into a sludge press unit, where plates squeeze it together forcing the water out. When the plates open, sludge—now the consistency of molding putty—falls onto a conveyor system which moves it into a 20 cubic yard, lined, covered, roll-off dumpster which will be labeled on the site map included in the final Remediation Activities Management Plan. This dumpster is also the receptacle for the used bag filters. When the dumpster is full, a manifest is generated and the non-hazardous waste leaves the Site for proper disposal, accounting for 99% of all contaminants in the ground water. The water that leaves the clarifier Tank 3 and is processed through the rest of the system is free of most heavy metals. These metals, along with flocculent and coagulant, are what the sludge is comprised of.

5.6 FILTER HOUSINGS

When the water leaves the clarifier Tank 3, it is pushed through the bag filter housings by a pump. There are eight filter housings which each contain six filters. These 5-micron bag filters are used to capture the remnant flock particles which the clarifier cannot capture due to size of the particles. These are the particles that did not develop into manageable sized flock in the third chamber of Tank 2.

When the filters are spent, they are removed and replaced with new, fresh, clean filters, and the spent filters are disposed of in the same dumpster that collects the sludge from the sludge press..

5.7 CARBON UNITS

The groundwater that leaves the bag filters is virtually free of suspended solids. Only particles less than five microns in size pass through the bag filter housings. The water is then forced through the carbon pods, which are set in parallel. With the pushing power of the pump, the carbon acts to strip the ground water of all remaining VOCs, as well as tetrachloroethylene (PCE), and trichloroethylene (TCE). The carbon does have a useable life, but can be re-activated as needed when spent.

To manage potential increases in pressure that can be caused by small suspended particles resting on top of the carbon bed creating a plug, backwashing operations are conducted as needed. This lifts the carbon bed, and washes all the particles that are causing the pressure increase off the top of the carbon, and into two separate storage tanks (Tank 4 and Tank 5). These tanks will be labeled as “Tank 4” and “Tank 5” on the site map that will be included in the final Remediation Activities Management Plan. This water is allowed to settle and the particle free water is decanted off and pumped back into the head of Tank 1. The remaining sludge water is manifested as non-hazardous waste and trucked Offsite to the landfill for disposal.

5.8 PH ADJUSTMENT POD

After passing through the carbon pods, the water is pumped through a pH adjustment pod. Since the pH of the water was raised to 8.9-9.1 by the caustic earlier in the system, here it is lowered by sulfuric acid. In order to prevent the high pH water from destroying the resin in the next step in the process, and to restore the groundwater to within a comfortable level of the discharge limit, the water is lowered to a pH between 6.8 and 7.2. The sulfuric acid is stored in secondary containment on the sludge trailer, and is added via a quill on the influent side of the pH adjustment pod. The pod mixes the water via centripetal force as it goes in the bottom of the pod and out the top. Similar to the installation of the caustic, a pH probe is present here for close monitoring of the pH. The pH probe sends a signal back to the chemical feed pumps supplying the sulfuric acid. Once the pH is lowered to 6.8-7.2 the water leaves the pH adjustment pod.

5.9 RESIN UNITS

The water that leaves the pH adjustment pod is sent through a booster pump which pushes the groundwater through the resin pods and out the back end of the system to the discharge point or outfall. The need for resin in the system stems from the tight permit parameter for arsenic. The arsenic limits are so low, that without the use of resin the permit effluent limitation cannot be met. Aeration, pH adjustment, coagulation and flocculent addition, clarification, filtration via bag filter, and finally carbon cleansing will not strip the arsenic out of the water to the permit effluent limit. This is where the need for cationic resin derives.

The two resin pods are set up in series as opposed to parallel, like that of the carbon pods, for a couple of reasons. The main reason for having the resin pods in series is to ensure that breakthrough does not occur. Monitoring for the effluent permit limitations is done weekly, as directed by the permit. An arsenic sample is pulled between the lead and lag resin pod at this same sampling interval, which is used to closely monitor for breakthrough of the lead resin pod. In the event that the lead resin pod shows breakthrough, the lag resin pod is made the lead, while the spent resin is removed and sent off for acid wash re-charging. The now empty resin pod is refilled with new, fresh, clean resin, and becomes the lag pod. This is to ensure the cleanest resin is always acting as the protectant in the event of breakthrough from the lead tank. Essentially every time a breakthrough occurs, the lead and lag resin tanks reverse roles once the spent resin is removed.

5.10 OUTFALL

As the water leaves the resin pods, it passes through an effluent flow meter on its way to the discharge point/outfall. By comparing the influent and effluent flow meters, a balance within the system can be established so that the booster pumps do not cycle too frequently or not frequently enough. Under cycling leads to a high water level alarm within the treatment system, and a subsequent shut down of the dewatering pump. There is a sample grab port post resin from which weekly grab samples are pulled from. In the event that influent samples are desired, an influent sample port is available post influent flow meter, but pre caustic quill.

6. Description of Materials Handling and Spill Prevention

Chemical housing and storage are shown on the Site map to be included in the final Remediation Activities Management Plan. All chemicals are stored in secondary containment units. The chemical storage containers are protected from freezing with insulation or heat. When the chemical storage containers need to be moved, a certified fork operator is used to move/handle the chemicals that can be moved with a fork lift. Spotters are used to pick, transport, and set the chemicals in place so as not to damage or puncture the chemical drums or totes.

In the event of a release, spill kits and special chemical personal protective equipment (PPE) are available at the treatment facility site. No attempt to clean a spill will be made by anyone who is not a trained professional in chemical spill cleanup. Any and all spill debris, soils, used PPE, etc. are manifested and disposed of appropriately.

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APPENDIX A

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Government Approvals

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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2. Post Record of Decision Re-Evaluations 1
3. Design Exceptions 1
4. Interstate Access Request 2

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1. Overview

This portion of Appendix A addresses governmental approvals which may be needed relative to the Design. Three major types of approvals are covered: post Record of Decision (ROD) re-evaluations, approval of Design Exceptions, and approval of the Interstate Access Request (IAR).

The scheduling associated with the approvals is also discussed. In all cases, our early action on needed approvals ensures that the timing of approvals does not delay Construction.

2. Post Record of Decision Re-Evaluations

Post ROD re-evaluations are needed when a revision is made to the Design that was not evaluated in the Final Environmental Impact Statement (FEIS). These revisions may be a result of geometric changes, or a change in the potential impacts or mitigation strategies assumed in the FEIS and approved with the ROD.

On the Central 70 Project, KMP expects to perform a re-evaluation of noise and air quality impacts relative to the Lowered Section, resulting from our design innovation to raise the profile in the Lowered Section above the elevation of groundwater. During the proposal phase, we evaluated the noise and air quality changes relative to our revised Design, compared to the Reference Design. We found no change in the FEIS results relative to our Design change.

In Final Design, we anticipate the need to fully document our proposed profile changes and the effects relative to air and noise. We anticipate this documentation will take approximately three months to develop, and six months to approve. Re-evaluation can begin upon notice of award, with any required field work performed following NTP1. The Schedule allows for approval in advance of the start of Construction in the Lowered Section.

No other post ROD re-evaluations are expected.

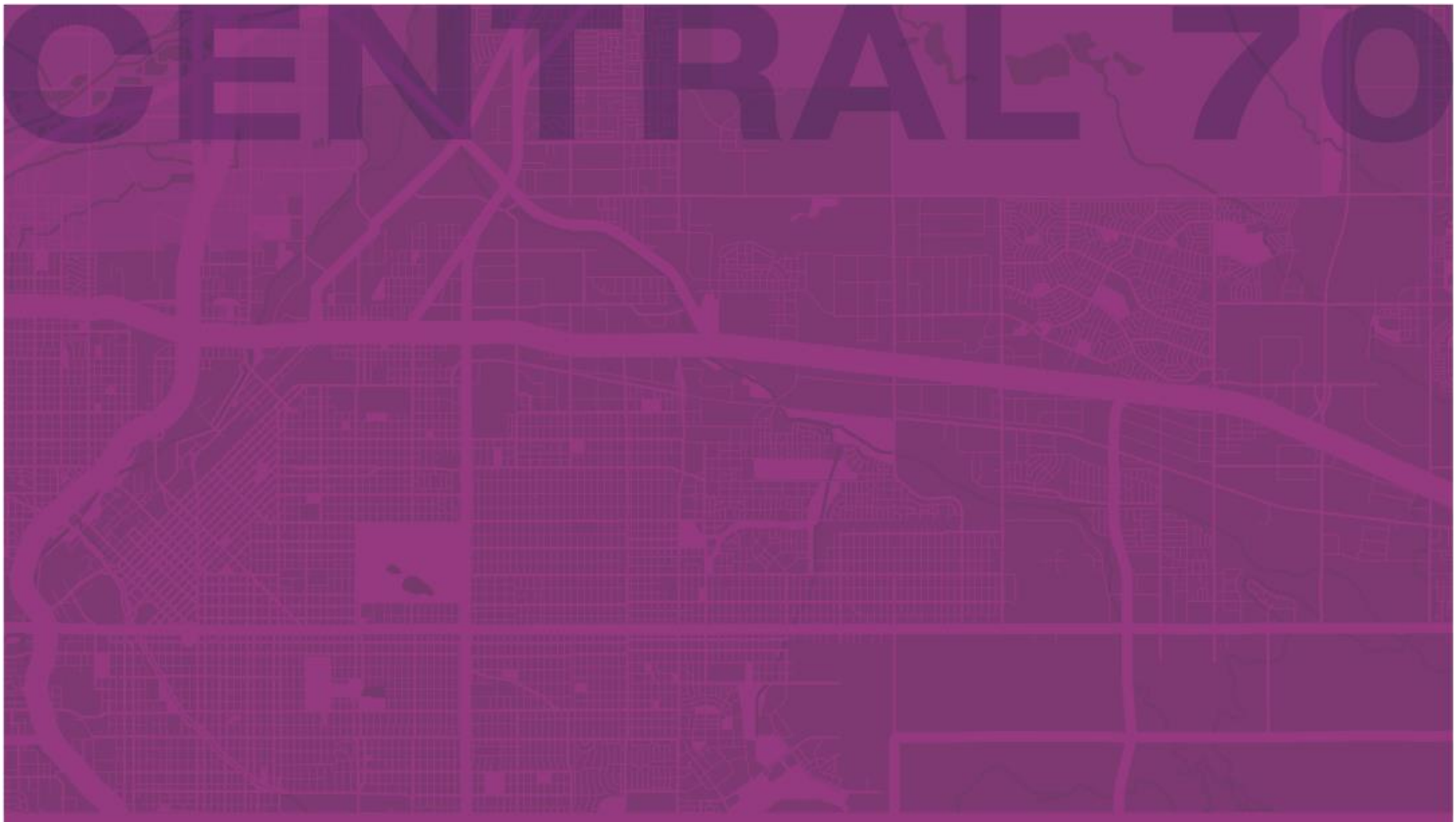
3. Design Exceptions

KMP does not anticipate the need for any new Design Exceptions, other than those already approved by the Federal Highway Administration (FHWA) and listed in the Project Agreement. We do acknowledge that the outside shoulder width on eastbound I-70 on the Sand Creek bridge does not meet the minimum shoulder width requirements, which may require an Exception. In addition, the horizontal curvature of Brighton Boulevard south of I-70 does not meet requirements, however, it matches the existing conditions at this location, and the Project Agreement notes that a Design variance is not required for this location.

If a Design Exception is needed, the process to approve a Design Exception can take several months. KMP therefore conducts a geometric review with the Department at an early Roadway Task Force Meeting to review the alignments, profiles, and typical sections relative to required criteria. This early review confirms our belief that no additional Design Exceptions are needed; however, if any exceptions are identified, there is sufficient time to gain approval without impacting the Construction Schedule.

4. Interstate Access Request

Although KMP's Design does not add or remove any access points on I-70, we anticipate needing to complete an IAR for approval by the Department and FHWA. While there are no changes to the number of ramp lanes or access to connecting roadways, KMP's Design includes slight adjustments to ramp entrance and exit locations. IAR approval includes preliminary roadway, signing, and pavement marking plans. It is expected that IAR approval can be obtained prior to the issuance of Release for Construction plans.



APPENDIX B

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Draft Project Management Plan

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

SIGNATURE PAGE: APPENDIX B

PROJECT MANAGER DATE

DESIGN-BUILD MANAGER DATE

OPERATING MANAGER DATE

CONSTRUCTION MANAGER DATE

DESIGN MANAGER DATE

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RECORD OF REVISIONS

Revision number	Date issued	Pages affected	Comments
0	5/18/2017	All	Proposal Draft Submittal

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ATTACHMENTS

- **Attachment 1:** Safety Management Plan for the Construction Period
- **Attachment 2:** Deliverables Requirements Tracking List (DRTL)
- **Attachment 3:** Key Personnel Resumes
- **Attachment 4:** Critical Staff Bios
- **Attachment 5:** Project Directory

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EVALUATION CRITERIA: APPENDIX B, VOLUME 2

KMP has provided a full Evaluation Criteria Matrix to align the requirements of the Project Management Plan (PMP) per the Project Agreement with the sections of this plan.

Sch. 8 Section	Item	PMP Section	Section Name	Check
	PMP shall provide clear detail of the Developer's overall approach to:			
	• Team Organization	3.0	KMP Project Management	☐
	• Structure	3.0	KMP Project Management	☐
	• Management Processes	5.0	Management Processes	☐
	Shall describe:			
2.1.1	• Scope	2.1	Scope	☐
		1.3	Overview	
	• Goals	2.2	Project Goals	☐
	• Objectives	2.3	Project Objectives and Intended Results	☐
	Shall identify by signature page and date the title of the qualified professionals who are responsible for planning, reviewing, approving, reporting, monitoring, controlling, implementing, revising, and issuing the PMP, including revisions.		Signature Page - page i	☐
			Record of Revisions table - page ii	☐
2.1.1.a	An organizational chart and description, indicating the Developer's overall team structure including all Key Personnel, management staff and their reporting relationships for all Work	4.1	KMP's Overall Structure	☐
2.1.1.b	A design organizational chart and description, indicating the roles, responsibilities and structure of the Developer's design staff, down to and including discipline leads and the staff positions proposed in each discipline	4.2	Lead Engineer: Parsons Brinckerhoff (PB)	☐
		4.2.2	Design Organizational Chart	☐
		4.2.3	Design Personnel Roles and Responsibilities	☐
2.1.1.c	A construction organizational chart and description, indicating the roles, responsibilities and structure of the Developer's construction staff, down to and including field superintendents and the staff positions proposed under each field superintendent for the Work for all shifts	4.3	Lead Contractor: Kiewit Infrastructure Co. (KIC)	☐
		4.3.2	KIC Construction Organizational Chart	☐
		4.3.4	KIC Administrative Organizational Chart	☐
		4.3.3	KIC Construction Personnel Roles and Responsibilities	☐

Sch. 8 Section	Item	PMP Section	Section Name	Check
		4.3.5	KIC Administrative Personnel Roles and Responsibilities	☐
2.1.1.d	A quality management organizational chart and description, indicating the roles, responsibilities and structure of the respective quality management, Process Control and IQC staff (Developer and IQCF), down to and including field inspection, and testing for the Work for all shifts	4.4	Quality Management	☐
		4.4.2	Quality Organizational Chart	☐
		4.4.3	Quality Personnel Roles and Responsibilities	☐
2.1.1.e	An Operations and Maintenance (O&M) organizational chart, and description, indicating the roles, responsibilities and structure of the O&M staff, both during the Construction Period and the Operating Period, down to and including the roadway, drainage, bridge, tolling systems and Intelligent Transportation Systems (ITS) discipline leads for any O&M related Work	4.5	Operations and Maintenance (O&M)	☐
2.1.1.f	A design management process, including a description of how design personnel will interface with the Department, construction, quality management and O&M organizations, in accordance with the Schedule 8, Quality Management Plan requirements	5.2	PB Design Management	☐
		5.2.3	Design Interface	☐
2.1.1.g	A construction management process, including the independence of Process Control (PC) personnel and activities from IQC personnel and activities, interface with the IQC and roles and responsibilities for approvals, Developer's coordination plan, the Developer's management approach, the construction management structure, identification of advanced Work, detailed delineation of work zones with identification of design and construction packages, and summary of major Project phases	5.3	Construction Management Process	☐
		5.3.8	Independence of PC and IQC	☐
		5.3.4	Interface between IQC and Construction	☐
		5.3.3	Kiewit's Coordination Plan	☐
		5.3.1	KMP's Management Approach	☐
		5.3.2	Kiewit's Construction Management Approach and Structure	☐
		5.3.5	Work Planning	☐
		5.3.6	Delineation of Work Zones	☐
		5.3.7	Project Construction Phases	☐
2.1.1.g	**A construction management process, including:**	5.3	Construction Management Process	☐
	• the independence of Process Control (PC) personnel and activities from IQC personnel and activities,	5.3.8	Independence of PC and IQC	☐

Sch. 8 Section	Item	PMP Section	Section Name	Check
	• interface with the IQC and roles and responsibilities for approvals,	5.3.4	Interface between IQC and Construction	☐
	• Developer's coordination plan,	5.3.3	Kiewit's Coordination Plan	☐
	• the Developer's management approach,	5.3.1	KMP's Management Approach	☐
	• the construction management structure,	5.3.2	Kiewit's Construction Management Approach and Structure	☐
	• identification of advanced Work,	5.3.5	Work Planning	☐
	• detailed delineation of work zones with identification of design and construction packages, and	5.3.6	Delineation of Work Zones	☐
	• summary of major Project phases	5.3.7	Project Construction Phases	☐
2.1.1.h	Description of key processes and their reference location within the Developer's Operations Management Plan and Maintenance Management Plan, in accordance with the Schedule 11 requirements, including a description of how design personnel will interface with Developer's construction, Process Control, IQC and O&M organizations in accordance with the Schedule 8, Quality Management Plan requirements, process for inspections and notifications of issues of non-compliance to Department, and processes and timeframe for providing applicable cures for nonconformance	5.4	Operations Management and Maintenance Management	☐
2.1.1.i	Detailed description of the interface between the design and construction resources and the allocation of design and construction staff to implement the Project	5.5	Design and Construction Interface	☐
2.1.1.j	Process for addressing constructability, durability, maintainability and environmental compliance in the Work	5.6 / 5.7 / 5.12	Durability / Quality / Environmental	☐
2.1.1.k	Description of key processes and their reference location within the Developer's Durability Plan, in accordance with the requirements in Schedule 8 and to meet the requirements of Schedule 12 Handback Requirements. This will include a description of how design personnel will interface with Developer's construction, Process Control, IQC and O&M organizations in accordance with the Quality Management Plan requirements in Schedule 8 to ensure durability in the design process	5.6	Durability	☐
2.1.1.l	Description of key processes and their reference location within the Developer's Quality Management Systems Manual, in accordance with the Schedule 8 requirements, for control of the Release for Construction (RFC) drawings through the Construction Period including making changes to the design during construction and ensuring engineering review of the new design and compliance with the Project Agreement. Processes shall demonstrate how the Department and the Developer's Design Team are involved in the	5.7	Quality	☐
		5.7.1	Key Processes	☐
		5.7.3	Control of RFC Drawings	☐

Sch. 8 Section	Item	PMP Section	Section Name	Check
	review and acceptance of deviations from the RFC drawings			
2.1.1.m	Process for construction closeout including the Developer's approach to satisfaction of Milestone Completion Conditions, Substantial Completion Conditions, Final Acceptance Conditions, and management of Punch Lists	5.8	Construction Closeout	☐
2.1.1.n	Description of key processes, and their reference location within the Developer's Safety Management Plan, in accordance with Schedule 8 requirements, for both employees of Developer and its Subcontractors and the public, including the designation of a full time safety manager, training procedures, description of the subcontractor Health and Safety Plan, accident investigation procedures and exposure assessment	5.9	Safety Management	☐
		5.9.1	Key Processes	☐
		5.9.2	Safety Critical Work	☐
		5.9.3	Health and Safety Plan	☐
		5.9.4	Accident Investigation Procedures	☐
		5.9.5	Exposure Assessment	☐
2.1.1.o	Description of key processes, and their reference location within the Developer's Transportation Management Plan, in accordance with Section 2 of Schedule 10 Maintenance of Traffic requirements, including interface with the Department and the City of Denver (CCD)	5.10	Transportation Management	☐
		5.10.2	Key Processes	
		5.10.1	Interface with Department and CCD	☐
2.1.1.p	Description of key processes, and their reference location within the Developer's Strategic Communications Plan, in accordance with the Schedule 14 requirements, including interface with the Department, CCD, Governmental Authorities, regulatory agencies, Utility Owners, Railroads, other stakeholders and the public during the Work, at a minimum the following activities: plans and Permits review; progress, workshops, partnering and Utility coordination meetings; construction engineering and inspection; and public involvement and community input	5.11	Strategic Communication	☐
		5.11.1	Key Processes	☐
		5.11.2	Interface During the Work	☐
		5.11.3	Communication Methods	☐
2.1.1.q	Description of key processes, and their reference location within the Developer's Environmental Compliance Work Plan, in accordance with the Schedule 17 requirements, including interface with the Department and any Governmental Authority	5.12	Environmental Compliance	☐
		5.12.1	Key Processes	☐
		5.12.2	Interface with Department and Governmental Authorities	☐
2.1.1.r	Description of key processes, and their reference location within the Developer's Property Management Plan, in accordance with the Schedule 18 requirements, including processes for the security, hazardous materials assessment, demolition, debris removal, site clearing, storm water management improvements, and clean-up of building structures and property improvements acquired as part of the ROW for the Project	5.13	Property Management	☐
		5.13.1	Key Processes	☐

Sch. 8 Section	Item	PMP Section	Section Name	Check
2.1.1.s	Description of key processes for managing the Project's Disadvantaged Business Enterprise (DBE), Emerging Small Business (ESB), and Workforce Development program, and their reference location within their respective Plans, in accordance with the Schedule 15 requirements	5.14	DBE/ESB and Work Force Development	☐
		5.14.1	Key Processes	☐
2.1.1.t	Description of the Developer's key processes and approach to the Schedule Work Plan, in accordance with the Schedule 8 requirements, including Schedule maintenance and required Deliverables management, and Supervening Event and Change management procedures	5.15	Schedule Work Plan	☐
		5.15.1	Key Processes	☐
		5.15.2	Schedule Maintenance	☐
		5.15.3	Deliverable Management	☐
		5.15.4	Supervening Event and Change Management Procedures	☐
2.1.1.u	Developer's approach to non-compliance reporting, evaluation, and resolution with each of its Subcontractors and methodology on how this information will be reported to the Department, including in accordance with the Schedule 6, Part 6 requirements	5.16	Noncompliance Reporting	☐
		5.16.1	KMP Internal Noncompliance Reporting	☐
		5.16.2	Noncompliance Database	☐
		5.16.3	Noncompliance Evaluation	☐
		5.16.4	Noncompliance Resolution with Subcontractors	☐
		5.16.5	Reporting to the Department	☐
		5.16.5.1	Initial Reporting	☐
		5.16.5.2	Reporting Following Rectification Time	☐
		5.16.5.3	Monthly Reduction Report	☐
2.2	Project Management Plan Updates			☐
2.2.1	The Developer shall monitor and improve the effectiveness of its PMP and resubmit the PMP for Acceptance by the Department annually, upon the anniversary of its initial Acceptance by the Department, or more frequently should any of the following conditions	6.0	Management of PMP	☐
		6.1	Review	☐

Sch. 8 Section	Item	PMP Section	Section Name	Check
	exist:	6.2	Updates	☐
2.2.2	The Developer shall clearly identify in a cover sheet what changes were made in a PMP update to expedite the Department's review. Also, a redline copy and a final clean copy shall be submitted to the Department.	6.2	Updates	☐

1. Project Summary

1.1 KIEWIT-MERIDIAM PARTNERS CORE VALUES

Kiewit-Meridiam Partners (KMP) is committed to delivering the Central 70 Project (Project) with a focus on client relations, achieving the Project goals, and maintaining transparency with the Department. To achieve these objectives, the KMP Team has adopted the following core values:

1.2 PLAN MANAGEMENT

This Project summary is presented at the start of each Appendix to serve as a quick reference to our core values, the Project overview, our Team's composition, and our Key Personnel and Critical Staff. We developed each Appendix to demonstrate our understanding of the Project requirements and facilitate timely Approval by the Department after award.

This document describes KMP's approach for the Work. KMP resubmits this Plan, including an updated Project summary, to the Department as required per the Project Agreement.

All Project plans, including this document, are stored electronically per KMP's Document Control System (DCS) Plan. Revisions to these documents may be required as the Project progresses, and annual updates are completed in accordance with Section 4.2 of the Project Management Plan (PMP). The latest revision of all Management Plans are stored per KMP's DCS and submitted to the Department through Aconex.

1.3 OVERVIEW

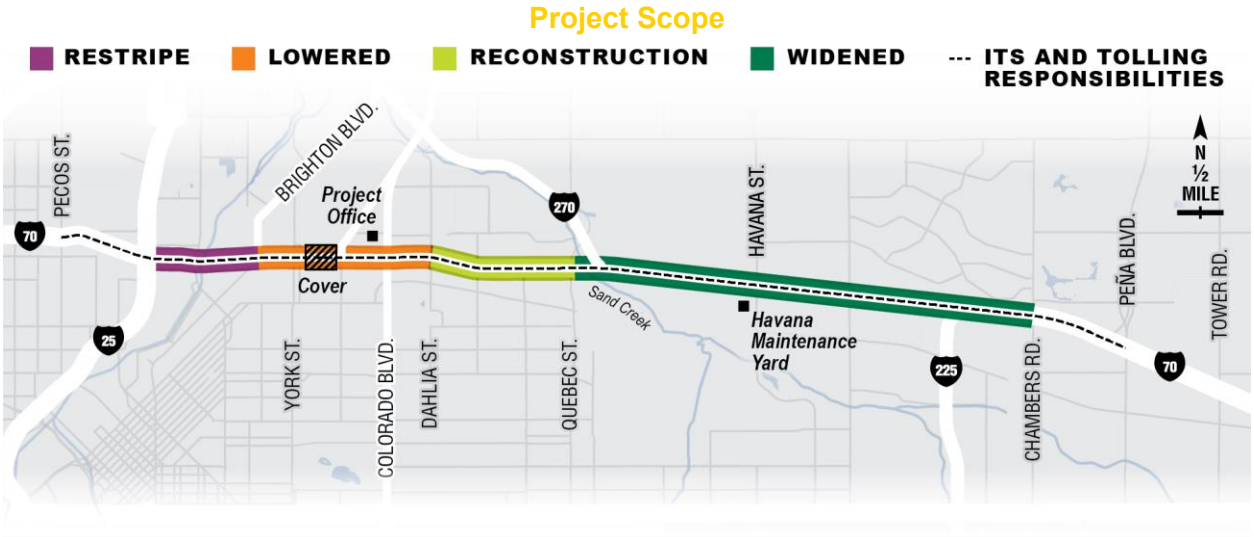
The Project is a Public-Private Partnership to design, build, finance, operate, and maintain planned improvements to the I-70 corridor between I-25 and Tower Road.

The Project's scope is broken down into the following timeframes:

Project Time Frames

Time Frame	Period	Description	Estimated Duration
Notice of Award to NTP1	Submittals	Plan development, submittals, and mobilization of Quality Management staff	3 months
NTP1 to NTP2	Construction	Financial Close and Design	6 months
NTP2 to Substantial Completion	Construction	Construction and O&M During Construction (other than snow and ice control services)	45 months
Pre-Substantial Completion to Substantial Completion	Transition	Transition from Construction to Operating Period, and O&M submittals	8 months
Substantial Completion to Final Acceptance	Operating	Final submissions and inspections	4 months
Substantial Completion to Expiry Date	Operating	Operations and Maintenance (including Renewal Work)	30 years
NTP3 to Term	Construction, Operating	KMP snow and ice control services	33-34 years
62-68 months prior to Expiry Date	Operating	Handback Inspections, Handback Work, and Department training to facilitate seamless handover at Expiry Date	62-68 months

Improvements made by KMP during the Construction Period, highlighted in the figure, are described below.



1.3.1 RESTRIPE: I-25 TO BRIGHTON BOULEVARD

Restriping I-70 from I-25 to Brighton Boulevard to accommodate one managed lane in each direction, including:

- Design and Construction for improvements to associated drainage infrastructure

1.3.2 LOWERED: BRIGHTON BOULEVARD TO DAHLIA STREET

Full reconstruction of I-70 between Brighton Boulevard and Dahlia Street, including:

- Removing the viaduct between Brighton Boulevard and Colorado Boulevard, and reconstructing the Interstate below grade to accommodate the Ultimate Project roadway configuration and associated elements
- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the Interstate structures over Brighton Boulevard
- Constructing the Cover and associated elements over the Interstate between Columbine Street and Clayton Street
- Constructing cross-street structures at York Street, Josephine Street, Columbine Street, Clayton Street, Fillmore Street, Steele Street/Vasquez Boulevard, Cook Street, Monroe Street, and Colorado Boulevard
- Constructing I-70 Mainline structures at Dahlia Street
- Removing one Railroad structure, and Constructing two Railroad structures at Union Pacific Railroad (UPRR) and BNSF Railway (BNSF)

1.3.3 RECONSTRUCTION: DAHLIA STREET TO SAND CREEK

Full reconstruction of I-70 Mainline between Dahlia Street and Sand Creek, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing Interstate structures over Holly Street, Monaco Street, Denver Rock Island Railroad, and Quebec Street

1.3.4 WIDENED: SAND CREEK TO CHAMBERS ROAD

Widening I-70 from Sand Creek to Chambers Road with associated elements, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the I-270 flyover structure to I-70 eastbound
- Removing and replacing Interstate structures over Peoria Street

1.3.5 INTELLIGENT TRANSPORTATION SYSTEMS (ITS) AND TOLLING RESPONSIBILITIES

Additional ITS and tolling responsibilities, including:

- Closed circuit television (CCTV) camera coverage for I-70 corridor, including interchanges between Pecos Street and Airport Boulevard
- Microwave vehicle radar detection between Pecos Street and Tower Road
- Travel time indicators between Pecos Street and Tower Road
- Lane use signals between Pecos Street and Chambers Road
- Dedicated short range communications radios between Pecos Street and Tower Road

1.3.6 OPERATIONS AND MAINTENANCE (O&M) WORK DURING CONSTRUCTION

Operations and maintenance of existing infrastructure within the O&M Limits During Construction as defined by the Project Agreement, including:

- I-70 Mainline and associated infrastructure
- Local Agency infrastructure
- Drainage
- Water quality
- ITS and electronic toll collection facilities
- Utility services
- Traffic signals and lighting
- Railway structures
- Fencing
- Snow and ice control services (following NTP3)

1.3.7 OPERATIONS AND MAINTENANCE WORK DURING THE OPERATING PERIOD

Operations and maintenance of I-70 within the limits defined by Schedule 11 of the Project Agreement for the Operating Period (dashed line in figure above), including:

- Providing resources to safely maintain the roadway throughout the Term

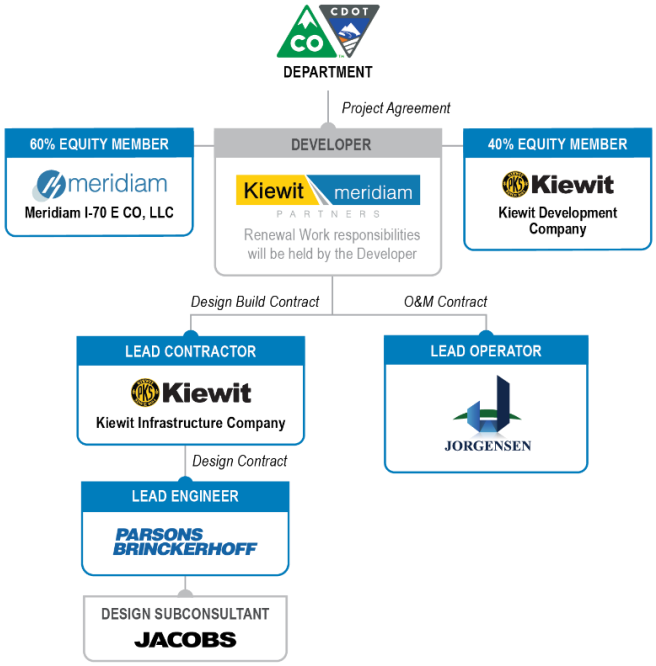
- Asset preservation including repair and Renewal
- Snow and ice control services
- Courtesy patrols
- Incident response
- Meet Handback requirements

1.4 KIEWIT-MERIDIAM PARTNERS COMPOSITION

KMP organized a streamlined Team to successfully deliver the Central 70 Project. The Core Proposer Team Members of Meridiam, Kiewit, Parsons Brinckerhoff, and Jorgenson are united by a commitment to Project success under a common project management system. KMP's lean approach has been cultivated from a history of working together, and by our shared cultures of safety, quality, environmental stewardship, and community service. The KMP Team needs no learning curve to start working together, and is positioned to execute on our joint Project delivery commitments from day one.

KMP's equity members—Meridiam and Kiewit Development Company—formed KMP for the sole purpose of developing this Project. KMP's Core Proposer Team Members, shown below, include Kiewit Infrastructure Company (KIC) as the Lead Contractor, Roy Jorgensen Associates (Jorgensen) as Lead Operator, and Parsons Brinckerhoff (PB) as Lead Engineer. Our Team is supported by the expertise of subconsultants and subcontractors who possess additional local knowledge and experience, including Jacobs as PB's main Design subconsultant. KMP is committed to identifying opportunities to maximize the involvement of small and disadvantaged businesses. Throughout the Project, KMP remains the single point of responsibility for meeting all Project Agreement requirements.

KMP co-locates with the Department in both the Project Office and the Colorado Transportation Management Center (CTMC) to foster a collaborative approach that ensures we meet the Department's Project goals throughout the Project.



1.5 KEY PERSONNEL AND CRITICAL STAFF

The table below shows KMP's Key Personnel overseeing the Project. KMP has also identified positions, and individuals, as Critical Staff who are instrumental in the successful delivery of the Project.

Key Personnel and Critical Staff

Staff Type	Title	Name	Employed by	Seconded to
KEY PERSONNEL	**Project Manager**	Chris Hodgkins	Meridiam	KMP
	Design-Build Manager	Tom Howell	KIC	
	Construction Manager	Barry Thoendel	KIC	
	Design Manager	Doug Andrew, PE	PB	
	O&M Manager	Abraham Henningsgaard, PE	Jorgensen	
	Project Quality Manager	Gordon Peterson, PE	KIC	KMP
	Independent Design Quality Manager	James Rozek, PE	PB*	
	Construction Process Control Manager	Sean McAfee	KIC	
	Independent Quality Control Manager	Tracy Martin, PE	KIC*	
	Environmental Manager	Jenn Bradtmueller, PE	KIC	KMP
	Utilities Manager	Kevin Custy	Jacobs	KIC
	Project Communications Manager	Hunter Sydnor	KIC	KMP
CRITICAL STAFF	**Technical Manager**	Martin Currie	KDC	KMP
	Financial Manager	Christopher Couallier	Meridiam	KMP
	Safety Manager	Ben Snow	KIC	KMP
	Construction Safety Manager	Kenyon Manley	KIC	
	Civil Rights Program Manager	Matt Christensen	KIC	
	DBE/ESB Program Manager and Outreach Training Manager	Colean Bembry	KIC	
	Lead Scheduler	Mauricio Solano	KIC	
	Design Integration Manager	Tim Nelson	KIC	
	Deputy Design Manager	Mark Talvite, PE	Jacobs	
	Cover Design Manager	Heath Therrien, PE	PB	
	Commercial Manager	Jamie Harvey, PE	KIC	

**Per Approved ATC 9.1 (see Attachment to the Quality Management Plan), KMP shall use in-house personnel in lieu of employees from an Independent Quality Control Firm*

2. Introduction

KMP is committed to the successful delivery of the Central 70 Project. Our commitment builds upon the Department's 12-year effort to secure a Record of Decision, and spans from Notice of Award through the Operating Period. To achieve this long term commitment, we use the established organization and management processes outlined in this Project Management Plan (PMP). This PMP is a comprehensive plan, and is updated as needed. It serves as an umbrella document that establishes KMP's approach to managing the Project through several detailed and task specific Management Plans.

The cohesiveness and continuity of the KMP Team throughout procurement has allowed us to develop the highly advanced processes outlined in this PMP over the last five years. This, combined with the efficiency of a single Lead Contractor, ensures there is no learning curve associated with the implementation of this PMP. Our approach is based on recent experience on the West Calgary Ring Road Project. KMP Team members Kiewit and Meridiam focused on early work packages from day one of award, resulting in a reduced project schedule. This was accomplished by highly advanced Management Plans and agreements developed during procurement.

Project Management Plans

Plans in **bold** are already drafted and ready for immediate implementation.

Pre-NTP1		
• **Project Management Plan (Sch.8)** • **Safety Management Plan (Sch.8)** • Schedule Work Plan (Sch.8) • **Stage 1 Quality Management Plan (Sch.8)** • Materials Testing and Inspection Plan (Sch.8)	• **Strategic Communications Plan (Sch.14)** • **Construction Period Communications Plan (Sch.14)** • **Crisis Communications Plan (Sch.14)** • **Small and Disadvantaged Business Participation Plan (Sch.15)**	• **Workforce Development Plan (Sch.15)** • Design Management Plan • Document Control System Plan • Hiring and onboarding Plan
Post-NTP1		
• Durability Plan (Sch.8) • **Incident Management Plan (Sch.10)**	• Property Management Plan (Sch.17) • Mobilization Plan	• Project Compliance Plan

Pre-NTP2

- **Stage 2 Quality Management Plan (Sch.8)**
- **Transportation Management Plan (Sch.10.02)**
- **Temporary Traffic Control Plan (Sch.10.02)**
- **Transportation Operation Strategies (Sch.10.02)**
- **Final Cover Design Baseline Report (Sch.10.12)**
- Emergency Response Plan (Sch.10.12)
- **Operations Management Plan (Sch.11)**
- **Incident Response Plan (Sch.11)**
- **Courtesy Patrol Service Plan (Sch.11)**
- **Snow and Ice Control Plan (Sch.11)**
- **Maintenance Management Plan (Sch.11)**
- **O&M Quality Management Plan (Sch.11)**
- **O&M Safety Plan (Sch.11)**
- **Renewal Work Plan (Sch.11)**
- **Baseline Asset Condition Report (Sch.11)**
- Baseline Asset Condition Inspection Plan (Sch. 11)
- **Environmental Compliance Work Plan (Sch.17)**
- Air Quality Monitoring, Maintenance, and Mitigation Plan (Sch.17)
- Black-Tailed Prairie Dog Management Plan (Sch.17)
- Construction Noise Mitigation and Monitoring Plan (Sch.17)
- Demolition Plan (Sch.17)
- Dewatering or Remediation Plan (Sch.17)
- Health and Safety Plan (Sch.17)
- Integrated Noxious Weed Management Plan (Sch.17)
- Materials Management Plan (Sch.17)
- Residential Soils Sampling Plan (Sch.17)
- Sampling and Analysis Plan (Sch.17)
- Spill Prevention Control and Countermeasures Plan (Sch.17)
- Structure Survey Assessment Plan (Sch.17)
- Construction Period Closeout Plan
- Contract Administration Plan
- Craft Engagement Plan
- Material layout and access plan
- Operations STS Plan
- Storm Water Pollution Prevention Plan
- Training Plan

Post-NTP2

- Paving Quality Control Plan (Sch.10.06)
- Commissioning Test Plan (Sch.10.1)
- Construction Period to Operating Period Transition Plan

Periodic

- Special Event Plan (Sch.10.2)
- Asset Condition Report (Sch. 12)
- Five-Year Renewal Work DBE/ESB Participation Plan (Sch.15)
- Five-Year Routine Maintenance ESB Participation Plan (Sch.15)

Pre-Substantial Completion

- ROW Documentation Plan (Sch.10.05)
- **Maintenance and Operations Communications Plan (Sch.14)**
- Handback Plan

2.1 SCOPE

Our Team has an in-depth understanding of the Project scope, and has the local knowledge necessary to facilitate success and mitigate risk. KMP's Lead Contractor, Kiewit, has worked in the community since 1938, and delivered the T-REX Project to the Department—to date, one of the largest and most successful transportation projects in Colorado. Our Management Team includes several of the personnel who were instrumental in the success of T-REX, including Tom Howell (Design-Build Manager), Barry Thoendel (Construction Manager), and Kevin Custy (Utilities Manager).

In addition to the Design, Construction, and O&M scope described in Section 1.3 above, KMP is also responsible for the Project elements outlined below.

2.1.1 GENERAL PROJECT WIDE SCOPE

Active participation in mitigation of Project impacts on the surrounding community, particularly impacts of Construction activities, including:

- Community engagement initiatives to inform the public about Construction progress and potential impacts
- Training of the local workforce and maximizing their engagement in the Project
- Attention to maintenance of traffic (MOT), and access to homes and businesses in the corridor during Construction
- Mitigation of air and noise impacts
- Environmental and hazardous materials mitigation and compliance activities
- Educating the public about the benefits of using a public-private partnership to deliver this Project

2.1.2 FINANCE SCOPE

2.1.2.1 Administration

KMP is solely responsible for, and actively manages, the performance of Project Work pursuant to the Project Agreement. Chris Hodgkins, our Project Manager, serves as KMP's Representative. While Chris oversees aspects of the Project, he is supported by a number of Key Personnel and Critical Staff, as further described in Section 4.1.4 and Section 4.1.5 and Attachment 3 and 4 to this document. Chris reports to KMP Executive Management, composed of senior officials from each Equity Member, to ensure Work is performed in compliance with the Project Agreement and other relevant contracts.

Other administrative responsibilities include:

- The Equity Members satisfy the conditions of the ITP and form KMP as the Developer to execute the Project Agreement with the Enterprises.
- KMP enters into various Principal Subcontracts, and is responsible for the selection and performance of subcontractors.
- KMP's Technical Manager reviews and tracks any required changes to the principal subcontracts and coordinates with principal subcontractors, the Enterprises, and other relevant parties as necessary.
- KMP is responsible for prompt payment to its subcontractors, and ensures that each of its subcontractors promptly pays their respective subcontractors.

2.1.2.2 Finance

KMP has raised the necessary equity and debt funding to design, construct, operate, and maintain the Project.

- KMP receives the required amount of Committed Investments. KMP reviews and tracks for any changes to the required amount of Committed Investment, and coordinates with the Equity Members, the Enterprises, and other relevant parties as necessary.
- KMP obtains necessary approvals to utilize Private Activity Bonds and/or a TIFIA loan, and obtains debt financing necessary for the Work and the Project. KMP's Finance Manager reviews and tracks any changes to the required amount of Project Debt, and coordinates with Lenders, the Enterprises, and other relevant parties as necessary.
- KMP obtains, and maintains, necessary funding required for securities, reserves, and insurance coverages.

Financial Close: All conditions are met to release funds. KMP's financing approach provides the Department with the following benefits:

- **Long Term Security:** Provide a high level of confidence that Project delivery commitments are met throughout the Term
- **Optimal Cost of Capital:** Meridiam's fully underwritten capital structure ensures the advancement of the Project in the agreed-upon timeframe, at the agreed-upon price
- **Maintaining Debt:** Review and track required reporting throughout the Term of the debt

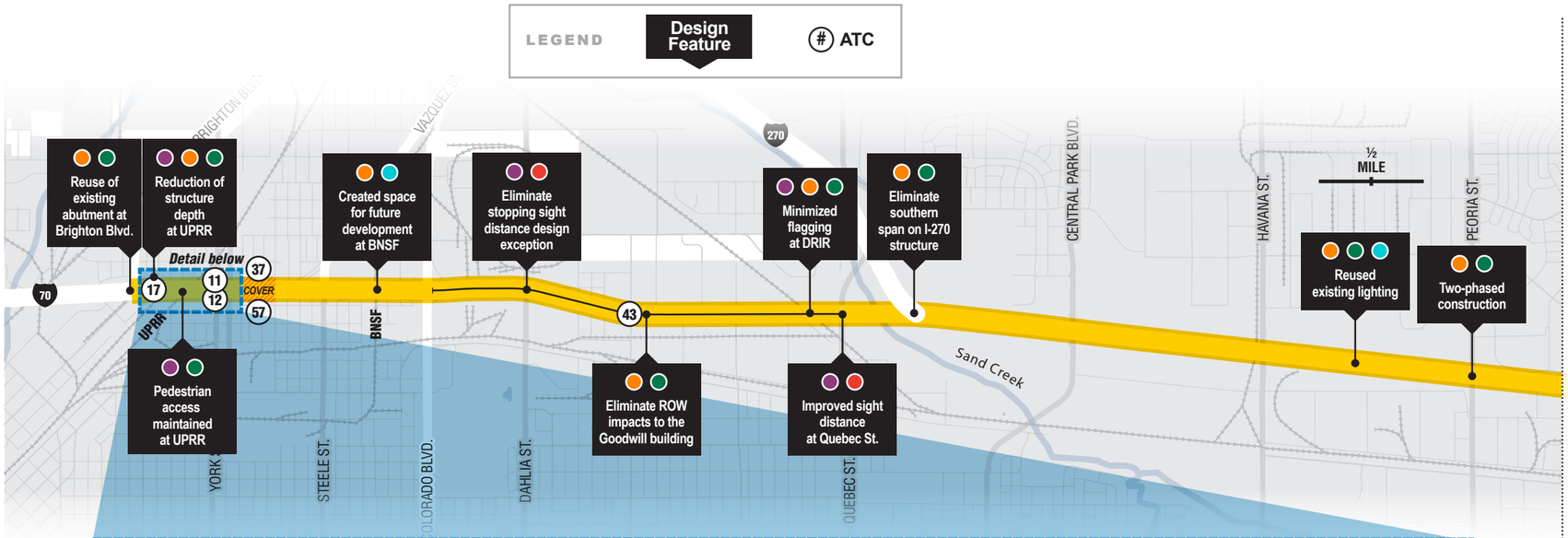
2.1.2.3 Handback

At Handback, KMP ensures the following, per Schedule 12:

- Each element meets or exceeds the criteria in the Performance and Measurement table
- The Residual Life at Handback of each Residual element meets or exceeds its Residual Life Minimum Requirement
- Renewal Work identified as needing to be performed in accordance with the most recent Accepted Renewal Work plan has been completed
- For each Renewal element, KMP demonstrates through the Final Handback Inspection Report that, from the time of its last reconstruction, rehabilitation, restoration, renewal, or replacement, such element has a remaining Useful Life that meets or exceeds its Useful Life Baseline Requirement

2.1.3 DESIGN AND CONSTRUCTION INNOVATIONS / SCOPE

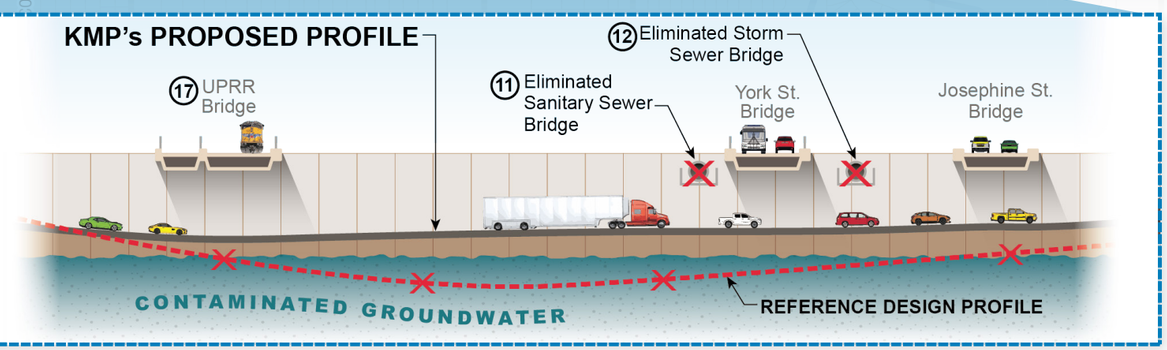
Throughout the procurement process, the KMP Team has relentlessly pursued innovation, resulting in the submission of over 70 Alternative Technical Concepts (ATCs). Our Team's drive for innovation continues throughout the Design of the Project. Our design includes innovations (ATCs) and practical optimizations to maximize constructability, facilitate future operations and maintenance (O&M) Work, and provide durable Design solutions that optimize life cycle costs, ensuring a Handback that protects taxpayers today and in the future. Our ATCs and Design innovations are highlighted on the figure below.



Why raise the profile?

Benefits of a raised profile include:

- Elimination of a permanent groundwater treatment facility
- Faster and more efficient construction
- A safer driving surface for the traveling public
- More durable pavement section



Department Project Goals

- Protect the health and safety of the workforce and public
- Optimize operating and life cycle maintenance costs by delivering a Project using quality design, materials, and techniques
- Optimize scope of the transportation and supporting infrastructure delivered through the Project to promote corridor-wide economic and community vitality
- Minimize impacts to the traveling public, businesses, and nearby communities during and after construction
- Once operational, ensure reliable travel speeds in the managed lanes and, for all lanes, a minium appropriate standard of maintenance
- Use a collaborative process to enhance community values and Project benefits

Key Innovative ATCs to Meet and Exceed Goals

(shown on map)

17.1 **Revised UPRR Track phasing**

57.0 **Local roadway closure restrictions** *Construct Columbine and Clayton in one season*

11.2 **Sanitary sewer realignment** *Eliminate sanitary sewer bridge*

43.0 **High performance pavement reconstruction**

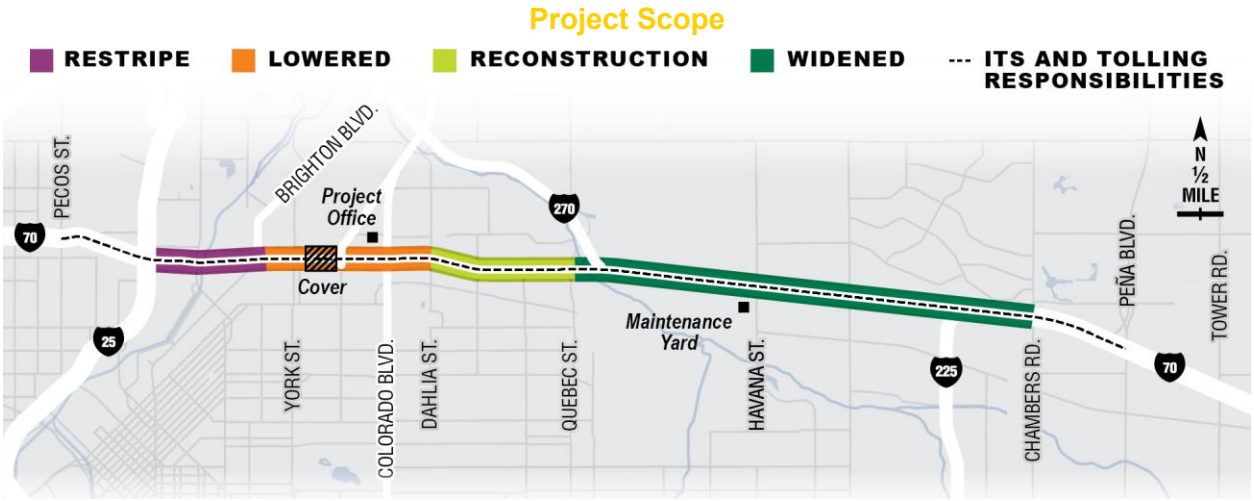
12.2 **Optimize offsite drainage** *Eliminate storm sewer bridge*

37.2 **Alternate Cover Electrical System** *Added park space at the Cover*

Other approved ATCs included in KMP's proposal *(not on map)*

6.1	**Detention Pond Revisions** *BMPs are easier to maintain; Eliminates degradation of concrete elements; Reduces standing water in the BMP; Leads to more eco-friendly detention system*	18.1	**Cross Slope on Cross Streets** *Contributes to raising I-70 profile; Improved airflow under the Cover; Improved MOT phasing at Colorado*	33.1	**Optimized Pavement Remediation** *Alternate renewal methods improve safety; Same performance with reduced cost and improved sustainability*	56.0	**Phenolic Fiberglass Conduits** *Higher fire rating than stainless conduits; Safer; Superior long-term life cycle performance; Easier to handle and install*	68.0	**Alternate Stormwater Pump Station** *Eliminates 5,300 LF of storm drain pipe; Incorporates redundant pumps to simplify maintenance; Handles 100-Year design flows*
8.1	**Modify Embankment Materials** *Greater reuse of onsite material; Minimized disruptions from external hauling; Increased sustainability*	28.1	**I-270 Ramp Inside Shoulder Width** *Provides compliant horizontal stopping sight distance; Flatter curve is safer in inclement weather*	38.0	**Non-standard Precast Girders** *Contributes to raising I-70 profile; Reduced duration of construction activities; More efficient girder design*	58.0	**Overhead Signs Vertical Clearance** *Improved visibility of signs in Lowered Section; Limit encroachment of signs on narrow shoulders*	70.0	**Alternate Roadway Lighting Fixture** *Reduces risk from maintenance activities; Lower life cycle maintenance costs*
9.1	**Independent QC** *ISO 9001 certified QMP; Maintains efficient and cost-effective organizational independence; Commitment to Department oversight*	30.1	**Changes to Standard MSE Walls** *Reduction in localized construction durations; Greater reuse of onsite materials*	42.0	**Increased Deck Overhang Allowance** *Reduced number of girders; Easier to construct; Fewer temporary impacts when erecting girders*	62.0	**Anti-Graffiti Coating** *Allows flexibility in selecting right product for Project; Simplifies/minimizes maintenance and is more sustainable*	71.0	**Alternate Cover Standpipe System** *Single standpipe header serving both bores; easily accessed, repaired, and maintained*
14.2	**Modified Typical Section** *Contributes to raising I-70 profile; Reduces potential for roadway icing, and number of inlets needed*	31.1	**Best Value Pavement** *Reduce material quantities through optimized pavement selection; Optimized performance improvements reduces maintenance*	47.0	**Reuse Existing Drainage** *Optimize life cycle of existing infrastructure; Sustainable design; Eliminates neighborhood impacts when replacing existing storm drains*	66.0	**Cover Air Quality Monitoring** *Reduces time and frequency of maintenance reducing impacts to public; Same level of monitoring with fewer sensors*		

Design and Construction for permanent and temporary elements summarized below.



2.1.3.1 Restripe: I-25 to Brighton Boulevard

Restriping I-70 from I-25 to Brighton Boulevard to accommodate one managed lane in each direction, including:

- Design and Construction for associated drainage infrastructure

2.1.3.2 Lowered: Brighton Boulevard to Dahlia Street

Full reconstruction of I-70 between Brighton Boulevard and Dahlia Street, including:

- Removing the viaduct between Brighton and Colorado Boulevards, and reconstructing the Interstate below grade to accommodate the ultimate Project roadway configuration and associated elements
- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the ultimate Project roadway configuration
- Removing and replacing the Interstate structures over Brighton Boulevard
- Constructing the Cover and associated elements over the Interstate including Clayton and Columbine Streets
- Constructing cross-street structures at York Street, Josephine Street, Fillmore Street, Steele Street/Vasquez Boulevard, Cook Street, Monroe Street, and Colorado Boulevard
- Constructing I-70 Mainline structures at Brighton Boulevard and Dahlia Street
- Removing one railroad structure, and constructing two railroad structures at the BNSF Market Lead and UPRR

2.1.3.3 Reconstruction: Dahlia Street to Sand Creek

Full reconstruction of I-70 Mainline between Dahlia Street and Sand Creek, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the ultimate Project roadway configuration
- Removing and replacing Interstate structures over Holly Street, Monaco Street, Denver Rock Island Railroad, and Quebec Street

2.1.3.4 Widened: Sand Creek to Chambers Road

Widening I-70 from Sand Creek to Chambers Road with associated elements, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the I-270 flyover structure to I-70 eastbound
- Removing and replacing Interstate structures over Peoria Street

2.1.3.5 ITS and Tolling Responsibilities

Additional ITS and Tolling responsibilities, including:

- CCTV camera coverage for I-70 corridor, including interchanges between Pecos Street and Airport Boulevard
- Microwave Vehicle Radar Detection between Pecos Street and Tower Road
- Travel Time Indicators between Pecos Street and Tower Road
- Lane Use Signals between Pecos Street and Chambers Road
- Dedicated Short Range Communications radios between Pecos Street and Tower Road

2.1.4 OPERATIONS AND MAINTENANCE (O&M) SCOPE

2.1.4.1 Construction Period

Operations and maintenance of existing infrastructure within the O&M Limits During Construction as defined by the Project Agreement, including:

- I-70 Mainline and associated infrastructure
- Local Agency infrastructure
- Drainage
- Water quality
- ITS and electronic toll collection facilities
- Utility services
- Traffic signals and lighting
- Railway structures
- Fencing
- Snow and ice control services (following NTP3)

KMP integrates the O&M Team staff in the review of Design Work as it is developed, to ensure the Project is built with long term O&M needs in mind.

2.1.4.2 Operating Period

Operations and maintenance of I-70 within the limits defined by Schedule 11 of the Project Agreement for the Operating Period (dashed line in figure above), including:

- Providing resources to safely maintain the roadway throughout the Term
- Asset preservation including repair and Renewal
- Snow and ice control services
- Courtesy patrols
- Incident response
- Meet Handback requirements

KMP is also responsible for payment of Utility service fees and maintenance of Utility services, unless specified otherwise in the sub-columns “Operating Period” in Appendix E of Schedule 10, Section 4.

2.2 PROJECT GOALS

KMP is committed to the Project goals:

Project Goal	KMP Approach
Optimize the scope of the transportation and supporting infrastructure delivered through the Project to promote corridor-wide economic and community vitality	KMP is dedicated to optimizing economic and community vitality benefits of the Project by increasing usable park space (ATC 37), eliminating right-of-way (ROW) takes, reducing community impacts by eliminating 5300 lf construction of the reference design onsite outfall (ATC 12), and improving North/South connectivity through accelerated Cover construction (ATC 57).
Optimize operating and life cycle maintenance costs by delivering a Project using quality Design, materials, and techniques	Through in-house Independent Quality Control (ATC 9) and early O&M involvement in task force meetings, KMP provides high quality Design and Construction using a rigorous material selection process (ATC 43) and optimized pavement Design (ATC 33) that reduce O&M costs through the life of the Project, as well as minimizing traffic impacts from future maintenance Work.
Minimize impacts to the traveling public, businesses, and nearby communities during and after construction	KMP has listened to the concerns of the local businesses and communities. These concerns are incorporated into our Construction phasing and Traffic Control Plan (TCP) to minimize impacts to stakeholders. Throughout the Project Term, KMP continues to keep the public and communities aware of upcoming Work and changes to the Project.
Once operational, ensure reliable travel speeds in the managed lanes, and a minimum appropriate standard of maintenance for all lanes	KMP has the people and equipment necessary to proactively meet inspection and O&M requirements, which minimizes impacts to the traveling public in all lanes. KMP designed the Project specifically with long term O&M needs in mind to limit lane closures while repairs and inspections are taking place.

Project Goal	KMP Approach
Use a collaborative process to enhance community values and Project benefits	KMP is committed to building up our local communities with grant and scholarship opportunities for local schools, local art opportunities for all ages to highlight community history and Colorado pride, and through KMP's specific curriculum to encourage and develop the next generation of engineers.
Protect the health and safety of the workforce and public	The health and safety of all persons within the Work Zone is KMP's top priority. We are committed to educating everyone on the importance of maintaining and improving the health of our local communities, using sustainable practices, and ensuring a safe environment within the Project's Work Zone.

2.3 PROJECT OBJECTIVES AND INTENDED RESULTS

KMP intends to achieve or exceed the Project goals through the following objectives:

- **Safety:** KMP's safety culture is based on the premise that *Nobody Gets Hurt*. From Construction through the Operating Period, nothing is more important.
- **Quality:** Build it *Right First Time*, put *Project First*, and never stop improving.
- **Long Term:** Reliability of the asset, financial success of managed lanes, and successful Handback.
- **Relationships:** Build strong working relationships, leading to Department, third party, stakeholder, and community satisfaction.
- **Transparency:** With the Department, third parties, stakeholders, and the public
- **Compliance:** With provisions of the Project Agreement.
- **Sustainability:** Build the most sustainable Project possible while ensuring environmental sensitivity.
- **Legacy:** Leave behind something better than we started with, including an improved workforce and subcontractor community, and improved mobility on I-70 and the connecting network.

3. KMP Project Management

KMP brings tremendous Project Management experience to the Project. Chris Hodgkins, Project Manager, incorporates his experiences as Chief Executive Officer of the $1 billion Port of Miami Tunnel Project to fully integrate Design, Construction, and O&M Teams throughout each phase of the Project. Tom Howell, Design-Build Manager, assists Chris in accomplishing this goal through strong Project leadership and commitment, regularly scheduled coordination meetings, ad hoc meetings, and facilitating an open-door collaborative environment strengthened by co-location both internally and with the Department. Tom ensures coordination meetings bring together members from each discipline and from the Department for a complete Project perspective, one that incorporates safety, quality, constructability, maintainability, and durability into the Project from the start of Design.

In our coordination meetings, members from each discipline address specific Project elements, share best practices, determine priorities, identify concerns, and resolve or escalate potential issues. Meeting agendas and minutes are kept for these meetings to capture and track discussion, issues, and resolution; distribution and storage of agendas and minutes are maintained per the Document Control System Plan. This process aids smooth transitions between Project periods (that is, from Design to Construction activities, from the Construction Period to the Operating Period, and during the Handback Period). Incorporating the perspectives of each discipline in the formation of plans has already resulted in innovative ways to add value. We look forward to identifying more ways to add value to the Project throughout the Term.

All of our activities focus on safety, quality, and compliance. We strive for transparency throughout the Project so that the Department is up-to-date on Project activities. In our experience, maintaining open channels of communication promotes trust and enhances our ability to complete projects to our clients' satisfaction.

KMP self-performs portions of the Work, and uses expertise from subconsultants and subcontractors who also possess the local knowledge and experience needed to complete the Project. In addition, KMP looks for opportunities to maximize the involvement of small and disadvantaged businesses, and local contractors. As stated above, KMP remains the single point of responsibility for meeting the Project Agreement and PMP requirements.

3.1 PROJECT FIRST

KMP is committed to a culture of collaboration, trust, and transparency that focuses on the *Project First* for decision-making. A *Project First* approach allows resolution of issues at the lowest level, builds trust, enhances our relationship with the Department, and contributes to the success of the Project.

3.1.1 FUNDAMENTALS

Chris Hodgkins, Project Manager, leads the Project with a focus on client relations, achieving Project goals, and maintaining transparency with the Department:

- **Excellence:** We never stop raising the bar. Consistently focused on high quality production, we commit to excellence in all we do. We encourage new and innovative ideas with forward thinking. We build our Work *Right First Time*, delivering with a sense of urgency the highest value to our clients.
- **Know the Department's Business:** The Project Manager understands the Department's goals, and communicates effectively with them to ensure the Project meets their highest satisfaction.
- **Over Communicate from Day One:** The Project Manager is the main point of contact between KMP and the Department. Communication is continual from day one of the Project.
- **Let Performance do the talking:** KMP manages the Design, Construction, and O&M activities to ensure that KMP and the Department are proud of the Work performed.

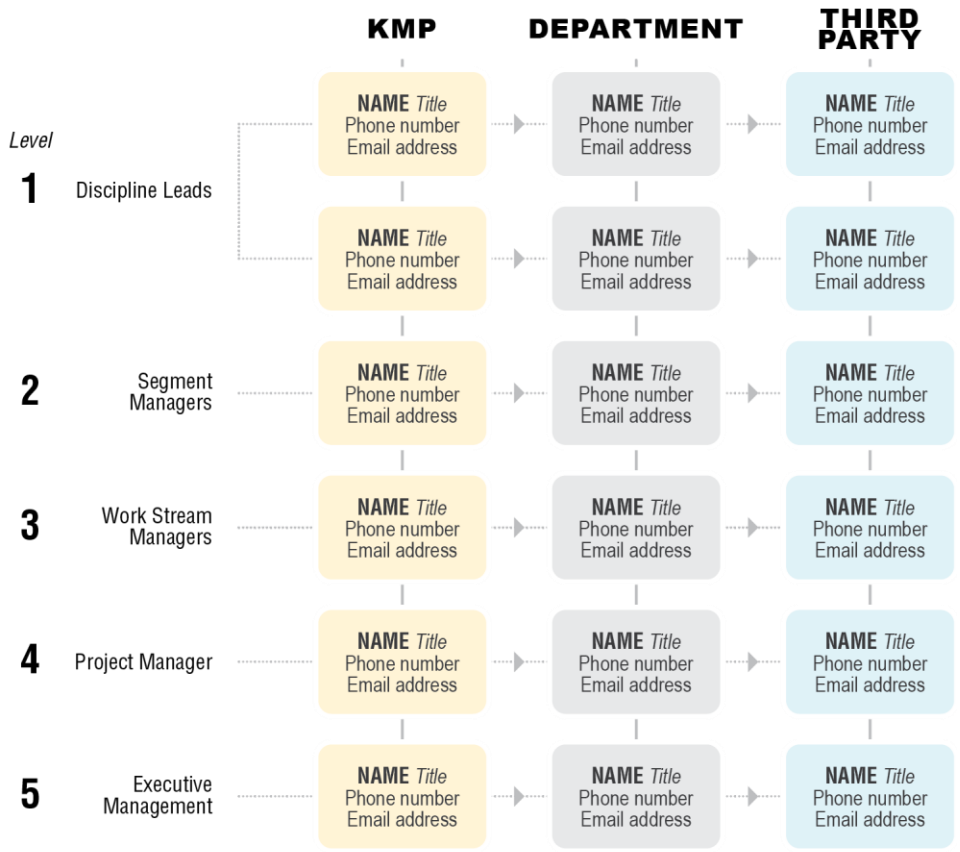
- **Build Strong Partnerships:** KMP strives to build long-standing relationships with the Department, third parties, stakeholders, and the public. Our philosophy is *Project First*, and KMP stands by the Department to ensure that the Project meets the expectations of both the Department and the public.
- **Build Personal Relationships:** KMP understands that this is a people business, and our goal is for the entire Project Team (Department, third parties, stakeholders, and KMP) to develop a bond around this Project that connects us with each other and with the communities where we work.

3.1.2 COMPONENTS

- ***Project First*:** KMP holds an initial Workshop with the Department, facilitated by an independent third party, to review and jointly finalize the *Project First* Plan. Quarterly facilitated *Project First* sessions are scheduled throughout the Project, as identified at the initial workshop.
- **Zipper Plan (Escalation Matrix):** The zipper plan is developed at the initial Workshop with the Department. It identifies Project Team members and their respective counterparts across the Project organization. This Plan aids in understanding lines of communication by depicting both vertical and horizontal lines of communication, and aids the Team in solving problems at the lowest level. This Plan is valuable for communicating the need to escalate issues that cannot be resolved quickly to maintain a successful Project. The Plan also serves as an escalation plan, applicable for Construction, Design, and O&M. This Plan has been used on other KMP Partners' projects with resounding success.

Zipper Plan

Note: Example of the Zipper Plan to be filled out for the Final PMP. There may be three zipper plans to clearly depict Construction, Design, and O&M structures. This plan is completed with the Department and third parties.



- **Weekly Progress Meetings:** These meetings include KMP staff members, key subcontractors, and their respective counterparts from the Department. The agenda includes safety, quality, submittal status, correspondence, upcoming activities, Schedule, performance, issues, and changes.
- **Four Square Matrix:** The Four Square Matrix (shown below) identifies ongoing issues, current issues, good trends, and steady performers. This matrix is reviewed monthly with the Department to aid in identifying the Department's concerns, and ensuring that progress is made on any issues.

Four Square Matrix

Current Issues Issues recently developed or identified as looming	**Steady Performance** Areas of performance continually meeting expectations
Ongoing Issues Issues recurring on continued basis or remain unresolved	**Good Trends** Issues classified as ongoing or current that are moving toward resolution or exhibit improvement

- **Executive Oversight Committee (EOC):** Throughout the Construction Period, KMP Executive Management hosts a quarterly Executive Oversight Committee where senior level management and their Department counterparts address issues and provide a platform for executive involvement and input on major topics.

4. Organization

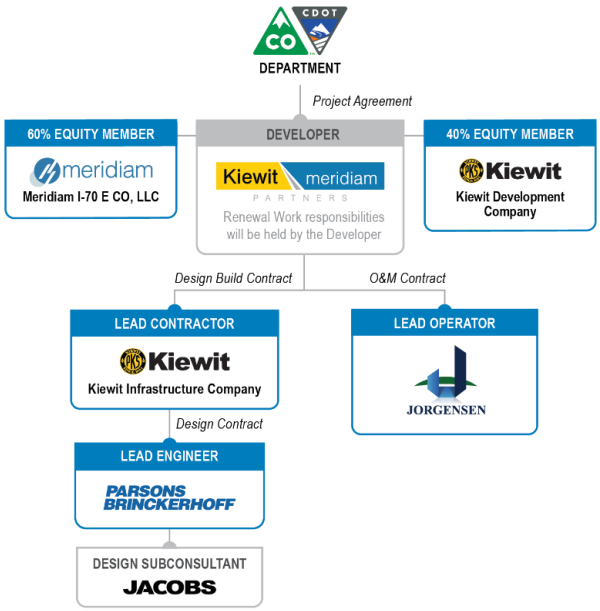
4.1 KMP'S OVERALL STRUCTURE

The KMP Team was established and organized to meet the challenges of the Project and deliver world-class results to the local communities.

KMP's Equity Members Kiewit and Meridiam are the Developer for this Project, holding 40% and 60% of the equity, respectively. These partners have come together because of the similarities in their core principles and business philosophy, and their successful past working relationships. Both Kiewit and Meridiam hold the long term vitality of the community as a key component of their Work. KMP executes the Project Agreement with the Department, and continues to build on and maintain continual communication with the Department.

The basic structure of our organization is illustrated in the organizational chart in Section 1.4. More detailed organizational charts for the Construction Period and the Operating Period are provided in Section 4.1.4 below.

Management Organization



During the Construction Period, KMP contracts Design, Construction, and O&M responsibilities to the Lead Contractor, KIC, through the design build (DB) Contract. To fulfill its obligations under the DB Contract, KIC has engaged a Team of subconsultants and subcontractors, including PB as Lead Engineer, Jacobs Engineering Group (Jacobs) as a major subconsultant to PB, and Jorgensen to provide Design input and review related to future O&M Work.

During the Operating Period, KMP contracts certain O&M requirements to the Lead Operator, Jorgensen, through the O&M Contract. Remaining O&M requirements are retained and managed by KMP.

To ensure seamless coordination of the Design, Construction, and O&M Work, KMP enters into an Interface Agreement with KIC and Jorgensen, whereby KIC and Jorgensen agree to cooperate and coordinate in the performance of their respective obligations under the Project Agreement.

As described in Section 2.1.2, KMP receives Committed Investments from its Equity Members, and executes various Financing Documents with Lenders to raise the necessary debt financing. After Notice of Award, this draft Project Management Plan is amended to incorporate relevant details from KMP's Financial Proposal regarding its financing plan.

KMP is strategically structured with limited partners and no joint ventures, to allow for effective solutions and decision-making. This lean Team has strong and successful working relationships and aligned values, to give the Department an efficient partner with known processes and zero learning curve. Our structure ensures a *Project First* emphasis because the KMP Team is solely focused on the Project and not on internal contracts.

Members of the KMP Team have extensive experience working together on several successful projects including projects such as Port of Miami Tunnel and Access Improvements, Southwest Calgary Ring Road, and the Dallas/Fort Worth (DFW) Connecter.

KMP is responsible and accountable to the Department for all aspects of the Project. KMP has a fully functional, co-located management organization with clearly defined interfaces with the Department and contracting organizations. Managers in the KMP organization coordinate closely with corresponding managers/peers in the Department, sharing information and collaborating to resolve issues at the lowest possible level.

4.1.1 KMP'S OVERALL ROLES AND RESPONSIBILITIES

KMP Team members have a history of making long term commitments to projects; Meridiam currently holds contracts up to 52 years in length. We apply this history of long term commitments to the Central 70 Project. Our approach to effective management throughout the duration of the Term is to maintain consistency of Core Team Members and Key and Critical Staff.

KMP executes and complies with the following:

- Project Agreement
- Design-Build Contract
- O&M Contract
- Lending Agreements

In addition, KMP:

- Establishes and maintains continual communication with the Department, third parties, stakeholders, and the public
- Works with the Department to provide leadership for the Project
- Has overall responsibility of the Project throughout the Term
- Ensures that the O&M Team is integrated throughout the Construction Period
- Manages and coordinates payments with the Department, Lenders, and subcontractors
- Manages the Handback process to provide the Department with a high-quality, maintainable Project that meets life cycle requirements.

4.1.2 QUALITY RESPONSIBILITIES

Consistent with Schedule 8 and ATC 9, KMP's responsibilities also include Quality, as outlined in the KMP Quality Management Plan (QMP), included as Appendix D. KMP incorporated Approved ATC 9 to self-perform Independent Quality Control activities due to the incredible success on past projects, including the T-REX Project.

To support short term peaks, nighttime activities and other seasonal variations, we use local and DBE/ESB subcontractors who specialize in QA/QC and CE&I services. These subcontractors understand the Developer's QMS and Department preferences which improve quality reviews and bring schedule efficiencies. They also enable the PQM to properly staff scheduled activities through the use of part-time, qualified and experienced personnel. They also enable the PQM to properly staff all scheduled activities through the use of part-time, qualified and experienced personnel. These services offer strong opportunities for KMP to engage Disadvantaged Business Enterprise/Emerging Small Business (DBE/ESB) firms and opportunities to hire and train local workforce / employees while maintaining independence and ISO certifications

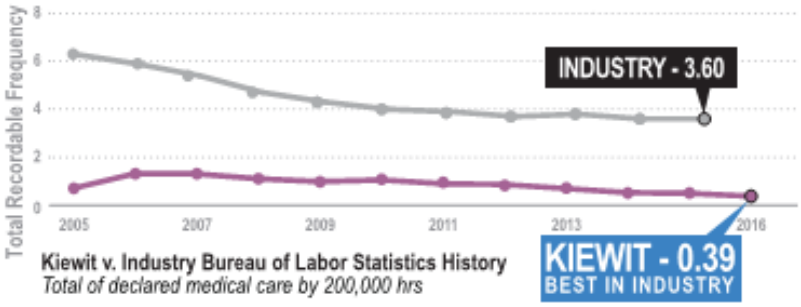
KMP's quality responsibilities include:

- Ensuring the Quality Policy is implemented at all levels of the KMP organization as outlined in Section 3.2 of the QMP (as per Schedule 8, Section 6.2.2.a of the Project Agreement)
- Maintaining overall responsibility for the success of the QMP, and ensuring that Process Control and Independent Quality Control personnel have the appropriate education, training, skills, and experience to meet the requirements of the Project Agreement (Schedule 8, Section 6.2.7.a)
- Reviewing the QMP annually, and proposing proactive changes to ensure it maintains suitability, adequacy, and effectiveness throughout the Construction Period (Section 6.2.3.c.xii)
- Reviewing the performance of the quality system quarterly with the Project Quality Manager and the Department (Section 6.2.7.b.ii), and providing recommendations for improvement as necessary

KMP Executive Management oversees the Project Quality Manager and Construction Process Control Manager, ensuring their independence from the Project Manager.

4.1.3 SAFETY RESPONSIBILITIES

Kiewit Safety Statistic History



KMP's responsibilities also include safety, as outlined in the Construction Period Safety Management Plan (SMP), Attachment 1, which KMP reviews, approves, and ensures compliance with throughout the Term of the Project.

KMP's Safety Manager, Ben Snow, oversees all safety for the Project, including public and community safety, in addition to overseeing the Construction Safety Manager.

4.1.4 ORGANIZATIONAL CHART

KMP has two organization charts; one for the Construction Period and one for the Operating Period. See below for both organization charts, which show Key Personnel and Developer staff in purple.

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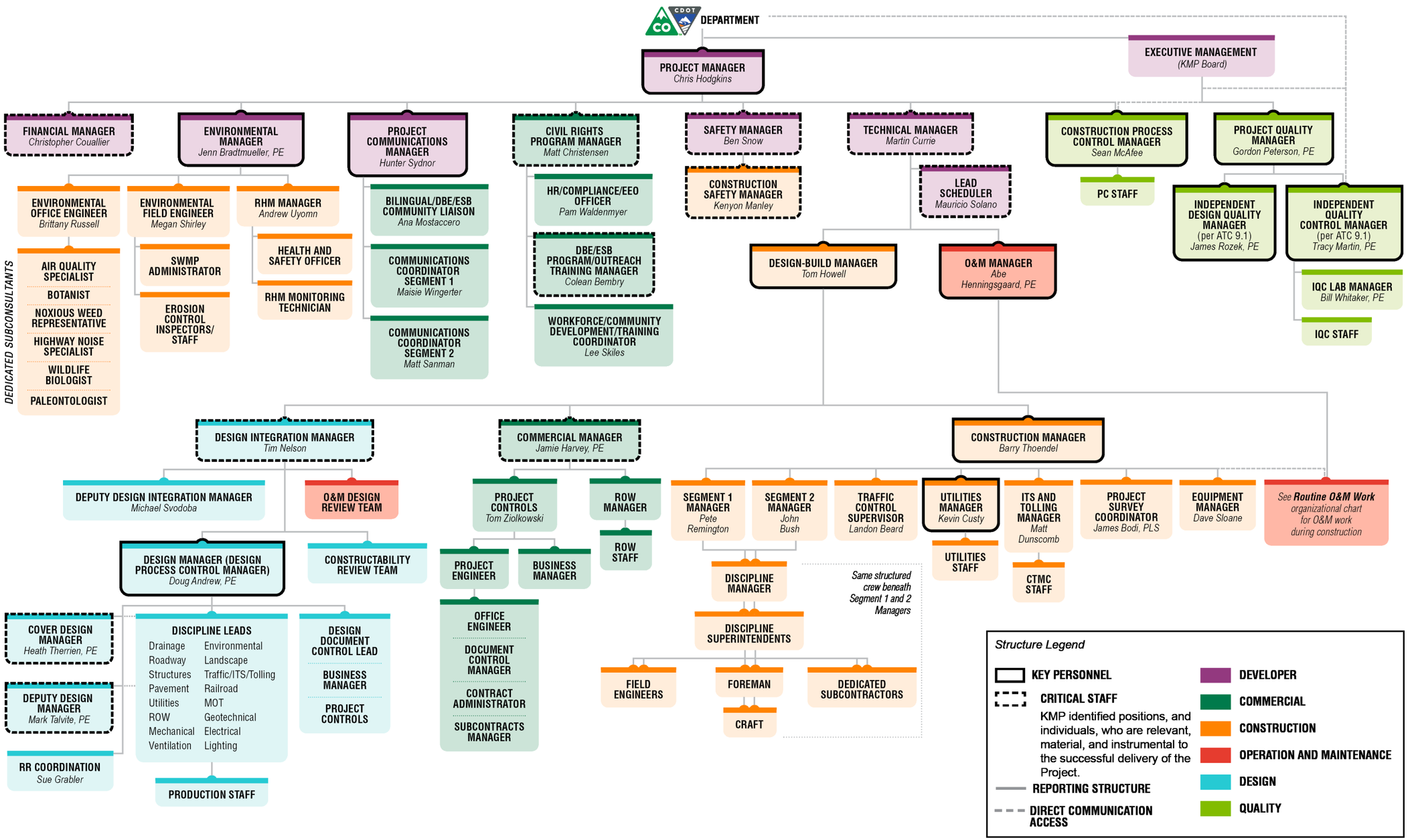
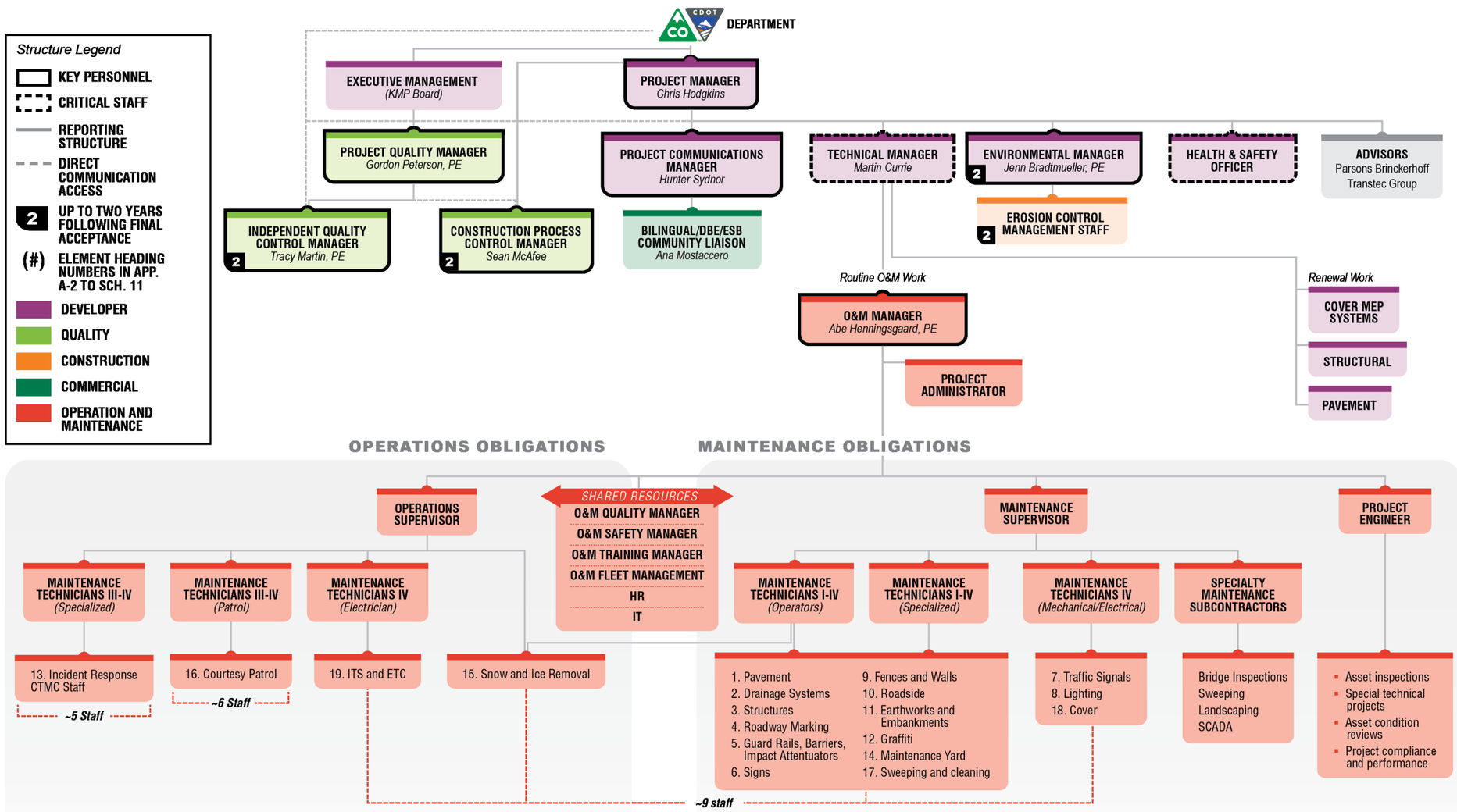

CDOT
DEPARTMENT
PROJECT MANAGER
Chris Hodgkins
EXECUTIVE MANAGEMENT
(KMP Board)
FINANCIAL MANAGER
Christopher Couallier
ENVIRONMENTAL MANAGER
Jenn Bradtmueller, PE
PROJECT COMMUNICATIONS MANAGER
Hunter Sydnor
CIVIL RIGHTS PROGRAM MANAGER
Matt Christensen
SAFETY MANAGER
Ben Snow
TECHNICAL MANAGER
Martin Currie
CONSTRUCTION PROCESS CONTROL MANAGER
Sean McAfee
PROJECT QUALITY MANAGER
Gordon Peterson, PE
ENVIRONMENTAL OFFICE ENGINEER
Brittany Russell
ENVIRONMENTAL FIELD ENGINEER
Megan Shirley
RHM MANAGER
Andrew Uyomn
BILINGUAL/DBE/ESB COMMUNITY LIAISON
Ana Mostaccero
HR/COMPLIANCE/EEO OFFICER
Pam Waldenmyer
CONSTRUCTION SAFETY MANAGER
Kenyon Manley
LEAD SCHEDULER
Mauricio Solano
PC STAFF
INDEPENDENT DESIGN QUALITY MANAGER
(per ATC 9.1)
James Rozek, PE
INDEPENDENT QUALITY CONTROL MANAGER
(per ATC 9.1)
Tracy Martin, PE
DEDICATED SUBCONSULTANTS
AIR QUALITY SPECIALIST
BOTANIST
NOXIOUS WEED REPRESENTATIVE
HIGHWAY NOISE SPECIALIST
WILDLIFE BIOLOGIST
PALEONTOLOGIST
SWMP ADMINISTRATOR
EROSION CONTROL INSPECTORS/ STAFF
HEALTH AND SAFETY OFFICER
RHM MONITORING TECHNICIAN
COMMUNICATIONS COORDINATOR SEGMENT 1
Maisie Wingerter
COMMUNICATIONS COORDINATOR SEGMENT 2
Matt Sanman
DBE/ESB PROGRAM/OUTREACH TRAINING MANAGER
Colean Bembry
WORKFORCE/COMMUNITY DEVELOPMENT/TRAINING COORDINATOR
Lee Skiles
DESIGN-BUILD MANAGER
Tom Howell
O&M MANAGER
Abe Henningsgaard, PE
IQC LAB MANAGER
Bill Whitaker, PE
IQC STAFF
DESIGN INTEGRATION MANAGER
Tim Nelson
COMMERCIAL MANAGER
Jamie Harvey, PE
CONSTRUCTION MANAGER
Barry Thoendel
DEPUTY DESIGN INTEGRATION MANAGER
Michael Svodoba
O&M DESIGN REVIEW TEAM
PROJECT CONTROLS
Tom Ziolkowski
ROW MANAGER
SEGMENT 1 MANAGER
Pete Remington
SEGMENT 2 MANAGER
John Bush
TRAFFIC CONTROL SUPERVISOR
Landon Beard
UTILITIES MANAGER
Kevin Custy
ITS AND TOLLING MANAGER
Matt Dunscomb
PROJECT SURVEY COORDINATOR
James Bodi, PLS
EQUIPMENT MANAGER
Dave Sloane
See Routine O&M Work organizational chart for O&M work during construction
DESIGN MANAGER (DESIGN PROCESS CONTROL MANAGER)
Doug Andrew, PE
CONSTRUCTABILITY REVIEW TEAM
PROJECT ENGINEER
BUSINESS MANAGER
ROW STAFF
UTILITIES STAFF
CTMC STAFF
DISCIPLINE MANAGER
Same structured crew beneath Segment 1 and 2 Managers
DISCIPLINE SUPERINTENDENTS
COVER DESIGN MANAGER
Heath Therrien, PE
DISCIPLINE LEADS
Drainage
Roadway
Structures
Pavement
Utilities
ROW
Mechanical
Ventilation
Environmental
Landscape
Traffic/ITS/Tolling
Railroad
MOT
Geotechnical
Electrical
Lighting
DESIGN DOCUMENT CONTROL LEAD
BUSINESS MANAGER
PROJECT CONTROLS
OFFICE ENGINEER
DOCUMENT CONTROL MANAGER
CONTRACT ADMINISTRATOR
SUBCONTRACTS MANAGER
FIELD ENGINEERS
FOREMAN
DEDICATED SUBCONTRACTORS
CRAFT
DEPUTY DESIGN MANAGER
Mark Talvite, PE
RR COORDINATION
Sue Grabler
PRODUCTION STAFF
Structure Legend
KEY PERSONNEL
CRITICAL STAFF
KMP identified positions, and individuals, who are relevant, material, and instrumental to the successful delivery of the Project.
REPORTING STRUCTURE
DIRECT COMMUNICATION ACCESS
DEVELOPER
COMMERCIAL
CONSTRUCTION
OPERATION AND MAINTENANCE
DESIGN
QUALITY



TEAM MEMBER ROLES AND RESPONSIBILITIES

Kiewit meridiam Partners — *KMP, Developer*

- Oversees work of all KMP Team Members
- Provides contractual compliance
- Develops and refines O&M strategies and plans
- Communicates and coordinates with Department, Design, Construction, and O&M Teams
- Interface with third party stakeholders and general public
- Performs Renewal Work through sub-contracts

Kiewit — *KIC, Lead Contractor*

- Construction
- Responsible for O&M during construction as a subcontractor to KMP
- Engineer in Responsible Charge

Jorgensen — *RJA, Lead Operator*

- Operations and Routine Maintenance
- Subcontractor to the Lead Contractor during the Construction Period
- Subcontractor to KMP during the Operating Period

Parsons Brinckerhoff — *PB, Lead Engineer, Advisor*

- Engineering and design as subcontractor to the Lead Contractor
- Advisor to KMP during the Operating Period
- Undertake bridge, structural, and Specialty Inspections as a subcontractor to the Lead Operator

The Transtec Group — *The Transtec Group, Advisor*

- Advisor to KMP during the Construction and Operating Periods
- Life cycle management and forecast overview services for Renewal Work

4.1.5 KMP'S PERSONNEL ROLES AND RESPONSIBILITIES

The roles and responsibilities for the personnel listed below are in addition to the responsibilities that KMP personnel have in regards to safety (Section 5.9), quality (Section 5.7), and compliance (Section 5.19).

KMP Personnel Roles and Responsibilities

Title	Roles-Responsibilities
	LEGEND: **Key Personnel** (!) **Critical Personnel**
Executive Management (KMP Board)	**KMP Board has already established relationships with CDOT Executive Management** • Oversees Project Quality Manager and Construction Process Control Manager • Communicates with Department and KMP Project Manager • Ensures compliance with Project management plans, particularly the PMP and QMP
Chris Hodgkins **Project Manager (PM)**	**Experience as CEO on Port of Miami Tunnel Project** • Reports to Department leadership and KMP Executive Management • Oversees Financial Manager, Technical Manager, Project Communications Manager, Environmental Manager, and Safety Director • Official point of contact for Department • Ensures compliance with Project management plans, particularly the PMP • Authority to bind KMP on all matters, and to suspend Work • Responsible for the overall execution and administration of the Project • Responsible for setting a tone of collaboration and trust with the Department from the outset, leading to a truly integrated Team
(!) **Christopher Couallier** **Financial Manager**	**Over 15 years of experience including directing more than $2 billion in development and financial planning projects** • Reports to PM • Oversees accounting and office management staff • Complies with PMP • Responsible for payments to KMP's Lead Contractor and Lead Operator • Responsible for reviewing documents required for payments from Department • Manages KMP's finances

Title	Roles-Responsibilities
	LEGEND: 🔑 **Key Personnel** (!) **Critical Personnel**
🔑 **Jenn Bradtmueller** **Environmental Manager (EM)**	**Familiar knowledge and relationships in Colorado including with the Department and CDPHE** • Reports to PM • Oversees and manages scheduling for environmental staff, including: Environmental Office Engineer, Erosion Control Engineer, and Recognized Hazardous Material (RHM) Manager • Communicates with Design-Build Manager, Construction Manager, and Commercial Manager • Ensures compliance with the Environmental Compliance Work Plan and its associated plans • Ensures compliance with Project management plans as they relate to environmental requirements • Responsible for planning and implementing the Environmental Compliance and Mitigation Training Program • Responsible for leading a monthly field review with Department to review the Project and environmental issues
🔑 **Hunter Sydnor** **Project Communications Manager**	**Over 20 years of local relationships already established** • Reports to PM • Oversees the Bilingual Community Liaison, DBE/ESB Outreach Manager and Communications Managers for Segment 1 and 2 • Communicates with the Department's PI staff and KMP Team • Ensures compliance with the Strategic Communications Report and complies with KMP Project management plans • KMP spokesperson • Oversees entire KMP Communications Team • Responsible for strategic communication
(!) **Ben Snow** **Safety Manager**	**Facilitates a culture of *Nobody Gets Hurt*** • Reports to PM • Oversees the KMP Safety staff • Communicates with Technical Manager , Environmental Manager, Project Communications Manager, and Project Quality Manager • Ensures compliance with the SMP, and the Health and Safety Plan • Empowered to take necessary action to correct safety problems, including stopping Work in the case of serious safety hazards • Authority to stop Work in the presence of any unsafe act or condition • Responsible for reviewing all aspects of the SMP • Responsible for communicating safety issues and lessons learned with the Project Team • Responsible for all safety aspects on the Project for KMP and the Public

Title	Roles-Responsibilities
	LEGEND: **Key Personnel** (!) **Critical Personnel**
(!) **Martin Currie** **Technical Manager**	• **Provides continuity from construction through the Term with more than 25 years of experience in infrastructure projects** • Reports to PM • Oversees Design-Build Manager, O&M Manager, and Lead Scheduler • Ensures compliance with the PMP, QMP, and other Project management plans • Responsible for managing Design and Construction Contract with KIC (Lead Contractor) • Responsible for managing the O&M Contract with Jorgensen (Lead Operator) • Manages and oversees the Renewal Work
(!) **Mauricio Soloano** **Lead Scheduler**	**Over 23 years of industry experience** • Reports to the Technical Manager • Communicates with Construction Manager, Design Integration Manager, and Commercial Manager • Ensures compliance with Project management plans • Manages and updates the Project Schedule in accordance with the Schedule Work plan • Communicates the Project Schedule to the Project Team • Certifies Project Schedules and time impact analyses

4.2 LEAD ENGINEER: PARSONS BRINCKERHOFF (PB)

KMP's Lead Engineer is Parsons Brinckerhoff (PB). PB is contracted with KIC (KMP's Lead Contractor). PB not only provides vast industry experience but also has unique local knowledge, talent, and expertise in Managed Lane Design which helps optimize HPTE tolling operations. Jacobs is PB's major subconsultant, responsible for the Drainage and Utilities Design. Jacobs has significant local experience working with the Department on a variety of projects.

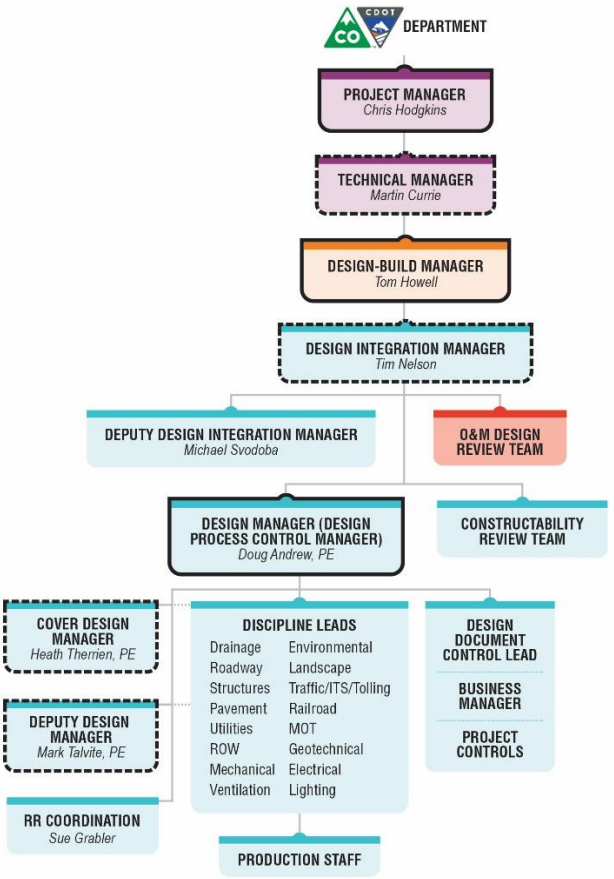
4.2.1 PB ROLES AND RESPONSIBILITIES

- Execute and comply with Design Contract
- Manage Design subconsultants
- Maintain communications with Lead Contractor and Lead Operator
- Work with Lead Contractor, Lead Operator, KMP, and the Department in developing and coordinating the Design of the Project
- Report to KIC Design Integration Manager

4.2.2 DESIGN ORGANIZATIONAL CHART

The organization for the Design Team is shown below; note that this organizational chart includes staff beyond just those employed by the Lead Engineer.

Design Personnel Organization Chart



4.2.3 DESIGN PERSONNEL ROLES AND RESPONSIBILITIES

The roles and responsibilities for the Design staff listed below are in addition to the responsibilities that all KMP personnel have in regards to safety (Section 5.9), quality (Section 5.7), and compliance (Section 5.19) as further described in this PMP.

Design Personnel Roles and Responsibilities

Title	Roles-Responsibilities
	LEGEND: 🔑 **Key Personnel** (!) **Critical Personnel**
(!) **Tim Nelson** **Design Integration Manager**	**Coordinates and mitigates Design and Construction conflicts** • Reports to Design-Build Manager (DBM) • Oversees Deputy Design Integration Manager, O&M Design Review Team, Design Manager, and the Constructability Review Team • Works with DBM to coordinate Design and Construction interface • Ensures Design Team compliance with the PMP, QMP, SMP, ECWP, and Small and Disadvantaged Business Participation Plan (S/DBPP) • Authority to stop Design Work • Reviews Design deliverables for compliance with the Project Agreement • Executes Design Contract

Title	Roles-Responsibilities
	LEGEND: 🔑 **Key Personnel** (!) **Critical Personnel**
Michael Svoboda **Deputy Design Integration Manager**	**Institutional knowledge of the Project spanning from SOQ through Award** • Reports to Design Integration Manager • Complies with and ensures Design Team compliance with the PMP, QMP, SMP, ECWP, and S/DBPP • Supports the Design Integration Manager
🔑 **Doug Andrew, PE** **Design Manager**	**Vast design build management experience on major projects throughout the country** • Reports to Design Integration Manager • Oversees and manages Deputy Design Manager, Cover Design Manager, Design Document Control Lead, Business Manager, and Project Control Manager • Works with Project Communication Manager to communicate aspects of the Design to the community; coordinates Design Team reporting on Schedule and budget status with the Design Integration Manager • Coordinates Design activities with the Design Integration Manager, DBM, and Construction Manager • Complies with and ensures Design Team compliance with the PMP, QMP, SMP, ECWP, and S/DBPP • Authority to stop Design Work • Adheres to the Design Contract, and certifies submitted Design documents in accordance with the Project Agreement • Responsible for overall accuracy of deliverables (i.e., ensures they are complete, meet the Project Agreement requirements, and are formally transmitted to the Department) • Monitors Schedule, staffing, and budget of Design activities
O&M Design Review Team	**Integrates O&M and Construction/Design to assure life cycle approach** • Coordinates with the Design Integration Manager • Communicates with O&M Manager, Design Manager, and O&M Engineer During Construction • Ensures Design compliance with the Maintenance Management Plan and Operations Management Plan • Ensures compliance with other Project management plans as they relate to O&M Design • Reviews the Design and provides recommendations and comments that favor long term performance
Constructability Review Team	**Optimizes the Design to produce a high quality product** • Reports to Design Integration Manager • Has direct engagement with Design Discipline Leads in development of Design Work • Organizes, conducts, and records Task Force Meetings with Discipline Leads • Provides frequent review of and input into the Design as it is developed

Title	Roles-Responsibilities
	LEGEND: 🔑 **Key Personnel** (!) **Critical Personnel**
(!) **Mark Talvitie, PE** **Deputy Design Manager**	**Prior Colorado P3 experience on US-36 Project** • Reports to Design Manager • Oversees Discipline Leads and packaging of the Design to support Construction Work • Works with the Design Document Control Lead to assemble Design packages for submission to the Department or for Release for Construction (RFC) • Works with the Independent Design Quality Manager to confirm that Design submittals meet QMP requirements before submission for review or for RFC • Authority to stop the Design Work • Complies with the PMP, QMP, SMP, and ECWP • Facilitates Comment Resolution Meetings • Responsible for coordination of Design disciplines • Ensures that Discipline Leads have addressed comments on Design deliverables • Performs Design Manager's duties in his absence from the Project
(!) **Heath Therrien, PE** **Cover Design Manager**	**Specific manager focused on delivering the Cover Design** • Reports to Design Manager • Oversees Cover Discipline Lead • Works with the Design Document Control Lead to assemble Design packages for submission to the Department or for RFC • Works with the Independent Design Quality Manager to confirm that Design submittals meet QMP requirements before submission for review or for RFC • Authority to stop Design Work • Complies with the PMP, QMP, SMP, and ECWP • Facilitates Comment Resolution Meetings for the Cover • Responsible for coordination of Design disciplines • Ensures that Discipline Leads have addressed comments on Design deliverables • Performs Design Manager's duties in his absence from the Project
Design Document Control Lead	• Reports to Design Manager • Works with the KMP and KIC Document Control staff to maintain a complete Project Record • Complies with the PMP, QMP, SMP, and ECWP • Works with the Deputy Design Managers to assemble Design packages for submission to the Department or for RFC • Advises the Design Manager when Design packages are complete and are ready for submission to the Department or for RFC • Uploads deliverables to KIC, KMP, and/or the Department upon direction from Design Manager • Ensures that record copies are kept of Project deliverables, maintains Project electronic and paper file systems, and coordinates with KMP and KIC Document Control Leads • Along with the Production Lead, maintains current document indices providing revision control over RFC Design documents

Title	Roles-Responsibilities
	LEGEND: **Key Personnel** (!) **Critical Personnel**
Business and Project Controls Manager	• Reports to Design Manager • Coordinates Design Team reporting on Schedule and budget status with the Commercial Manager • Monitors Design Team compliance with the PMP and S/DBPP • Complies with the PMP, QMP, SMP, and ECWP • Maintains subconsultant agreements, monitors the status of subconsultant budgets, and reports same to Design Manager • Identifies and maintains record of changes to the Design scope, and status of each change request • Prepares periodic reporting on DBE and ESB utilization, prepares Design portion of the Monthly Progress Report, and develops and maintains the Project Design Schedule
Discipline Leads	• Report to Design Manager • Organizes, conducts, and documents Task Force Meetings, along with the Constructability Review Team members • Ensures Design staff compliance with the PMP, QMP, SMP, and ECWP • Ensures discipline coordination, including assigning qualified staff and addressing comments on Design deliverables • Responsible for resolving Audit Findings within their discipline • Maintains quality control check prints and calculation check sets • Provides overall technical guidance within their discipline including review and oversight of discipline Work performed by subconsultants
Production Staff	• Report to Discipline Leads • Complies with the PMP, QMP, SMP, and ECWP • Generates Work products in conformance with Project Agreement requirements and standard of care • Responsible for the accuracy and completeness of their Work
Production Lead	• Reports to Design Manager • Complies with the PMP, QMP, SMP, and ECWP • Along with the Design Document Control Lead, maintains the current document indices providing revision control over Design documents Released for Construction • Maintains Project CADD files using ProjectWise platform • Audits Design files for compliance with CADD standards
Sue Grabler **RR Coordination**	**30+ years of experience dealing with UPRR and Railroads** • Reports to Design Manager • Complies with the PMP, QMP, SMP, and ECWP • Reviews Railroad Design prior to submittal

4.2.4 PB'S SUBCONSULTANTS

KMP complements the expertise of our Lead Designer with subconsultants who also possess the local knowledge and experience needed to complete the Project. For example, the Transtec Group was chosen because of their unique knowledge of the Department's specifications resulting from their long term study of Portland cement concrete paving (PCCP) textures for the Department. The Transtec Group not only performs the Preliminary Design and serves as an advisor throughout the Operating Period. These critical Team members are fully integrated into the Design and Construction Teams to provide a comprehensive solution to the delivery of the Project. KMP maintains an extensive database of DBE/ESB and non-DBE/ESB subcontractors and suppliers who are well suited to perform meaningful Work on the Project.

Listed below are Design subconsultants who have been actively engaged in the proposal process. In Final Design, KMP expects to engage additional subconsultants to assist with services such as Civil and Structural Design, Utility Design, ITS, surveying, geotechnical engineering, subsurface investigation, and Project administration.

Design Subconsultants

Landscape and Urban Design (Civitas)	Lighting (Clanton and Associates)
Pavement Design (Transtec Group, Inc.)	Civil Engineering Design and Survey (HCL, DBE, ESB)
Civil and Structural Design (Jacobs)	ITS and Drainage Design (Muller Engineering Company)
Railroad Coordination for UPRR, BNSF, and DRIR (Railroad Coordination, LLC)	Environmental, Phase II ESA, Contaminated Material (RMC Consultants, DBE)
Geotechnical Design (Shannon & Wilson, Inc.)	Civil Design (Shrewsberry, DBE)

Note: PB has partnered with the local strategic subconsultants listed for these specific scopes of work. These key subconsultants have been engaged throughout the Design and proposal process, and are integrated into the Team.

4.3 LEAD CONTRACTOR: KIEWIT INFRASTRUCTURE CO. (KIC)

KIC reports directly to KMP. The Design-Build Manager reports and communicates directly to the Technical Manager. KIC's structure is shown below in two parts: Construction and Administration.

4.3.1 KIC ROLES AND RESPONSIBILITIES

KIC executes and complies with:

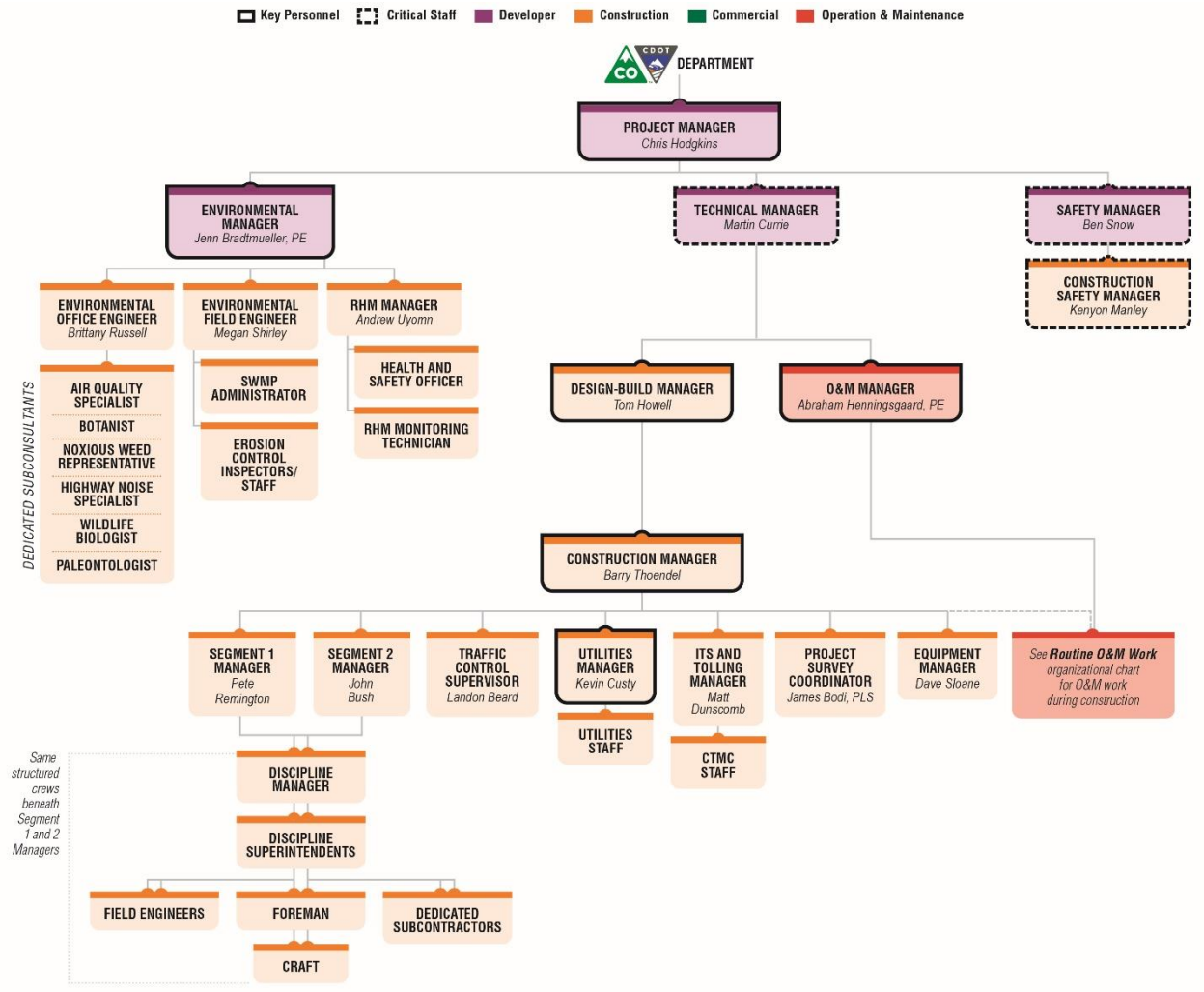
- Project Agreement
- DB Contract
- Interface Agreement
- Design Contract

KIC is responsible for managing its subcontractors.

4.3.2 KIC CONSTRUCTION ORGANIZATIONAL CHART

The Construction organizational chart is shown below. Field activities are managed by two Segment Managers who report to the Construction Manager.

Construction Personnel Organization Chart



4.3.3 KIC CONSTRUCTION PERSONNEL ROLES AND RESPONSIBILITIES

The roles and responsibilities listed for the personnel below are in addition to the responsibilities that all personnel have in regards to safety (Section 5.9), quality (Section 5.7), and compliance (Section 5.19).

Construction Personnel Roles and Responsibilities

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
Tom Howell **Design-Build Manager (DBM)**	**Extensive local experience on mega design build projects** • Reports to Technical Manager • Oversees Deputy DBM, Construction Manager, and Commercial Manager • Ensures compliance with Project management plans • Authority to suspend Construction Work • Responsible for the overall Design and Construction of the Project, and for managing KMP's DB Team • Ensures that the Project is designed and constructed in accordance with the Project Agreement requirements
Barry Thoendel **Construction Manager (CM)**	**Extensive design build and Maintenance During Construction experience** • Reports to DBM • Oversees Construction personnel • Communicates with Safety Manager, Communications Team, Quality Team, Commercial Manager, Design Integration Manager, O&M Engineer During Construction, among others • Ensures compliance with Project management plans • Authority to suspend Construction Work • Ensures that the Project is constructed in accordance with Project Agreement requirements • Responsible for managing KIC's Construction personnel, scheduling of the Construction Work, and administering compliance with Project Agreement requirements applicable to the Construction Work • Oversees and manages the scope for O&M During Construction
John Bush and Pete Remington **Segment Manager**	**Local design build experience, including T-REX Project** • Reports to Construction Manager • Oversees Discipline Managers, Discipline Superintendents, field engineers, foreman, and craft for their area of Work • Communicates with the Utilities Manager, ROW Manager, MOT Manager, Project Survey Manager, and O&M Manager during Construction • Ensures compliance with Project management plans • Responsible for Work in their areas including: scope of work, quantities, Schedule, identifying challenges, promoting innovations, and overall quality • Ensures the safety of personnel in their area, as well as the safety of the traveling public and local residents • Ensures quality Work is constructed in accordance with the requirements of the Project Agreement

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
(!) **Kenyon Manley** **Construction Safety Manager**	**Came up through the craft as a leader in safety** • Reports to the Safety Director • Communicates with personnel on the Construction Team • Ensures compliance with the SMP and the Health and Safety Plan • Empowered to take necessary action to correct safety problems, including stopping Work in the case of serious safety hazards • Authority to stop Construction Work in the presence of any unsafe act or condition • Responsible for developing, implementing, and monitoring all aspects of the SMP, including review and preparation of the Construction Plan for Safety Critical Work • Responsible for communicating safety issues and lessons learned with the Project Team
Kevin Custy **Utilities Manager**	**Most respected utility manager in the state with over 30 years of experience managing utilities** • Reports to Construction Manager • Oversees Utilities Staff • Communicates with the Segment Managers, Utility Owners (both public and private), and utility contractors • Ensures compliance with Project management plans as they relate to utilities • Responsible for managing required Utility Work and coordinating with Utility Owners • Performs Utility Coordination services with respect to Utility Adjustments for the Project • Responsible for communicating and coordinating with Project Team regarding utilities Design, Construction, and Scheduling
Utilities Staff	• Reports to Utilities Manager • Communicates with field engineers • Ensures compliance with Project management plans as they relate to utilities • Responsible for duties assigned by Utilities Manager
Discipline Managers	• Report to Segment Manager • Oversees Discipline Superintendents • Communicates with the Safety Manager, Quality Staff, and Commercial Manager • Ensures compliance with Project management plans • Responsible for the safety and quality of their Work • Ensures Construction activities are thoroughly planned • Oversees the Schedule for their discipline

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
Discipline Superintendents	• Report to Discipline Manager • Oversees field engineers and foremen • Communicates with the Safety Manager, Quality Staff, Commercial Manager, ROW Manager, and Utilities Manager • Ensures compliance with Project management plans • Attends daily crew communicator meetings, and sets safety and quality expectations • Develops Work plans and attends Pre-Activity Meetings • Oversees the Three-Week Schedule for their discipline
Field Engineers	• Reports to Discipline Superintendent • Communicates with foremen, Project Engineer, and Lead Scheduler • Ensures compliance with Project management plans • Responsible for the ordering, tracking, and payments for permanent materials, and for small tools and supplies • Tracks and claims daily quantities, reviews and approves time cards, and coordinates Work with subcontractors • Responsible for the safety and quality of the Work done by their crews
Foreman	• Report to Discipline Superintendent • Communicates with field engineer, and IQC and PC Inspectors • Ensures compliance with Project management plans • Responsible for planning activities, overseeing their crews, and scheduling daily Work • Responsible for building the Work in accordance with the Project Agreement • Responsible for the safety of their crew • Communicates daily the materials, tools, and subcontractor coordination needed for the next day's activities
Craft	• Report to foreman • Ensures compliance with Project management plans • Has the authority and responsibility to stop Work in the presence of any unsafe act or condition • Responsible for building the Work in accordance with the Project Agreement • Craft Voice In Safety (CVIS) is a corporate program which empowers the craft to manage the entirety of site safety •
Dedicated Subs	• Report to Discipline Superintendents • Ensures compliance with Project management plans • Executes the scope of their subcontract

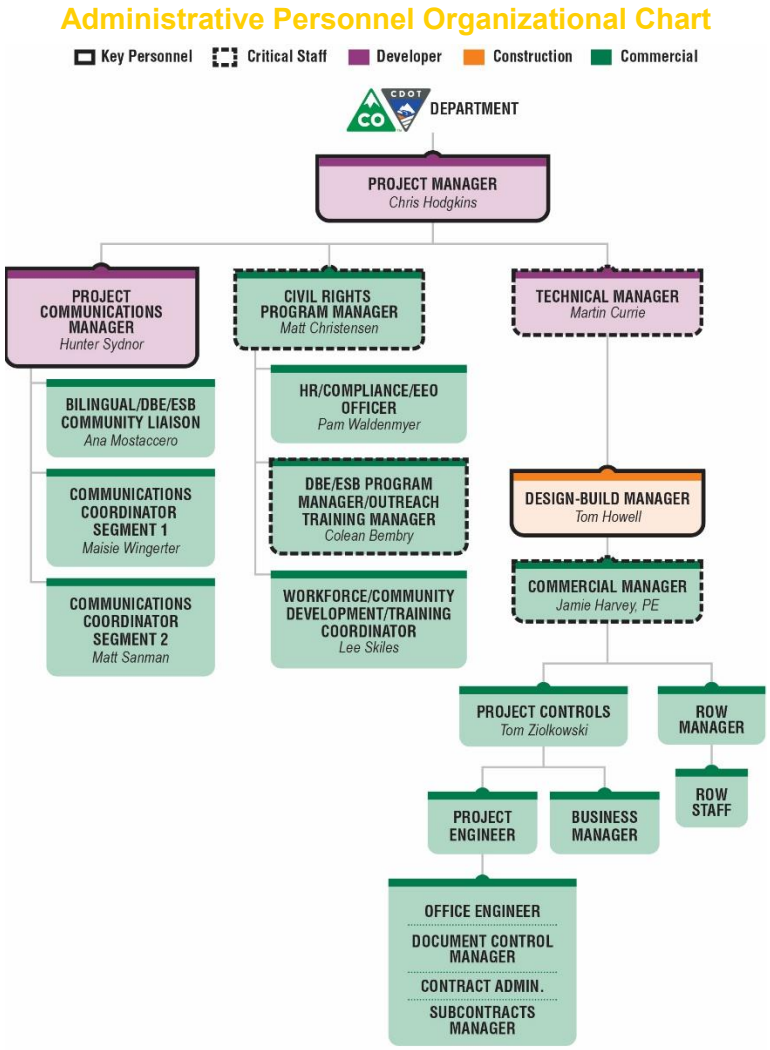
Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
Landon Beard **Traffic Control Supervisor**	**Traffic control experience on mega design build projects** • Reports to Construction Manager • Oversees MOT Staff • Communicates with the Segment Managers and O&M Engineer During Construction • Ensures compliance with the Transportation Management Plan • Ensures compliance with other Project management plans • Manages MOT throughout the entire Project • Ensures reliable travel speeds for lanes • Incorporates concerns of pedestrians and bicyclists as well as vehicles; maintains access to businesses
Equipment Manager	• Reports to Construction Manager • Oversees Equipment Engineers and maintenance staff • Communicates with Discipline Managers and Project Engineer • Ensures compliance with Project management plans • Responsible for ordering construction equipment and pick-up trucks on the Project, both company owned and outside rentals • Responsible for the maintenance of construction equipment, including routine maintenance and preventative maintenance • Ensures compliance with DOT regulations regarding equipment
James Bodi, PLS **Project Survey Coordinator**	**Extensive local experience, including managing survey on the T-REX Project** • Reports to Construction Manager • Oversees survey staff • Communicates with Discipline Superintendents and field engineers • Ensures compliance with Project management plans • Responsible for Project survey control and construction surveys, including integration with telematics, and verifying ROW and property lines
O&M Engineer During Construction	• Reports to O&M Manager • Oversees O&M staff during Construction • Communicates with the Construction Manager, MOT Manager, and O&M Design Reviewer • Ensures compliance with Project management plans, particularly the Maintenance Management Plan and Operations Management Plan • Responsible for O&M Work during Construction • Ensures the appropriate standard of maintenance for lanes

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
Matt Dunscomb **ITS and Tolling Manager**	**Recent CDOT experience on US36 Managed Lanes and I70 Peak Period Shoulder Lane** • Reports to Construction Manager • Oversees CTMC Staff • Communicates with the Traffic Control Supervisor, and Design Integration Manager • Ensure compliance/complies with Project management plans, as they relate to ITS and tolling • Authority to stop or redirect Work at any time as needed • Responsible to ensure that individuals working on Design, Construction, and integration for ITS and tolling are qualified and have relevant experience • Is the primary liaison between KMP and the Department on ITS and tolling related issues • The lead responder to any noncompliance findings issued for ITS or tolling Work
Colorado Transportation Management Center (CTMC) Staff	• Reports to ITS and Tolling Manager • Communicates with the Traffic Control Supervisor and O&M Engineer During Construction • Ensure compliance/complies with Project management plans, as they relate to ITS and tolling • Monitor I-70 traffic operations 6:30am to 8:00pm for weekdays and 10:00am to 7:00pm for weekends
Environmental Office Engineer	• Reports to Environmental Manager • Oversees dedicated environmental subconsultants • Communicates with the Segment Managers • Ensures compliance with Project management plans, specifically the ECWP • Responsible to schedule and manage dedicated environmental subconsultants • Responsible to ensure ECWP and associated plans are administered
Erosion Control Engineer	• Reports to Environmental Manager • Oversees SWMP Administrator • Communicates with the Segment Managers • Ensures compliance with Project management plans, specifically the ECWP and SWMP • Responsible to oversee Erosion Control Inspections and administration of the SMWP

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
SWMP Administrator	• Reports to Erosion Control Engineer • Ensures compliance with ECWP and SWMP • Responsible to maintain and administer the SWMP • Evaluates non-stormwater coming onto the site and reviews existing inlets and culverts to determine if inlet protection is needed due to water flow patterns • Record and describe BMPs on the SWMP site map
Erosion Control/Inspectors/Staff	• Report to Erosion Control Engineer • Ensure compliance with ECWP and SWMP • Coordinate with the SWMP Administrator • Review the Construction site for compliance with the Stormwater Construction Permit • Inspect stormwater management system with Discipline Superintendents and the IQCM
Andrew Uyomn **RHM Manager**	**13 years of local experience** • Reports to Environmental Manager • Oversees Health and Safety Officer, and RHM Monitoring Technician • Ensures compliance with Project management plans, specifically the MMP and ECWP • Responsible to implement the MMP • Responsible to ensure KMP follows Environmental Requirements applicable to RHM • Leads bi-weekly meetings to review status of RHMs
Health and Safety Officer (HSO)	• Reports to RHM Manager • Communicates with the Safety Director and Safety Manager • Ensures compliance with Project management plans, specifically the Health and Safety Plan • Responsible to prepare and implement the Health and Safety Plan • Maintains a daily diary to be included in the Monthly Statements of Recognized Hazardous Materials • Ensures hazardous substance and solid waste related testing, sampling, monitoring, and handling comply with applicable statues and regulations
RHM Monitoring Technicians	• Report to RHM Manager • Communicates with the HSO • Ensures compliance with the Health and Safety Plan, Materials Management Plan, and ECWP • Responsible for the identification and monitoring of Hazardous Substances following HAZWOPER guidelines • Responsible to monitor for compliance with regulations, the Project Health and Safety Plan, Materials Management Plan, the Project Agreement, and environmental documents for the Project

4.3.4 KIC ADMINISTRATIVE ORGANIZATIONAL CHART

Below is the administrative organizational chart.



4.3.5 KIC ADMINISTRATIVE PERSONNEL ROLES AND RESPONSIBILITIES

The roles and responsibilities for the personnel listed below are in addition to the responsibilities that all personnel have in regards to safety (Section 5.9), quality (Section 5.7), and compliance (Section 5.19).

Administrative Personnel Roles and Responsibilities

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
(!) **Jamie Harvey, PE** **Commercial Manager**	**Over 31 years of local industry experience** • Reports to Design-Build Manager (DBM) • Oversees Project Controls Manager and Right-of-Way (ROW) Manager • Communicates with Construction Manager and the Design Integration Manager • Interfaces with the Department's Commercial Manager • Ensures compliance with Project management plans • Manages deliverables including submittals, Requests for Information (RFIs), and correspondence • Overall responsibility for DBE/ESB, workforce development, community development, and subcontract management • Responsible for KIC's cost and Schedule tracking, and payment to subcontractors
(!) **Matt Christensen** **Civil Rights Program Manager**	**Serves on the board of directors for Hispanic Contractor's Association and active COMTO membership** • Reports to Project Manager • Oversees HR/Compliance/EEO Officer, DBE/ESB Program Manager/Outreach Training Manager, and Workforce/Community Development/Training Coordinator • Communicates with Business Manager, Project Controls Manager, and Department regarding federal and state requirements • Ensures compliance with Project management plans as they relate to Small and Disadvantaged Business Participation Plan and Workforce Development Plan (WDP) • Serves as primary contact for KMP's small business participation program • Responsible for day-to-day activities, and primary contact to the Department, for items concerning: Davis-Bacon and Related Acts, Equal Employment Opportunity (EEO), Title VI of the Civil Rights Act, Americans with Disabilities Act, federal requirements for FHWA 1273, small business participation, workforce development, and community development programs
HR/Compliance/EEO Manager	• Reports to Civil Rights Program Manager • Ensures compliance with Project management plans as they relate to Human Resources, Compliance, and EEO requirements • Administers and promotes an active Compliance/EEO program • Manages Human Resources for the Project • Conducts EEO meetings at least every six months and prior to the start of Work with personnel to review and explain KMP's EEO policy • Trains new office employees on Compliance/EEO policy

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
(!) **Colean Bembry** **DBE/ESB Program Manager/Outreach Training Manager**	**Active member, nationally and locally, of COMTO** • Reports to Civil Rights Program Manager • Communicates with Construction Manager, Business Manager, and Project Controls Manager • Ensures compliance with the Small and Disadvantaged Business Participation Plan • Ensures compliance with Project management plans as they relate to DBE/ESB requirements • Serves as primary contact for KMP's DBE/ESB contract compliance • Assists with creating, maintaining, and keeping records of communications and outreach activities for DBE/ESB program • Develops training to assist DBE/ESBs in being more successful on the Project, as well as providing training on business administration to help them grow their businesses in the future
Lee Skiles **Workforce/Community Development/Training Coordinator**	**Highly active in the community, specifically with workforce roundtables and unions** • Reports to Civil Rights Program Manager • Communicates with Design Manager, Construction Manager, Business Manager, and Project Communications Manager • Ensures compliance with the WDP • Ensures compliance with Project management plans as they relate to workforce/community development requirements Responsible for developing and implementing KMP's workforce/community development programs
Ana Mostaccero **Bilingual/DBE/ESB/Community Liaison**	**Established relationship with the local community** • Reports to the , Project Communications Manager (PCM) • Communicates directly with the local communities, schools, the DBE/ESB Program Manager, and the Workforce/Community Development Manager • Maintains compliance with the Strategic Communication Plan (SPC), Construction Phase Communication Plan (CPCP), and the Crisis Communication Plan (CCP) • Translates Project documents (as per Limited English Proficiency program in Schedule 14, Section 5.2k) • Provides Spanish language literature and materials for dissemination to the communities • Works closely with the Communications Coordinators

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
Segment Communications Coordinator	• Reports to the PCM • Communicates directly with the local communities, the Construction Managers, and Commercial Manager • Maintains compliance with the SCP, CPCP, and CCP • Communicates Construction impacts and coping strategies • Serves as primary point-of-contact for residents/businesses • **Communications Coordinator—Segment 1:** Monitors issues within the Globeville, Elyria-Swansea (GES) neighborhoods of RiNo, Cole, Clayton, and Northeast Park Hill for residents, small and large businesses, and the National Western Stock Show Event Center • **Communications Coordinator—Segment 2:** Monitors issues within the industrial area between Quebec and the end of the Project corridor—including the neighborhoods of Stapleton, Montbello, Aurora and Gateway •
Project Controls Manager	• Reports to Commercial Manager • Oversees Project Engineer and Business Manager • Communicates with Civil Rights Program Manager, Discipline Superintendents, and Design Integration Manager • Ensures compliance with Project management plans as they relate to Project Controls • Oversees KIC cost reporting, cost forecasting, and payments to subcontractors and suppliers
Project Engineer	• Reports to Project Controls Manager • Oversees Office Engineer, Lead Scheduler, Document Control Manager, and Contract Administrator • Communicates with field engineers • Ensures compliance with Project management plans • Responsible for monthly reporting to KMP • Responsible for submittals and transmittals to/from the Department • Responsible for coordination of Construction engineering among discipline groups • Responsible for Project budget and cost control
Business Manager	• Reports to Project Controls Manager • Communicates with Project Engineer and Civil Rights Program Manager • Ensures compliance with Project management plans • Ensures payrolls are processed properly • Trains and supervises business staff
Office Engineer	• Reports to Project Engineer • Ensures compliance with Project management plans • Supports the Project Engineer

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
Document Control Manager	• Reports to Project Engineer • Ensures compliance with the Document Management System (DMS) Plan • Ensures compliance with other Project management plans as they relate to document control • Responsible for maintenance of the DMS and control of the submittal process • Responsible for the transmittal of documents to KMP and the Department
Contract Administration	• Reports to Project Engineer • Communicates with field engineers and Lead Scheduler • Ensures compliance with Project management plans • Responsible for formal correspondence • Responsible for tracking and managing changes to the Project Agreement • Responsible for tracking and managing contract changes with subcontractors and suppliers
Subcontract Manager	• Reports to Project Engineer • Communicates with Discipline Managers and field engineers • Ensures subcontractor compliance with Project management plans • Manages correspondence, contracts, and payment for subcontractors and suppliers • Manages subcontract change orders, RFIs, and submittals
Right-of-Way Manager	• Reports to Commercial Manager • Oversees ROW Staff • Communicates with Discipline Superintendents and Department ROW staff • Ensures compliance with the Property Management Plan • Ensures compliance with other Project management plans as they relate to ROW • Performs ROW acquisition services for additional ROW or temporary easements as needed • Responsible for acquisition and relocation coordination, and compliance with the Project Agreement • Responsible for management of acquired ROW
Right-of-Way Staff	• Reports to ROW Manager • Communicates with field engineers • Ensures compliance with the Property Management Plan • Ensures compliance with other Project management plans as they relate to ROW • Supports the ROW Manager

4.3.6 KIC SUBCONTRACTORS AND SUPPLIERS

KMP complements its expertise with subcontractors and suppliers who possess the local knowledge and experience needed to complete the Project. These critical Team members are fully integrated into the Construction Team to provide a comprehensive solution to the delivery of the Project. Some of the subcontractors/suppliers (noted with an asterisk in the table below) are already working as part of the KMP Team. For other scopes, KMP maintains an extensive database of DBE/ESB and non-DBE/ESB subcontractors and suppliers who are well suited to perform Work in meaningful ways on the Project.

KIC plans to solicit proposals from subcontractors for the scopes of work listed in the table below. This is not an exhaustive list of all items that are subcontracted; multiple contractors, including KMP, may perform these scopes.

Construction Subcontract and Supplier Scopes of Work

Subcontractor Scopes	Supplier Scopes
Air Monitoring	Aggregates
Building Demolition	Asphalt
Cleaning Services	Attenuators
Concrete Pumping	Bridge Bearing Devices
Cover Mechanical, Electrical, and Plumbing (MEP)	Concrete
Drainage (Iron Woman)*	Debris Containers
Drilled Shafts (Anderson Drilling)*	Drainage Pipe
Electrical, Lighting, ITS (Sturgeon Electric)*	Expansion Joints
Environmental Remediation (Iron Woman)*	Formwork
Erosion Control	Guardrail
Fencing	Lumber and Wood
Fire Life Safety	MSE Panels
Flatwork	Noise Wall Panels
Grout Injection	Pile/Shafts
Landscape	Precast Concrete Barrier
Noise Monitoring	Precast Concrete Girders
Painting	Precast Manholes/Inlets
PCCP (Villalobos)*	Rebar
Potholing	Signs

Subcontractor Scopes	Supplier Scopes
Quality Control	Steel Girders
Saw Cutting	Tools and Hardware
Security	
Soil Nail Walls	
Striping	
Survey	
Traffic Control	
Trucking (Iron Woman)*	
Utilities (Iron Woman)*	
Water Proofing	

**Note: KMP has partnered with local strategic subcontractors listed for these specific scopes of work. These key subcontractors have been engaged throughout the Design and proposal process, and are integrated into KMP's Team*

4.4 QUALITY MANAGEMENT

KMP incorporated Approved ATC 9 to self-perform Independent Quality Control activities due to our success with this system on past projects, including the T-REX Project. This approach to quality allows us to support efficient Construction scheduling and provide greater opportunities for DBE and ESB involvement while maintaining independence and ISO certification. KMP's quality group is divided into two independent silos: Process Control (PC) and Independent Quality Control (IQC). PC and IQC operate independently from each other and from Construction activities.

As described in Section 5.3 of the Quality Management Plan (Appendix D), these two groups operate with a *Project First* focus, maintaining consistent communication with each other and with the Construction Team throughout the Construction Period. Quality for O&M Work during Construction and from Substantial Completion through the end of the Term is addressed in the O&M Quality Management Plan. The Project Quality Manager remains Onsite through the end of the Term and maintains the roles defined in the O&M Quality Management Plan.

4.4.1 ROLES AND RESPONSIBILITIES

- Oversee the quality of the Project to ensure the Project goals are met
- Ensure KMP Quality Policy and objectives are met

4.4.2 QUALITY ORGANIZATIONAL CHART

Below is a table describing KMP's Personnel Authority levels. This is consistent with ATC 9 which allows KMP to utilize in-house employees to perform Independent Quality Control in lieu of an Independent Firm.

Quality Personnel Authority Levels

Project Wide Authority	• Executive Management • Project Manager • Technical Manager • Design-Build Manager • Construction Process Control Manager • Process Control Staff • Project Quality Manger • Independent Design Quality Manager • Independent Design Quality Staff • Independent Quality Control Manager • Independent Quality Control Lab Manager • Independent Quality Control Staff
Work Stream Authority	• Design Integration Manger • Design Manager (Design Process Control Manager) • Commercial Manager • Construction Manager • O&M Manager

4.4.3 QUALITY PERSONNEL ROLES AND RESPONSIBILITIES

The roles and responsibilities listed for the personnel below are in addition to the responsibilities that all personnel have in regards to safety (Section 5.9), quality (Section 5.7), and compliance (Section 5.19).

Quality Personnel Roles and Responsibilities

Title	Roles-Responsibilities
LEGEND:	**Key Personnel** (!) **Critical Personnel**
Gordon Peterson, PE **Project Quality Manager (PQM)**	**Managed several independent quality programs on mega design build projects with Maintenance During Construction experience** • Reports to KMP Executive Management • Oversees IQCM and IDQM • Communicates directly with the Department, Project Manager, and DBM • Ensures compliance with plans associated with the Quality Management Plan (QMP), and complies with other KMP Project management plans • Ensures the success of the quality program • Responsible for final checks, Approvals, and certifications for quality • Responsible for assuring, certifying, and providing documented evidence that the Work meets the requirements of the Project Agreement • Responsible for the success of the QMP • Ensures that authority and responsibilities are defined and communicated within the organization

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
Tracy Martin, PE **Independent Quality Control Manager (IQCM)**	**Extensive design build experience** • Reports to PQM and Department • Oversees IQC Lab Manager, and IQC staff • Communicates with Construction Manager, Segment Manager, and the Department • Ensures compliance with the QMP and CQMP, and complies with other KMP Project management plans • Authority to stop Work that does not comply with requirements of the Project Agreement • Manages the IQC aspect of the QMP • Ensures the adequacy and enforcement of quality procedures, processes, inspections, and tests for Work • Ensures quality records are properly prepared, completed, maintained, and delivered to the Department, as required by the Project Agreement, in order to provide evidence of IQC activities performed and quality results achieved
Independent Quality Control Staff	• Reports to IQCM • Communicates with field engineers and foremen • Ensures compliance with the QMP and CQMP, and complies with other KMP Project management plans • Performs IQC testing and inspections in the field
James Rozek, PE **Independent Design Quality Manager (IDQM)**	**Over 30 years of similar work experience** • Reports to PQM • Ensures compliance with the QMP, and DQMP, and complies with other KMP Project management plans • Authority to stop Design Work that does not comply with requirements of the Project Agreement • Responsible for Design quality control activities • Ensures that the methods and procedures contained in the Approved QMP that relate to Design, are implemented and followed by the Design Team in the performance of the Work • Ensures the DQMP is understood, implemented, and maintained at levels of the Project's Design organization

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
Sean McAfee **Construction Process Control Manager (CPCM)**	**Over 10 years of quality control experience** • Reports to Project Manager • Oversees PC Staff • Communicates with PQM, Construction Manager, and Segment Manager • Ensures compliance with the QMP, and CQMP, and complies with other KMP Project management plans • Ensures that the methods and procedures contained in the Approved QMP and CQMP are implemented and followed by KMP, subcontractors, fabricators, suppliers, and vendors • Responsible for management of the PC aspect of the QMP • Ensures that quality records are properly prepared, completed, maintained, and delivered to the Department, as required by the Project Agreement, in order to provide evidence of PC activities performed and quality results achieved
Doug Andrew **Design Manager (Process Control)**	**Streamlined approach** • Reports to Project Manager • Communicates with PQM • Ensures compliance with the QMP, DQMP, and and complies with other KMP Project management plans • Responsible for Design Process Control activities • Verifies that agreed upon comments are incorporated into the Design, and that Design packages are complete • Allocates adequate resources and trained personnel for PC activities
Bill Whitaker, PE **IQC Lab Manager**	**Experience setting up and managing the Department's certified labs** • Reports to IQMC • Ensures compliance with QMP • Responsible for management of the Independent Quality Control Lab
O&M Quality Manager	• Reports to O&M Manager • Coordinates with PQM • Ensure compliance with QMP and OMQMP all KMP Project Management Plans • Responsible for O&M specific quality processes • Setup of Maintenance Management Information System (JAMMS) to track and monitor the quality program

4.5 OPERATIONS AND MAINTENANCE (O&M)

4.5.1 O&M WORK DURING CONSTRUCTION (KIC)

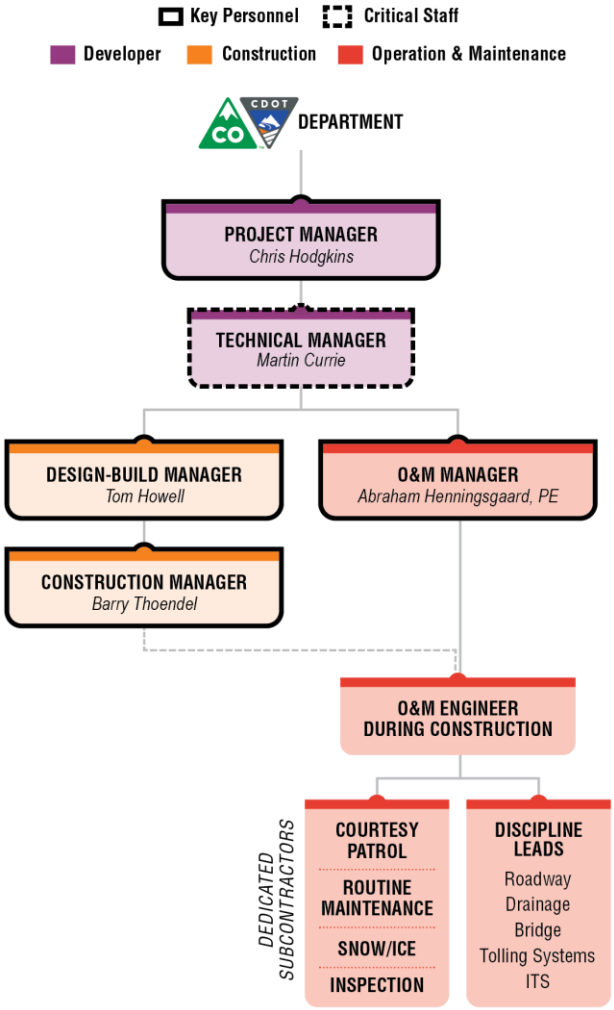
KMP has assigned KIC the scope of O&M responsibilities during the Construction Period as described in Section 4.1. KIC partners with Jorgensen to perform this scope.

4.5.1.1 KIC's Role and Responsibilities

- Execute O&M responsibilities during the Construction Period
- Execute and comply with the Interface Agreement
- Manage O&M subcontractors

4.5.1.2 O&M During Construction Organizational Chart

O&M During Construction Personnel Organizational Chart



4.5.1.3 O&M During Construction Personnel Roles and Responsibilities

The roles and responsibilities listed for the personnel below are in addition to the responsibilities that all personnel have in regards to safety (Section 5.9), quality (Section 5.7), and compliance (Section 5.19).

O&M During Construction Personnel Roles and Responsibilities

Title	Roles-Responsibilities
LEGEND:	**Key Personnel** (!) **Critical Personnel**
Abraham Henningsgaard, PE **O&M Manager**	**13 years of experience in a variety of roles managing O&M of large highway projects** • Reports to Technical Manager • Oversees O&M Engineer during Construction • Communicates with Design-Build Manager • Ensures compliance with Project management plans, particularly the Maintenance Management Plan and Operations Management Plan • Ensures O&M requirements of the Project Agreement are met
O&M Engineer During Construction	• Reports to O&M Manager • Oversees the O&M staff during Construction • Communicates with Construction Manager, MOT Manager, and O&M Design Reviewer • Ensures compliance with Project management plans, particularly the Maintenance Management Plan and Operations Management Plan • Responsible for O&M Work during Construction • Ensures the appropriate standard of maintenance for lanes

4.5.2 O&M DURING OPERATING PERIOD (JORGENSEN AND KMP)

KMP's Lead Operator, Jorgensen, is contracted directly with KMP for the performance of certain O&M Work, primarily Routine O&M Work during the Operating Period. Jorgensen's O&M Manager reports to and communicates directly with the Technical Manager. Throughout the Operating Period, KMP enters into subcontracts for the performance of the remaining O&M Work with firms qualified to perform such Work, including Renewal Work and any required Handback Work.

4.5.2.1 Jorgensen Roles and Responsibilities

- Execute relevant O&M Work responsibilities during the Operating Period
- Execute and comply with:
  - O&M Contract
  - Interface Agreement
- Manage its subcontractors

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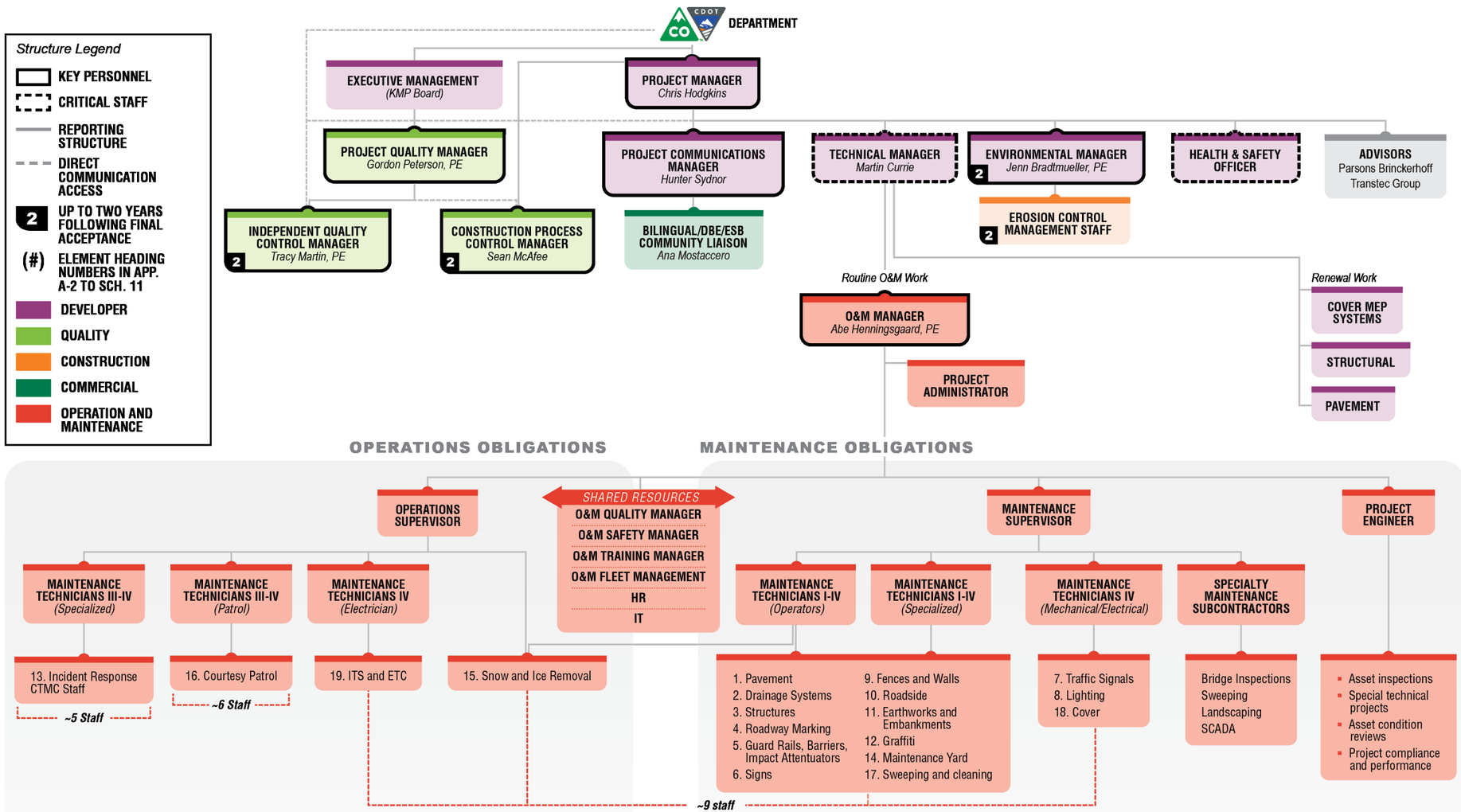
4.5.2.2 Operating Period O&M Organizational Chart



TEAM MEMBER ROLES AND RESPONSIBILITIES

Kiewit meridiam PARTNERS — *KMP, Developer*

- Oversees work of all KMP Team Members
- Provides contractual compliance
- Develops and refines O&M strategies and plans
- Communicates and coordinates with Department, Design, Construction, and O&M Teams
- Interface with third party stakeholders and general public
- Performs Renewal Work through sub-contracts

Kiewit — *KIC, Lead Contractor*

- Construction
- Responsible for O&M during construction as a subcontractor to KMP
- Engineer in Responsible Charge

Jorgensen — *RJA, Lead Operator*

- Operations and Routine Maintenance
- Subcontractor to the Lead Contractor during the Construction Period
- Subcontractor to KMP during the Operating Period

Parsons Brinckerhoff — *PB, Lead Engineer, Advisor*

- Engineering and design as subcontractor to the Lead Contractor
- Advisor to KMP during the Operating Period
- Undertake bridge, structural, and Specialty Inspections as a subcontractor to the Lead Operator

The Transtec Group — *The Transtec Group, Advisor*

- Advisor to KMP during the Construction and Operating Periods
- Life cycle management and forecast overview services for Renewal Work

4.5.2.3 O&M Personnel Roles and Responsibilities

The roles and responsibilities listed for the personnel below are in addition to the responsibilities that personnel have in regards to safety (Section 5.9), quality (Section 5.7), and compliance (Section 5.19).

O&M—Operating Period Personnel Roles and Responsibilities

Title	Roles-Responsibilities
LEGEND:	**Key Personnel** (!) **Critical Personnel**
Abraham Henningsgaard, PE **O&M Manager**	**13 years of experience in a variety of roles managing O&M of large highway projects** • Reports to Technical Manager • Oversees Operations Manager • Communicates with Project Communications Manager and Project Quality Manager • Ensures compliance with Project management plans, particularly the Maintenance Management Plan and Operations Management Plan • Ensures O&M requirements of the Project Agreement are met
Operations Manager	• Reports to O&M Manager • Oversees day-to-day operations during the Operating Period • Responsible for scheduling required testing, and providing reports • Ensures data collection and reporting is carried out in accordance with the Technical Requirements
Safety Manager	• Reports to Operations Manager • Develops a comprehensive safety program for the O&M Work • Implements and monitors the safety program during the Operating Period • Conducts safety training, safety meeting reviews, and follow-ups • Develops and monitors safe Work procedures • Ensures compliance with safety requirements per the O&M Safety Plan
O&M Quality Manager	• Reports to Project Quality Manager • Ensure compliance/complies with the OMQMP • Communicates with the Roadworks and Bridgeworks Superintendents • Responsible for implementing and overseeing the QMP, and ensuring that requirements of the Plan are followed, including reporting
Environmental Manager	• Reports to Operations Manager • Develops, implements, and manages the O&M Environmental Management Plan in alignment with the overall Environmental Management System (EMS) • Reviews the environmental impacts of new materials and procedures proposed during the Operating Period

Title	Roles-Responsibilities
LEGEND:	Key Personnel (!) Critical Personnel
Roadworks Superintendent	• Reports to Operations Manager • Directs and coordinates activities of workers on a day-to-day basis • Assists in the planning and execution of roadwork • Ensures operations are performed with the utmost regard for the health and safety of all personnel involved, including the traveling public • Organizes crews, schedules Work, and requests materials and supplies required for roadworks operations
Bridgeworks Superintendent	• Reports to Operations Manager • Directs and coordinates activities of workers on a day-to-day basis • Assists in the planning and execution of bridgework • Ensures operations are performed with the utmost regard for the health and safety of all personnel involved, including the traveling public • Organizes crews, schedules Work, and requests materials and supplies required for bridgework operations

4.5.2.4 O&M Subcontractors/Subconsultants

KMP complements its expertise with subconsultants and subcontractors who possess local knowledge and experience needed to complete the Project. These critical Team members are fully integrated into the O&M Team to provide a comprehensive solution to the delivery of the Project. KMP maintains an extensive database of DBE/ESB and non-DBE/ESB subcontractors and suppliers who are well suited to perform meaningful Work on the Project.

KMP plans to solicit proposals from subcontractors for the scopes of work listed in the table below. This is not an exhaustive list of all scopes and items that are subcontracted; multiple contractors, including KMP and Jorgensen, may perform these scopes.

Expected Subcontractor and Supplier Scopes

Subcontractor Scopes	Subcontractor Scopes	Supplier Scopes
Striping	Inspection services	Asphalt
Trucking	ITS maintenance	Concrete
Courtesy patrol	Landscaping	Guardrail
Drainage inspection cameras	Paving and Pothole Repair	Aggregates
Electrical	Snow Removal	Barrier wall
Hazardous spill containment	Staffing	
Heavy towing	Sweeping	
Traffic Control		

5. Management Processes

5.1 KMP MANAGEMENT PROCESSES

5.1.1 KMP COMMUNICATION/COORDINATION PLAN

KMP maintains a co-located office with the Department at Steele Street and I-70; KMP also co-locates a staff person with the Department at the CTMC in Golden, CO. KMP provides the facilities required by Schedule 8, Section 11. Co-location facilitates daily communication between parties within the Project Team, and promotes development of working relationships, communication of issues, and effective decision making.

Members from KMP's Management Team (including Project Manager, Technical Manager, and Financial Manager) attend and participate in the Project meetings listed below with Department representatives to ensure that the Department's goals are understood, and that the Project is meeting expectations. The Department is also invited to other Project meetings discussed elsewhere in this and other documents.

KMP Management Meeting List

Meeting	Parties in Attendance	Purpose/Benefit
Monthly Progress Status Meeting	Department, KMP Executive Management, DBM, Construction Manager, Design Manager, Commercial Manager	Meeting to verify and finalize the following: Project Schedule, Approved Change Orders, Nonconforming Work, and Work performance. Other topics may also be covered.
Annual Executive Management Review	Department, KMP Executive Management, DBM, PQM	Review the QMP to ensure continued suitability, adequacy, and effectiveness
Quarterly Quality Meeting	Department, KMP Executive Management, PQM	PQM reports on the performance of the quality system; obtains feedback for improvement of QMS
Enterprise Board Meeting *(Monthly or As Requested)*	Department, Enterprises, KMP Executive Management	KMP informs Enterprises and Department leadership about the Project and the Work in connection with their public oversight
Insurance Meetings *(Twice per year or as requested)*	Department, Enterprises, KMP Executive Management	Review incidents, potential claims, and claim files along with related insurance polices
Weekly Quality Meeting	KMP Executive Management, Department, Quality Team	Discuss Nonconformance Reports (NCRs), Nonconformance Notices (NCNs), and any Department quality concerns

This is a sample of the KMP meetings that KMP management attend, others take place throughout the Project.

5.1.2 INEIGHT PROJECT SUITE

KMP is committed to delivering the Project on budget and on schedule. Throughout the industry, there are several well-documented megaprojects that have been plagued with inadequate Project Control Systems, resulting in disconnected systems with no common denominator, silos of model data and operational systems, and no good way to connect project stakeholders. Ultimately, these deficiencies contribute to budget and schedule challenges, which can lead to residual degradation in safety and quality performance. KMP mitigates these risks by using InEight Project Suite, taking advantage of decades of project controls lessons-learned, combined with the efficiencies of emerging technology. InEight Project Suite was developed and tested on actual projects over a five-year period by InEight, a Kiewit subsidiary, to provide an alternative end-to-end life cycle project controls solution. The table below highlights some of the key integrated features of InEight Project Suite.

InEight Project Suite Features

PROJECT SUITE		InEight Project Suite
Design	Design Scope Management	• Import models and model data from popular Design systems • Simplify management of Design scopes across Team members • Categorize and tag Design Work by enriching the model with new attributes • Use model-based reports to show scope categorization
	Design Quantity Management	• Easily calculate Design quantities and counts based on model data • Keep track of quantity changes as Design evolves • Minimize design changes and scope growth during Design phase • Visually collaborate on the Design with external partners
	Design Progress Tracking	• Easily manage versions of the Design model • Track progress of Design Work • Use model-based reports to show status and progress of Design Work

PROJECT SUITE	InEight Project Suite	
Estimate	Quantity Take-Off Integration	• Use on-screen take-off systems such as OnCenter to feed take-off quantities into estimates • Import take-off quantities from Design systems such as AutoCAD, MicroStation, and more • Easily update estimate quantities when Design changes
	Alternative Scenarios	• Easily handle estimates involving multiple base-plus-alternate scenarios • Associate estimate line items with various scenarios to evaluate different approaches to the Work • Quickly compare scenarios to identify the best approach
Contract	Pay Requests and Pay Approvals	• Automatically calculate earned/billable amounts by subcontractor or supplier based on Work progress • Support vendor-specific pay schedules and progress billings • Create pay request packages with required detail to drive timely payment
	Contractor/ Supplier Management	• Quickly define required scopes for contracts, commitments, and purchase orders • Ensure contractor/supplier compliance with Project requirements • Support common contract types including Lump Sum, Unit Price, Time and Material, and more • Manage procurement planning for long lead-time materials and equipment
Control	Earned Value and Variance Analysis	• Import progress quantities and As-Built costs to gain full visibility of project budgets • Automatically calculate and report on earned value, cost performance index, cost-budget variances, and other key performance metrics • Create Project-specific views and roll-ups to fulfill internal and external reporting requirements
Plan	Work Planning	• Compile key information in one place to efficiently organize and communicate the Work • List specific labor, equipment, and material requirements to support resourcing and availability • Define productivity goals to drive top performance • Manage risk using Tool Box Talks to highlight quality, safety, environmental, and other issues • Enable a review and approval process for plans that is fully compatible with Aconex system
	Daily Crew Planning	• Instantly broadcast plans to assigned field personnel for execution • Create an efficient channel of communication between field and office • Avoid surprises and re-work with clearly documented tasks, goals, risks, and mitigation action items

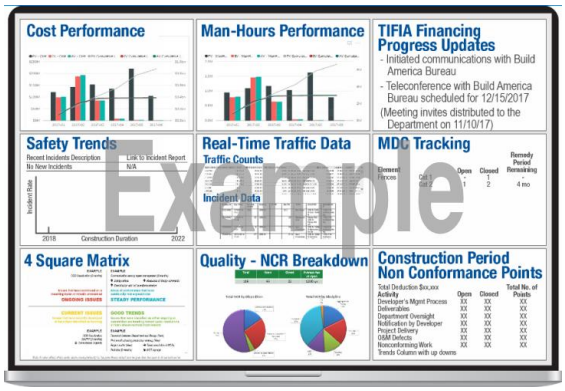
		InEight Project Suite
Progress	Daily Plan Overview	• Quickly see the Work scheduled for each shift, along with productivity goals • Gain awareness of critical risk and mitigation action items • Streamline communication between the office and the field
	Field Logs	• Log and tag key events that affect the Work • Capture photos to create an historical record of the jobsite • Enter notes and daily diary records for dispute management • Provide narratives to document productivity results
Inspect	Inspection Forms Management	• Easily define standardized questionnaires and checklists • Use any mix of question types (e.g. pass/fail, multiple choice) • Make inspections foolproof with drill-down, follow-up questions tied to specific responses
	Mobile Field Inspections	• Perform inspections on mobile devices, with or without a network connection • Easily locate the relevant inspection form based on role and Project assignment • Complete inspections quickly without errors using a simple, intuitive interface • View prior inspections and their status • Provide context to inspection results by adding photos and attachments
	Inspection Results Management	• Synch completed inspections from the field for real-time inspection results • Identify inspections containing exceptions, enabling swift response • Send notifications to appropriate personnel to ensure awareness of critical issues • Easily search through historical records of inspection results • Produce and share reports, dashboards, and KPIs to communicate inspection results

PROJECT SUITE	InEight Project Suite	
MODEL MANAGER **Model Manager**	**Model and Data Aggregation**	• Consolidate data from wide range of Design authoring systems and other business systems into an aggregated project information model • Catalog 3D models and associated data in a database to simplify storage and accessibility • Deploy an aggregated model that provides a single source of accurate Project data across Windows, web, and mobile clients
	Visual Status, Reporting, Scheduling, Estimating, and Procurement	• Connect 3D models with key Project data—scheduling, estimating, and procurement—to reduce wait times on current status and increase productivity • Provide bi-directional information transfer by connecting the models and data from different sources • Provide visual reporting on your local dashboard
	Asset Management	• Access the models and associated data from remote locations, simplifying and speeding the inspection process • Centralize and synchronize models and inspection results with real-time updates • Publish model based work orders with relevant documentation and forms for efficient workflows • Integration of Maintenance Management Information Systems (MMIS) to provide a single platform for all Project data

The InEight Project Suite packages are mutually compatible, allowing a seamless transfer of information; where data can be input once and tracked over multiple packages. It is also compatible with Aconex, P6, MicroStation, LCPTracker, B2Gnow, and other software packages used on the Project.

InEight Project Suite provides Project data to the Department on their own fully customizable dashboard. All data, including trend charts and progress reports, are linked to Aconex to provide reports at predetermined intervals. This facilitates unparalleled availability of real-time data, transparency, and efficiency for a megaproject. These dashboards are fully customizable, developed to the Department's preference after award. These dashboards are provided to the Department through Aconex bi-weekly. The Department can also log on to InEight Project Suite at any time to view the Project dashboard in real-time. An example dashboard is shown below. The figures below provide examples of potential InEight Project Suite dashboards.

InEight Project Suite Dashboard



5.1.3 MONTHLY PROGRESS REPORTING

KMP submits Progress Reports electronically to the Department each month. Each Progress Report is submitted for Acceptance within 10 Working Days following the prior month's end. The monthly Progress Reports meet the requirements of the Project Agreement, and include the following:

- Narrative on the progress of the Work
- Updated Milestone comparison table showing Milestones achieved or revised
- Summary of PC and IQC program efforts, including Design reviews and NCRs
- Summary of problems and issues that arose during the previous month, or are still outstanding
- Summary of proposed actions for improved effectiveness and efficiency
- Safety Summary
- Strategic Communications update
- Environmental Compliance Work Plan (ECWP) activities report
- Civil Rights update
- Progress Photos
- Project Quality Manager Certification
- Maintenance Progress Report

A draft sample Progress Report is submitted to the Department within 10 Working Days after NTP1 so that parties can agree on the format prior to submittal of KMP's first Progress Report.

Following submittal to the Department, a Progress Status Meeting is held to review the Progress Report and to verify the Schedule, Approved change orders, status of Nonconforming Work, and Work performance, resulting in clear actionable activities for KMP and the Department.

Additionally, KMP submits required monthly reports to the Lenders.

5.1.4 PAYMENTS

5.1.4.1 Construction Period Payments from Department

During the Construction Period, the Department provides Milestone payments to KMP, as shown in the table below.

Milestone Payments

Event	Milestone Payment
Completion of Milestone 1 (Sand Creek Bridge to Chambers Road)	$50,000,000
Completion of Milestone 2 (Dahlia Street to Sand Creek Bridge)	$95,000,000
Completion of Milestone 3 (WB I-70 Brighton Boulevard to Dahlia Street)	$52,000,000
Completion of Milestone 4 (EB I-70 Brighton Boulevard to Dahlia Street)	$52,000,000
Substantial Completion	$70,000,000
TOTAL	**$319,000,000**

KMP requests payment upon completion of Milestone Work, as required per Part 4 of Schedule 3. KMP completes the following to satisfy Milestone Completion:

- Approval by the Enterprises of the Milestone Completion Punch List
- Acceptance by the Enterprises of a written certificate limiting Closures for the remainder of the Construction Period
- Completion (with the Enterprises' witness, if accepted) of tests and inspections necessary to provide records for each element per the Performance and Measurement table in Schedule 11, and as required by the QMP.
- Systems and equipment are installed and compliant with applicable Law
- ETC or ITS elements are fully operational, and pass tests per the Project Agreement
- Submittal of Quality Certification, per the QMP, that Work meets the requirements of the Project Agreement
- Submittal of lien waivers from KMP and subcontractors

KMP provides the Department 40 days' notice prior to the expected completion of any Payment Milestone. The Milestone Completion Certificate, as provided by the Department, accompanies each Milestone Payment Request.

Monthly Deduction Reports: KMP submits Monthly Deduction Reports to the Department throughout the Construction Period, identifying any Noncompliance Points accrued during the period, and outlining each Noncompliance Event that accrued Noncompliance Points. The Monthly Deduction Report is submitted to the Department no later than the 10th Working Day of each month after the Financial Close Date.

5.1.4.2 Operating Period Payments from the Department

During the Operating Period, KMP submits monthly performance payment requests accompanied by Monthly Deduction Reports. Performance Payment Requests are submitted by the 10th Working Day of the month. Each request includes the items required by Schedule 4, Part 2, as captured in KMP's Performance Payment Request checklist.

5.1.4.3 KMP Payments to Subcontractors

KMP pays their subcontractors following the requirements of the Project Agreement.

Specifically, KMP and their subcontractors pay their subcontractors within 30 Calendar Days after receiving an accurate invoice.

KMP deducts monetary amounts per the Monthly Deduction Report from payments to its subcontractors, as applicable, on a monthly basis.

5.1.5 APPROACH TO MAJOR TRANSITION PERIODS

The transitions between the Construction Period and the Operating Period, and the Handback Period are key focus areas for KMP to ensure that the expectations of the Department are met.

5.1.5.1 Transition from Construction to Operating Period

The O&M Manager serves a significant role in facilitating the seamless transition between the Construction and Operating Periods. The O&M Manager and O&M Engineer are actively engaged in the Project from day one, assisting with the development of Design and the selection of materials. They ensure that Work is performed in accordance with the O&M Management Plans, including any design changes and resolution of any nonconformance issues. They check that Work conforms with KMP's Life Cycle evaluation and commitments. As the Construction Phase ends, the O&M Manager then leads the O&M Team through the Operating Period.

Six months prior to Substantial Completion, KMP mobilizes members of the O&M Team shown on the organization chart in Section 4.5 above. These personnel are integrated into the Project, work with the O&M Manager and O&M Engineer during the final stages of the Construction Period, receive training, refine procedures as appropriate, and prepare for implementation of the O&M Management Plans following Construction. The systems used for O&M Work during the Operating Period are designed on the same platform, and utilize the same systems, as those used during the Construction Period. Prior to substantial completion, the O&M Team takes responsibility for the full performance of O&M activities to ensure a seamless transition between the Construction and Operating Periods.

KMP is committed to succession planning and on-going career building through On-the-Job mentoring and continuous learning strategies. KMP Team Member companies train and develop people to succeed and grow into roles with more responsibility as positions become available. During the Operating Period, KMP's O&M Manager and other key Team members provide mentorship, training, and guidance to their successors, thereby ensuring experience and continuity to the Department.

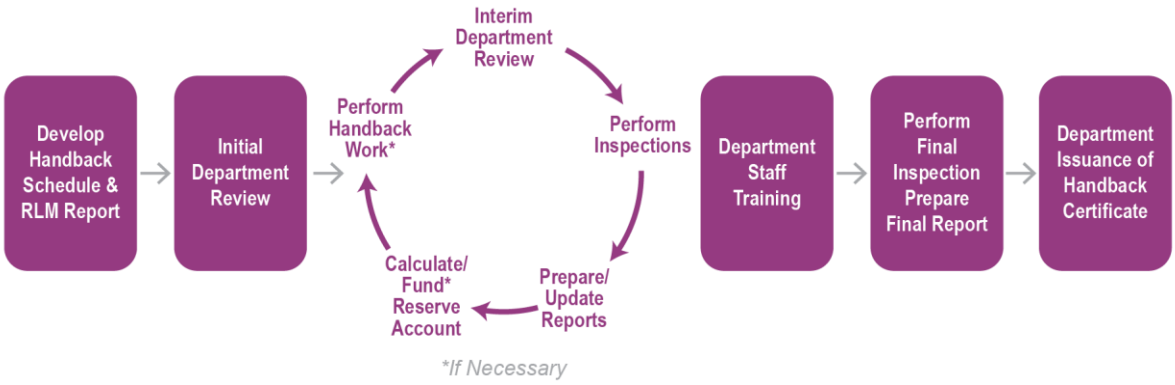
KMP's goal is that no matter what regulatory political, legislative, or administrative changes are made outside the Project in the coming decades, our approach to O&M remains the same: a *Project First* attitude based on strong working relationships and solid communication to ensure customer satisfaction.

5.1.5.2 Transition from Operating Period to the Department

This section describes the transition from the Operating Period to the Department.

KMP's management approach during the Operating Period focuses on not only maintaining safety and mobility, but also on minimizing the need for replacement and rehabilitation. KMP's approach aligns with the Department's Strategic Policy Initiative No. 4 to "Maintain CDOT's roadways and facilities to minimize the need for replacement or rehabilitation in a constrained funding environment."

KMP begins planning Handback activities to ensure a successful transition of the Project to the Department more than six years prior to the Expiry Date. As shown below, Handback activities include conducting inspections, preparing and updating various reports, calculating and—if necessary—funding a reserve account, performing any required Handback Work, and training Department staff.



If required, KMP enters into subcontracts for the performance of the Handback Work with firms qualified to perform such Work.

5.2 PB DESIGN MANAGEMENT

Similar to the organization and leadership of KMP's Construction Work, PB's Design Management approach focuses on safety, quality, and compliance with the Project Agreement requirements. Through experience, we have learned that client involvement in Design development improves our ability to get the Design completed in a timely manner and complete the Construction Work on schedule. Open and honest communication at levels of the Design organization are essential to build the trust and partnership needed to advance the Design for this complex Project.

PB leads the Design Work, with assistance from Jacobs serving as a major subconsultant. Numerous subconsultants, including small and disadvantaged businesses, are involved in completing the Design effort.

5.2.1 DESIGN MANAGEMENT APPROACH

Our Design management uses a proven approach derived from successes on past projects:

- **People:** Put the right people in lead positions, and support them with a solid Team of professionals
- **Focus on Quality:** Daily focus on quality of the Design product, meeting the Project Agreement requirements and Project goals, and implementing lessons learned
- **Staff Growth:** Provide opportunities for staff at all levels in the organization
- **Innovation:** Continue to seek ways to "do it better"
- **Design and Construction Integration:** Develop the Design in concert with the Lead Contractor to facilitate the Construction, including packaging and schedule
- **Design and O&M Integration:** Develop the Design to facilitate future O&M activities and reduce their impact on traffic operations; and to facilitate toll collection operations and tolling equipment maintenance

5.2.2 DESIGN ACTIVITIES

All Design activities are developed to support the sequence of Construction, and to build the Project in the most efficient manner possible while meeting Project goals.

5.2.2.1 Staffing

Design Work begins by staffing the Project using experienced leadership to ensure integration, consistency, and coordination across disciplines. The Deputy Design Manager's position is to support the Design Manager in the execution of the Design Work, and allow specific individuals to concentrate on the production of the Design. Discipline Leads focus on the consistency of the Work product, and compliance with code and Project Agreement requirements across the entirety of the Project.

Supporting the Discipline Leads, production staff ensure that a quality product is prepared for each discipline. Together with the Discipline Leads, the Deputy Design Manager coordinates the Work across disciplines. The Production Lead, the Business and Project Controls Manager, and other specialists apply their expertise to administrative components of the overall Project, thereby allowing the Design Manager, Deputy Design Manager, and Discipline Leads to focus on the technical aspects of the Project.

5.2.2.2 Design Criteria and Basis of Design

At the start of Design, each Discipline Lead identifies and develops a set of Design criteria and assumptions to be used as the basis of the Design. The Design criteria include standards, codes, and references required for the proper Design of that discipline's Work. Prior to use by the Design Team, the Design criteria are reviewed by a senior engineer familiar with that discipline's Work. The Project Controls Manager maintains a record of Approved Design criteria.

5.2.2.3 Design Packaging

Design packaging is developed as part of the Project Schedule. Packaging is provided sequentially to support the progress of Construction Work. As the Work evolves, the Design Manager may, at his discretion, combine, add, or rearrange how Design packages are presented in order to better support ongoing Construction activities.

5.2.2.4 Communication Plan

Good and effective communication among parties is vital to the successful outcome of the Project. The communication plan outlined below addresses the forms of internal communication anticipated during the Project's Design Work. Unless otherwise directed by KMP, communication with the Department is made through KMP, including the submittal of Design documents.

The execution of the Work requires a number of different types of meetings. Those involving Design staff include technical meetings regarding a specific subject (Task Force Meetings), Comment Resolution Meetings, Design Review meetings, and progress meetings. Additional meetings may occur during the execution of the Design Work, including those listed in the table below.

Design Meeting List

Meeting	Topic	Parties in Attendance	Purpose/Benefit
Task Force Meetings	Design disciplines	Department, Design Team, Contractor, additional Project staff as appropriate	Discuss the advancement of the Design, and resolution of technical aspects of the Project
Interdisciplinary Reviews	Design packages	IDQM, KMP Management, Design Team, Construction Team	Conducted in advance of formal submittal of a Project deliverable,
Monthly Design Management Reviews	Design development	PB senior management, KMP management	Review progress of the Design Work
Design Progress Review	Design packages	Department, KMP management, Design Team, Construction Team	Review Design progress as packages near completion
Comment Resolution Meetings	Department review comments	Department, KMP management, Design Team, Construction Team	Review comment resolution with the Department

Note: Additional meetings may be scheduled by the Design Manager as warranted.

5.2.2.5 Project Reporting:

KMP provides formal reports on Project activities as the Work progresses, including:

- **Monthly Progress Reports:** The Design Team prepares a portion of this report describing the Design activities, as outlined in Section 4.1.3 above.
- **Schedule Updates:** KMP provides monthly Schedule updates in accordance with the Project Agreement. Kiewit maintains the Master Project Schedule, and the Design Team provides information on the status of the Design Work for inclusion in the update of the Master Schedule.
- **Disadvantaged Business Enterprise/Emerging Small Business (DBE/ESB) Utilization:** Periodic reporting of DBE/ESB usage documents the Design Team's performance relative to their portion of the Project DBE/ESB goal. Reporting follows Department provided formats.

5.2.2.6 Design Submittals and Reviews

As the Design is developed, staged submittals are prepared and submitted to the Department and to third parties for review. An outline of the process for each Design submittal is presented in the DQMP.

5.2.2.7 Design Services During Construction

After the issuance of Released For Construction Design plans, the Design Team continues to support the Construction of the Project. Design services during Construction include review of shop drawings and other Construction phase submittals.

5.2.3 DESIGN INTERFACE

5.2.3.1 Interface with Department Staff

Throughout the development of the Design, the Design Team interacts frequently with the Department. The Department is encouraged to co-locate Project leadership staff with KMP personnel at the Project Office. This co-location fosters the development of better working relationships needed to advance this significant Project.

Specific interaction with Department staff include:

- Attendance at Project meetings, including progress meetings, Task Force Meetings, comment resolution meetings, and other meetings needed to advance the Work
- Review of formal Design submittals
- Review and discussion of informal Design submittals needed to resolve issues that arise between formal scheduled meetings
- Support and interaction with third parties and affected agencies

5.2.3.2 Interface with Construction Staff

The Design Integration Manager, Deputy Design Integration Manager, and Constructability Review Team are co-located at the Project Office along with Design management staff. There is daily interaction with the Construction Team, in addition to formal meetings such as progress meetings, Task Force Meetings, and review of deliverables prior to forwarding documents to the Department. These meetings provide for critical Construction input throughout the Design process to ensure constructability and provide the most effective Design.

The Design Team staff also receives training from Construction Team personnel. The Safety Manager trains field staff in the implementation of the Construction Period Safety Management Plan. Likewise, the Environmental Manager conducts training in the use of the ECWP prior to starting field activities. As with the Construction Team, any Design Team staff involved in Work on Railroad property completes the requisite Railroad safety training program.

5.2.3.3 Interface with O&M Staff

The O&M leadership team are co-located at the Project Office along with Design management staff and Construction Team staff. There is daily interaction with the O&M Team, in addition to formal meetings such as progress meetings, Task Force Meetings, and review of deliverables prior to forwarding documents to the Department. These meetings allow for O&M input throughout the Design process to ensure the Design is effective over the long term for future O&M activities.

5.2.3.4 Interface with Quality Management Staff

While the Independent Design Quality Manager (IDQM) is completely independent of the Design Team, he interacts frequently with the Design Team for maximum efficiency. Each member of the Design Team is trained in the use of the QMP for Design activities. This training is led by the Independent Design Quality Manager or his delegate. The IDQM visits the various offices of the Design Team members and audits the Work in progress to determine adherence to the QMP. Any needed retraining in the provisions of the QMP is conducted by the IDQM.

Prior to each formal submittal, the IDQM reviews the deliverable and quality control documents to confirm adherence with the QPM

The Design Manager and Deputy Design Managers are responsible for implementing the QMP as it relates to Design activities; reporting on the status of the Work; monitoring the Schedule, scope, and budget; and managing document control for the Project.

5.2.3.5 Quality

The Design Manager and Deputy Design Managers follow the Project Quality requirements presented in the Quality Management Plan.

5.2.3.6 Reporting

Reports to be prepared by the Design Team are identified above in Section 5.2.2.5.

5.2.3.7 Schedule

Our Design Schedule is developed as a fragnet of the overall Project Schedule so that it integrates easily with the Master Project Schedule. The Design Schedule is used by the Project Team to develop look-ahead Schedules. The Design Schedule includes Project deliverables and associated Milestones, and allocates time for Quality Control and internal reviews, and for Department and third party reviews.

Each Work item leading to an identifiable Milestone (such as a Design deliverable) is given a unique Work Breakdown Structure (WBS) code. Separate WBS codes are provided for each discipline contributing to the completion of the Milestone. WBS codes are developed in order to allow a correlation between Work activities and Schedule compliance, and to facilitate tracking budget expenditures and invoicing. Schedule activities are sufficiently narrow in scope so that agreeing on the status of the activity is achievable, yet not so specific that the Schedule is overly detailed.

Use of the WBS structure allows a roll up of sub codes so that the status of the overall Milestone is readily identified. The value of each major Work item is included in the Schedule so that when the periodic Schedule update is completed, the current earned value of the activity is identifiable.

The Design Schedule is updated monthly as part of the updating of the overall Master Project Schedule. The update is used to generate the Design invoice obtained from the earned value at the time of the monthly update.

5.2.3.8 Scope Management

Before beginning a task that leads to completion of a Milestone activity, the Design Manager and Deputy Design Managers review the planned Work activities with the Discipline Leads to confirm that scope activities are included in the execution plan of that phase for the Project. As the Work progresses, the Design Manager, Deputy Design Managers, and Discipline Leads periodically review the progress of the Work and assess the following:

- Production of the Work to determine if the original assessment of level of effort is still valid
- Any newly-added tasks
- Tasks that are no longer needed as part of the Work
- Delays in executing the Work, and means to mitigate potential delay
- Any other changes from the planned Work activities

Changes or deviations from planned Work are documented and identified for the appropriate contractual parties as warranted.

Execution of the Design Work is also discussed at regularly scheduled Progress Meetings during the Design phase of the Project.

5.2.3.9 Invoices

Invoices are due to KIC monthly. KIC and the Design Manager establish the timing of this submission. Invoicing is made on the basis of the schedule of values for the Project included in the Master Project Schedule. The percent complete for each Project element included in the Schedule is applied to the total value of the Project element to derive the monthly invoice totals.

5.2.3.10 Change Control

If changes to the Work occur, proper procedures for change management are followed. It is important to identify changes as early as possible. The Design Manager provides prompt, written notice of a change to KIC as prescribed in the Design Contract. The letter with the change notice includes:

- A unique change number to be used for future reference
- The reason for the change, including specific references to the scope of work, specifications, or other documents that support the basis of change
- The date the change occurred
- The anticipated cost of the change
- Any Schedule impacts resulting from the change
- Other portions of the Work that may be impacted by the change

If the change is ongoing and the exact nature of the change, cost, or Schedule impacts cannot be quantified, timely notice is still required and will be provided. Such notice indicates that cost and Schedule impacts cannot be fully evaluated at the time of notice, and that PB will provide cost and Schedule changes as information is available.

Immediately upon identification of a change, the Design Manager creates a new WBS code to track charges relative to the change. All staff affected by the change are notified of the new WBS code so that time charges are tracked properly. Subconsultants must follow this process as well, so that any subconsultant's time is traceable to the change.

As part of tracking the change, the change is noted in the Project Change Log maintained by the Business and Project Controls Manager. The log tracks:

- PB's sequential change number
- KIC's change number
- Brief description of the change
- Current status (open, Approved, or other)
- Name of the originator of the change
- Date the change was identified
- Date initial notice of change was sent

5.2.4 DOCUMENT CONTROL

A formal document control system (DCS) is implemented to maintain a simple, efficient, and achievable record of the Project Design activities.

5.2.4.1 Types of Documents

Documents to be used in the execution of the Work include:

- **Correspondence and Communications:** Documents sent to or received from any organization external to the Project
- **Meetings:** Documents associated with a record of meetings held during the execution of the Work

- **Field Records and Photographs:** Data related to soil borings, Subsurface Utility Engineering (SUE), or other field Work to support the Design
- **Quality Assurance/Quality Control:** Documents associated with review and checking of Design deliverables
- **Safety:** Copies of safety plans for Design Team activities
- **Schedule:** Current Design Schedule information, including the initial baseline Schedule and Schedule updates
- **Administrative Documentation:** Documents pertaining to the administration of the Project, including contract administration, invoices, DBE/ESB usage, changes, and other similar information

In general, materials published by another organization in a public location (e.g., on the internet) are not retained as Project documentation.

Some Project information is organized in a database to facilitate more efficient tracking, reporting, searching, and storage capabilities. Examples include Project correspondence, Utility Agreements, and risk tracking.

5.2.4.2 Design Document Control

Document control for Design records has two main parts: CADD files and Project records (including Design submittals).

CADD Work is maintained on a separate, common ProjectWise platform. This platform ensures that regardless of location, offices, staff, and subconsultants are following the Department's CADD standards. ProjectWise also serves as a document management program for the numerous CADD files required for the Project. The ProjectWise platform is maintained and under the direction of the Production Lead.

Project records include: record copies of Design submittals, copies of past submitted Schedules, meeting minutes, review comments, Construction phase submittals, and other Project data. InEight Project Suite is used for Project records, facilitating a seamless transfer of documents to Aconex as needed.

InEight Project Suite is used to maintain records for the duration of the Project. Items are saved using a folder structure, similar to a Windows based system. The specific system to be used follows the approach below; however, customization occurs over the life of the Project. InEight Project Suite has the ability to store information in a database format, facilitating retrieval of Project data. Deliverables, inspection records, Department provided reference data, and other similar information is saved using a database.

Design Document Control Structure

Folder Name	The Folder Contains
Roster	Contact information for Team members.
Design Submittals	Record copy of each submittal package in PDF format grouped by submittal, and organized in database format. Also includes: scanned copy of quality control records for each submittal, Department comments on each submittal, responses to comments, and other pertinent information relating to deliverable packages.

Folder Name	The Folder Contains
Quality	Copy of current QMP, DQMP and CQMP
Safety	Copy of current Project SMP, and any Site-specific plans developed to support Design Team field activities.
Document Correspondence Database	A complete record of the Project correspondence organized in a database format. All formal correspondence between PB and Kiewit (such as letters and change orders) is assigned a unique correspondence number.
Schedule	Copy of the current Design Schedule in P6 and calendar format, look ahead Schedules, and copies of the current Construction Schedule. The record also includes archived versions of past Schedules.
Forms	Standard forms and templates for items such as report covers, meeting minutes, and agendas.
Disciplines	A folder for each discipline to be used at the discretion of the Discipline Lead.
RFC Plans	A conformed set of current Design plans which have been issued for Construction, including any issued design changes made after the initial RFC plan submission. Initially this folder is empty.
RFC Specifications	A conformed set of current Design specifications which have been issued for Construction, including any issued design changes made after the initial RFC specification submission.
As-Built Documents	Plan record of the as-constructed configuration.

5.2.4.3 Other Documents

Written communication is used to document Project activities. Plans, reports, and other similar documents are not considered part of the written communication for the Project. Written communication may take the following forms:

- **Meeting Minutes:** Written records of the activities covered by meetings, noting time, date, and location, discussions held, action items to be completed, owners of each action item, and the date for completion of the action item. Completed actions are identified and include the final disposition of the item. A standard form is used for meetings to simplify the review of progress.
- **Email and Memoranda:** Informal communications used to expedite the progress of the Work, including documenting Project actions completed between meetings, electronic distribution of documents, and other similar actions suitable for communication via email or memorandum.
- **Transmittals:** Forms providing basic information about the Project information being sent. Documents using a transmittal may include Design deliverables, review comments, or Construction Phase submittals. Electronic delivery of documents is used on this Project.
- **Letters:** Documents major actions throughout the progression of the Work. Letters are used to identify contractual issues.

5.2.5 SUBMITTALS

The Deliverable Requirements Tracking List (DRTL) is used to identify Reviewable Deliverables that KMP anticipates submitting to the Department; a draft DRTL is included in the PMP as Attachment 2. The DRTL also includes the timeframe and sequence for submission, review, and resolution of each reviewable Deliverable. KMP uses the DRTL to track the status of reviewable Deliverables, and submits monthly updates of the DRTL to the Department for Approval.

5.3 CONSTRUCTION MANAGEMENT PROCESS

5.3.1 KMP'S MANAGEMENT APPROACH

The Technical Manager oversees the Design-Build Manager and has a daily presence on the Project, communicating with the Department, and ensuring that the Construction processes are being carried out appropriately. Kiewit reviews progress submittals to ensure the Project is progressing as planned, and that processes and procedures are being fully implemented. KMP Executive Management communicates weekly with the Project Quality Manager and engages other personnel, as needed, to ensure the quality of the Project meets the requirements of the QMP and Project Agreement.

5.3.2 KIEWIT'S CONSTRUCTION MANAGEMENT APPROACH AND STRUCTURE

Kiewit's management approach focuses on the following basic principles:

- **People:** Build a strong Team that works well together with a common goal of *Project First*
- **Management Basics:** Focus on weekly status reports and peer to peer training—know where we are at all times
- **Building Builders:** Craft and engineering staff learning from experienced superintendents and foreman in the field
- **P3 Process and Project Scope:** Clear understanding of opportunities to innovate, executing early procurement packages, and understanding of community expectations and ROD commitments
- **Transparency and Honesty in the Field:** We are committed to build what is in the Project Agreement, and communicate openly with the Department.

Kiewit's core values and management approach provide the Department, stakeholders, the public, and third parties with a committed Lead Contractor who focuses on building a Team of high-integrity people that are committed to a *Project First* philosophy. Kiewit's core values are in complete alignment with KMP's.

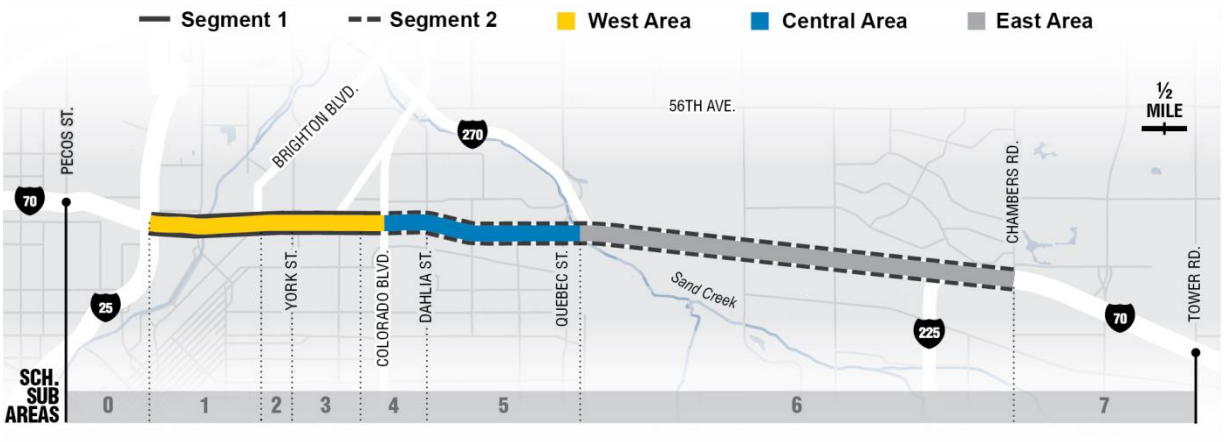
- **People:** Without our safety-minded workforce, our company would cease to exist—it is that simple. That is why we hire the best and brightest minds in the industry. And by providing the best training, we watch our employees strengthen their skills to further our company's success.

- **Integrity:** We conduct our business and personal affairs with the highest levels of integrity. We take responsibility and accountability for our words and actions. We are honest, straightforward, and deal fairly with everyone. Operational and financial records are maintained accurately and truthfully—no exceptions.
- **Excellence:** At Kiewit, we never stop raising the bar. Consistently focused on high quality production, we commit to excellence in all we do. We encourage new and innovative ideas with forward thinking. We build our Work *Right First Time*, delivering with a sense of urgency the highest value to our clients.
- **Stewardship:** Every day we realize our role as stewards in our communities and on this earth—after all, we work in our own backyards as much as we do yours. By preserving our legacy and developing a new generation of leaders, we are building a stronger organization for future employees and our owners of tomorrow

Kiewit's Construction Manager is responsible for the Construction of the Project. To implement the Project efficiently, we have divided the Project into two segments, three areas, and seven sub-areas as shown below.

KMP further divided the areas by blocks for the Project Schedule as defined in the Schedule Narrative (Appendix C, Attachment 4).

Segments, Areas, and Sub-Areas



The areas and sub-areas are the language of the Work: these designations are used in the Project Schedule, for developing definable features of Work and Work Plans, and to break up management of the Project by clearly identifying roles and responsibilities between the Segment 1 and 2 Management Teams.

Kiewit's Construction Team is broken into two Segments:

- Segment 1 Manager manages the West areas, including Sub-Areas 1-4
- Segment 2 Manager manages the Central and East area, including Sub-Areas 5 and 6

Note that sub-area 7 is for the Operating Period only

Segment 1 and 2 Managers are responsible for the Work in their segments and focus on the following for each segment:

- **Scope of Work:** A thorough understanding of the scope of work and Work packages that make up each segment. This includes identifying opportunities for subcontract packages, and clearly understanding safety risks and quality requirements for the scope of work in each segment.
- **Quantities and Schedule:** Ensure that quantities are tracked not only throughout the Design phase to manage quantity changes, but also monitored daily during Construction to ensure that cost and Schedule are understood, and to track cost and Schedule goals.
- **Challenges:** Understand the challenges for Construction, including the needs of phasing, environmental commitments, the traveling public, and the community. Develop plans to manage challenges and associated risks to ensure the success of the Project in their segment.
- **Innovations:** Ensure that the Project Team is looking at opportunities for innovation to meet or exceed the Project goals. Examples include looking at different means and methods, structure types, or phasing.
- **Keys to Success:** Tracking and sharing successes, and learning from mistakes throughout the Project to improve procedures in both segments as the Project progresses.

Discipline Managers focus on managing the Work of their discipline, and must clearly comprehend the following for each discipline:

- **Scope of Work:** Clearly understand the Project scope for their discipline. Plan their activities, communicate the plan through Pre-Activity Meetings, and coordinate with other disciplines and subcontractors.
- **Keys to Success:** Coordinate with discipline managers from other segments to share lessons learned from mistakes.
- **Safety:** Know the safety requirements for their scope of work. Identify safety risks and address risks in the Work plan or job hazard analyses. Provide safety training as needed to their craft, foreman, engineers, and superintendents.
- **Quality:** Communicate and oversee the quality requirements for their scope of work. Identify potential quality risks, and review past NCRs to ensure that the Work plan is designed to build the Work *Right First Time*. Communicate with discipline managers from other segments to share quality concerns and lessons learned. Ensure that the requirements of the Project Agreement and KMP's quality objectives are met.
- **Access**: Review Work plans to ensure that access is thoroughly planned out and that safe access is provided for activities. Review Work plans continually to account for changing conditions.

KMP's largest asset is our people. KMP has assembled a Project Team based on past experience, expertise, and other strengths to ensure that the Team works well together. KMP Team Member companies focus on promoting people from within, and KMP provides opportunities for growth within the Project through succession planning (Section 5.2.2.5). This benefits the Project and the Department by providing a Team that is engaged throughout the Project. KMP's focus is *Project First*—all moves within the organizational chart enhance both the Project and the people working to build and manage the Project.

5.3.2.1 Management Approach Training

Training is another key to KMP's successful management approach, as described in the sections below.

Building Builders

Building Builders is a key training program for Kiewit to develop our local workforce with the technical skills needed to build high quality Work safely. Kiewit has a robust training program to ensure our people develop an array of skills to enhance personal growth, and to promote KMP's goals of *Nobody Gets Hurt* and *Right First Time*. Our training program includes daily, weekly, and monthly trainings on field topics that pertain to the ongoing Work, including safety, environmental concerns, and technical skills. It also includes hands on training classes at our Aurora, CO, training facility for welding, use of small tools, and equipment operation.

Management Basics

A successful project is built on executing the basics flawlessly. Kiewit continually trains on management basics to ensure Project staff always have a strong handle on the fundamental tools used to manage the Project, including: Schedule, cost management, quantity tracking, subcontractor payment, invoice processing, and payroll.

5.3.3 KIEWIT'S COORDINATION PLAN

Coordination and communication between the parties on the Project is imperative to the success of the Project and the *Project First* mindset. KMP uses various meetings and system dashboards, described below, to ensure that parties are coordinated and working towards the Project goals.

Construction Meeting List

Meeting	Topic	Parties in Attendance	Purpose/Benefit
Daily Coordination Meeting	Plan the Construction Work for the following day	Construction personnel, subcontractors working Onsite, QMP, ICQM, CPCM, Environmental Manager, Department	Ensure field crews, equipment, and inspectors are coordinated for the upcoming day's Work
Weekly Progress Meeting	Discuss weekly progress of the Project as a whole; agenda includes: safety, quality, compliance, Schedule, and submittals	Department, KMP, Quality	Opportunity for KMP to engage with the Department to provide weekly status of the Project and follow up on open items
Weekly Three-Week Schedule Meeting	Review the Construction Schedule for the upcoming three weeks	Department, Kiewit, PI Staff, Construction personnel, Quality, subcontractors	Opportunity to bring the entire Project Team together (staff through foremen) to ensure the plan for the upcoming three weeks is coordinated
Annual P6 Schedule Review	Detailed review of the upcoming year of the Construction Schedule	KMP, Department	Ensure that KMP and the Department have the same expectations and comfort level with the Construction Schedule

Meeting	Topic	Parties in Attendance	Purpose/Benefit
Weekly Public Information Meeting	Discuss upcoming Work, outreach, and other events relevant to PI for upcoming week	KMP, Department	Align PI message for the upcoming week, and communicate messages between parties
Weekly Quality Meeting	Discuss NCRs, and Department issues	KMP, Department	Provide weekly follow up on Quality issues to ensure resolution and improvements are taking place
Pre-Activity Meeting (Start of each scheduled piece of Work)	Review the Plan to build each feature of Work, including safety, quality, and environmental requirements	Kiewit, Department, subcontractors	Opportunity for foreman/superintendent to present their plan for Construction activities to the Department; ensures each activity is set up for success
Quarterly Quality (*Project First*) Meeting	Executive meeting for KMP and Department to escalate and resolve issues	KMP, Department	Opportunity for KMP and Department Executive Management to touch base, discuss understanding of Project goals, and solve any escalated issues
Weekly Design Task Force Meeting	Meeting for each discipline to discuss progress of Design, issues, and innovations	KMP, PB, subconsultants, subcontractors, Department	Ensure the Design is moving forward as planned; provides for constructability input and cross discipline updates/communication
Monthly Mass Safety Meeting	Job-wide meeting to set safety and quality focus for upcoming Work to the craft	KMP, Department, subcontractors, subconsultants	All personnel on the Project are encouraged to attend this meeting to review the prior months success and set the safety vision for the upcoming month
Monthly Review of Project Schedule	Review upcoming three months of Project Schedule (all Areas) with Construction Team and Department	KMP, Quality, Department	Ensure that the Department and KMP review the Schedule prior to submission; benefit is a prompt Schedule Review and open lines of communication
Safety Critical Element Conference	Review the Construction Plan for upcoming Safety Critical Work elements	PB, Kiewit, subcontractors (as needed), other engineers (as needed)	Ensure preparation of Project Team for Safety Critical Work elements prior to the start of Construction

KMP uses these meetings to ensure that coordination is maintained within KMP, with the Department, and with third parties; in addition to coordination with stakeholders, the public, and nearby construction projects.

In addition, information on the Project is always available electronically to Department staff through Aconex and the InEight Project dashboard (described in Section 5.1.2 above).

5.3.4 INTERFACE BETWEEN IQC AND CONSTRUCTION

The Project Quality Manager and the Quality Team are responsible for providing approvals for quality.

The Independent Quality Control Manager (IQCM) communicates with the Construction Manager and Discipline Managers at the Weekly Quality Meetings. Communication between the Independent Quality Control (IQC) and Construction staff is critical to ensure that expectations are being met and that both groups are working together to ensure Work is inspected in a timely manner.

The IQC staff, foreman, and field engineers interface at the Daily Coordination Meeting and at the weekly Three Week Schedule meetings. The daily meetings ensure that IQC staff is aware of the production Schedule, and that the required inspections are appropriately scheduled. The Three Week Schedule meeting serves as an opportunity for staff to discuss the production Schedule for the upcoming weeks and to discuss quality—the second agenda item at these meetings. The quality discussion includes upcoming inspections, source inspections for permanent materials Nonconforming Work from the prior week, review of the quality tour, and any other topics the Project Quality Manager or Quality Team has to discuss. These Three Week Schedule meetings are an excellent opportunity for the Department to participate in the overall quality management of the Project.

Meetings include subcontractors who are involved in current Work at the time of the meeting. Subcontractors and suppliers are completely integrated into these meetings, and communicate daily with IQC staff. The Construction staff recognizes the authority of the IQCM to stop both Design Work and Construction Work that does not comply with the requirements of the Project Agreement.

5.3.5 WORK PLANNING

Kiewit uses the following tools to identify and manage upcoming Work:

- Project Schedule
- 90 Day Schedule
- Three Week Schedule
- Daily Coordination Meetings

Our Project Schedule is developed so that component Schedules listed above are derived from the parent above it to ensure consistency between Schedules while providing enhanced detail.

Schedule items included on the Schedules above are planned and communicated as upcoming Work for the Project Team. Kiewit identifies items that come up in both Weekly Progress Meetings and third party meetings (such as meetings with utilities, Railroads, City and County of Denver, and other agencies) for incorporation into the Schedule.

These schedules can also be used to communicate Project activities to the community and traveling public. Communication with the public includes website updates, mobile app alerts, and VMS boards, as outlined in the Strategic Communication Plan (Appendix J).

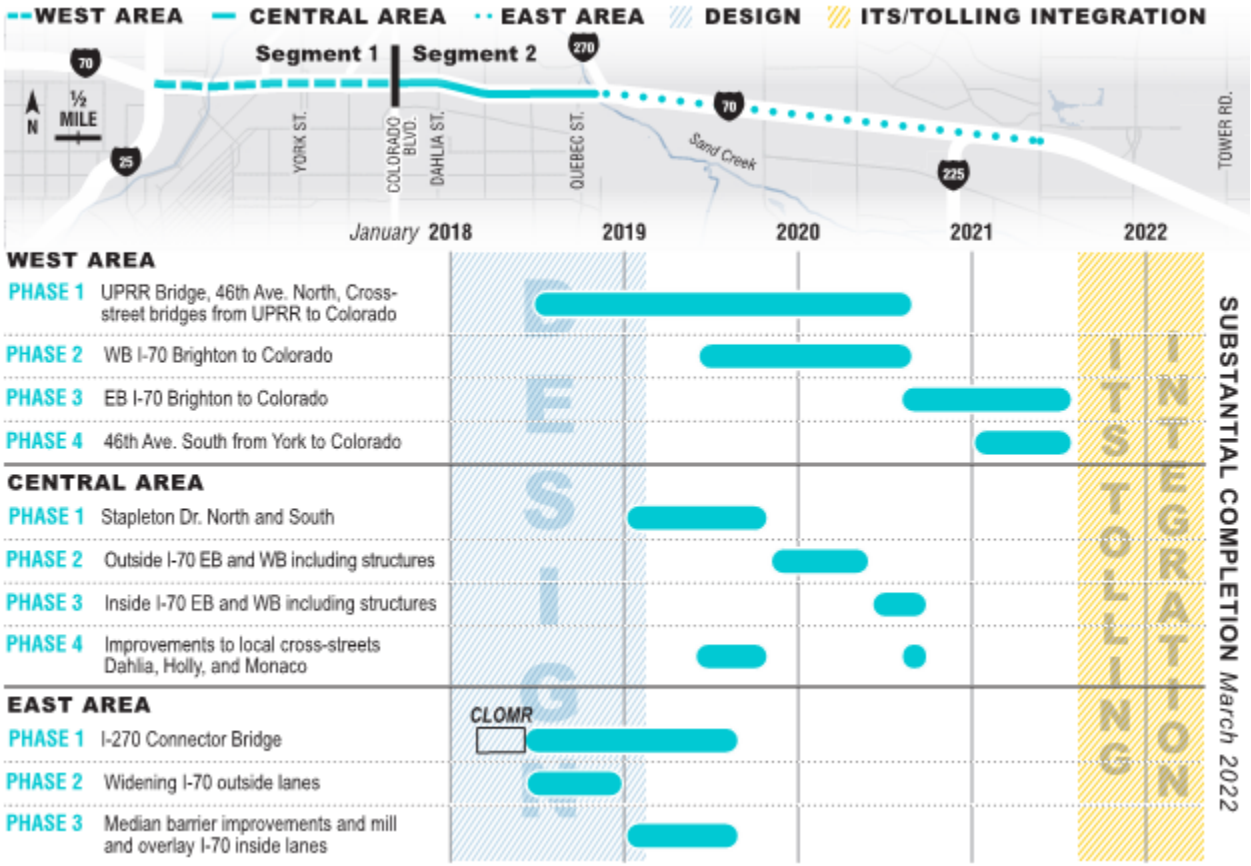
5.3.6 DELINEATION OF WORK ZONES

Design and Construction packages are broken down to follow Project Segments and Blocks.

Progress of the Design for each package is tracked and reviewed weekly in the Three-Week Schedule meeting. Delineation and progress of Construction Work zones is continually reviewed throughout the various coordination meetings.

5.3.7 PROJECT CONSTRUCTION PHASES

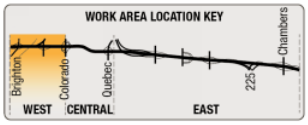
KMP has defined three broad Work Areas of major Construction, each with independent phasing and various stages of Construction Work within each phase. KMP considered impacts to the traveling public, safety in the Work Area, and Construction constraints in developing the MOT Work Areas, Phases, and Stages. The Construction constraints consist of high-priority underground utilities, major Construction needs, and long-lead items for third party relocations. The areas are defined as West Area, Central Area, and East Area. The limits and duration for each Work Area is shown on the figure below.

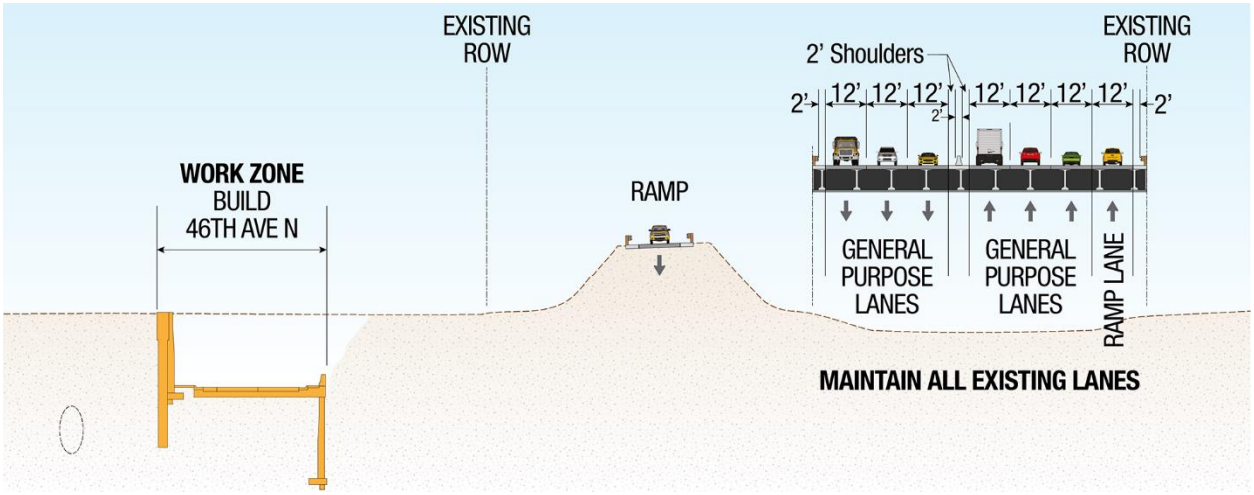


The following sections provide a high level visual representation of the Construction phasing for each of the three Work Areas. For additional information regarding the major Project phases see the Transportation Management Plan (Appendix F).

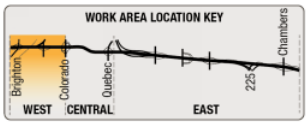
5.3.7.1 West Area: Lowered Section

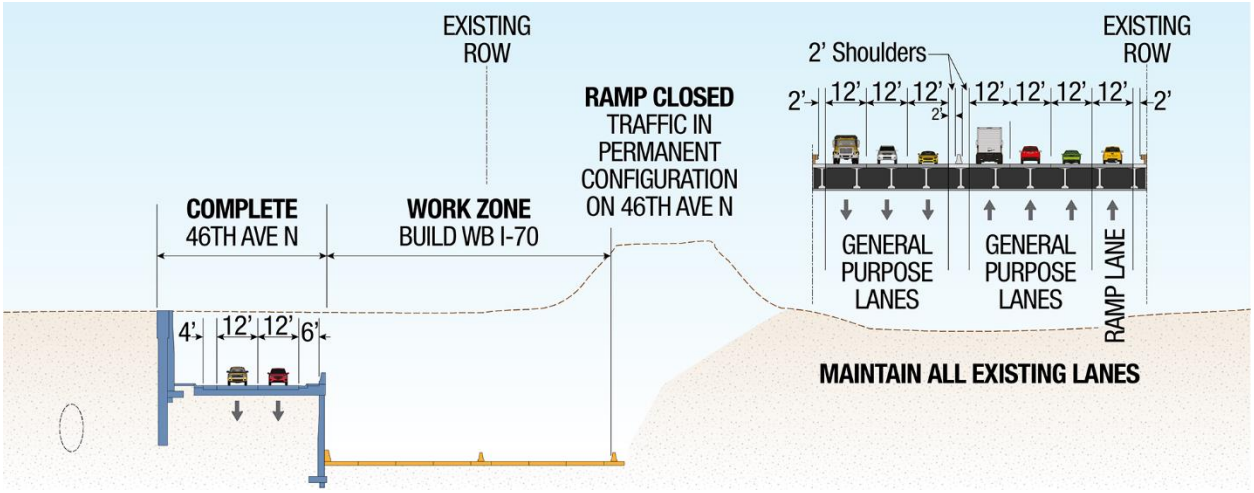
Phase 1



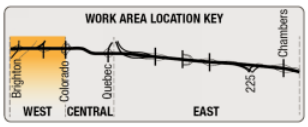


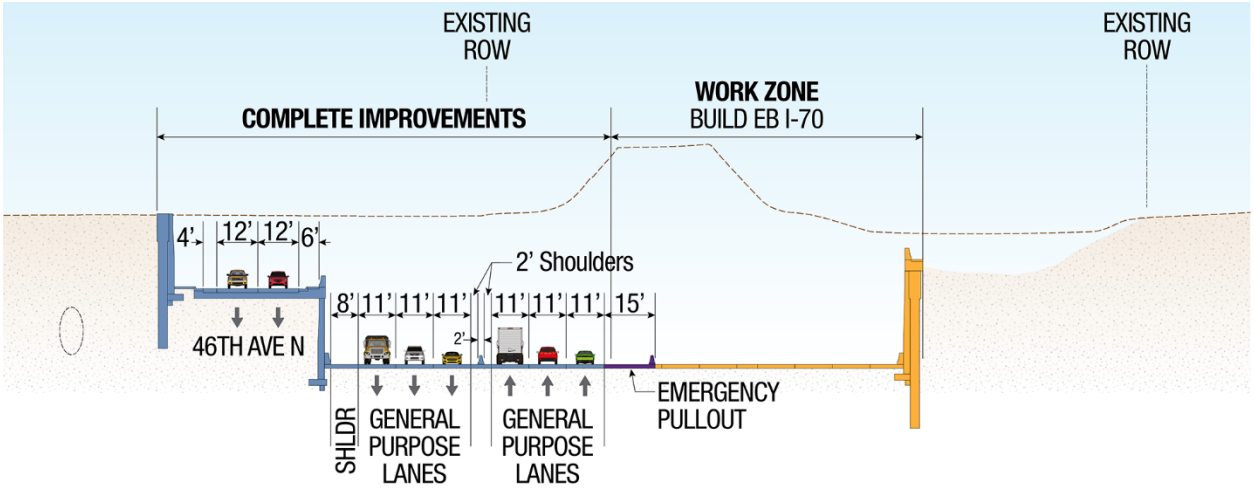
Phase 2



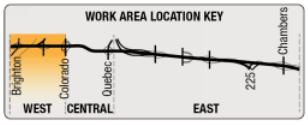


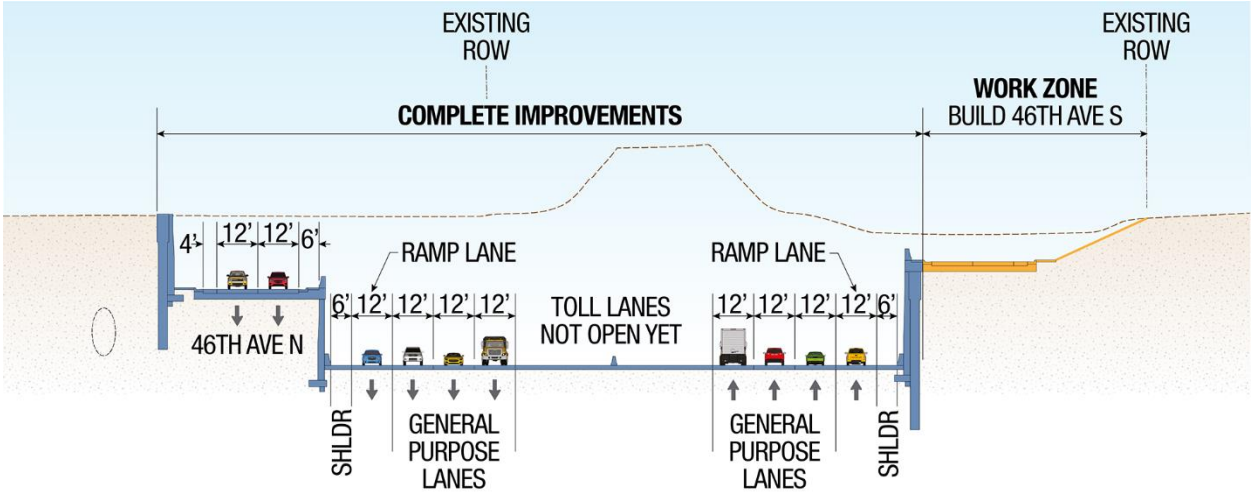
Phase 3





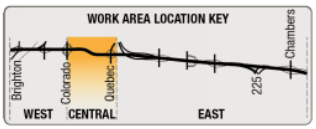
Phase 4

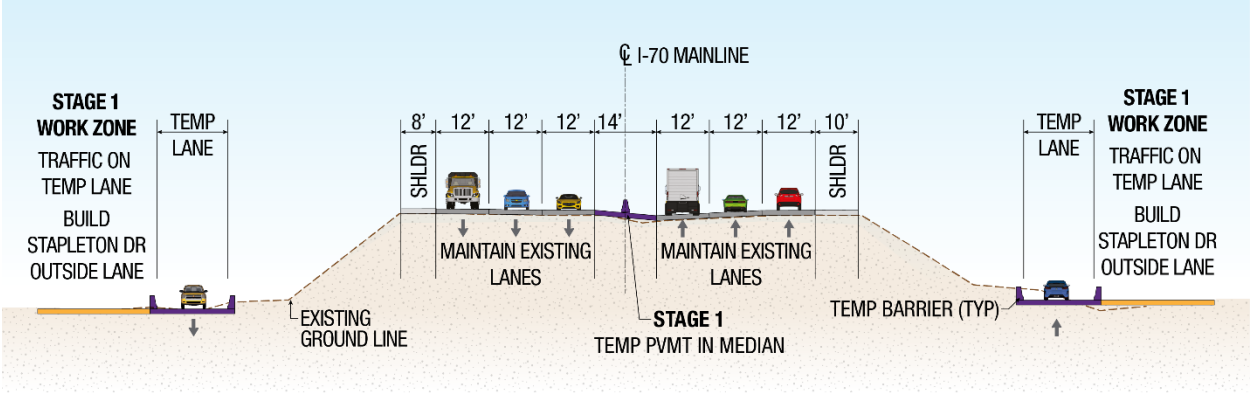


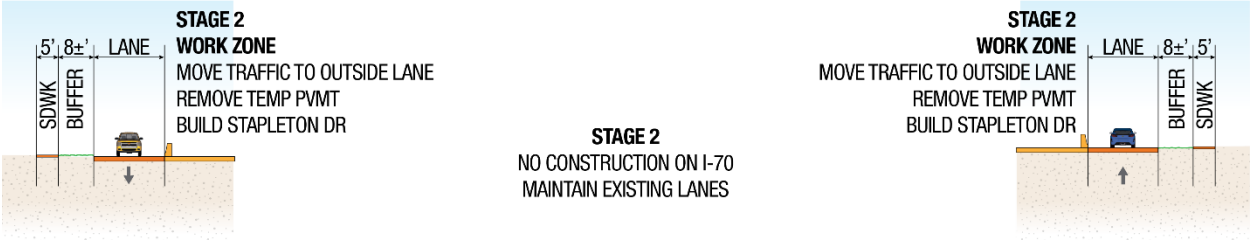


5.3.7.2 Central Work Area: Reconstruction

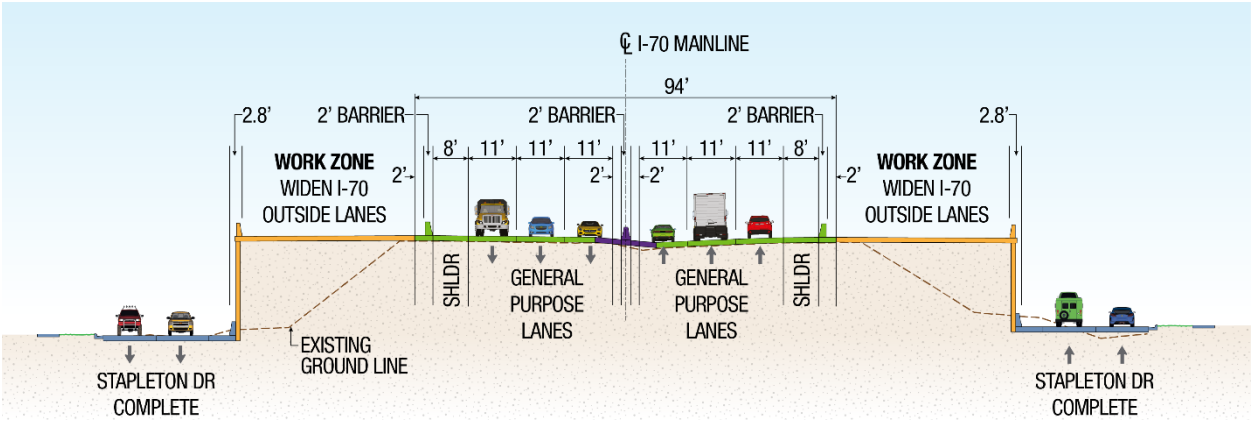
Phase 1







Phase 2



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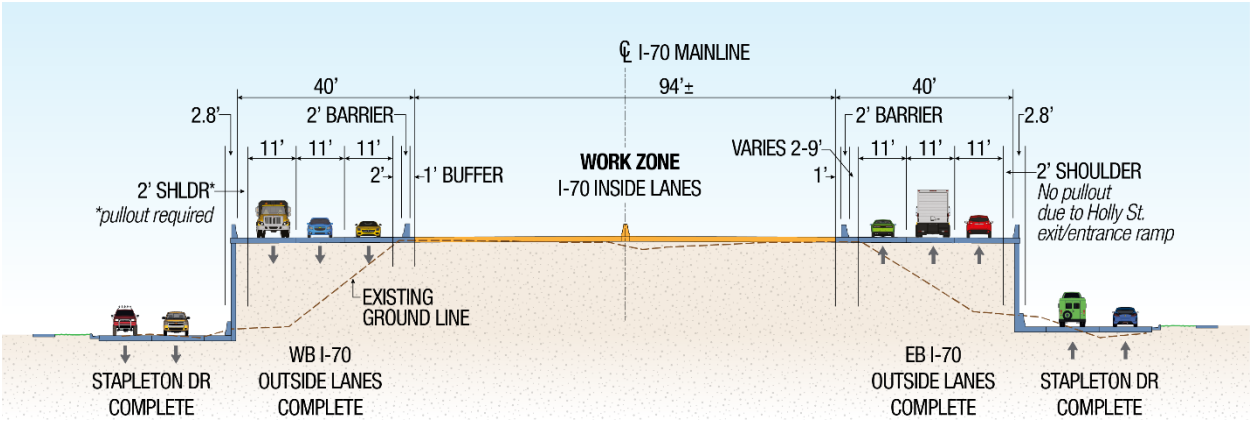
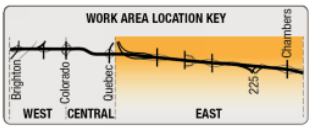


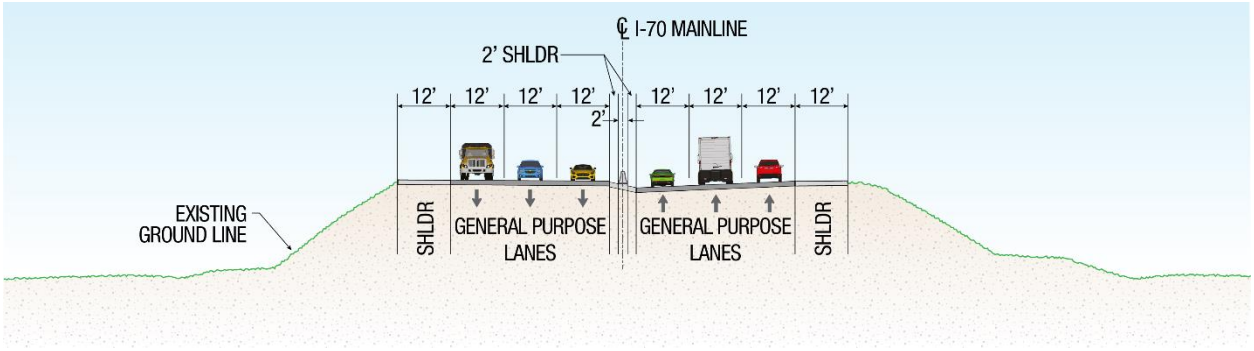
Phase 4 (Not pictured):

During Phase 4 of Work Area 2, the remaining eastbound and westbound I-70 Construction from Dahlia Street to Quebec Street is complete, and traffic is in its final proposed configuration. All I-70 bridge structures are completed and open to traffic. KMP constructs Dahlia, Holly, and Monaco Streets underneath I-70 in a phased approach (Quebec improvements are completed in the previous phase).

5.3.7.3 East Work Area: Widening

Phase 1





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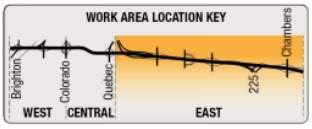
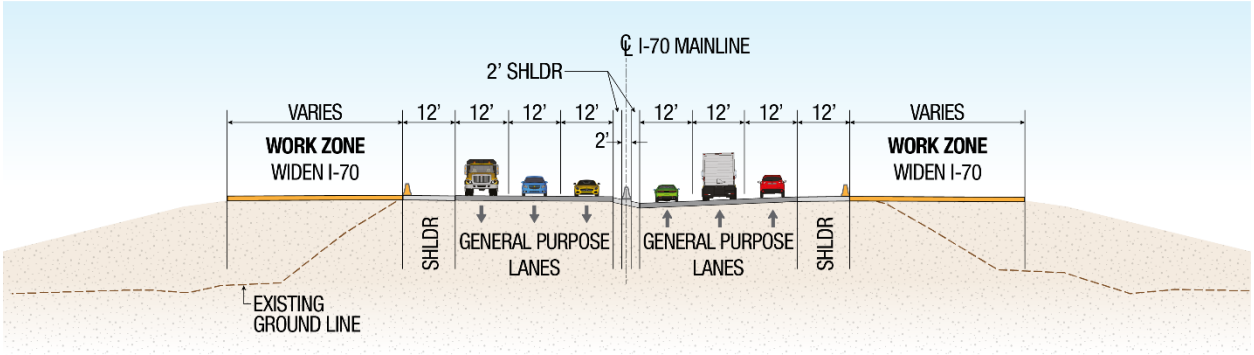




5.3.8 INDEPENDENCE OF PC AND IQC

The Construction staff, Process Control (PC), and IQC are independent groups that coordinate and work together to meet KMP's quality objectives while maintaining separate reporting, personnel, and activities.

All personnel on the Project are responsible for working toward meeting KMP's quality objectives:

- Meet or exceed the Department's expectations
- Eliminate rework by performing Work *Right First Time*
- Fully implement the QMP

Below is a breakdown of the Quality activities of each group:

Quality Responsibilities

Group	Quality Activity
Construction	• Develop Work plan and identify quality requirements • Perform self-inspection checklists • Participate in Quality hold points • Complete material receiving inspection reports
Process Control	• Audit KMP's processes to ensure compliance with KMP's Project management plans and the Project Agreement • Perform testing and inspections as outlined in the MTIP to ensure KMP's production processes meet the requirements of the Project Agreement • Oversee paperwork/planning components, including Work Plans, Plan-the-Plan, Pre-Activity Meetings, and additional Process Control quality activities as appropriate
IQC	• Performtesting and inspections of the Work • Perform material inspections

All parties have the authority and responsibility to identify Nonconforming Work.

5.3.9 SUBCONTRACT MANAGEMENT PROCESS

Kiewit uses the following processes for managing their subcontractors and suppliers.

Prior to Signing Subcontracts

- **Subcontract Info Sheet:** A cover sheet attached to the subcontract or change order draft for review and Approval. Project Team determines specific routing and Approvals. Detailed instructions are provided on the Excel spreadsheet template. Functions of InEight Project Suite Contract may replace or supplement this form as the Project progresses.
- **Bond Waiver Worksheet:** Used as a tool to evaluate a subcontractor's request to waive a bond. (KMP provides training and assistance to subcontractors to improve their business acumen on developing bond capacity.)
- **Bond Waiver Information:** Used for PM Approval for a bond waiver.

Prior to Work Starting

- **Subcontract Risk Assessment:** Evaluation form for Project subcontractors or suppliers. Form is used by Project Management Team as a guideline for subcontractor oversight. May also be used during subcontractor evaluation period.
- **Subcontract Superintendent Responsibilities and Recommended Tasks:** Checklist of standard items for Superintendents assigned to manage a supplier or subcontractor. Project management may modify, depending on size and scope of work.
- **Contract Administration Checklist:** Matrix for tracking subcontractor and supplier progress. Used to plan and track training of subcontractors.
- **Kick-Off Meeting:** Initial meeting between KMP's staff and the subcontractor/supplier's personnel, where subcontractors join the one KMP Team approach. Ideally, attendees include the drafters/negotiators from both sides of the Subcontract, as well as KMP's Discipline Managers and Superintendents. This meeting is for both parties to confirm the scope of the Subcontract and the Project expectations for the performance and management of the Work. This agenda may be modified according to size or scope of the Work.
- **Pre-Activity Meeting Checklist:** This checklist is performed and documented for major distinct and/or critical items of subcontractors' Work. Attendees must include the subcontractor's Onsite manager and field supervisor(s), the Subcontract Superintendent, the Construction Manager (on larger tasks), and Department representatives.

During the Work

- **Daily Activity Report & Instructions:** To be filled out and reviewed for each day the subcontractor is scheduled to perform Work (preferably by the subcontractor). The Subcontract Superintendent is responsible for review of forms, tracking progress, and elevating issues as necessary.
- **Commodity Charts:** A tool to monitor production against Schedule. For high volume and product driven subcontractors, this form or similar is used to track progress.
- **Subcontract Issue Documentation Form:** Subcontractors are responsible for recognizing changes, and fulfilling timely notification and paperwork including the Issue Identification Form. Subcontract Superintendents assist their subcontractor during the change process.
- **Subcontract Summary Report:** A form summarizing all of the subcontracts on the Project. Updated monthly for review by the Design-Build Manager.
- **Prompt Payment:** KMP and their Lead Subcontractors pay their subcontractors within 30 Calendar Days after receiving an accurate invoice..

5.3.10 CONSTRUCTION EQUIPMENT MANAGEMENT

All equipment purchased by KMP for the Construction of the Project has the most current tier technology available. KMP follows Kiewit's long standing idling policy (below) to eliminate unnecessary idling for all equipment used on the Project.

IDLING POLICY

It is the KMP policy to comply with all laws and regulations, and to adopt best practices to protect and preserve the environment. To reduce emissions and conserve fuel, it is imperative that we limit the operation of our internal combustion powered vehicles and equipment whenever possible. Therefore, unless higher standards are required by applicable laws and regulations in a specific jurisdiction, all vehicles and equipment owned, leased, rented, or otherwise under our control shall not be allowed to idle for more than five (5) consecutive minutes, unless:

- Idling when in operations queuing
- Idling to verify safe operating condition
- Idling for testing, servicing, repairing, or diagnostic purposes
- Idling necessary to accomplish work for which the vehicle/equipment was designed (such as operating a crane)
- Idling to reach operating temperatures required by manufacturers' specifications
- Idling necessary to ensure safe operations of the vehicle/equipment

KMP enforces the idling policy using telematics, which is installed on Kiewit equipment. Telematics has many benefits including:

- Reducing unnecessary idling
- Reducing fuel consumption
- Right-sizing fleet through tracking utilization
- Maximizing productive use of equipment

KMP also follows Kiewit's Spill Reduction Program to implement procedures and processes to eliminate fluid releases into the environment. Our goal is to have zero spills. However, if a spill does occur, the program outlines the steps and procedures we employ to prevent future spills of a similar nature.

Two key initiatives were identified as being integral to the success of the program:

- Including Construction Equipment Team personnel on the Environmental Team, and meeting regularly to review spill data. Engaging seasoned individuals brings legitimacy to the program. These individuals serve as mentors to other Construction Equipment Team staff, providing training in the recognition of issues that can lead to spills.

- Enhancing visual inspections and preventative maintenance programs. In addition to daily inspections by the equipment operators, KMP conducts regular proactive inspections of equipment and more detailed inspections during Routine Maintenance

Overall incident reduction is accomplished through training, education, employee recognition, and encouragement.

Our Construction Manager examines the telematics reporting on a weekly basis to ensure that the equipment fleet is optimized and meeting the requirements of this PMP.

KMP prohibits tampering with equipment to increase horsepower or to defeat the effectiveness of an emission control device.

KMP's preventative maintenance program ensures our equipment operates at peak performance, while reducing down time. High utilization and productivity allow Work to be performed more quickly with less equipment. This allows us to stay on schedule and reduce our Project footprint.

- KMP runs a preventative maintenance program for equipment (including rental equipment) in which equipment is taken out of service every 500 hours of run time. The preventative maintenance program includes a standard review for each type of equipment, and ensures that engines are properly tuned and maintained.
- Preventative maintenance processes include restoring a machine's variable functions to manufacturer's specifications, replacing damaged parts and worn hoses, pressure washing and degreasing machines, and ensuring machines are safe and compliant.
- Components and subcontractor components are replaced at known intervals, reducing the exposure to lost time in production, and mitigating environmental impacts.
- Unless cost-prohibitive, KMP performs preventative and other maintenance in a shop environment to mitigate the impacts to the Project, public, and environment.

KMP maintains a management program to cycle equipment by type, based on time and hours of use, thereby ensuring the fleet is reliable, compliant, and technologically current. The average age of Kiewit's fleet is seven years, and KMP utilizes Kiewit's extensive fleet, allowing us to accurately place equipment in positions where performance is maximized, while also right-sizing the fleet and using the minimum practical engine size for the intended job.

5.4 OPERATIONS MANAGEMENT AND MAINTENANCE MANAGEMENT

The Operations Management Plan (Appendix H) and Maintenance Management Plan (Appendix I) are separate stand-alone documents describing the O&M processes and procedures for completion of the Project Work during Design, Construction, and Operating Periods. All KMP staff are trained on these plans, and are responsible for following them. These plans are compliant with the Schedule 11 requirements of the Project Agreement.

5.4.1 O&M MANAGEMENT APPROACH

KMP is organized to fully satisfy the requirements set out in Schedule 11 of the Project Agreement during the Construction and Operating Periods.

KMP Project Team members have significant experience operating, maintaining, and managing critical surface transportation projects as highlighted in our SOQ. This experience has been continued over the last two years and includes the following projects:

- IH 635 Managed Lanes in Dallas, Texas (Meridiam),
- Port of Miami Tunnel and Access Improvements in Miami, Florida (Meridiam),
- Midtown Express in Dallas, Texas (Kiewit) and
- Capital Beltway High Occupancy Toll Lanes in Fairfax County, Virginia (Jorgensen).

KMP's draft O&M Management Plans were developed taking into account the lessons learned from these experiences as well as others.

Our O&M plans include:

- Procedures to operate, maintain, and manage the Project at a safe, effective, and reliable level of service for the duration of the Construction Period and the Operating Period
- Standards for necessary actions to identify, categorize, and remedy deficiencies
- Processes to comply with the Performance and Measurement Criteria tables in Appendix A-1 and A-2 of Schedule 11 of the Project Agreement
- Procedures to update provisions and guidelines to incorporate modifications or changes in Project Standards and Project Agreement revisions

KMP's management approach and methods are consistent throughout the Term. O&M Work performed complies with Project Management processes and procedures in the following documents:

- Draft PMP (Appendix B, this document)
- Draft Operations Management Plan (Appendix H)
- Draft Maintenance Management Plan (Appendix I)

O&M Work also complies with the following:

- O&M Requirements of Schedule 11
- Reporting Requirements of Schedule 6
- MOT requirements of Schedule 10
- Cover MEP System requirements of Schedule 10
- Environmental Requirements of Schedule 17

KMP's compliance with these plans and requirements ensures the Project is operated, maintained, and managed at a safe, effective, and reliable level of operation and condition for the duration of the O&M Period, during both the Construction and Operating Periods.

KMP's Project Manager remains the single point-of-contact throughout both the Construction and Operating Periods, with responsibility and accountability to the Department for O&M Work. Maintaining this consistent point of contact is valuable for preserving institutional knowledge for the Construction sequence and through the Operating Period, and makes for a successful public private partnership. To support the proper delivery of the O&M Work, KMP subcontracts O&M Work during Construction to Kiewit, which is supported by Jorgensen. KMP subcontracts a portion of the O&M Work after Construction to Jorgensen, with KMP self-performing the remaining portion of this Operating Period Work.

5.5 DESIGN AND CONSTRUCTION INTERFACE

KMP is responsible for scheduling and conducting Design Checks and Design Reviews to meet the Design and Construction needs of the Project Schedule. The Design Schedule was developed to integrate with and support the Construction Schedule.

The Design is developed in the following stages, at a minimum:

Design Stages

Phase	Description
1	30% Design (Preliminary)
2	Department Over the Shoulder Review
3	Design Progress Review (60% Design)
4	Final Design 100%
5	Released for Construction

Task force meetings, constructability reviews, Design Integration Meetings, and informal reviews take place during stages of Design, and Design issues are discussed as needed at other Department interface meetings (such as the Weekly Progress Meetings).

After RFC Design is complete, the Design Team stays engaged to address Post Design questions from the Construction Team, and prepare Final Design deliverables.

5.5.1 EARLY WORK INVESTIGATIONS

Early investigations for environmental compliance, potholing, Design survey, topo survey, and geotechnical investigations all start at NTP1. All early investigation Work follows KMP's safety and MOT processes to minimize impacts to the community and traveling public, and ensure the health and safety of our workers. Work plans are created and reviewed prior to any Work commencing, and address safety, quality, environmental, and access requirements.

5.5.2 TASK FORCE MEETINGS

All Task Force Meetings are held weekly at the Project Office, and include a cross discipline Team of Design Leads, Construction staff, and Department and/or third parties. The Design Manager and Design-Build Manager (DBM) identify, with concurrence from the Department, when a task force can stop meeting. The Design Manager maintains a Task Force Meeting schedule, with times and locations of meetings.

Task Force Meetings

Task Force Meeting	Parties in Attendance
Drainage	• Design/Deputy Integration Manager • Design/Deputy Manager • Design Discipline Lead • Cross-Disciplines Design (as needed) • Constructability Review Team • O&M Design Review Team • Department • Quality: PC/IQC Personnel • Affected Third Parties • Construction Manager
Roadway	
Structures	
Traffic/ITS/Tolling	
Maintenance of Traffic	
Fire and Life Safety	
Cover	
ROW	
Environmental	
Strategic Communications	
Task Force Leads Coordination Meeting	

The appropriate Design Discipline Lead facilitates each Task Force Meeting. Other parties in attendance are shown in the table above. Meeting agendas and minutes are prepared for each meeting, and minutes are distributed within four days of the meeting. These meetings serve as over the shoulder reviews for the Department and affected third parties, and are an interactive meeting of Design, Construction, Department, and third party staff to work together to create the best Design for the Project.

5.5.3 WEEKLY PROGRESS MEETINGS

The Design Integration Manager, Design Manager, and Department hold weekly progress meetings to review the Schedule, and upcoming meetings. The Design Schedule is updated monthly as part of the Project Schedule.

5.5.4 CONSTRUCTABILITY REVIEW PROCESS

Formal reviews take place at 30% Design, 60% Design Progress Review, and 100% Plans. Plans are distributed for each formal review, and are reviewed by the Constructability Review Team. The Constructability Review Team comments on the plans using the electronic comment resolution form which allows reviewers to see each other's comments and comment/reply simultaneously, thus streamlining and speeding up the review process. Comments are sent back to the Design Lead, and the Design Team updates the plans, and documents their response on the comment resolution form. Informal communication takes place between the Design Leads and the Constructability Review Team during this process to ensure maximum productivity. KMP regularly holds formal Comment Resolution Meetings for the Design Team and Constructability Review Team to review the comments and changes made.

5.5.5 TEMPORARY STRUCTURES DESIGN

KMP develops a Risk Management Plan associated with Temporary Structures and Construction Devices (TSCD) to establish the strategy for Design of temporary Work. The plan specifically:

- Identifies the TSCD Manager(s)
- Identifies the TSCD Coordinator
- Identifies any other individuals who assist in developing, maintaining, monitoring, editing, or documenting the plan or matrix
- Establishes the protocol and Approval steps the Team uses to revise, change, or add to the plan
- Establishes a list of individuals or firms appropriate to function as the Designer, Design Reviewer, and Inspectors for given TSCD Work items
- Establishes the document control and record management program for TSCD Work items

The Design for TSCDs is performed by Kiewit's in-house designer Kiewit Infrastructure Engineers (KIE). KIE assigns dedicated designers to develop, manage, and execute the risk management of TSCDs.

5.5.6 POST DESIGN SERVICES

The Design Team provides Design services through Final Acceptance; the Design Manager and Design Integration Manager lead the Post Design effort. Post Design services include the items described in the sections below.

5.5.6.1 Requests for Information (RFI)

Responding to RFIs related to clarification of plans or specifications from the Construction Team during the Construction Period. RFIs are reviewed by the Design Integration Manager before submittal to PB.

5.5.6.2 Field Design Change (FDC)

FDCs are requests for changes in the Design issued by KMP when:

- Conditions encountered in the field render the current plans or specifications invalid or impractical
- KMP believes a different Design solution would be more efficient in terms of Design and Schedule

FDCs are reviewed by the Design Integration Manager prior to being submitted to the Design Team. The Department must sign off on FDCs that require modification to the RFC plans.

5.5.6.3 Nonconformance Report (NCR)

As part of our QMP, if Work has been constructed that does not conform to the plans or specifications, a Nonconformance Report is initiated. The KMP Quality Team routes NCRs through the Design Team for their concurrence as needed. The Department must sign off on NCRs that require modification to the RFC plans, except “remove and replace” decisions.

5.5.6.4 Submittal

Submittals for product data, calculations, or shop drawings are developed by KMP or their subcontractors, and submitted to the Design Team for Approval.

5.5.6.5 As-Built Plans

Redline mark-ups of the Design drawings are kept and managed by KMP. Redlines are a product of the RFIs, FDCs, and NCRs and show the exact dimensions, geometry, and location of completed Construction Work. As part of the Closeout Process, redline drawings are updated into electronic CADD files to form the set of As-Built plans. As-Built plans and survey are submitted to the Department for Acceptance prior to Final Acceptance.

As-Built Plans include:

- All plans reflecting RFC Documents or revisions to RFC Documents
- Resolution of nonconformances
- Design calculations
- Design reports
- Specifications
- Electronic CADD files
- Index summarizing revisions to initial RFC Documents

5.6 DURABILITY

All materials and products are selected throughout the proposal development phase with sustainability, durability, and flexibility in mind. KMP performed life cycle assessments on the various building components to select durable, economical materials, like precast concrete. For example, in our material selection for Pavement Design, materials utilized high recycled content, and are extremely durable, maximizing the service life of the overall asset.

KMP used a life cycle approach for our design of the pavement and structures. Materials and systems were selected based on reliability and efficiency over the life of the asset. Exterior surfaces were evaluated for initial cost, and for durability in the environment that they encounter throughout the Term.

5.6.1 KEY PROCESSES

KMP's Durability Plan applies to both KMP employees and our subcontractors. The Durability Plan is structured as shown below, and includes the following key processes:

Step 1: Durability Planning. Prior to Construction, the Project Team shall do the following:

- While finalizing the Preliminary Design, the Project Team, including Design, Construction, and O&M, assesses moderate and high-risk durability issues required to complete the Project.
- Develops specific measures and criteria that respond to those issues including installations, maintenance, and resistance to external and environmental conditions while in use.
- Identifies for use known products or materials that provide sustainability, durability, and flexibility during their service life. Assessment includes the "whole-life" costs and safety aspects associated with their use.
- For the limited areas where unique or new products are proposed for use, designers provide the Construction Team with key durability measures or criteria relative to the products selection and Approval requirements.

Step 2: Durability Management. During Construction, KMP utilizes a management process to ensure Approved and durable products are installed where appropriate. To assist with this effort, KMP utilizes material or products from the CDOT Approved Products List (APL), as these items have already been reviewed for use under similar Design conditions and/or have met the appropriate review criteria based upon extensive and successful field use.

CDOT Approved Products List (Major Categories)

Adhesive	**Environmental**	**Right-of-Way Structure**	**Soil/Geotechnical**
Asphalt	**Erosion Control**	**Roadway Safety**	**Steel**
Bridge Structures	**Painting/Coatings**	**Sealant (Joint and Crack)**	**Traffic Control**
Concrete	**Pedestrian Safety**	**Sediment/Pollution Control**	**Waterproofing**
Drainage	*Link to CDOT APL:* http://apps.coloradodot.info/apl/AplSearch.cfm		

To further project innovation, new materials and products are identified where they provide a unique advantage to the Project beyond those currently on the Approved Products List. This effort enables KMP to fully honor its 30-year service period and Handback requirements through the use of higher quality products. Prior to use of these products or materials; however, a formal submittal is prepared for review by the Contractor, Designer, and the Department.

Step 3: Management Verification. Despite the use of products and materials that are pre-approved, KMP has an active quality management and quality assurance program to ensure that the proper products are actually used on the Project and that they are installed in accordance with the manufacturer's requirements. See Appendix D (QMP) and Appendix E (CQMP) for further details.

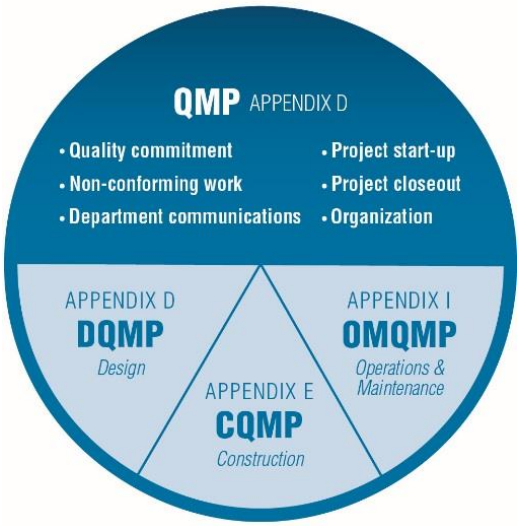
The three-step process above continues throughout the Term whereby a similar planning, management, and verification process occurs for the material and product selection, installation, and quality inspections to be used for delivery of the O&M services.

5.7 QUALITY

KMP's Quality Policy is to meet or exceed the requirements of the Project Agreement, with the principal objectives of meeting or exceeding the Department's expectations, and eliminating rework by performing *Work Right First Time*. KMP monitors its performance against these objectives and strives for continual improvement. To ensure the high expectations are met, KMP achieves ISO 9001:2015 certification.

KMP's Quality Management System is outlined in the figure below, and includes a Quality Management Plan (QMP), as well as a Design Quality Management Plan (DQMP), a Construction Quality Management Plan (CQMP), and an O&M Quality Management Pan (OMQMP).

Quality Management System Structure



5.7.1 KEY PROCESSES

KMP's Stage 1 Quality Management Plan and Design Quality Management Plan (Appendix D) is structured as shown below, and outlines the following key processes:

5.7.1.1 Quality Management Plan

Section	Title	Key Processes
1	Project Summary	
2	Quality Program	Parties required to follow QMP, and KMP commitments
3	Management Commitment	Project Quality Team, KMP Quality Policy, Department focus
4	Quality Management Plan	Quality Management Plan Organization
5	KMP Quality Organization	Quality personnel (IQC/PC), responsibility and authority, Project Quality communication/interfaces
6	Department Communication	Project Progress Review Meetings, Weekly Quality Meetings, Four Square Matrix, Quarterly Quality Meeting, Weekly Quality Tours, Client Engagement Survey
7	Administration	Quality planning, Quality improvement, and training
8	Independent Quality Control	Record keeping
9	Nonconforming Work	Identifying Nonconforming Work, isolation of Nonconforming Work, reporting of Nonconforming Work
10	Quality Oversight by the Department	Department Verification Reviews
11	Deliverables	Deliverables to the Department, Noncompliance Points

5.7.1.2 Design Quality Management Plan

Section	Title	Key Processes
1	Project Summary	
2	KMP's Quality Management	Quality objectives and policy
3	Management Responsibility	Organization, responsibilities, and lines of communication
4	Project Quality Communication/Interfaces	Meeting matrix and communication protocol
5	Subconsultants Documented Quality Plan	Adherence to DQMP
6	Design Quality Control	Design input, programs, phases, requirements, reviews, and schedule
7	Supplier-Provided Drawings Review	Review expectations
8	Document and Data Control	Document Control System
9	Control of Nonconformance	Control of Nonconformance

10	Corrective and Preventive Action	Corrective action, preventive action, Four Square Matrix, and issue escalation
11	Quality Records	Storage, preservation, and safe keeping of quality records
12	Quality Audits	Reporting and records
13	Training	Records

KMP's Stage 2 Construction Quality Management Plan (Appendix E) is structured as shown below, and outlines the following key processes:

5.7.1.3 Construction Quality Management Plan

Section	Title	Key Processes
1	Project Summary	
2	Introduction	Parties required to follow QMP, and KMP commitments
3	Management Commitment	Quality Policy
4	Quality Management Plan	Quality Management Plan Organization
5	Quality Organization	Quality personnel, roles, responsibilities
6	Construction Quality Management	Project Start-Up, Work planning, field execution, Project completion

5.7.2 QUALITY PROGRAM OVERVIEW

Although KMP has Quality personnel overseeing Process Control and IQC, Quality is the responsibility of all members of the Project Team. Quality comes second only to safety, and KMP's bottom up approach to both safety and quality is to instill a safety and quality focus throughout the Project organization, no matter one's role or position.

Each individual performing Work is responsible for the quality of their Work, and each supervisor and manager is responsible for the Work done by their subordinates. To achieve the required level of quality, each employee complies with the procedures, instructions, intent, and specifications of the Quality Management System outlined in Appendix D, Stage 1 Quality Management Plan; Appendix E, Stage 2 Construction Quality Management Plan; and Appendix I, the O&M Quality Management Plan.

All Design deliverables, field installations, and O&M Work are prepared in accordance with the Project requirements, including relevant Department drawing standards and Project Agreement requirements. Each of these items is prepared by individuals from the three organizations listed below, and is then reviewed by staff who are independent from the preparers.

- **Design:** Drawings, reports, calculations, and other Design deliverables including Design analysis and review of RFI and NCR modifications
- **Construction:** Inspection of field installations, material tests, start-up testing, and commissioning

- **O&M Services:** Reporting, frequency, and procedures for O&M Services, including asset inspections

The Quality Program consists of two parts:

- **Process Control (PC):** Ensures that processes and procedures yield consistent Quality performance across all Project functions
- **Independent Quality Control (IQC):** Includes the auditing of individual Work elements to ensure that each of these elements achieves the required Quality standards

PC functions essentially assure the consistency of the product. Key to PC is the development of a detailed audit plan that is carried out on the processes and procedures to verify that these have actually been followed. The responsibility for carrying out such audits and issuing audit reports lies with the Construction Process Control Manager and Design Process Control Manager. See Section 4.4 for Key Quality Staff personnel details. The Project Quality Manager also carries out audits of the Quality Control Programs.

IQC functions are set out in the processes and procedures within the Quality Programs, and include detailed review processes, testing, and frequencies for individual deliverables and tasks. These procedures govern the way KMP carries out its scope of work for the Project. Responsibility for achieving Quality Control within the Quality Program criteria is ultimately that of the actual staff, craft, and their supervisors.

All nonconformances, irrespective of the source, are reported on the Nonconformance Log available to the Department. This log identifies the actions agreed to with the Department to rectify the nonconformance. The Project Quality staff records the status of each action.

Part of the bottom up approach to Quality is to get buy in from the Project Team regarding the Project specific Quality risks. Those building the Work in conjunction with the Quality Team can identify not only major Quality risks but, importantly, mitigation for each risk. KMP quality staff develops a poster before the start of Construction. These posters are visible throughout the Project Site. The poster may be customized for each segment, and is updated as needed throughout the Project. These posters are proven ways to integrate the Team into the Quality mindset, and to address the specific challenges of the Project and concerns of the Department.

5.7.3 CONTROL OF RFC DRAWINGS

The Project Quality Manager ensures that the correct set of Release for Construction plans are in use in the field. The plan set Index tracks the current status of plans. The Index lists the name of the drawing (matching the title in the sheet title block), the date the plan was most recently updated, and the current revision number. The Index is controlled by the Document Control Manager, who works with the Project Quality Manager to issue any changes to the plans.

The process for engineering review and Department Acceptance for releasing drawings are used throughout the Construction and Operating Periods. Any Design produced by KMP, regardless of when it is produced, undergoes checking and reviews as specified in the Stage I Quality Management Plan. It is expected that the Department reviews of some plan revisions may take place in a compressed timeframe from the normal Review Process, but a Department review and Acceptance of the revised Design is required before the revised Design documents are issued.

For further details regarding the Project's Quality Control and Quality Assurance programs, see:

- **Appendix D:** Stage I Draft Quality Management Plan
- **Appendix E:** Stage II Draft Quality Management Plan
- **Appendix I:** OMQMP

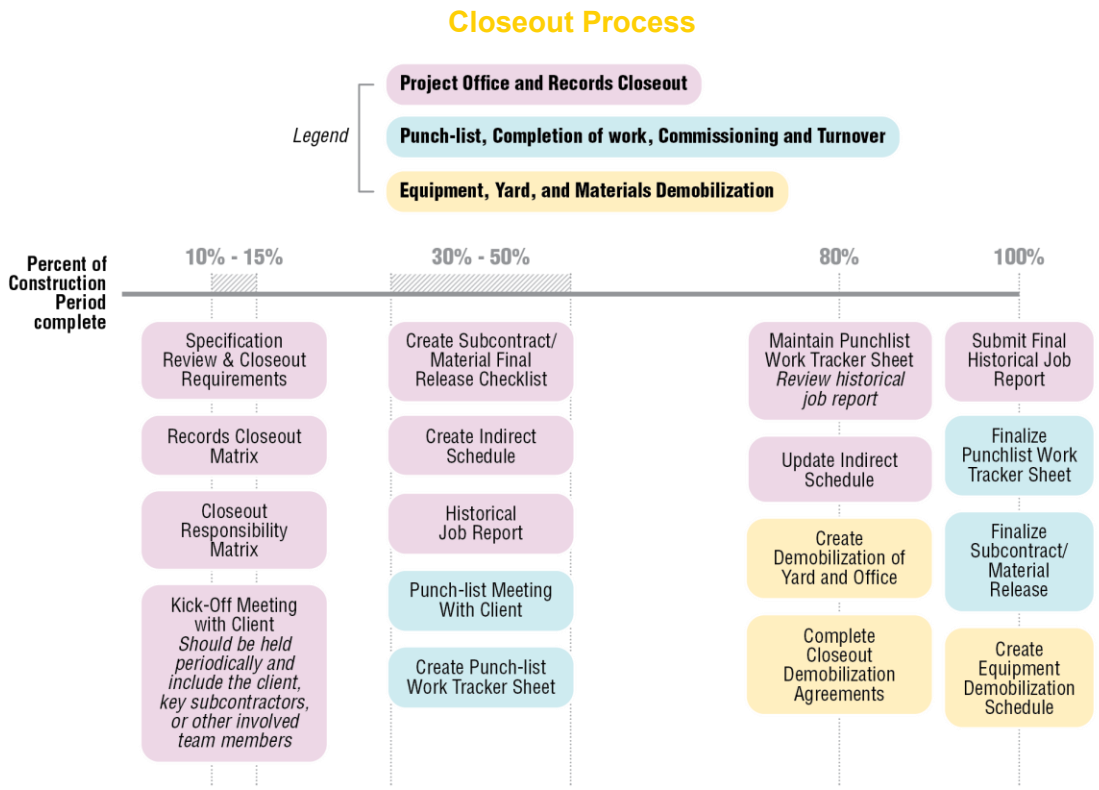
5.8 CONSTRUCTION CLOSEOUT

The Construction Closeout process starts at the beginning of the Project to ensure requirements and records are completed timely and wholly. KMP assembles a Closeout Task Force which starts meeting early on (when the Project is approximately 10% complete) so that the Closeout process is developed within the first year of Construction. The task force consists of the Project Quality Manager, Construction Process Control Manager, Project Engineer, Design Integration Manager, and Construction Manager (or designees). This group determines a process, in collaboration with the Department, to assemble required Closeout documentation on the Project as it is completed. The task force coordinates the Closeout effort to align with each of the following Milestones:

Closeout Milestones

Milestone	Description
Completion of Milestone 1	Sand Creek Bridge to Chambers Road
Completion of Milestone 2	Dahlia Street to Sand Creek Bridge
Completion of Milestone 3	WB I-70 Brighton Boulevard to Dahlia Street
Completion of Milestone 4	EB I-70 Brighton Boulevard to Dahlia Street
Substantial Completion	Project Wide
Final Acceptance	Project Wide

A Punch List flow chart is created based on the Construction Closeout requirements. The flow chart below illustrates the closeout process, and who has authority to close an item.



A Milestone Completion Punch List is completed for each Milestone 1 through 4, in addition to a Substantial Completion Punch List. The Punch List includes the proposed date of completion for each item. For Milestone Completion Punch Lists, this shall be no later than Substantial Completion, and for the Substantial Completion Punch List, no later than Final Acceptance. A Punch List log is created with the input of the Department and other affected agencies, and the log is maintained by KMP.

Weekly meetings occur for Milestone Completion Punch Lists when each Milestone Area is at 80% complete, and for the Substantial Completion Punch List, when the Project as a whole is at 80% complete. At these meetings, KMP verifies that items have been completed, provides final documentation for completed items, and schedules/discusses the final review and inspection to verify that Punch List Items are resolved.

PC and IQC personnel complete Punch List logs. KMP invites the Department and other affected agencies to attend walks of the Work to develop Punch Lists. Punch Lists and Punch List logs are provided to the Department for Approval. Once Approved, KMP promptly begins Work on the Punch List Items.

In addition to the Punch List process, the Closeout Task Force develops a documentation closeout checklist to ensure that the requirements of the Project Agreement are complete and understood before KMP's request of Milestone Completion. This checklist includes document types such as certification of materials, payments, and other submittal and compliance items.

The Construction Process Control Manager, or designee, periodically audits the Closeout Plan following the Schedule outlined in the CQMP.

Members of the Closeout Team undergo documented training on this procedure when they join the Team, and again when changes are made to the procedure.

5.9 SAFETY MANAGEMENT

KMP's safety goal is that *Nobody Gets Hurt*—not Department staff, traveling public, third parties, or KMP Team Members. *Nobody Gets Hurt* also means no incidents and no injuries, no matter how seemingly minor. We care about our co-workers, the public, and the entire Project Team, and take seriously our responsibility to keep each other safe on the job. No matter your job, *Nobody Gets Hurt* applies to you. Nothing is more important.

To achieve this goal, KMP implements our five keys to safety excellence as shown below:

1 Hire & train the right people
All personnel receive project-specific indoctrination before beginning Work. Our safety manager and other management meet every person working on the Project and train them first-hand on our safety philosophy and SMP.
SMP Section 6.1

2 Know the Details
All our people know details of the Project Agreement and SMP that are communicated daily through operational hazard analysis and crew communications.
SMP Section 4.4

3 Craft Ownership
Craft ownership is instrumental to achieving our safety goal. **Craft Voice in Safety (CVIS)** is our rotating group of craftsmen who mentor new hires, promote care for our people, and build trust within our Team.
SMP Section 5.1

4 Lead by Example
Everyone has responsibility to work safely and look out for those around them. Everyone has authority to stop unsafe Work. We coach each other and build positive energy to set clear expectations and hold each other accountable.
SMP Section 3.2

5 Recognize Change
Change is a constant. We train our people to recognize changes in their operation, identify new hazards, understand precautions, and modify actions. As the jobsite transforms, recognizing change is critical to ensuring a safe work environment.
SMP Section 2.2.2

KMP's approach to safety is a bottom up structure where every employee is engaged in the safety culture, including the entire Team: KMP, subcontractors, Department, and third parties. KMP encourages each employee to be responsible for their safety and their co-workers' safety. As a reminder of this, every hard hat has the "Think! Safety begins with me" logo on it. All employees are authorized and encouraged to speak up when they see someone working in an unsafe manner, or if something is not up to our safety standards.

5.9.1 KEY PROCESSES

KMP's Construction Period Safety Management Plan (SMP) applies to KMP employees and our subcontractors. The SMP (Attachment 1) is structured as shown below, and outlines the following key processes:

Safety Management Plan Key Processes

Section	Title	Key Processes
1	Safety Program	Policy, program overview, safety goals, subcontractor safety
2	Organization and Responsibilities	
3	Safety Polices	Drug & Alcohol, Zero Tolerance, Personal Protective Equipment (PPE), Fall Protection, Excavation, Utilities, Lock-Out/Tag-Out, Crane & Rigging, Temporary Structures
4	Safety Plans	Craft Voice in Safety (CVIS), Respiratory Protection, Traffic Control, Winter Weather
5	Training	Safety Training, Safety Management Plan Training
6	Site Controls	Workplace/OSHA Inspections, Hazard Communication, Handling Material, Confined Space
7	Incident Response	Accountability and disciplinary action, incident investigation and reporting, Emergency Response Plan

KMP has a full time Safety Manager on the Project whose role is to develop, implement, and monitor all aspects of the SMP. He is empowered to take all necessary action to correct safety problems, including stopping Work in the case of serious safety hazards. The Safety Manager develops the safety training program and ensures proper trainings are occurring.

5.9.2 SAFETY CRITICAL WORK

The Safety Manager also ensures that all Safety Critical Work is properly planned out, reviews the Construction Plan, and schedules the Safety Critical element conference prior to Work. The table below shows the Safety Critical Work elements.

Safety Critical Work Elements	
Overhead girder erection **Overhead structure construction or repair**	Temporary Works: falsework, shoring that exceeds 5 ft. in height, cofferdams, and temporary bridges.
Removal of bridge **Removal of portion of bridge**	Excavation and embankment adjacent to the roadway, especially if shoring is required.
Falling object mitigation	Work activities such as pile driving and jack hammering which may create vibration and cause debris to fall into traffic.
Heavy lifting and demo Work	Work requiring the use of cranes or other heavy lifting equipment to set a girder or make overhead repairs, includes special provisions for Removal of Bridge or Removal of Portion of Bridge. Also when construction materials are being lifted that may fall onto active traffic lanes.

5.9.3 HEALTH AND SAFETY PLAN

KMP's Health and Safety Plan is written in accordance with 29 CFR 1910.120(b)(4). The Site specific Health and Safety Plan is written and updated by the Health and Safety Officer (HSO) and includes the following:

- A safety and health risk or hazard analysis for each Site task and activity found in the Work plan
- Employee training assignments to assure compliance with 29 CFR 1910.120(e)
- Personal protective equipment (PPE) to be used by employees for each site task and activity being conducted, as required by the personal protective equipment program in 29 CFR 1910.120(g)(5)
- Medical surveillance requirements in accordance with 29 CFR 1910.120(f)
- Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation, including methods of maintenance and calibration of any monitoring and sampling equipment
- Site control measures in accordance with 29 CFR 1910.120(d)
- Decontamination procedures in accordance with 29 CFR 1910.120(k)
- An emergency response plan meeting the requirements of 29 CFR 1910.120(l) for safe and effective responses to emergencies, including the necessary PPE and other equipment
- Confined space entry procedures
- A spill containment program meeting the requirements of 29 CFR 1910.120(j)

5.9.4 ACCIDENT INVESTIGATION PROCEDURES

KMP conducts accident investigations when needed, to determine the cause or causes of an accident so that appropriate action can be taken to prevent recurrence. All accidents are investigated, since severity is largely a matter of chance.

Investigation procedures include the following:

- Arrange for immediate first aid or medical care for the injured
- Report serious accidents by telephone, notify Insurance Carrier, Kiewit District Office, Kiewit Home Office Safety Department, and Kiewit Home Office Legal Department
    - Information needed by the Home Office:
        - Job name, job number, job location
        - Injured's name, marital status, number of children, craft, description of accident
        - Complete narrative report as soon as possible
        - Drawings or diagrams to clarify the report if necessary
        - Photos
    - Notify appropriate federal, state, and local safety agencies in accordance with applicable regulations
    - Personal injury, equipment damage, or public liability accidents are reported to the Kiewit District Manager, by phone or in person, within 12 hours of the incident
- Take pictures before conditions are significantly disturbed

- Take diary notes on physical conditions that may have had a bearing, such as lack of guardrails, poor housekeeping, deficient scaffolding, surface condition of roads, amount of illumination, condition of barricades, or lack of warning lights
- Measure distances and plot location of vehicles, equipment, barricades, and skid marks
- Note type of damage, location of damage, and probable cost of repair
- Record time, weather, visibility, traffic conditions, and other related factors
- Secure names of witnesses, license numbers, addresses, and names of insurance carriers
- Notify law enforcement agencies as required by regulations
- Check equipment and vehicles—brakes, tires, steering, lights, cables, and hand tools
- Interview employees who witnessed the accident or were involved—what was being done, methods, position of equipment and personnel, use of PPE, and any unsafe acts
- Investigate whether hazards and safe practices related to the accident were covered in new employee training, Tool Box Talks, or job instructions
- Consider physical or mental deficiencies that may have contributed, such as “black out,” heart problems, irrational behavior, or attempting too much for size and physical strength
- DO NOT discuss serious accidents with outsiders, or share your opinion of what happened, how it happened, or why it happened
- Designate one person to handle media inquiries; responses are discussed with the Kiewit District Manager prior to dissemination

5.9.5 EXPOSURE ASSESSMENT

KMP’s process to assess the safety exposures on the Project includes the following:

- **Readiness Review:** Prior to the start of Construction, KMP holds a Readiness Review meeting for the Project Team to present their plan to KMP Management. The Team covers the following safety related items in the Readiness Review meeting:
  - Construction Period Safety Management Plan
  - Top Safety Hazards/Mitigation
  - Emergency Response and Reporting
  - Crisis Management Plan
  - Safety Tours and Meetings
  - Training

These items are the first step in assessing the safety exposures on the Project and developing a plan to mitigate the exposures.

Part of the Readiness Review is developing a one-page Safety Plan to be posted throughout the Project Site that clearly communicates KMP's safety exposures/mitigation plan to the entire Project Team, and serves as an easy reference for everyone working in the field. The Project Team develops the one-page plan based on the top Project-specific safety risks and goals for safety. This is a living document that is updated as needed to reflect the Project's current job risks and expectations.

- **Work Plans:** Work plans are developed for definable features of Work. The plans include a detailed risk analysis of the hazards contained within each activity, and the procedures to effectively eliminate or reduce the hazards to an acceptable level. A sample planning checklist for a Work plan is below.

Work Plan Checklist

Planning Checklist

Have you planned for:

Safety - Hazard Analysis

- ☐ Fall Protection
- ☐ PPE
- ☐ Hot Work
- ☐ Danger to Public
- ☐ Excavation / Shoring
- ☐ Utilities- UG (dig permit), OH (access)
- ☐ Night work
- ☐ Access
- ☐ Special Training Requirements
- ☐ Confined Space
- ☐ Housekeeping
- ☐ Material Deliveries, Staging and Handling

Operations Planning

- ☐ Tools / Supplies Needed
- ☐ Haul Routes/Loading Plans/Sequencing
- ☐ Survey / Machine Control
- ☐ Differing Ste Conditions (groundwater, rock, etc.)
- ☐ Access Plan
- ☐ Crane Pick Drawings and Calc's
- ☐ Material Handling and Storage
- ☐ Sucontractor/Supplier Interface
- ☐ Equipment Planning - Line Up/Fueling/Maintenance
- ☐ Utility Coordination
- ☐ Concrete Pump Setup
- ☐ Barrier-Barricardes-Signage
- ☐ Permanent Materials / Material Management
- ☐ Traffic Control

Quality - Quality Analysis

- ☐ Tolerances Identified
- ☐ Quality Elements Identified
- ☐ Acceptance Criteria Identified
- ☐ Witness/Inspection Points ID'd
- ☐ Hold Points Established
- ☐ Special Inspection & Testing

Environmental Considerations

- ☐ Wildlife impacts
- ☐ Storm Water Pollution Prevention (SWPPP)
- ☐ Potential Weather Impacts
- ☐ Hazardous Material Handling / Storage
- ☐ Secondary Containment
- ☐ Concrete Washout

Plans and Specifications

- ☐ Required Submittals
- ☐ Lift plans - Form Drawings
- ☐ TS&CD Plans and Requirements
- ☐ Contract Drawings
- ☐ Shop Drawings
- ☐ RFI's/FDC's/NCR's

Contingency Planning

- ☐ Adequate Plan B

Cost vs. Budget

- ☐ Scheduled Shutdown(s) Identified
- ☐ Method Analysis Plan
- ☐ Time Study
- ☐ Schedule
- ☐ Claiming Scheme

SAMPLE

- **Job Hazard Analysis:** The Job Hazard Analysis (JHA) is our primary tool for recognizing and communicating hazards to our employees. It includes an attempt to identify every hazard associated with a given task (shown in the flow chart on the following page), and a method to counter the hazard. The JHA form (below) is filled out with the crew and with input from both craft and staff. A JHA is prepared for Work activities including small/short duration tasks..

HAZARD ANALYSIS

DATE PREPARED: PREPARED BY:

OPERATION:

STEP BY STEP PLAN:
1
2
3
4
5
6

Access Identification	
Location	Type

Ergonomic risks	
Lifting	☐
Repetitive Motion	☐
Vibration	☐
Awkward Position	☐

Strategic Risks	Evident Risk	Needs Special Planning
Equipment	☐	☐
Exposure to Falls	☐	☐
Confined Space	☐	☐
Traffic	☐	☐
Trenching / Excavation	☐	☐
Lock-Out / Tag-out	☐	☐
MSDS Attached	☐	☐
Utilities	☐	☐
Electrical	☐	☐
Critical Lift Plan	☐	☐
On the Spot Lift Plan	☐	☐
Steel Erection	☐	☐
Night Work	☐	☐
Falsework / Shoring	☐	☐
Other Safety risks	☐	☐
	☐	☐
	☐	☐
	☐	☐

Unique PPE	Required
Cutting Goggles	☐
Face Shield	☐
Leather/Kevlar Chaps	☐
Respiratory Protection	☐
Toe/Foot Guards	☐
Ear Plugs/Muffs	☐
Life Vest/PFD	☐
Welding Hood	☐
Welding Leathers	☐
Other PPE:	☐
Other PPE:	☐
Other PPE:	☐
Other PPE:	☐
Other PPE:	☐
	☐
Superintendent	

Prepared and reviewed by:	
Name	Signature
Foreman	

SAMPLE

Kiewit Safe

Overall Risk Assessment Code (RAC) (Use highest code)	

Risk Assessment Code (RAC) Matrix

Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above)

"**Probability**" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent, Likely, Occasional, Seldom or Unlikely.

"**Severity**" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Critical, Marginal, or Negligible

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart
E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

Hazard Identification Flow Chart

BRAINSTORM & DEVELOP INITIAL PLAN

At a minimum the Discipline Superintendent, Field Engineers and Foremen must attend the Brainstorm Session. The Risk Analysis classification may require additional attendees. Brainstorm the general plan for building the Work. This should include:

1. The sequence, Work flow, and access
2. Use the Planning Checklist to identify what needs to be addressed in the work plan
3. Develop the Detailed Description, Operational Step by Step and the General Requirements.

DRAFT INITIAL PLAN

Utilizing the brainstorm information, the Field Engineer drafts the plan and imports **Cost account, Quantity and Budget information** onto each work plan step page as well as developing the **Quality Analysis**, and inserting an **Overview** of where the work occurs.

TAKE INITIAL PLAN TO THE CREW

At the Weekly Field Planning Meeting the Discipline Superintendent along with input from the foreman and crew brainstorm the Work to be built in each step. They **Describe the Step**, select **Planned Crew & Equipment**, detail a **Site Plan** and **Plan to Make Budget.**

DRAFT THE FINAL PLAN AND APPROVE

The Discipline Superintendent will give the information from the brainstorm meeting with the crew to the Field Engineer to create and finalize the work plan. Plan is approved by the appropriate individual according to the Risk Analysis classification.

EXECUTE THE PLAN

The Discipline Superintendent shall provide the Foreman with the work plan at least one week prior to starting work. Foremen review the plan, the JHA is completed by the foreman and crew who will execute the work. Once the work begins, it will be the responsibility of the Craft Superintendent to revise and update the work plan.

- **Project Injury and Illness Prevention Plan (IIPP):** Developed by the Project Management Team to guide the Work according to KMP's *Nobody Gets Hurt* expectations.
- **Site-specific programs or tasks:** These programs are found within the IIPP and reflect those specific programs that KMP intends to perform to ensure safety exposure identification is ongoing. Programs include Craft Voice in Safety (CVIS), Weekly Safety Tours, and other programs developed by the Project Team.
- **New hire training:** Ensures that new employees understand and adopt the *Nobody Gets Hurt* culture, and clearly understand the requirements and expectations of the Project.
- **Safety meeting schedule:** Ensures that safety meetings are planned out and meaningful to the craft.
- **Safety Incentive Program:** Maintains craft engagement with the safety program. The plan must be functional, exciting, and visible.
- **Planned training:** Identifies Project training needs early, and ensures that the trainings are meaningful, prepared, and interactive. Trainings reflect current and upcoming safety exposures.

5.10 TRANSPORTATION MANAGEMENT

The Transportation Management Plan (TMP) is an independent document describing the detailed processes and procedures for roadway access, and the traffic control required for the completion of Work on the Project. KMP staff follow this plan, which is compliant with the Schedule 10, Section 2 of the Project Agreement. Key processes within this plan include:

5.10.1 KEY PROCESSES

The TMP includes the following sections and key processes:

Transportation Management Plan Key Processes

Section	Title	Key Processes
1.0	Project Summary	
2.0	Transportation Management Plan	Plan contents
3.0	Transportation Management Plan (TMP) Strategies	MOT phasing/staging, existing and future conditions, closures, detour routes, typical sections, emergency requirements, emergency access, temporary closures, and access
4.0	Temporary Traffic Control (TCP) Strategies	Approach for developing TCPs, implementation of TCPs and MHTs, business and private access, and CTMC coordination
5.0	Transportation Operation Plan (TOP) Strategies	TDM program, RTD coordination, Traffic Access Management approach, DIA approach, school access approach, UPRR/York Street crossing pedestrian and bike approach, Incident Management Plan, and Dynamic Ride Sharing program
6.0	Public Information (PI) Strategies	PI approach, checklist, Weekly Communication Coordination Meetings, MOT Task Force, and Weekly Task Force Meetings

KMP's Transportation Management Plan (TMP) follows the requirements of the *CDOT Work Zone Safety and Mobility Rule Procedures Document*.

5.10.2 INTERFACE WITH DEPARTMENT AND CCD

Coordinating traffic control plans with adjacent projects and jurisdictions for easy travel is critical to Project success. KMP establishes an MOT Task Force to coordinate plans and establish a forum for communicating travel related information. Within 30 days of NTP1 we submit the list of proposed attendees for Approval (see below). Within 14 days of list Approval, we convene a Kick-Off Meeting to develop agreement on TMP detail and agenda topics moving forward.

The task force includes:

- KMP Project Communications Manager and Team
- KMP MOT Team
- Department Communications staff
- Traffic Control Supervisor
- Traffic Control Superintendent
- Department Traffic Engineering and Operations staff
- Regional Transportation District (RTD)
- Denver Police traffic unit
- CCD—Public Works Staff
- Commerce City
- Adams County
- City of Aurora
- Emergency Service Providers
- Highway Maintenance Team
- Denver International Airport
- National Western Stock Show (as needed)
- DPS Bus Service and other private and public transportation providers (as needed)

The MOT Task Force meets weekly to review incidents from the prior week. The Communications Team reports on complaints and compliments received, to determine if there is a pattern, and if changes to the MOT are needed. Others at the meeting can report any concerns they are aware of as well. KMP develops the agenda for these meetings, and posts minutes for Approval.

Discussion of upcoming TMPs are reviewed to confirm there are no conflicts, detours are Approved, and proper communication is planned.

Lessons learned are reviewed quarterly to update TMPs and Communication Work Plans as needed.

5.11 STRATEGIC COMMUNICATION

The Strategic Communication Plan (SCP) is an independent document describing the detailed processes and procedures for communication between the Project and the public and stakeholders. This Plan enables successful completion of the Work on the Project during the Construction and Operating Periods, including integration with Design Work. KMP staff are trained to follow the procedures in this Plan, which is compliant with Schedule 14 of the Project Agreement.

5.11.1 KEY PROCESSES

Key processes of the SCP include:

Strategic Communications Plan Key Processes

Section	Title	Key Processes
1.0	Project Summary	
2.0	Introduction	Outline of Plan and update process
3.0	KMP Communication Principles	Fundamental KMP principles
4.0	Communication Team	Team structure, roles and responsibilities, Project Office, and Coordination Meetings
5.0	Department Responsibilities	Specific Department responsibilities
6.0	KMP Responsibilities	KMP responsibilities and outreach tools
7.0	Joint Department/KMP Responsibilities	Jointly addressing potential issues
8.0	Identifying Stakeholders	Identifying key issues, public information and outreach tools

5.11.2 INTERFACE DURING THE WORK

The Communications Team holds weekly Strategic Communications Meetings with the Department and other entities as needed to discuss communications issues, upcoming media advisories/press releases, community meetings, Lane Closure Reports, website updates, and information line recordings. The output of this meeting is a weekly Communications Work plan, as shown below, which summarizes our interface and message for the public, stakeholders, the Department, CCD, Governmental Authorities, Regulatory Agencies, Utility Owners, Railroads, and other third parties.

5.11.3 COMMUNICATION METHODS

KMP's Strategic Communication Plan (Appendix J) outlines KMP's approach to using several outreach methods including, but not limited to, the methods shown below.

Public Information Outreach Tools	
Phone and email	Traffic alerts
Meetings	Web Page updates

Public Information Outreach Tools	
Business Meetings	Project newsletters
Social Media	Language assistance for Limited English Proficient persons
Stakeholder Distribution List	Public Communications Collateral
Tours and communication events	Photos/video
Lane Closure Reports	Project identification signage

In addition to the outreach efforts described above, our Team develops an array of imaginative, interactive, and engaging Public Information tactics, as indicated below. These can be tailored to meet individual stakeholder needs and specific Construction impacts, while also remaining flexible enough to accommodate changing community dynamics.

Proposed Additional Public Information Outreach Tactics	
Targeted digital media through use of quick and easy messages delivered electronically to help travelers "Know Before You Go," as well as messages describing Construction activities happening along the Project corridor.	**Proactive Media Relations** by coordinating with the Department to pitch stories of interest to the community and developing regular stories to communicate how to get through the cone zone. **Media training** for key KMP Project personnel to ensure all understand that we vet media interaction—both proactive and reactive—through the Department for their Approval.
Door-to-Door Canvassing to promote the hotline/website and collect email addresses for future communications. Enlist the help of residents to do canvassing at a "community canvassing day," give colorful t-shirts to canvassers, and hand out refrigerator magnet leave-behinds so residents have ready access to numbers to call.	**Coordinate with the Department's Public Information Office** to maintain a strong, visible presence in the community and bring the core function of the Project Office to residents and stakeholders.
Targeted advertising campaigns on radio/TV informing residents/commuters about major traffic shifts and Construction activities, as well as employment opportunities.	**Food Truck** located outside schools, churches, recreation centers, or other community organizations to engage the community, explain Construction phases, and introduce our Team.
Telephone Town Halls to communicate Project updates to large groups without them having to leave home. These town halls do not require any special technology and can be held in English and Spanish.	**Construction Safety Coloring Book** to teach children in the neighborhood, especially at the Swansea Elementary School, about safety around Construction areas, and how to walk and ride their bikes through the area safely.

5.12 ENVIRONMENTAL COMPLIANCE

KMP's Environmental Compliance Work Plan (ECWP) provides the framework for completing the Project in full accordance with the environmental laws and permits, as defined in Schedule 17 of the Project Agreement and the ROD. The ECWP defines the processes and procedures the Project follows for the entire Term, including the appropriate staff training though an Approved Environmental Compliance and Mitigation Training Program (ECMTP). KMP staff have been educated about, and follow, this Plan, which is compliant with the Project Agreement.

KMP's responsibilities and dedication to Environmental Compliance and Monitoring (EC&M) efforts begin at NTP1 and extend throughout the Construction and Operating Periods. The Team participates in weekly Design Task Force Meetings, and early efforts include coordination with the Design staff to assure plan compliance with Environmental Laws, Environmental Approvals, and the Project Agreement prior to issuance of the RFC plans. Per the Approved ECWP, KMP's Environmental Team obtains the necessary Governmental Approvals (Schedule 18, Section 7, Table 1) and Permit Approvals (Schedule 18, Section 8, Table 2) prior to Construction, and our Team complies with all conditions and requirements. To ensure an effective environmental program, KMP assigns dedicated resources to develop, implement, and manage the ECWP elements below:

- Compliance with environmental laws
- Compliance with conditions and requirements imposed by the environmental approvals
- Compliance with the conditions and requirements imposed by governmental approvals
- Performance of commitments and mitigation measures set out in the environmental approvals and governmental approvals
- Preparation and submittal of required information necessary to maintain Department provided approvals in full force, pursuant to Section 8.4 of the Project Agreement

5.12.1 KEY PROCESSES

KMP's ECWP (Appendix M) contains the following Key processes:

Environmental Compliance Work Plan Key Processes

Section	Title	Key Processes
1.0	Project Summary	
2.0	Introduction	Environmental goals, plan structure, and update process
3.0	Environmental Elements	Compliance with ROD
4.0	Elements Assigned to KMP	Compliance with mitigation measures
5.0	Environmental Law and Environmental Approvals	Compliance with environmental laws and Approvals
6.0	Means and Methods	Training program, InEight Project Suite, Work plans, audits, and integration with Public Involvement Plan
7.0	Tracking and Documenting	Document control

Section	Title	Key Processes
8.0	Process Control and Independent Quality Control Programs	Quality compliance for environmental requirements
9.0	Compliance Tracking	InEight Project Suite Inspect, and environmental matrix
10.0	Environmental Management Team	Qualifications, roles, and responsibilities
11.0	Sustainability	Sustainability program
12.0	Spill Reduction Program	Organization, incident reduction, training, and reporting

5.12.2 INTERFACE WITH DEPARTMENT AND GOVERNMENT AUTHORITIES

The Environmental Team holds weekly Environmental Task Force Meetings attended by the Environmental Manager, Environmental Team staff, KMP Construction Team management, the Department, and Government Authorities as needed. These meetings occur throughout the Term.

5.13 PROPERTY MANAGEMENT

KMP's Property Management Plan is developed and maintained by the ROW Manager and submitted to the Department for Approval 60 days after issuance of NTP1. The Property Management Plan is updated as needed for any additional ROW or temporary easements required.

5.13.1 KEY PROCESSES

The Property Management Plan includes the following sections and key processes:

Property Management Plan Key Processes

Section	Title	Key Processes
1.0	Safety and Security	
2.0	Hazardous Materials Assessment	Environmental coordination
3.0	Demolition	Start of demolition Approval process
4.0	Debris Removal	Compliance with Property Management Plan
5.0	Disconnecting Utilities	Utility Checklist
6.0	Site Clearing	Compliance with Property Management Plan
7.0	Stormwater Management Improvements	Environmental coordination
8.0	Clean Up of Building Structures	Compliance with Property Management Plan
9.0	Property Improvements and Maintenance of Vacant Properties	Compliance with Property Management Plan

5.14 DBE/ESB AND WORKFORCE DEVELOPMENT

Full details of the DBE/ESB Workforce Development and outreach efforts are included in the Small and Disadvantaged Business Participation Plan and the Workforce Development Plan (WDP).

5.14.1 KEY PROCESSES

Key processes of the Small and Disadvantaged Business Participation Plan (Appendix K) include:

Small and Disadvantaged Business Participation Plan Key Processes

Section	Title	Key Processes
1.0	Project Summary	
2.0	Introduction	KMP approach
3.0	Small Business Team Members	Relevant experience, roles, and responsibilities
4.0	Approach for Meeting or Exceeding Goals	Process to calculate value, Schedule for achievement of goals, identifying areas for DBE/ESB participation, small business integration, and tracking participation
5.0	Approach to Small Business Development and Assistance	Capacity building workshops, prompt payment, bonding and insurance assistance, small business outreach, training, and development

Key processes within the WDP (Appendix L) include:

Workforce Development Plan Key Processes

Section	Title	Key Processes
1.0	Project Summary	
2.0	Workforce Development Plan	KMP commitment, Workforce Development Team outline, and recruitment process and tools
3.0	On-the-Job Training Plan	Skilled craft opportunities, apprenticeship programs, monitoring process, approach to graduating participants, annual schedule, and recovery tools/methods
4.0	Other Training	New employee and job preparedness training, Onsite training, ongoing performance support
5.0	Local Hiring Plan	Approach for meeting hiring goal, assistance to local employees, hour monitoring process, compliance with residency requirements, and affirmative statement

5.15 SCHEDULE WORK PLAN

KMP's Schedule Work Plan describes the process and procedures to manage Schedules used for this Project.

5.15.1 KEY PROCESSES

The Schedule Work Plan (Appendix C) is a detailed document that clearly outlines KMP's procedures for scheduling and complying with the requirements of the Project Agreement. It includes the following sections:

Schedule Work Plan Key Processes

Section	Title	Key Processes
2.0	Intent of Schedule Work Plan	KMP's processes for preparing the Baseline Schedule, Monthly Updates, and other Schedules
3.0	Schedule Terminology	
4.0	Document Control	Processes to maintain files in P6, and how to handle submittals to the Department
5.0	Organization	Lines of communication and coordination with the Department and other stakeholders
6.0	Baseline Schedule	Development of the Baseline, including WBS and key dates, reviewing the Baseline, coordination with the Department, and PC and IQC of the Schedule
7.0	Schedule Updates	Update process and process to maintain the Schedule
8.0	As-Built Schedule	Process to update the Schedule to reflect the exact manner the Work was executed
9.0	Time Impact Analysis (TIA) Schedules	Processes per AACE 52R-06 and 29R-03 for forward looking TIAs, TIA Schedule for ongoing impacts, and forensic analysis for past impacts
10.0	Recovery Schedules	Process for when and how recovery Schedules are performed
11.0	Acceleration Schedules	Process for when and how acceleration Schedules are performed
12.0	Revised Schedules	Time frames for submitting revised Schedules and changes to be included
13.0	Subcontractor Schedules	Process to integrate subcontractor Schedules
14.0	Earned Value Management	Earned value tracking, and thresholds for corrective action or recovery Schedules

5.15.2 SCHEDULE MAINTENANCE

KMP maintains, at a minimum, the following Schedules:

KMP Schedules

Schedule Type	Software	Frequency
Baseline/Monthly Update	P6	Updated Monthly
90 Day Schedule	Handwritten/Excel/MS Project	Prepared Monthly
Three Week Schedule	Excel/MS Project	Prepared Weekly
Daily Schedule	Whiteboard/Handwritten	Prepared Daily

KMP maintains these Schedules throughout the Construction Period to manage the Work and track progress. While each of these Schedules is maintained separately, they all incorporate Project Milestones and have a similar WBS task structure, allowing them to be combined when needed.

KMP's management is very engaged in the maintenance of these Schedules, their accuracy, and effectiveness. KMP Team Members have strong experience using these scheduling tools successfully.

5.15.3 DELIVERABLE MANAGEMENT

KMP uses the Deliverables Requirements Tracking List (Attachment 2) to manage the deliverables on the Project to ensure required documents are submitted in accordance with the Project Agreement. The Commercial Manager has overall responsibility to ensure Deliverables are submitted properly and are compliant. The Commercial Manager identifies a responsible manager for the development of each Deliverable. While some Deliverables are tracked in the Project P6 Schedule (and may be revenue loaded), the majority of Deliverables are tracked and managed from the Deliverables Requirements Tracking List.

5.15.4 SUPERVENING EVENT AND CHANGE MANAGEMENT PROCEDURES

KMP tracks Supervening Events on the Potential Change Order (PCO) log. The PCO log is reviewed with the Department at the weekly progress meeting. KMP is completely transparent with the Department on PCOs. If a PCO is opened for an event that is not a Supervening Event, and does not constitute a change, the PCO is closed.

KMP trains Project staff on what constitutes a Supervening Event, and the process to communicate and track it.

When a PCO is identified, the person who identified it fills out a PCO request form and submits it to the Contract Administrator. The Contract Administrator evaluates the request and, if it constitutes a Supervening Event, assigns a PCO number, if not, the PCO request is dropped.

Each month, open PCOs are input and updated in the monthly Time Impact Analysis (TIA) Schedule with an individual fragnet for each PCO. KMP's Scheduler identifies which PCOs to include in the TIA; KMP may include PCOs in the Schedule that do not affect the Schedule in an effort to show a more complete and accurate As-Built record of the Schedule. All open PCOs are described in the monthly Schedule narrative, including the effect of the PCO on the Schedule, and a timeframe of events for the PCO.

KMP maintains a PCO file for each PCO, which includes:

- **KMP Correspondence:** Notice letters, follow-up correspondence, phone logs, field conversations, meeting minutes, and other correspondence
- **Client Correspondence:** Including Department Direction, response letters, phone conversations, and field conversations
- **Change Orders:** Such as Department issued formal direction and draft change orders
- **Subcontract Correspondence:** Including subcontractor correspondence (to and from), questions, and direction
- **Photos/Extra Work Sheets:** T&M sheets, daily reports, photos, sketches, plan markups, TIA Schedule information, materials/outside rent (OSR) invoices, subcontractor charges, and similar documentation
- **Miscellaneous:** Backup proposal information and checklists

All PCO logs and information are reviewed with the Department at the Monthly Schedule Review Meetings to ensure parties agree on the PCO fragnets and ties to the baseline Schedule.

5.16 NONCOMPLIANCE REPORTING

5.16.1 KMP INTERNAL NONCOMPLIANCE REPORTING

KMP develops a dashboard to track NCR reporting by discipline.

5.16.2 NONCOMPLIANCE DATABASE

All NCPs are tracked in a database open to both KMP and the Department.

5.16.3 NONCOMPLIANCE EVALUATION

The CPCM manages the evaluation of NCPs.

5.16.4 NONCOMPLIANCE RESOLUTION WITH SUBCONTRACTORS

KMP confirms and deducts payments on a monthly basis to all subcontractors.

5.16.5 REPORTING TO THE DEPARTMENT

5.16.5.1 Initial Reporting

KMP notifies the Enterprises via written letter within twenty-four hours after becoming aware of any Noncompliance Event, Non-Permitted Closure, or Excused Closure.

Written notice for Noncompliance Events:

- Provide reasonable detail of circumstances of such Noncompliance Event and its Noncompliance Start Time
- Identify the number of Noncompliance Points, Grace Period (if any), and the Cure Period
- If such Noncompliance Event has been cured by the time notice is given, KMP identifies its Noncompliance Rectification Time, or the date and time that such Noncompliance Event was fully cured

Written notice for Non-Permitted Closure or Excused Closure:

- Provides reasonable details of the circumstances of such Non-Permitted Closure or Excused, including its start and end time
- For Excused Closures, explains the basis on which KMP considers the relevant Closure to be an Excused Closure, and confirms that the relevant Closure did arose as a result of one or more of the circumstances included in the definition of Excused Closure
- Explain KMP's steps to mitigate the impact, reopen the affected part of the Project to traffic, and if such Closure arose as the direct result of an Emergency, explain the response to the Emergency

NCR Process

IDENTIFICATION OF NONCONFORMANCE
Anyone may initiate NCR or NCN

VERIFICATION
KMP Quality Team
Reject or remedy disposition
Verify in noncompliance event

DESIGN REVIEW
Reject or remedy disposition

PROJECT MANAGEMENT REVIEW

SCHEDULE TO CORRECT NONCONFORMING WORK
Discipline

APPROVAL
Department, PQM, DBM, O&M Manager

CORRECTIVE ACTION PLAN
If required

APPROVAL OF CORRECTIVE ACTION PLAN
Department
If required

WORK COMPLETE VERIFICATION
Discipline

PQM

Department

CLOSE

5.16.5.2 Reporting Following Rectification Time

KMP notifies the Enterprises via written letter within 24 hours after the Noncompliance Rectification Time, for Noncompliance Events with a Cure Period, including:

- The date and time that any Noncompliance Event has been fully cured
- The end time of any Non-Permitted Closure or Excused Closure

Written notices for Noncompliance Events include:

- The Noncompliance Rectification Time, or date and time that such Noncompliance Event was cured
- A detailed description of the manner in which such Noncompliance Event was cured
- A calculation of the total Noncompliance Points accrued as a result of such Noncompliance Event

Written notices for Non-Permitted Closure or Excused Closure include:

- The end time of such Non-Permitted Closure or Excused Closure
- In the case of a Non-Permitted Closure, a calculation of the total accrued Construction Closure Deductions or Operating Period Closure Deductions

5.16.5.3 Monthly Deduction Reports

KMP provides Monthly Deduction Reports to the Department throughout the Construction Period identifying any Noncompliance Points accrued during the period, and outlining each Noncompliance Event that accrued Noncompliance Points. The Monthly Deduction Report is submitted to the Department no later than the 10th Working Day of each month after the Financial Close Date.

5.17 SUBCONTRACT MANAGEMENT

KMP coordinates subcontractor efforts to maintain consistent quality, seamless communication, and adherence to the highest safety standards. Subcontractors participate in Project planning, coordination meetings, and safety and quality programs.

KMP supports subcontractors by:

- Providing a clear Work Area with access to the site where Work is to be completed
- Confirming Designs provided to subcontractors are complete and meet the requirements of the Project Agreement
- Providing quality control resources so Work complies with requirements of the Project Agreement
- Ensuring that completed record drawings are accurately produced
- Managing changes in subcontractor scope through contract change orders so that contract changes are documented clearly, and subcontractors are treated consistently. Subcontractors and vendors are solicited for the scopes of work to provide subcontracted services and permanent materials over the Term.

The procedure for solicitation and execution includes up to five steps, depending on the value, scope of proposals received, and the status of the vendor's contract. These steps include preparation, solicitation, evaluation and selection, execution, and change management, as follows:

- **Preparation:** Includes invitation to bid, outreach, and package preparation
- **Solicitation:** By contacting interested vendors, pre-bid meetings, and providing documents to responsive bidders
- **Evaluation and Selection:** Through internal evaluation of proposals, and/or in-person discussions with Proposers as to scope completeness, ability, and value of their proposals
- **Execution:** Involves review, agreement, and execution of the vendor contracts between KMP and the selected vendor
- **Changes:** Any changes that might be required are handled between KMP and the vendor through review, agreement, and execution of change orders to the vendor's existing contracts

Kiewit assigns employees to monitor subcontractors, subconsultants, suppliers, and vendors. They help support subcontractor and subconsultant efforts to meet safety, quality, and other KMP and Project Agreement requirements. Depending on their scope of work or materials being supplied, subcontractors, suppliers, and subconsultants are involved in pre-planning, Kick-Off Meetings, and safety and quality meetings relevant to their Work.

5.18 DOCUMENT CONTROL SYSTEM

5.18.1 INTRODUCTION & PURPOSE

KMP uses InEight Project Suite for Project Records and transmits documents to the Department through Aconex as required per the Project Agreement, and as described in the Document Control System Plan.

5.18.2 RECORDS RETENTION

Project records are kept for the duration of the Project Term, in a format compatible with Colorado Law, including CORA (per Section 20 of the Project Agreement), GAAP standards, and the PA requirements.

Documents required by the Project are stored and retained for a period of at least seven years after the Project Record is first generated, or for longer periods if required pursuant to the Project Agreement.

5.18.3 MEETING POLICY

All Project Schedule meetings have a prepared agenda, a sign-in sheet of attendees, and meeting minutes.

5.18.4 SUBMITTALS

Submittals delivered to the Department are classified as Deliverable for:

- **Acceptance:** The Department shall act reasonably per the requirements of the Project Agreement in deciding whether to give such consent or Acceptance
- **Approval:** The Department may reject the submission at their discretion
- **Information:** No Acceptance or Approval required; information is being submitted for the Department's information, review, and comment only

The Project Engineer tracks Project submittals. As part of this PMP, KMP developed a Deliverable Requirements Tracking List (DRTL) to identify Reviewable Deliverables that KMP anticipates submitting to the Department or Enterprises. The DRTL (Attachment 2) includes the timeframe and sequence for submission, review, and resolution of each reviewable Deliverable. KMP uses the DRTL to track the status of Reviewable Deliverables, and submits monthly updates of the DRTL to the Department for Approval.

5.19 COMPLIANCE

KMP is committed to adhering to the laws, regulations, and polices governing our Work. KMP completes an internal Mitigation Action Plan (MAP) at the start of the Project to assemble a functional set of procedures, monitoring measures, and training requirements that, when implemented, minimize our compliance risks. The MAP is created in InEight Project Suite and includes the following activities:

- Gather compliance related material
- Identify relevant compliance topics
- Identify specific compliance risks
- Assign responsibility and rate compliance risk
- Specify mitigations
- Review with Project Team

KMP's Civil Rights Program Manager is the Project's Project Compliance Coordinator (PCC), and is the manager of the MAP. His role regarding the MAP is to ensure that individuals given responsibility within the MAP understand their compliance role. The PCC is responsible for organizing the MAP process meeting, monitoring changing compliance risks, and planning and organizing updates to the Project MAP.

Risk Managers are assigned for each identified compliance risk in the MAP. The Risk Manager's key role is to ensure that mitigation procedures are followed as defined in the MAP.

Below is an example of the Risk Areas assessed in the MAP.

Risk Areas

1.3 Risk Areas

- ☐ Antitrust: Non Restraint on Competition/Monopolies
- ☐ Contract Payments & Change Proposals
- ☐ Employment: Prevailing Wage
- ☐ Explosives
- ☐ Federal Contracting: Small Business Administration
- ☐ Diversity Subcontracting
- ☐ Crane Safety

Sensitive and Personal Data (Required)

- ☐ Transportation: Commercial Motor Vehicles
- ☐ Add Additional Topic(s)
- ☐ Antitrust: External Joint Venture Agreement Checklist

Employment: 16 Steps (Required)

Compliance Program (Required)

- ☐ Federal Contracting: Contract with a Federal Agency
- ☐ Marine Vessels

Safety Reporting (Required)

- ☐ Security and Defense: Safeguard Controlled Unclassified Information
- ☑ Temporary Structures and Construction Devices
- ☐ Transportation: Hazmat

SAMPLE

6. Management of PMP

6.1 REVIEW

All updates to the PMP are reviewed by the titles included on the PMP signature page. The personnel reviewing the PMP include those responsible for planning, reviewing, approving, reporting, monitoring, controlling, implementing, revising, and issuing the PMP.

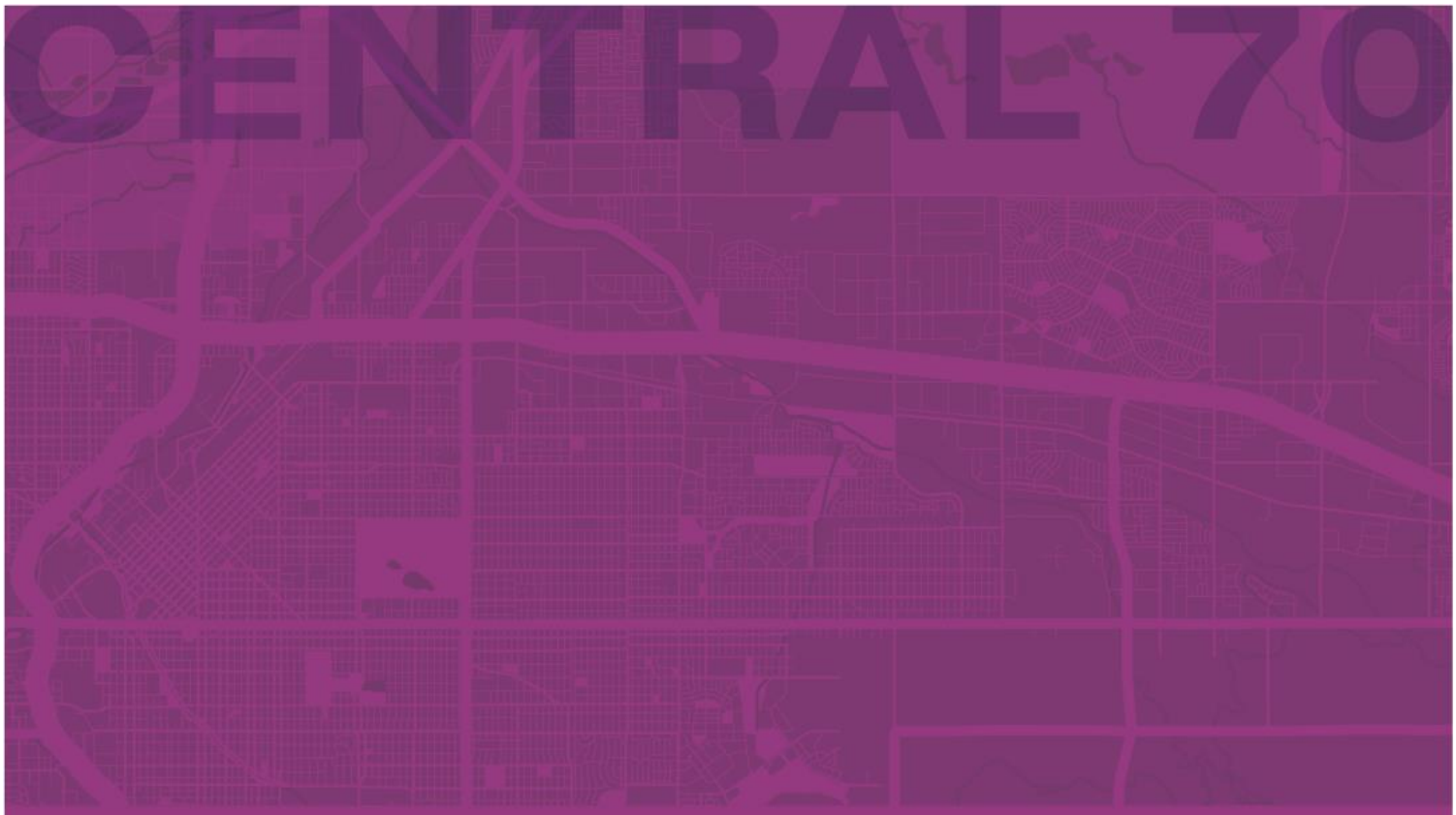
6.2 UPDATES

The Project Manager monitors and improves the effectiveness of the PMP, and resubmits the PMP for Acceptance by the Department annually upon the anniversary of its initial Acceptance. KMP may also update and resubmit the PMP if any of the following conditions exist:

- A plan or procedure no longer adequately addresses the matter it was originally intended to address
- A plan or procedure does not conform with the Project Agreement
- An audit by KMP or the Department identifies a deficiency in the PMP requiring an update
- Organizational structure changes require revision to the PMP
- KMP is undertaking, or about to undertake, activities not covered in the current PMP
- The Department requests updates to the PMP

KMP clearly identifies, on the cover sheet of each update, the changes that were made, in an effort to expedite the Department's review. KMP also provides a redline copy of the PMP and a final, clean copy to the Department with each resubmittal.

The update requirements for the PMP, as described above, also applies to the Construction Period Safety Management Plan (Attachment 1).



ATTACHMENT 1

Relates to Appendix B

Kiewit meridiam PARTNERS

Draft Safety Management Plan

(for Construction Period)

SUBMITTED TO:

Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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SIGNATURE PAGE: APPENDIX B

KMP EXECUTIVE MANAGEMENT DATE

PROJECT MANAGER DATE

DESIGN-BUILD MANAGER DATE

CONSTRUCTION MANAGER DATE

SAFETY MANAGER DATE

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RECORD OF REVISIONS

Revision number	Date issued	Pages affected	Comments
0	5/18/2017	All	Proposal Draft Submittal

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EVALUATION CRITERIA: SMP, APPENDIX B, ATTACHMENT 1

The Evaluation Criteria Matrix below associates the Project Management Plan (PMP) requirements with the sections of this plan:

Sch. 8 Section	Item	PMP Section	Section Name	Check
7.3.1	**The Developer's SMP shall be submitted for Acceptance as an NTP1 Condition and, at a minimum shall include the following:**			☐
7.3.1.a	The Developer's commitment and policies on safety and health	2.1	Statement of Safety and Health policy	☐
7.3.1.b	Organizational chart identifying all safety management personnel, roles, authorities, and line reporting relationships. Resumes of key safety management personnel shall be provided	3.1	Organizational Chart	☐
		3.2	Responsibilities	☐
		Attach. 2	Resumes of Key Safety Management (to be provided with official SMP submittal post award)	☐
7.3.1.c	Developer's approach to educating, training, and communicating to all workers procedures within the SMP. Safety orientation shall be conducted prior to employees entering the Construction Work area	6.0	Training	☐
7.3.1.d	Procedures for identifying employees who have successfully completed safety orientation and employees who have not	6.2	Go/No-Go Process	☐
7.3.1.e	Provisions for and the frequency of safety inspections of the Construction Work areas, materials, and equipment to ensure compliance to the SMP, including methods of record keeping and correction of deficiencies	7.1	Workplace Inspections	☐
7.3.1.f	Provisions for delineation of responsibilities for reporting and investigating accidents, Incidents, exposures, and maintaining logs	8.2	Incident Investigation and Reporting	☐
7.3.1.g	policy for Developer's emergency response, addressing emergency response capabilities and contingency action plans	Attach.1	Emergency Response Plan (to be provided with official SMP submittal post award)	☐
7.3.1.h	policy on the use of Personal Protective Equipment (PPE) for all Construction Work	4.5	Personal Protective Equipment	☐
7.3.1.i	Developer's detailed Construction Safety Critical Plan which shall include an Erection plan, a Bridge Removal Plan, and a Removal of Portion of Bridge Plan, as applicable, as well as other requirements specified in the Revision of 107 set out in the Project Special Provisions set out in Appendix A to this Schedule 8	5.8	Safety Critical Work	☐
7.3.1.j	Procedures for immediate notification to the Department of all Incidents arising out of or in connection with the performance of the Work, whether on or adjacent to the Project	8.2.1	Incident investigation and reporting policy	☐

Sch. 8 Section	Item	PMP Section	Section Name	Check
7.3.1.k	The SMP is a living document and shall be updated when a process, method, chemical or other Construction Work criteria changes that affects the safety of a person or property. The updated portion of the SMP shall be submitted for Acceptance	**9.0**	Management of Safety Plan	☐
7.3.2	Project staff must be trained on the elements of the Developer's Accepted SMP submittal.	**6.3.1**	Safety Management Plan Training/Re-Training	☐

1. Safety Program

1.1 STATEMENT OF SAFETY AND HEALTH POLICY

This is KMP's Safety Management Plan for the Project and its associated Work. KMP is dedicated to effectively implementing this Safety Management Plan. This plan represents the health and safety plans used successfully by Kiewit for many years; KMP has adopted Kiewit's health and safety plans for use on the Project.

As the Contractor, Kiewit fully complies with occupational safety and health regulatory requirements. KMP follows a multi-dimensional, proven approach to developing and maintaining a safe and healthful workplace for all employees and the public. Our policies and procedures exceed existing regulations in many cases.

KMP management and field supervision are required to plan safety into each Work task to ensure that *Nobody Gets Hurt*. KMP ensures that applicable rules and procedures are established and enforced, and that we effectively leverage our training programs.

We accomplish production goals without compromising on safety, occupational health, or environmental protection. These elements are integral parts of quality control, cost reduction, and job efficiency. Each supervisor is personally invested in the performance of employees under his supervision.

At KMP, safety is a core value. There are three key reasons for our mission that *Nobody Gets Hurt*:

- Avoiding suffering, injury, or loss of a life
- Strong safety, health, and environmental records indicate superior management and workforce, promote business, and contribute to the continuing growth and success of KMP
- Poor safety, injury, and environmental records increase costs, contribute to deterioration in job performance, morale, and reflect negatively on our business

This plan is reviewed by the Project Manager and Project Safety Manager prior to implementation, and periodically thereafter by the Project Safety Manager

1.2 SAFETY PROGRAM

1.2.1 FIVE KEYS TO SAFETY EXCELLENCE

1. Hire the right people: Interview—is the individual KMP Safe?

New employee training:

- **Prior to Arrival:** Schedule a specific day for training, and assign the person who takes new employees to their crew
- **Upon Arrival:** Welcome new employee with handshake and coffee—ensure they feel welcome
- **Training Room:** Clean and organized, PPE ready to go
- **During the Training:** Discuss expectations, ensure employee knows safety is top priority
- **After Training:** Get the employee to their crew

- **30 Day Follow Up:** Management again stresses safety as top priority
- **Continued Development:** Identify training needs, and develop a detailed schedule

2. Know Details

- **Rules:** Know what regulations are relevant, and how to comply with Corporate Policies
- **Work:** Understand the Work plan and its priorities—safety, quality, schedule, and other aspects of the Work
- **Tools and Materials:** Know the available resources
- **People:** Be sure your crew matches their tasks, stay engaged with them, and ensure our values are maintained
- **Communicating the Details**
    - *Work Plan and Hazard Analysis:* Addresses specific risks to the Work, involves craft in the development; following Plan and Analysis is NOT OPTIONAL
    - *Crew Communicator:* Is prepared, sets clear expectations
    - *Meeting Schedule:* Schedule is realistic, the right people are in attendance, conflicts are planned out

3. Craft Ownership

- **CVIS:** Incorporate a Craft Voice In Safety (CVIS) Committee on your job to link the craft and management
- **Care About Your People:** Know your employees—people like, trust, and believe those who care about them

4. Lead by Example

- **Expectation:** Personal responsibility for your own safety, never walk past an unsafe act, know your people and care for them
- **Set clear expectations and follow through:** Coach well, build positive energy, set clear expectations by having a goal and a plan to accomplish it, continually identify what to fix or improve

5. Recognize change

- **Expectation:** Recognize change, identify new hazards, and understand precautions
- **Update and review:** Work plans and Job Hazard Analyses (JHAs) when a change occurs
- **"Borrowed Craft":** They are part of your crew, and must review and sign off on Work plans and JHAs
- **Mini Hazard Analyses (HA)**: Must be carried by all employees to enable change recognition and minor operation planning

1.2.2 WORK PLAN/HA

Goal: *To ensure well-planned operations and communication of hazard precautions*

- Required for every operation (mini HA acceptable for maintenance or production lasting 30 minutes or less)
- Update regularly to reflect changes and newly identified hazards
- Review with all crew members prior to starting an operation, and after any changes

1.2.3 CREW COMMUNICATOR/STRETCH AND FLEX

Goal: *To communicate the plan for the day and details regarding safety, quality, and production*

- Completed every day prior to the start of the operation

1.2.4 WEEKLY SAFETY CALL

Goal: *To communicate a consistent safety message while energizing the Project by sharing best practices and lessons learned*

1.2.5 WEEKLY SUPERVISOR SAFETY MEETING

Goal: *Weekly safety meeting with foremen (and positions above) to communicate safety on the job and perform safety training*

1.2.6 CRAFT VOICE IN SAFETY PROGRAM (CVIS)

Goal: *CVIS provides a platform to ensure all craft have an equal voice in safety, and work in partnership with management. CVIS encourages proactive relationship building, empowering peers in safety through prevention, education, and awareness of our goal: Nobody Gets Hurt.*

The CVIS Committee is an advisory group made up of craft representatives and sometimes craft supervisors. It is an effective link between craft and management to communicate safety trends, and lead training and the safety effort. They tour Work and converse with our craft—gathering feedback and using it to identify training needs, program focus, and trends, among other things. The CVIS Committee effectively builds trust with all members of the job Team.

1.2.7 SAFETY POLICIES/BEST PRACTICES

Goal: *To ensure we plan operations with the right level of detail to ensure Nobody Gets Hurt, and to maintain compliance with regulatory agencies*

- Safety Policies/Best Practices are contained within the Work plan/HA

1.3 SAFETY PROGRAM OVERVIEW

The objective of our safety program is to work each day incident free. An incident is any unplanned and unintended event disrupting the normal process of Work. All incidents, by this definition, result in loss due to job disruption and delay, and often involve additional losses due to personal injury, equipment damage, property/material damage, or a combination of these factors. When an incident occurs, chance is often a factor in the degree of loss. Therefore, prevention of all incidents—and not just those with the potential for serious loss—is the objective of our safety effort.

Incidents are preventable, and caused by unsafe and inefficient procedures or methods, unsafe physical conditions, unsafe equipment, unsafe behaviors, and often a combination of these.

Incidents usually result from the same deficiencies that adversely affect productivity, cost, employee relations, and public relations—so the safety record is a reliable guide to the effectiveness of a project's supervision.

The following are the objectives of the accident prevention program:

- Achieve an injury free conclusion for the Project
- Achieve maximum property conservation
- Minimize direct and indirect costs

Accomplishing the above objectives results in:

- A safer working environment, resulting in greater efficiency
- A reduction in Construction Work interruptions due to unsafe environments and accidents

Our Safety Program for the Project meets or exceeds all federal, state, and local Safety and Health Standards.

1.4 PROJECT SAFETY GOALS

The Goal is that *Nobody Gets Hurt*. We can meet this goal, and will not be satisfied with anything less. To accomplish this goal, our Team must trust our programs, and support an all-out safety effort:

- Zero incidents is the only acceptable goal
- Unsafe acts, whether willful or due to lack of knowledge, are unacceptable
- We are all accountable for our employees' actions

Our targets include:

- OSHA Case Frequency of 0.00—*Nobody Gets Hurt*
- No vehicle/equipment damage
- Zero third party incidents
- Zero third party injuries
- No damage to known utilities

Safety Program core activities include:

- Weekly safety tours with Project Manager and/or Construction Manager
- Reviewing the safety tours weekly
- Weekly CVIS Meeting with management
- Holding supervisors accountable
- Consistency in addressing safety

- Understanding that training is the key to success, and leveraging training to the greatest extent possible
- Maintaining an effective safety and quality recognition program
- Keeping safety foremost in everyone's mind
- Safety tours led by KMP and Kiewit District management
- Proper new-hire training and follow up
- Continual training for all employees
- Strict adherence to all Department, KMP, state, and federal safety rules
- Never walk past an operation without looking for an unsafe act or condition—and taking action to correct it!

1.5 SUBCONTRACTOR SAFETY

1.5.1 SUBCONTRACT LANGUAGE

- To the extent permitted by law, the subcontractor is liable for any fines levied by OSHA against the Contractor to the extent such fine results from subcontractor's violations of the OSHA standards. The subcontractor is also liable for any costs incurred by Contractor related to such fines, such as attorney's fees. Contractor may deduct any such amounts from payments otherwise due to the subcontractor.
- In the performance of this subcontract, the subcontractor establishes and maintains a Safety Program that, at a minimum, complies with all federal, state, and local laws governing safety, health, sanitation, and the environment.
- Contractor's Jobsite Specific Safety Plan, which the subcontractor agrees to follow, includes the following requirements, which are more stringent than those required by OSHA. The following list is not all inclusive:
    - Upon subcontract award, a member of subcontractor's senior management participates in a Project safety training with Contractor to discuss safety expectations in detail.
    - Prior to commencing Work on the Project, the subcontractor's supervisory staff attend an Onsite safety training. We discuss our Jobsite Specific Safety Plan in detail, and expect the subcontractor and its employees to comply with it at all times.
    - Subcontractor employees are required to attend Mass Safety Meetings.
    - All subcontractor employees, sub-tier subcontractors, and vendors working at the Site are required to attend Project Training at the Project Office. We do not allow any employee to work Onsite without having attended the Project Training.
    - We require participation in a craft-initiated safety program and expect all subcontractor employees to participate.

1.5.2 ADDITIONAL REQUIREMENTS FOR SUBCONTRACTORS

All subcontractors must have:

- An EMR below 1.0
- A Total Recordable Injury Rate (TRIR) below 2.0 (Industry average 3.2)
- No OSHA willful violations in the last five years, and no Serious Citations in the last year

- A written Safety Program provided for Approval by the Contractor. The Safety Program includes at a minimum (but is not limited to):
    - How the Safety Program meets, at a minimum, the requirements of all applicable federal, state, and local government requirements.
    - A statement confirming that the subcontractor adheres to the requirements of the SMP.
    - Designation of a representative responsible for safety, acceptable to the KMP Project Manager. The designated safety representative works at the Work Site. His duties include administration and implementation of the Subcontractor Safety Program.
    - Evidence of compliance with the requirements for drug testing and new hire safety training.
    - A Safety Organizational chart including contact numbers and responsibilities.
    - A statement requiring all levels of supervision to prevent or stop Work unsafe for employees, the public, equipment, property, or the environment; and requiring correction of unsafe conditions in a timely manner.
    - Policies and procedures regarding nonconformance with safety requirements, including disciplinary actions for violating safety requirements. Written KMP procedures for holding managers and supervisors accountable for safety.
    - Procedures for coordinating and ensuring compliance with the SMP by other lower tier subcontractors prior to their starting Work.
    - A list of skills and Work requiring mandatory training and certifications applicable to the specific contract (for example, powder-actuated tool use, crane operator license, forklift operator certification), and any requirements for periodic retraining recertification as required by manufacturers or applicable local, state, and federal regulations.
    - Proof of completed training and or qualifications for those employees requiring certifications, or who are Competent Persons as described by OSHA.
    - Description of specific assignments for a minimum daily Work Site safety and security inspection during periods of Work activity. Ensure personnel are proficient in the areas they inspect.
    - A written Safety and Health Program required by OSHA.
- Report all safety incidents to KMP’s Safety Manager immediately. The subcontractor investigates such incidents, identifying root causes and the corrective actions implemented to prevent recurrence. We provide a copy of the investigation report, initial medical reports, and the first report of injury to the subcontractor.
- Inform supervisors of the Project Safety Program, and of the contractor's/subcontractor's responsibility to provide a safe and healthful place to work for their employees.
- Immediately report any regulatory inspections, and provide a copy of inspection reports and citations to the Project Manager.
- Conduct and participate in safety and health inspections.
- Prepare and submit to the Subcontractor Monitor an operation specific JHA for each operation. Hourly employees and management familiar with the operation should jointly develop the JHA.
- Employ a Competent Person for all activities requiring such a person. No Work is to take place without competent supervision present.

- Maintain compliance with CFR Title 49, specifically Federal Motor Carrier Safety Regulations and Federal Hazardous Materials Regulations.
- Exercise reasonable care to prevent and detect violations on the Site. Act within authority to ensure safety and health compliance for Project personnel and public. Actively prevent, detect, and correct unsafe practices, conditions, and security vulnerabilities. Comply with applicable local, state, and federal occupational safety and health regulations (including lower tier subcontractor compliance).
- Cooperate and participate in any Strategic Partnership Program Agreements with regulatory agencies.

1.5.3 RESPONSIBILITY OF A SUBCONTRACT MONITOR

- Organize and attend Pre-Activity Subcontractor Meetings to address all safety aspects.
- Ensure subcontractors are in compliance with the requirements of this section.
- Require a Hazard Analysis prior to all operations. Review the Hazard Analysis prior to the start of an operation. Ensure the subcontractor reviews and updates Hazard Analyses as needed.
- Perform safety observations each workday the subcontractor is active.
- Ensure a subcontractor representative attends the weekly Safety Meeting.
- Verify training attendance for all new Project employees.
- Ensure the immediate reporting of all near miss, first aid, or recordable injuries.

If KMP notifies a subcontractor of their noncompliance with the provisions of the *Safety Policy Manual*, or statutory requirements, the subcontractor takes prompt action to reestablish compliance within a reasonable, specified time. If a subcontractor refuses to correct the noncompliance, KMP begins appropriate actions in accordance with the contract provisions and may take one or more of the following steps:

- Cease the operation or a portion thereof (particularly in the case of an imminent danger)
- Correct the situation and back charge the subcontractor
- Stop or hold payment for the Work in progress

1.5.4 SUBCONTRACTOR SECURITY

Subcontractors are ultimately responsible for their own security measures. This includes (but is not limited to) the following:

- Using patrol services
- Locking and securing all equipment and tool containers
- Removing keys from all equipment at the end of shift
- Providing the necessary means to protect the public from hazards created by their Work (for example, covering and securing holes, protecting Work Zones, and cleaning roadways)
- Following Work Site access procedures, including identification badges for construction personnel and visitors
- Controlling of materials and Project Site deliveries
- Reporting and investigating security breaches
- Providing adequate lighting where necessary
- Acting on Recognized Hazards/Security Risk

1.5.5 SUBCONTRACTOR PRECONSTRUCTION MEETINGS

All subcontractors coming onto the Project are required to attend a Subcontractor Pre-Construction Safety Meeting; this mandatory meeting must:

- Include all subcontractor Project supervisors
- Be held before the beginning of Construction
- Maintain an attendance log to be kept with the meeting agenda
- Be attended by the Onsite leader of the subcontractor's workforce.

Through the Pre-Construction Safety Meeting, we advise subcontractors that:

- We formally transmit the provisions of the Safety Management Plan and their contractual obligations, including a copy of the Safety Management Plan along with a copy of this manual
- They are obligated to comply with all applicable national, state, and local regulations and construction codes, as well as any KMP specific safety requirements stated in the contract and any attachments to the contract
- They have sole and direct responsibility to provide a safe and healthful working environment for employees and other persons at the Project Site who may be exposed to the Work, including the traveling public
- They are required to provide a Health and Safety Plan specific to the subcontractor's Work and associated hazards
- They are required to obtain all applicable government-issued permits before starting any job
- They are required to document safety meetings, monitoring, medical surveillance, training, and other health and safety activities
- They are required to not circumvent engineered safety devices and controls (for example machine guards)
- They are required to notify the Construction Manager of all chemicals brought Onsite (beyond typical consumer products), and provide access to appropriate Material Safety Data Sheets (MSDS)
- They are required to provide all appropriate training and equipment, including personal protective equipment (PPE)
- They are required to supervise and monitor their employees
- They are required to know the requirements of the Project Safety Management Plan
- They are required to certify the adequate and appropriate safety training of their employees for their specific Work
- The requirement to disclose past safety performance and/or training records, upon request
- They are required to report all incidents or injuries to the Construction Manager and the Project Safety Manager immediately
- They are required to conduct periodic inspections of the Work, and take corrective actions to correct deficiencies in a timely manner
- They are required to certify their experience and knowledge to accomplish all Work in a safe and environmentally acceptable manner.

To maintain subcontractor safety compliance and reduce the possibility of third party claims, we request subcontractor participation in KMP's weekly supervisory safety meetings. These meetings inform subcontractors of new regulations, policies, accident trends, and observations of noncompliance, among other topics.

We always address safety deficiencies and infractions by subcontractors. We document the violations, and give copies to the onsite subcontractor representative and Kiewit management. The discipline superintendent notes the infraction, and keeps a copy of the reprimand form in the subcontractor's file.

Subcontractor operations are suspended by the discipline superintendent (or designee), and the subcontractor principals are notified if:

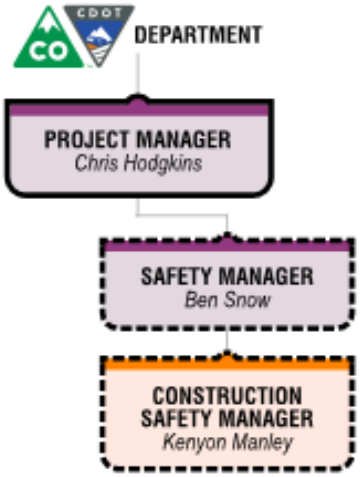
- Unsafe acts or conditions are uncorrected after notification
- Failure to immediately remove employees from hazardous conditions
- Allowing employees to continue to work in an unsafe manner

Work may resume only after the subcontractor corrects the condition to the discipline superintendent satisfaction.

All subcontractor Pre-Activity Meetings are a part of any and all operations.

2. Organization and Responsibilities

2.1 ORGANIZATIONAL CHART



2.2 RESPONSIBILITIES

Title	Roles-Responsibilities
Ben Snow **Safety Manager**	• Reports to the PM • Communicates with all personnel on the Construction Team • Ensures compliance with the SMP and Health and Safety Plan • Empowered for all necessary action to correct safety problems, including stopping Work in the case of serious safety hazards • Authority to stop Construction Work in the presence of any unsafe act or condition • Responsible for developing, implementing and monitoring all aspects of the SMP; including review and preparation of Construction Plan for Safety Critical Work • Responsible for communicating safety issues and lessons learned with the Project Team
Kenyon Manley **Construction Safety Manager**	• Reports to Safety Manager • Manages Craft Voice in Safety Program • Ensures compliance with the SMP and Health and Safety Plan • Empowered for all necessary action to correct safety problems, including stopping Work in the case of serious safety hazards • Authority to stop Construction Work in the presence of any unsafe act or condition • Performs Safety Manager's duties in his absence from the Project
Health and Safety Officer	• Reports to the Environmental Manager • Communicates with the Safety Manager • Prepares and implements a Health and Safety Plan (HASP) in compliance with 29 CFR 1910 and 1926 29 CFR 1926.65, paragraph (b)(4) for Department Approval, and distributes the HASP to all employees that could be potentially exposed to Regulated Hazardous Materials (RHM). • Develops and maintains Onsite all industrial hygiene information, including "right-to-know" information • Act as the Health and Safety Officer in compliance with subsection 250.03(a) of Department Standard Specifications
All Project Employees	• Responsible for ensuing compliance with the Safety Program • Report any unsafe working condition to supervisor immediately • Keep individual work areas clean and safe • Report ALL incidents immediately to supervisor • Follow all safety rules • When in doubt—ASK • Maintain a positive attitude towards safety at all times
Front Line Supervisors and Manager	• Responsible for conducting job safety training, incident investigations, and communicating a *Nobody Gets Hurt* approach to our Work • Ensure safety of all employees on the Project

Title	Roles-Responsibilities
	• Train employees in safe work practices and safety regulations • Remove or eliminate all unsafe conditions immediately upon their discovery • Investigate any incident immediately and fill out required paperwork within 24-hour period • Notify the Safety Manager of all incidents and unsafe conditions immediately • Enforce all safety rules with a positive approach • Attend and participate in at least one safety toolbox meeting per week
KMP Management	• Responsible for program creation, elevation, training, and field support

3. Safety Policies

3.1 DRUG AND ALCOHOL POLICY

KMP is committed to protecting the health and safety of its employees, contractors, customers, and the public. Drug and alcohol use can adversely affect job performance, the Work environment and the safety of our employees, contractors and others. This policy's purpose is to address and minimize the risks associated with alcohol and drugs and to ensure that all employees are fit for duty. This policy outlines the prohibitions against the use and possession of alcohol and drugs. This policy is just one component of KMP's overall approach to risk mitigation and safety.

3.1.1 SCOPE

This policy applies to all applicants and employees of KMP in the United States. KMP may revise, supplement, or rescind this policy in accordance with the requirements of applicable law and collective bargaining agreements, as required by any facility, site, business unit, or owner, or for any other lawful reason. Applicants and employees must comply with this policy as a condition of employment.

3.1.2 DEFINITIONS

"Adulterated specimen": A specimen altered by the inclusion of a substance not normally present in the specimen that results in an abnormal concentration of a substance that is normally present in the specimen.

"Alcohol": The intoxicating agent in beverage alcohol or any low molecular weight alcohols such as ethyl, methyl, or isopropyl alcohol. The term includes beer, wine, spirits, and medications such as cough syrup that contain alcohol.

"Company premises": Includes, but not limited to, all land, property, buildings, offices, facilities, grounds, parking lots, and places owned, leased, managed, or used by KMP.

“Company vehicle”: All vehicles owned, leased, or used by KMP, and all vehicles that are used by employees while on Company business, regardless of who owns or leases them.

“Dilute specimen”: A urine specimen containing creatinine and specific gravity values lower than expected for human urine.

“Illegal drugs”: All controlled substances, designer drugs, synthetic drugs, and other drugs, the use or possession of which is unlawful as a matter of federal, state, or local law. This includes prescription medications not used or possessed under the supervision of a licensed health care professional or not used in accordance with the licensed health care professional’s prescription. Please note that marijuana is a Schedule 1 controlled substance as a matter of federal law and therefore unlawful to use or possess as a matter of federal law.

“Medical Review Officer” (MRO): A licensed physician who has knowledge of substance abuse disorders, and has appropriate medical training to interpret and evaluate an individual's positive test result together with his or her medical history and all other relevant biomedical information.

“Refuse to cooperate”:

- Refusing to take a drug or alcohol test
- Not promptly proceeding directly to a collection site when told to do so
- Failing to remain at a testing site until the testing process is complete
- Attempting to provide or providing an adulterated, diluted, or substituted specimen
- Failing to provide a sufficient specimen for testing without a legitimate medical explanation
- Failing to sign testing and other required forms
- Any other conduct disrupting or interfering with the collection and testing process

“Substituted specimen”: A Urine specimen containing creatinine with specific gravity values that are so diminished or divergent as to be inconsistent consistent with human urine.

“Test positive”: Alcohol or drug test results confirm the presence of drugs, alcohol, or their metabolites in the test subject’s system in a concentration equal to or exceeding the test’s established cutoff levels.

“Under the influence”: An employee’s actions, appearance, speech, or bodily odors reasonably suggesting the employee is impaired by drugs or alcohol. An individual who tests positive for drugs and/or alcohol is also considered “under the influence” for this policy.

3.1.3 CONFIDENTIALITY

KMP keeps information and records relating to test results, and other medical information disclosed to KMP in connection with the administration of this policy, confidential and maintained in files separate from employees' personnel files. Such records are accessible only to KMP and its affiliates, subsidiaries, and agents with a need to know. Employees may be required to release test results to jobsite clients and owners as a condition of assignment to a project. KMP may disclose test results, when required, to any third party designated in writing by an applicant or employee, insurance carriers, local, state, and federal government agencies, or in any law or administrative proceeding brought on behalf of the individual against KMP, or as otherwise compelled by law. We give individuals copies of their own test results upon request, or as required to by law.

3.1.4 PROHIBITED CONDUCT

3.1.4.1 Illegal Drugs

Employees are prohibited from manufacturing, possessing, using, selling, purchasing, distributing, dispensing, transferring, or being under the influence of an Illegal Drug at all times, regardless of whether the individual is working or on company premises.

3.1.4.2 Alcohol

Possessing, using, selling, purchasing, dispensing, transferring, manufacturing, or being under the influence of alcohol while on KMP premises, operating KMP equipment, on a KMP jobsite, or while performing KMP business is prohibited except as described below. Employees of legal drinking age may possess and consume alcohol at authorized KMP functions, or in certain business settings such as client entertainment as permitted under KMP Events and Meeting Policy Statement and the Drug and Alcohol Policy Statement. At all such times, however, we expect employees to act responsibly when consuming alcohol. KMP may withdraw alcohol privileges if an employee abuses them or violates this policy. No employee is required to or expected to consume alcohol in connection with any Work-related event.

3.1.4.3 Marijuana

Possession or use of marijuana is illegal under federal laws and regulations, even if authorized under state law. KMP dismisses employees who use marijuana. Situations related to specific employment protections for medical marijuana are addressed case-by-case.

3.1.4.4 Legal Drugs

Using prescribed or over-the-counter medications, as directed, does not violate this policy. However, policy violation does occur if the use of a legal drug affects the employee's ability to work safely. Employees are responsible for consulting licensed medical practitioners about the effect of over-the-counter and prescribed medications on their ability to do their job in a safe manner. They must promptly disclose any Work restrictions to their supervisors or the Safety or Human Resources Department. If an employee must use a potentially impairing medication, Safety or Human Resources works with the employee and their health care provider to find reasonable accommodations to ensure Work safety. In the absence of such accommodations, the employee may be placed on leave. If an employee must take medication at work, that employee must carry any medications in the original packaging (with prescription information on any prescribed medications), and carry only the quantity of such drugs required for the day.

3.1.5 DRUG AND ALCOHOL SCREENING

Within legal limits, KMP may test, without advance notice, any employee at any location where KMP conducts business. Testing may include:

- **Pre-Employment:** All applicants with a conditional offer of employment are subject to drug testing. Applicants for safety-sensitive positions may also be subject to pre-employment alcohol testing as a condition of hire.
- **Pre-Access:** We require employees who are transferred to projects or locations where drug and alcohol tests are required, to complete those tests before beginning Work.
- **Periodic:** The Kiewit District office may require employees to take scheduled drug and alcohol tests, such as tests required in the crane operator program, or an annual test required by a client.
- **Random:** Subject to Colorado law, employees are subject to random drug and/or alcohol testing. The tests are unannounced, unpredictably scheduled, and we select test subjects randomly, so each employee as an equal chance of selection for any given test.
- **Unannounced suspicion-less testing:** Subject to state law, we may hold unannounced facility, shift, or position wide drug tests at any time. All employees working on the test date are subject to testing. Employees in safety-sensitive roles may also be subject to unannounced (suspicion-less) tests at KMP's discretion.
- **Post-Accident and Post-Incident:** We ask employees to submit to drug and/or alcohol testing when they have caused or contributed to a Work accident or incident.
- **Reasonable Suspicion:** Employees are subject to testing whenever KMP reasonably believes an employee is using, possesses, or is under the influence of illegal drugs or alcohol while Working or on KMP premises.
- **Return-to-Duty:** Employees who test positive in violation of KMP policy, or who otherwise violate this policy, must pass a drug and/or alcohol test before consideration for return to duty.
- **Follow-Up:** Employees who test positive for illegal drugs and/or alcohol in violation of this policy, or who otherwise violate this policy, are subject to follow-up drug and/or alcohol testing, at times and frequencies determined by KMP, for up to two years.

3.1.6 TESTED SUBSTANCES

Employees may be tested for: amphetamines (including methamphetamine, MDA, MDMA, MDEA), barbiturates (sleep aids), cocaine (crack), benzodiazepines (Xanax, Valium), opiates (heroin, codeine, morphine) and opioids (methadone, oxycodone), phencyclidine (PCP), marijuana (grass, hash), and synthetic marijuana (K2, “spice”), propoxyphene, and alcohol.

3.1.7 COLLECTION AND TESTING METHODS

The tested employee works with the collector to maintain chain of custody from collection until packaged for shipment to a certified testing laboratory. Samples are collected and tested with due regard to the privacy of the tested employee.

Testers typically administer alcohol tests using breath samples. They may take saliva, urine, hair, and/or blood samples when other forms of testing are impractical. Alcohol-positive breath tests prompt a second, confirmatory test. We send any drug test appearing to be positive to a certified laboratory for confirmatory testing.

3.1.8 MEDICAL REVIEW

If an individual has a confirmed positive, adulterated, substituted, or invalid drug test result, a Medical Review Officer (MRO) contacts the applicant or employee to discuss any possible legitimate medical reasons for the result.

If the MRO confirms a legitimate medical explanation for the test result, they verify the test as negative and report it to KMP. If no legitimate medical explanation exists for a positive test result, the MRO verifies the test result as positive. The MRO reports invalid tests as canceled, and may subject the applicant or employee to additional testing. The MRO advises KMP if the individual has passed or failed the test, refused to cooperate, if a specimen is dilute, adulterated, or substituted, or if other extenuating circumstances require test cancellation.

For a verified positive test, an employee or applicant may, at their expense, request a “split specimen” from the remaining sample be tested at a different certified laboratory. Typically, the individual must request this within seven days after learning of the positive test result. We place employees on administrative leave pending the results of the re-test. Employees may contact Human Resources or the MRO for details on this process, or to offer any additional information they deem relevant to the test result.

3.1.9 DISCIPLINARY ACTION

Individuals who violate this policy in any way are subject to discipline, up to and including termination of employment. Off-the-job violations of this policy that reflect poorly on the individual’s judgment, or that could damage KMP’s operations or reputation, can lead to termination.

We reject applicants who test positive in drug or alcohol tests, or who are unwilling to cooperate with these tests. We terminate current employees who refuse to cooperate in drug or alcohol tests. Employees who test positive for drugs and/or alcohol or who otherwise violate this policy are subject to appropriate disciplinary action, up to and including termination of employment. Depending on the circumstances, we may condition an employee's return to work, reinstatement, and/or continued employment on the employee's execution of a Return-to-Duty Agreement. This Agreement may require an evaluation of the individual by a qualified substance abuse professional and successful completion of all prescribed education, treatment, and counseling. KMP determines return-to-duty and follow-up testing conditions.

Any attempted or actual falsification, adulteration, or substitution of a drug or alcohol sample or test are grounds for immediate termination of the employee, as well as any employees aiding or knowingly assisting the employee in the falsification, adulteration, or substitution. All such employees are permanently ineligible for rehire.

3.1.10 SEARCHES

KMP reserves the right to inspect all parts and aspects of its premises for illegal drugs, drug paraphernalia, alcohol, or other contraband. We may ask any employee or visitor to cooperate in inspections of themselves, work areas, and property (such as purses, wallets, tool boxes, lunch boxes, backpacks, water coolers, thermos bottles, flasks, briefcases, desks, cabinets, lockers, or cars) that could conceal prohibited substances. KMP may confiscate prohibited substances, and may contact appropriate authorities.

3.1.11 EMPLOYEE'S REPORTING REQUIREMENTS

Employees who are convicted of, or plead guilty to (including a plea of nolo contendere or no contest), a crime involving illegal drugs must report the conviction or plea to their supervisors or the Human Resources Department within five days after the conviction or plea. If an employee convicted of, or pleading guilty to, a crime involving illegal drugs in the workplace works directly on KMP's contracts or grants with the federal government (and certain states), KMP reports the conviction or plea to the appropriate agency within 10 days after it receives notice.

3.1.12 COMPANY AND PROFESSIONAL ASSISTANCE

KMP encourages employees with drug and/or alcohol problems to seek professional help. KMP supports, assists, and accommodates such employees to the extent required by applicable law. The Human Resources Department assists employees in a confidential manner by referring them to the Employee Assistance Program, providing information about community and other resources for evaluation, counseling, and treatment, and by helping them access any available employee benefits. If KMP believes the drug and/or alcohol problem constitutes a serious safety hazard to the employee or others, or impairs the employee's ability to perform duties, we may remove the employee from the jobsite, pending written release to return to work by a physician or qualified substance abuse counselor. Employees may be eligible for a leave of absence pursuant to our policies while they seek treatment. We do not discipline or penalize employees for self-reporting a substance abuse problem.

3.1.13 FACILITY WORK RULES

On occasion, clients require KMP employees on a jobsite to submit to their drug and alcohol testing, searches, or other procedures. All such requirements are incorporated into this policy, and may be enforced by KMP as if fully set forth herein. BECAUSE OF THE WIDE SCOPE OF SOME CLIENTS' POLICIES, AN EMPLOYEE SHOULD NOT HOLD ANY EXPECTATION OF PRIVACY WHEN ON ANY JOBSITE.

3.1.14 COMPLIANCE

KMP implements this policy in a manner compliant with all relevant laws. If any provision of this policy is inconsistent with the law of a particular jurisdiction, we administer the policy in accordance with law.

3.2 ACCESS AND HOUSEKEEPING—GENERAL

- Always use designated access and exit ways. Maintain access ways free of waste, scrap, and materials.
- Maintain free access, clear of any obstructions, to exits, fire alarms, fire extinguishing equipment, and any other emergency equipment.
- Provide adequate access to Work operations. Stage a skip box or dumpster next to operations so scrap and waste material can be easily disposed of.
- Competently trained persons (as defined by CFR) build all scaffolding and stair towers.
- 1926.32 (f) and appropriate tags are used during and after Construction of any stair towers or scaffolding per OSHA regulations.
- When using ladders, always face the ladder and maintain three points of contact. Never carry anything up or down a ladder.
- Stabilize ladders at the top and bottom, and ensure sufficient walkthrough or side step access. Furnish grab rails extending at least 36 in. above the landing. Only use stepladders with discipline manager's Approval. Do not use the top two rungs. Extension ladders must remain intact—we prohibit separation. We prohibit aluminum ladders. If job built ladders are necessary, they must meet OSHA standards.
- Plan housekeeping into the operations:
    - Maintenance
    - Waste disposal
    - Storage and handling material
    - Equipment and vehicles
    - Handrails and stairs
    - Aisles, walkways, and stairs

3.3 ZERO TOLERANCE POLICY

The first rule of safety is to **"never walk past an unsafe act or condition: stop and correct it."**

Everyone working on this Project has a duty to themselves and to their fellow workers to be constantly aware of potential hazardous conditions and acts. When hazardous conditions or acts are noted, we take proper action reduce or eliminate the hazard.

3.3.1 ZERO TOLERANCE

- There is no tolerance for anyone creating a hazardous condition or allowing a hazardous condition to exist without taking appropriate action
- There is no tolerance for anyone working or allowing Work to be performed in an unsafe manner
- There is no tolerance for anyone causing an injury to another person
- There is no tolerance for anyone damaging KMP vehicles, equipment, or tools, or for causing damage to another person's property
- Supervisors are held responsible for damage they could have prevented

Zero tolerance holds everyone responsible and accountable for their part in preventing injuries and in preventing property damage.

Failure to accept that responsibility results in:

- **Reprimand:** First time violation of a general safety rule, depending on severity
- **Suspension (without pay):** Repeat violation or a first time blatant disregard for safety
- **Termination:** Anyone who puts themselves or someone else in imminent danger of a life-threatening situation, anyone who has had a prior suspension, or anyone who displays an obvious disregard for life or property

3.4 HAZARD ANALYSIS AND COMMUNICATION

3.4.1 HAZARD ANALYSIS AND CONTROL POLICY

Describes the methods used to identify, assess, prioritize, and control health and safety hazards on its projects.

3.4.2 HAZARD IDENTIFICATION AND ASSESSMENT

A Hazard Analysis is required prior to the start of any operation. The foreman and crew of the operation prepare all Hazard Analyses. The Project Supervisor prepares the first page of the Hazard Analysis during the planning phase of an operation.

Each foreman ensures that:

- All members of the crew have reviewed a Hazard Analysis for the current operation within the past week
- Each member of the crew signs and dates the Hazard Analysis
- A Hazard Analysis for the current operation is immediately available in the work area.
- Newly identified hazards are included in the Hazard Analyses
- Hazard Analyses are updated after safety incidents involving the operation, after a change in the operation or procedure, and after identification of additional hazards

The employee writing the Hazard Analysis update initials and dates it when complete. The crew reviews the Hazard Analysis after any update. New employees review the Hazard Analysis before starting Work on the operation.

All Hazard Analyses are created using KMP's standard Job Hazard Analysis form.

KMP suspends any operation that starts before completion of its Hazard Analysis, until the analysis is complete and is reviewed by the crew. The supervisor responsible for the premature operation is subject to disciplinary action as determined by the Construction Manager, Superintendent or Project Manager.

3.4.3 HAZARD CONTROL METHODS

We cannot eliminate all hazards. However, we can reduce employee risk through safe operating procedures, engineering and administrative controls, and personal protective equipment (PPE). The Central 70 East Corridor Project uses these methods to manage, control, and prevent the risk of employee exposure to hazards:

- All hazard control methods are observable behaviors or actions to reduce or eliminate the hazard. Examples:
    - Move the object presenting the hazard
    - Cutting a 3-to-1 ramp to access an excavation
    - Removing rocks from access points
- Implement corrective actions as prescribed by environmental, safety, and health inspections
- Use engineering controls where potential employee exposures exist
- Inspect regularly to assess efficiency of established controls
- Stop unsafe Work practices
- Use information from incident investigations to mitigate root causes
- Lock-out/tag-out unsafe equipment
- Barricade areas with chemical, physical, radiological, or biological hazards

Employees recognizing an imminent danger have the authority and responsibility to take the following measures:

- Stop the operation
- Notify affected employees
- Report the danger to the Construction Manager

We notify affected employees of the hazard, and remove them from the area. We control area access until we can ensure its safety.

3.4.4 CREW COMMUNICATOR

All operations have a daily “Crew Communicator” (Crew Communicator form available on the Project website.) The foreman reviews the daily schedule with the crew and gets their input on the biggest hazards for that shift.

Once the foreman and crew have identified potential hazards, they decide on mitigation measures to eliminate or reduce that hazard. Hazard elimination or reduction steps must be observable actions.

3.4.5 PERSONNEL RESPONSIBILITIES

Identification and elimination of hazards is a responsibility of every employee in KMP. Along with management support, successful hazard mitigation requires active employee involvement at all levels of the organization.

The following persons are responsible, at a minimum, for the actions listed:

3.4.5.1 All Employees

- Take responsibility first for your personal safety
- Identify, report, and correct all observed hazards
- Respond appropriately to imminent danger situations
- Help management identify, assess, and determine control methods
- Continue to evaluate changing Site conditions for hazards

3.4.5.2 Management/Supervisors

- Ensure Work Site inspections occur as planned
- Ensure completion of corrective actions identified in inspections and incident investigations
- Ensure Safety Management Plans are developed, and address the Site-specific hazards.
- Help the Construction Manager identify, assess, and determine control methods

3.4.6 STRETCH AND FLEX

All foremen (or designated crewmember) lead stretch and flex exercises with their crew prior to the start of each shift. The benefits of stretching include:

- Readying the body for Work activities
- Increasing flexibility
- Decreasing muscle tension
- Increasing relaxation
- Promoting circulation
- Improving range of motion
- Enhancing coordination by allowing easier movements
- Increasing body awareness
- Reducing muscle injuries and their severity
- Delaying onset of muscle fatigue

The foreman leads the Play-of-the-Day meeting, and describes the day's upcoming operations while leading the group in specific stretches and flexes from the Site's "Stretch and Flex Poster."

3.5 PERSONAL PROTECTIVE EQUIPMENT

3.5.1 POLICY

Employees are supplied with all required and appropriate personal protective equipment (PPE) at no cost to the employee; and employees use the equipment as directed.

We do not allow the use of employee-owned PPE on the Project.

We specify required PPE in the Hazard Analysis for each operation. All personnel working, overseeing, or visiting the operation must read, sign, and date the Hazard Analysis to ensure they understand the required PPE.

3.5.2 PPE REQUIREMENTS

We issue the following PPE when an employee is hired:

- Hard hat
- Orange reflective class II safety vest
- Safety glasses
- Task appropriate gloves

We require all persons Onsite to wear proper outfits for their location. At a minimum, we require:

- **Hard hats:** Approved products only—unapproved hats include metal, bump caps, and Stetson.
- **Safety Glasses:** Only ANSI Z87 approved safety eyewear with shatter resistant lenses.
- **Side shields or over-the-glasses safety glasses**: For employees with prescription glasses—worn up to 30 days from the date of employment. After 30 days, the employee must either wear safety glasses over their prescription lenses, or purchase prescription safety glasses meeting the ANSI Z87 requirements. Each job pays up to $100 towards prescription safety glasses once a year. The Construction Manager makes exceptions at their discretion.
- **Shirt:** 4 in. sleeves or longer (tank tops and/or cut-offs not approved).
- Task appropriate work gloves.
- Orange reflective class II safety vest or equivalent at all times.
- Durable long pants without rips or holes (sweat or jogging pants not approved).
- **Work boots:** Leather over the ankle with safety toes as required (tennis shoes are not approved).
- Any other task specific PPE required by the operation and Hazard Analysis.

Personnel operating equipment wear PPE while operating. The only exception is for drivers of legal haul trucks, who may operate their vehicles from the inside without PPE. However, drivers must wear PPE while outside the vehicle.

3.5.3 ADDITIONAL PPE DESCRIPTIONS

3.5.3.1 Eye Protection

When potential exists for eye injury from bright light, or physical or chemical hazards, we issue cutting goggles and protective goggles, and supplemental eye protection such as face shields, , which employees must use.

3.5.3.2 Hearing Protection

Employees use earplugs or earmuffs in areas which noise monitoring (using dosimeters and other noise monitoring equipment) has designated as high noise. These areas are marked with signs or other visual indicators.

If a conversation in a normal tone of voice is impossible, noise levels are monitored to determine if the area is above the National Institute for Occupational Safety and Health (NIOSH) 85dB time weighted average.

We train employees in the use, fit, and limitations of required hearing protection. The foreman ensures employees wear required hearing protection.

3.5.3.3 Respiratory Protection

In accordance with KMP policy, we train employees in the use of respiratory protection. For all operations generating an uncontrolled respiratory exposure, we issue, and employees use, appropriate Respiratory Protective Equipment.

3.5.3.4 Face Shields

We require face shields over normal eye protection for:

- Chipping
- Grinding
- Powder actuated tool use
- Jack-hammering
- Compressed air blowpipe or high-pressure water use
- Other operations mandated through the Hazard Analysis

3.5.3.5 Fall Protection

Employees working at heights of 6 ft. or greater without a work platform must wear full body harnesses, four-foot lanyards, and lifelines.

3.5.3.6 Hand Protection

We issue all employees on the Project, regardless of designation or title, appropriate work gloves.

- Employees must wear special gloves to prevent exposure to sustained heat, sparks, wet concrete, acids or bases, high abrasion or sharp objects, or electrical exposure. These gloves include:
    - 100% Nitrile or PVC gloves are worn when working with concrete or acids
    - Electrical gloves only for licensed electricians (electrical gloves have special storage and use requirements)
    - Welding gloves for limited exposure to heat, otherwise heat resistant gloves
    - Kevlar/leather gloves for any situation with potential for high abrasion, pokes, or cuts
    - Shock absorbing finger, palm, and wrist protection for operations involving vibration to the wrist area such as jack hammering and chipping. We require these in the Hazard Analysis.

The Project has a 100% glove policy when handling materials.

3.5.3.7 Leg Protection

Ballistic leggings (chaps) are required when using:

- Chain saws
- Chop saws
- Axes
- Any operation identified in the Hazard Analysis

Leather chaps are not substitutes for ballistic chaps, but when worn over ballistic chaps, they offer additional burn protection.

3.5.3.8 Foot Protection

All employees wear heavy duty, above-the-ankle, work safety-toed boots while Onsite. Employees operating equipment with potential to cause foot injury, such as jackhammers and walk-behind compaction equipment, wear supplemental strap-on protection (clackers, which are still required with safety-toed boots). We supply rubber boots for work in concrete or water (taped above the ankle at the top for concrete work).

3.6 FIRE PROTECTION AND FIRST AID SUPPLIES

3.6.1 POLICY

This fire prevention and protection policy establishes the Project requirements for all facilities and sites. Local fire jurisdictions may impose additional requirements.

This document is applicable to all Project employees. It outlines the basics of fire safety and emergency response. This procedure sets forth the minimum requirements of 29 CFR 1910 Subpart L, and 29 CFR 1926.24.

3.6.2 REQUIREMENTS

3.6.2.1 Fire Fighting and Fire Suppression

All Project facilities and operations:

- Install fire extinguishers throughout the office areas, yards, or shops.
- Mount fire extinguishers on all KMP owned vehicles, equipment, trailers, and conex boxes. Fuel farms follow the local fire code on the location of extinguishers.
- Install signs indicating the location of extinguishers mounted to fix facilities.
- Mount extinguishers in conspicuous, easily accessible, locations.
- Ensure equipment such as portable fire extinguishers, hose cabinets, and hose reels are accessible at all times.
- Provide markers or signs clearly identifying incipient firefighting and control equipment locations.
- Document firefighting and fire suppression equipment inspections.
- Ensure all people working in areas protected by compressed gas fire-suppression systems (for example, CO2, halon and FM-200) are trained to recognize the hazards of oxygen depleting fire suppression systems, and how to handle a system discharge.
- Report all fires to the Kiewit District Safety Manager.
- Inspect firefighting and fire suppression equipment and systems at least monthly.

"Inspection" is a quick check that extinguishers are available, fully charged, undamaged, operational, located correctly, with protection seals intact. Inspections occur when Onsite personnel place extinguishers into service, and on a monthly basis after that. Inspectors attach tags (metal or Tyvek) on the extinguisher with initials and date when then inspection is complete.

3.6.3 MAINTENANCE

Extinguishers require regular maintenance yearly at a minimum, or when specifically indicated by an inspection. Maintenance is a "thorough check" of the extinguisher. It gives maximum assurance that extinguishers will operate effectively and safely. It includes a thorough examination and any necessary repair, recharging, or replacement.

An extinguisher supplier completes fire extinguisher maintenance. Most extinguisher suppliers complete the required maintenance Onsite under the escort of a salaried employee.

3.6.3.1 Emergency Egress Requirements

All facilities and Work Site locations must:

- Have clear and unobstructed means of exit for all building occupants
- Prohibit locks or similar devices that could impede emergency exit through an exit door while the building is occupied
- Ensure easily identifiable panic hardware is available to open any secured door from the exit side
- Prohibit exit door hardware requiring special knowledge to operate, or additional devices to open the door
- Have visible, understandable, suitably illuminated (by a reliable internal or external light source) exit signs
- Provide adequate and reliable illumination for all means of exit

3.6.3.2 Fire Alarms

All Project permanent facilities:

- Have a fire alarm system that adequately alerts all personnel within the facility of an emergency—this may include more than one type of alerting system (such as horns and strobes).
- Verify the operational status of its fire alarm system at least two times per year
- Provide an alternate means of alerting building occupants of an emergency if the fire alarm system is inoperable at the time of the emergency

3.6.3.3 Storage and Use of Flammable and Combustible Liquids

All flammable and combustible liquids used on the Project are:

- Stored in storage cabinets specifically for flammable liquids, whether located inside storage rooms, or outside storage buildings or areas
- Transported and stored in gas cylinders, upright and secured, inside an Approved compressed gas cage with the proper fire rating, or at least 20 ft. from any other flammable materials

- Stored in areas secured against unauthorized entry, free of ordinary combustible materials, supplied only with electrical equipment approved for the area, and provided with bonding and grounding systems when liquids are dispensed
- Stored in areas with fire detection, suppression, and ventilation systems based on the type and volume of liquids stored
- Used or stored only in posted “No Smoking” areas
- Kept in closed and labeled containers when not in use

We also store all aerosol cans containing flammable gas (product or propellant) in closed metal storage cabinets when in quantities greater than needed for one day’s Work or Routine Maintenance.

3.6.4 RESPONSIBILITIES

The following persons are responsible, at a minimum, for actions as indicated below. Below are lists of the minimum related responsibilities for employees and management:

3.6.4.1 Employees

- Know the location of firefighting equipment
- Be properly trained in the use of firefighting equipment
- Properly store flammable and combustible material
- Be aware of the emergency action plan for the facility or Site
- Report all fires to immediate supervisor and Safety Manager

3.6.4.2 Management/Supervisors

- Provide appropriate fire protection for facility
- Ensure personnel have appropriate fire safety training
- Conduct drills annually
- Verify the Site and all facilities have appropriate personnel accounting procedures
- Ensure flammable and combustible materials are correctly stored
- Ensure monthly fire extinguisher inspections occur

3.6.5 FIRST AID KITS

First aid kits are located in all of the following locations and in the following sizes:

- Office buildings/trailers
  - *Projects with 25 or more employees:* At least one 4-shelf first aid cabinet mounted
  - *Projects with 25 or less employees:* At least one 24-unit metal kit mounted
- KMP trucks and cars
  - One 16-unit metal kit mounted in the vehicle in an accessible area
- Conex boxes and utility trailers
  - One 16-unit metal kit mounted in an easy to access location (door)

We inspect first aid kits, along with the fire extinguishers, replacing any missing items.

We place all first aid kits in conspicuous, easily accessible locations. Signs are used to indicate the location of first aid kits in fixed locations.

3.6.6 EYE WASHES

At a minimum each supervisor has at least one 32oz bottle of eyewash inside their KMP vehicle. Fixed locations have at least two 32oz mounted eyewash bottles. For operations with a high eye injury hazard, we recommend a self-contained eyewash station. Eyewash bottle inspection is completed monthly, in conjunction with the first aid kits and fire extinguishers. Inspections note the expiration date, and any opened or missing bottles.

3.7 FALL PROTECTION

Dangerous conditions, such as working over vertical protruding rebar, chemical pits, over or near water, over live traffic, or near high voltage electrical wires, require increased protection.

Fall protection is required for all exposures to 6 ft. or greater in height, or less if another hazard at lower elevations exists, such as rebar or impalement hazard.

- We plan fall protection before placing employees in fall protection equipment.
- Fall exposures require a written plan addressing safe Work practices and describing plan reasoning. The fall protection worksheet is included in the operation Work plan, and is reviewed by all affected employees prior to the start of the operation. Affected employees must sign the fall protection Work plan prior to the start of the operation.
- Proper fall protection equipment includes full body harnesses and 4 ft. shock absorbing lanyards (preferred manufacturer is MSA). All equipment must be inspected prior to every use. We inspect all fall protection gear quarterly at the shop or by a Competent Person, and tag it with the appropriate color tag for the quarter.

Jan. Feb. Mar. = White

Apr. May. Jun. = Green

Jul. Aug. Sep. = Red

Oct. Nov. Dec. = Orange

A Qualified Person designs, implements, and approves all fall protection systems used on the Project. 29 CFR 1926.32(l) states: "Qualified" means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully shown his ability to solve or resolve problems relating to the subject matter, the Work, or the Project.

- All planking is stamped and rated scaffold grade planking
- Personnel in aerial lifts are connected to the manufacturer’s provided anchorages at all times when inside the aerial lift basket

Please refer to the requirements in Kiewit’s *Fall Solutions Manual* and to OSHA 1926-M.

3.8 EXCAVATIONS AND TRENCHES

3.8.1 GENERAL

KMP’s policy is to perform excavation activities in compliance with applicable regulations. Trenches in this section refer to narrow or shallow trenches dug for utility work, as well as larger excavation work such as for roadway and ramps in the Lowered Section.

The following general requirements apply for all trenching and excavation Work on the Project:

- A copy of the OSHA regulation is readily available for reference on the Project Site. Refer to Part 1926, Subpart P.
- A Competent Person, as defined by OSHA or applicable state regulatory agency, inspect and determine the required safeguards for working in the trench. Safeguards include sloping the sides, trench boxes, or other Approved protective measures.
- A Competent Person is one who is capable of identifying existing and predictable hazards in the Work Area that pose a threat to employees, and who has authorization to take prompt, corrective measures to eliminate those hazards. A Competent Person must have specific training in and be knowledgeable about soil analysis, use of protective systems, and requirements of the applicable regulations.
- We identify Competent/Qualified Persons using the Competent/Qualified Person Designation form, or form with equivalent information. Our foremen and superintendents often fulfill the role of a Competent/Qualified Person due to KMP's continuous safety training.
- Federal OSHA standards require all trenches over 5 ft. in depth to be shored, sloped, or shielded to protect workers. Trenches under five 5 ft. in depth may only remain vertical if examination of the ground by a Competent Person provides no indication of a potential cave-in. We measure the depth of the excavation at its greatest vertical dimension.
- Although a 3 ft. trench is less than the height of a worker, it still can pose a threat to workers in a stooped or kneeling position.
- No sidewalk or structure is undermined unless shored.
- All trenches are classified by the Competent Person using a penetrometer and a visual test.
- The Superintendent completes detailed Hazard Analysis and the Competent Person reviews it.
- We train all employees working in or around the excavation or trench on Work procedures and hazards of the excavation.
- We place excavated material no closer than 2 ft. from the edge of the trench.
- We prohibit equipment placement closer than 2 ft. from the edge of the trench. We keep all equipment working in the area far enough from the trench that vibrations cannot cause collapse.
- We follow utility location procedures prior to any excavation.
- In trenches deeper than 4 ft., we place a non-conductive ladder or ramp for entry and exit so no more than 25 ft. of travel is required to reach it.
- The Competent Person inspects the excavation and adjacent areas for safety. We keep open trenches clear of accumulated water.
- A registered professional engineer designs excavations over 20 ft. deep that require a protective system.
- The Competent Person inspects rented protective systems, such as trench boxes or shoring systems. We keep the manufacturer's data for these systems Onsite.

3.8.2 JOB SPECIFIC INFORMATION

3.8.2.1 Types of Excavations and Trenches

This Project requires excavations and trenches for:

- Work Area development
- Utility relocation
- Crane pad development
- Shafts
- Structure foundations
- Lowered section

3.8.2.2 Projected Depths of Excavations

- KMP expects maximum excavation depths to be approximately 25 ft.
- KMP expects maximum trench depth to be approximately 15 ft.

3.8.2.3 Projected soil type and method of testing to determine soil type

KMP expects to see a wide variety of soil conditions based on the data from our exploratory borings. We expect these soil conditions to fall within the classifications of Type B soil and Type C soil as described below. We describe our soil testing procedures below.

3.8.2.4 Planned method of shoring, sloping and/or benching

KMP completes the majority of the excavation and trenching for the Project contract using these protective measures:

- Hydraulic shoring
- Trench boxes
- Sloping in accordance with Plan requirements

We detail all shoring, sloping, and benching methods in the Work plan and/or Hazard Analysis. We create and review these documents at the Pre-Activity Meeting.

3.8.2.5 Planned method for trench access and egress

We achieve trench access using the following equipment, among others:

- Ladders
- Excavated ramps
- Manufactured access systems

3.8.2.6 Atmospheric monitoring processes

Although it is unlikely we encounter hazardous atmospheres within our trenches and excavations, we have atmospheric monitoring equipment available. The Competent/Qualified Person identifies situations when atmospheric testing is necessary. For any trench or excavation expected to have abnormal ventilation, or when hazardous atmospheres may exist, we use a gas monitor. Conditions warranting atmospheric tests include excavations in landfills, or near hazardous material pipelines (such as natural gas).

When atmospheric testing is necessary:

- We test before employees enter the trench, and regularly thereafter, to ensure that the trench remains safe.

- We increase testing frequency if there is welding, cutting, or burning in the trench, or if there is a significant amount of vehicular traffic nearby.
- Employees required to wear respiratory protection are trained, fit-tested, and enrolled in a respiratory protection program (see Section 4.4)

3.8.2.7 Plan for management of excavated soil/asphalt/concrete

We describe each specific operation in the Work plan and review it at Pre-Activity Meetings.

Digging permits (excavation permits): We locate all underground lines/utilities (communication lines, water, fuel, electric lines) and protect them from damage or displacement. We contact utility companies and other responsible authorities to locate and mark the locations and, if they prefer, direct or assist with protecting the underground installations.

The process for locating underground utilities is described in Section 3.9.

3.8.3 SOIL CLASSIFICATION

A Competent Person classifies each soil and rock deposit using the results of at least one visual and one manual analysis (penetrometer). State and federal OSHA regulations outline acceptable testing procedures, which we follow for soil classification. General instructions when classifying soil and selecting the protective system include:

- **Stable Rock:** Natural solid mineral matter that can be excavated with vertical sides remaining intact while exposed.
- **Type A:** Cohesive soils with an unconfined compressive strength of 1.5 ton per square foot (tsf) or greater. This soil is highly cohesive and generally contains significant clay content or is a cemented soil. However, once disturbed, soils can no longer be classified as Type A.
- **Type B:** Cohesive soil with an unconfined compressive strength greater that 0.5 tsf, but less that 1.5 tsf. This soil is less cohesive than Type A, and can include certain angular gravel as well as previously disturbed soils that are well compacted.
- **Type C:** Cohesive soil with an unconfined compressive strength of 0.5 tsf or less. This soil is the least stable, having little or no cohesive properties, and includes most granular soil.

3.8.4 INSPECTIONS

A Competent Person completes trench inspections, including:

- For excavations 4 ft. or greater in depth at Work locations. The Competent Person completes a trench inspection form before the start of each working shift.
- After every rain storm.
- After other events that could increase hazards, such as snowstorm, windstorm, thaw, earthquake, and dramatic change in weather.
- When fissures, tension cracks, sloughing, undercutting, water seepage, bulging at the bottom, or other similar conditions occur.
- When there is a change in the size, location, or placement of the spoil pile near the excavation Site.
- When there is any indication of change or movement in adjacent structures.
- When equipment location may affect the stability of the excavation.

- When operations and equipment locations may affect air quality (for example, exhaust fumes).

3.8.5 TESTING METHODS

The Competent Person determines the area's soil type using a visual test and one or more physical tests.

3.8.5.1 Worksite Preliminary Visual Test

In addition to completing the trench inspection form, the Competent Person visually evaluates, with photo documentation, the entire Site, including excavation soil and adjacent soil, and checks for signs of vibration.

During the visual test, the Competent Person checks for crack-line openings along the failure zone (indicating tension cracks), and for existing utilities (indicating previously disturbed soil). If the soil was previously disturbed, the Competent Person inspects the backfill type and the open side of the excavation for layered structure indicators. The Competent Person also looks for signs of bulging, boiling, or sloughing, and for signs of surface water seeping from the sides of the excavation or the water table.

Finally, the Competent Person checks 1) the excavation adjacent area for signs of foundations or other failure zone intrusions, 2) for evidence of surcharging, and 3) the spoil distance from the edge of the excavation.

3.8.5.2 Manual Tests to Determine Soil Type

Thumb penetration test: Attempt to press the thumb firmly into the soil in question. If the thumb penetrates no further than the length of the nail, it is probably Type B soil. If the thumb penetrates the full length of the thumb, it is Type C. Note that the thumb penetration test is the least accurate testing method.

3.8.5.3 Dry Strength Test

Take a sample of dry soil. If it crumbles freely into grains with moderate pressure, it is probably granular (Type C). Dry soil that falls into clumps that subsequently break into smaller clumps (and the smaller clumps can only be broken with difficulty) is probably clay in combination with gravel, sand, or silt (Type B).

3.8.5.4 Plasticity or Wet Thread Test

Take a moist sample of the soil. Mold it into a ball and then attempt to roll it into a thin thread approximately 1/8 in. in diameter by 2 in. in length. If the soil sample does not break when held by one end, consider it Type B.

We may also use a pocket penetrometer, shear vane, or torvane to determine the unconfined compression strength of soils.

3.8.6 SPOIL

We place spoil no closer than 2 ft. from the surface edge of the excavation, measured from the nearest base of the spoil to the cut (not to be measured from the crown of the spoil deposit.) This distance requirement helps keep personnel in the trench safe from falling rock and soil.

Spoil is placed so that it 1) channels rainwater and other run-off away from the excavation, and 2) remains clear of the excavation.

3.8.7 SURFACE CROSSING OF TRENCHES

We permit surface crossing of trenches only under the following conditions:

- **Vehicle crossings:** A registered professional engineer designs and supervises the installation of vehicle crossings.
- **Walkways or bridges** must:
    - Have a minimum clear width of 20 in.
    - Be fitted with standard rails
    - Extend a minimum of 24 in. past the surface edge of the trench

3.8.8 ACCESS AND EGRESS

There is a fixed means of egress for trenches 4 ft. or more in depth. Ladders are spaced so that 25 lateral ft. is the maximum a worker needs to travel to exit the area. Ladders are secured and extend a minimum of 36 in. above the landing.

3.8.9 WARNING SYSTEMS FOR MOBILE EQUIPMENT

We take the following steps to prevent vehicles from accidentally falling into the trench:

- **Barricades:** Installed where necessary
- **Hand or mechanical signals:** Used as required
- **Trenches:** Fenced and barricaded if left open overnight

3.8.10 STANDING WATER AND WATER ACCUMULATION

We employ methods for controlling standing water and water accumulation if employees are working in the excavation:

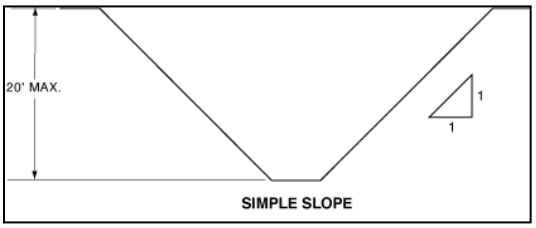
- Special support or shield systems, approved by a registered professional engineer
- Water removal equipment, such as pumps, used and monitored by a Competent Person
- Employee evacuation during rainstorms
- Careful inspection by a Competent Person after each rain, and before employees are permitted to re-enter the trench

3.8.11 SLOPING

Sloping involves cutting back the trench walls to an appropriate angle of repose. These angles vary depending on soil classification, water conditions, and previous soil disturbances. The proper angle is independently determined by a Qualified Person for each Site, and for each trench at the Site, when conditions warrant. We flatten the angle of repose when soil contains water, silty material, or loose boulders, or in areas of erosion, deep frost action, or where slide planes appear.

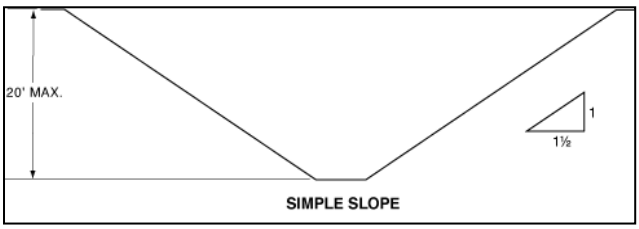
Maximum Allowable Slopes		
Stable Rock	- Vertical	(90 degrees)
Type A	- 3/4h: 1v	(53 degrees)
Type B	- 1h: 1v	(45 degrees)
Type C	- 1-1/2h: 1v	(34 degrees)

Type B or C Soil Full Depth



Note: For detailed slope benching procedures refer to state and federal regulations

Type C Soil On Top



This situation works because the less stable material is on top—if the Type C soil was on the bottom, the trench would have to be sloped as a Type C only.

A 10 ft. deep trench in Type B soil must be sloped at a 45-degree angle, or sloped 10 ft. back in both directions. Total distance across a 10-foot-deep trench is 20 ft., plus the width of the bottom of the trench itself.

In Type C soil, the trench is sloped at a 34-degree angle, or 15 ft. back in both directions for at least 30 ft. across, plus the width of the bottom of the trench itself.

For a layered system, each section can be sloped according to its own classification, unless the lower layer is a less stable material.

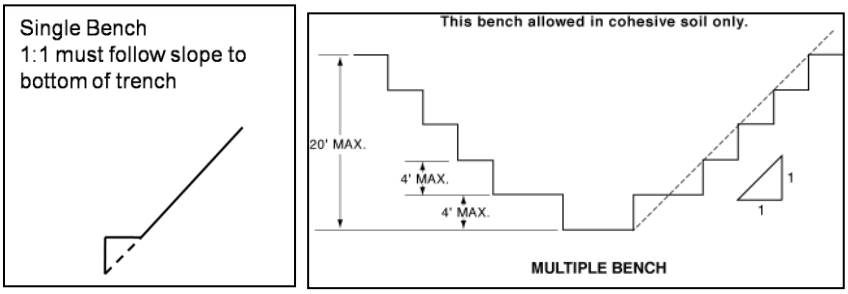
3.8.12 BENCHING

Sloping may use either single or multiple benching:

In Type B soil, the vertical height of the benches must not exceed 4 ft. Benches must be below the maximum allowable slope for that soil type. In other words, a 10 ft deep trench in Type B soil must be benched back 10 ft. in each direction, with the maximum of a 45-degree angle.

Benching is not allowed in Type C soil.

Soil Benching



3.8.13 SHORING

We use shoring or shielding when the location or depth of the cut makes sloping back to the maximum allowable slope impractical. There are two basic types of shoring: timber and aluminum hydraulic.

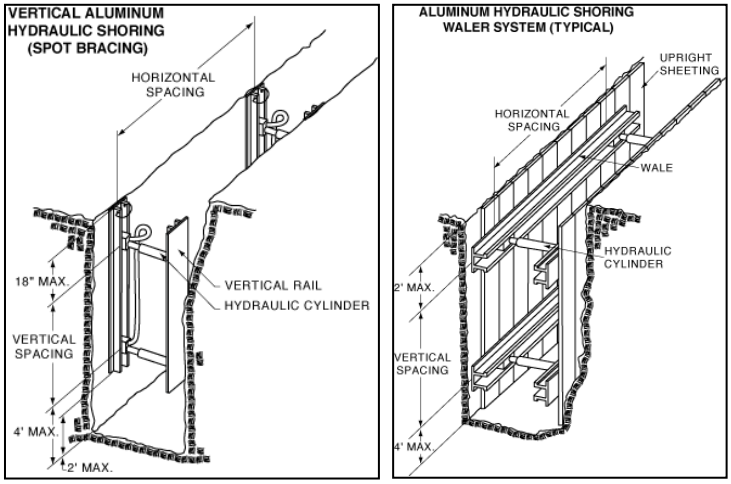
3.8.14 HYDRAULIC SHORING

Hydraulic shoring provides a critical safety advantage over timber shoring because in many cases workers can install them from outside the trench. They are also light enough that one worker can install them. They are gauge-regulated to ensure even distribution of pressure along the trench line, and they can be adapted easily to various trench depths and widths.

We install all shoring from the top down, and remove it from the bottom up. We check hydraulic shoring at least once per shift for leaking hoses and/or cylinders, broken connections, cracked nipples, bent bases, and any other damaged or defective parts.

The top cylinder of hydraulic shoring is no more than 18 in. below the top of the excavation.

Typical Shoring Systems



The bottom of the cylinder is no higher than 4 ft. from the bottom of the excavation (2 ft. of trench wall may be exposed beneath the bottom of the rail or any plywood sheeting.)

We use three vertical shores, evenly spaced, to form a system.

We install wales no more than 2 ft. from the top, no more than 4 ft. from the bottom, and no more than 4 ft. apart vertically.

3.8.15 SHIELDING

Trench boxes are different from shoring because, instead of shoring up or otherwise supporting the trench face, they primarily protect workers from cave-ins and similar incidents.

- The excavated area between the outside of the trench box and the face of the trench is made as small as possible. The space between the trench box and the excavation side is backfilled to prevent lateral movement of the box. We do not subject shields to loads exceeding their recommended maximum.
- We usually use trench boxes in open areas, but may occasionally use them in combination with sloping and benching.
- The box extends at least 18 in. above the surrounding area if there is sloping toward the excavation. We accomplish this with a benched area adjacent to the box.
- The manufacturer must approve any modifications to the shields.
- Shields may ride 2 ft. above the bottom of an excavation if they are calculated to support the full depth of the excavation and there is no caving under or behind the shield.
- Workers must enter and leave the shield in a protected manner, such as by a ladder or ramp.
- Workers may not remain in a shield about to be moved.

3.9 UTILITIES

All existing utilities are located, marked, and visually verified prior to starting any operation. The Superintendent and foreman of each operation ensure that the Dig Permit, Hazard Analysis, and all necessary drawings are current and available for review at the operation.

There is one point of contact (Utility Engineer) assigned on each project to ensure that this policy is followed. One of the Utility Engineer's duties is developing the utility map for the Project. This map includes all owner-identified utility locations, self-performed installation of utilities, potholed utilities, and heights and voltages of identified overhead power lines. Utility maps and As-Built drawings are updated throughout the life of the Project as utilities are located and installed.

Kiewit's area manager using the Variance Procedure found below must approve any deviation from this policy. We avoid variances for hazardous utilities whenever possible.

3.9.1 DIG PERMIT

A Dig Permit is required for all ground surface penetrating operations. Several sections of the Dig Permit must be continually updated to remain relevant to the operation, including:

- **General Information:** This section is used to describe the Work Zone for the operation to be performed, and includes the location of the Work, start and finish dates, and the size of the excavation.
- **Locate Service Notification:** This section is for recording locating service information, and includes the locate ticket number, description, and the request date.
- **Pre-Work Checklist:** This section includes a series of yes/no questions to ensure completion of necessary utility strike prevention measures. The superintendent or foreman completes this section, and initials it before excavation operations can begin.
- **Utility Checklist:** This is a list of normal utilities found in our Work Zones and is intended as a reminder of what is, or could be, present.
- **Signatures:** The operator, Utility Engineer, foreman, and Superintendent must sign the Dig Permit prior to the start of the operation. Signing the Dig Permit documents an understanding of the utilities in the area, and the procedures and policies required to prevent a utility strike.

Upon proper completion of the Dig Permit, a detailed drawing of the pertinent Work Zone is attached before sending it to the foreman.

3.9.2 RECOGNIZING CHANGE

If an operation involving utilities changes, or someone notices a change to the original Dig Permit, we suspend the operation. It is resumed only after we update the original Dig Permit and Job Hazard Analysis appropriately, and properly train the crew on Plan modifications.

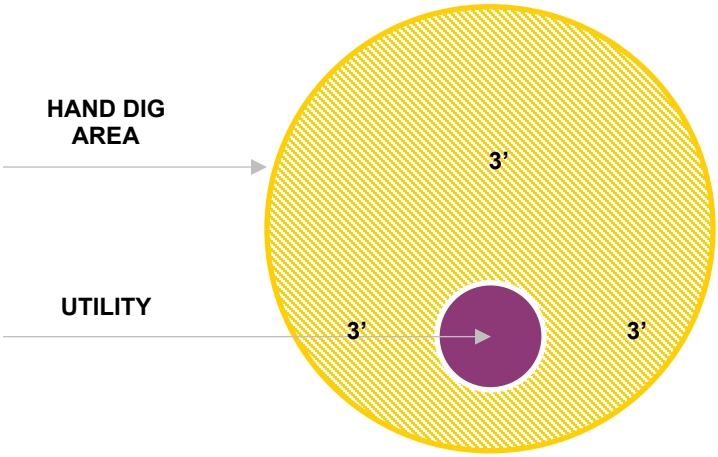
3.9.3 PROTECTING EXPOSED UTILITIES

If we expose a utility during the course of excavation, we inspect, protect, and support it. If we discover damage of any kind, or any suspicion of damage exists, we call the Utility Engineer, who documents the discovery and notifies the Utility Owner.

3.9.4 THREE FOOT RULE

We maintain a minimum clearance of 3 ft. between an underground utility and the cutting edge or point of any power-operated excavating or earth moving equipment. If excavation is required within 3 ft. of any utility, we excavate with extreme care, using only hand tools or vacuum excavation techniques.

Three Foot Rule



No Equipment is allowed to dig within a 3' radius of the utility unless a variance is obtained and Approved by a KMP area level manager.

3.9.5 ONE-CALL CENTERS

We contact the area's One-Call Center before starting any excavation. All subcontractors must contact the One-Call Center themselves. We pre-mark the proposed excavation area with white paint, stakes, or flags. We do not assume that the One-Call Center marks all utilities; they usually only mark certain utilities, while others must be marked using alternative methods, such as coordination with local municipalities and private utility owners. Further, a blind sweep using Ground Penetrating Radar and/or an Electromagnetic Locator is used prior to all excavation.

Most One-Call Centers require the following information:

- North/east/south/west coordinates (street names, block numbers)—the more accurate the description, the better.
- The type(s) of Work being performed.
- The area to be marked (entire roadway, empty field). The area needs to be marked, or set apart, for the locators.

We contact the One-Call Center for verification as to the timing and duration of the request.

Utility Color Markings: These are the standard colors and symbols all utilities use for marking underground facilities:

	BLUE	Water
	ORANGE	Telephone, Railroad, Cable TV
	GREEN	Sewer, Storm Drain
	RED	Street Lighting, Electric, Traffic Signals (traffic signals may be orange)
	YELLOW	Gas
	PINK	Survey
	WHITE	Proposed Excavation

Note: In some cases, the underground utilities belong to the owner of the property rather than the utility. For example, the utility company may own the gas line up to a meter at the edge of a property. The gas line from the meter on into the property (i.e. a house or commercial building) belongs to the property owner. Utility companies only mark the specific locations of their utilities.

One-Call Centers do not cover traffic signal wires for intersections. The superintendent contacts the proper authority to locate the traffic signal wires.

One-Call Centers do not cover new Construction (i.e. drainage, ITS duct-bank, and new electrical subcontractor installations). We refer to the Construction plans for locations of this Work. The engineer, foreman, or superintendent responsible for this Work is contacted to verify what has been constructed.

3.9.6 FIELD VISIT AND VERIFICATION:

When the One-Call Center 48-hour period is up, we field-verify that the One-Call Center has marked the utilities. We do not assume “no markings” means “no utilities”.

During the field visit, we inspect the area for any unknown utilities, such as landscape irrigation lines. If found, they are potholed and located.

We compare the One-Call Center markings with the utility drawings. If the utilities are unmarked, we give the One-Call Center second notice. The One-Call Center sends the locators out to mark the utilities.

We note prior utility relocations, and new utility installations. In addition, we verify ITMS and new electrical subcontractor installed lines.

3.9.7 POTHOLING

What you don’t see can KILL you!

Before excavating operations can begin, utility potholing is required. Potholing helps verify the location and depth of the utility lines, and we do it using hand labor or a Vacuum truck. Common tools for handwork are shovels and pry bars, but we use these with caution to prevent damaging fragile utilities. We never use pickaxe or similar tools.

We use Ground Penetrating Radar (GPR) and/or Electromagnetic Locator (EM) to locate utilities prior to potholing. We use these devices to track/trace the utility between pothole locations along the same utility line. Blind Sweeps of the Work Area is required regardless of utility markings.

YOU WILL POTHOLE TO FIND THE UTILITY.

If we do not find the utility in the first pothole, we do not assume it is not there. We find all utilities prior to the start of the excavation operations.

We excavate the soil in 6 in. lifts by hand, or by vacuum truck, to verify no utilities are present. We then use the equipment to excavate the material in that lift. If utilities are located, we expose them by hand.

Once identified, we mark all utilities with a PVC marker. We paint the PVC or mark it with the appropriate utility color, and cut to be uniform. If we use grade stakes, we paint or clearly mark them with the appropriate utility color, and we clearly note offset markings on the stake. We ensure all personnel are aware of the area's utility locations.

After we pothole and find the utility, its location is stored using GPS or other effective means. The Utility Engineer or designee uses this information to update the utility drawings.

DO NOT ASSUME THAT THE UTILITY CONTINUES ON THE SAME LINE AND GRADE.

If any damage occurs to any line, we contact the utility company immediately.

3.9.7.1 Pothole Spacing and Frequency

Life Threatening Utilities

- The excavation exposes life-threatening utilities such as gas and electrical services along their full length.
- Gas and electric lines within 25 ft. of the Work Area are potholed and marked every 100 ft. for Design purposes, and every 25 ft. for Construction operations to verify the line's direction.

We pothole gas and electric lines between 25 ft. and 50 ft. of the Work Zone at least once on each end of the limits of the excavation to verify the One-Call Center markings and the utility plans.

In addition to potholing at the spacing and frequencies shown above, each utility is tracked using GPR and/or EM locators along the utility between each pothole location.

Communications Lines

- Fiber optic lines are potholed every 100 ft. for Design, and 25 ft. for Construction operations
- Telephone and cable are potholed every 100 ft. for Design, and 50 ft. within the work area for Construction operations

Other Utilities

- Utilities not identified above are potholed every 100 ft. for Design, and 50 ft. for Construction operations on lines less than 24 in. in diameter.

We obtain at least two potholes for each utility within the Work Zone regardless of how small the Work Area is.

Utilities in Roadways

- Utilities located within the roadway are potholed. If the roadway presents too great a risk, we use other methods, with a Kiewit area manager approval, to identify utility locations
- We obtain street plates to cover potholes when live traffic is on the roadway.
- For Roadway Work not scheduled for excavation in the current operation, we place an asphalt patch over the pothole. We do this after recording all pothole information, and then offsetting the pothole with stakes and ribbon.
- After we complete all potholing, excavation can begin.
- We continue monitoring closely for unknown utilities.

A Kiewit area manager must approve any deviation from the potholing procedures outlined above in writing.

Form Pins, T-Posts, and Wooden Stakes

Dig Permits are not required when installing form pins, t-posts, and wooden stakes unless they are closer than 3 ft. to an existing utility. The Utility Engineer reviews and ensures we do not damage utilities.

Installed Utility Plan

We inspect all work areas for installed utilities prior to beginning Work, and we incorporate this inspection of the work area with the Dig Permit for that area.

We use the following steps to locate installed utilities:

- The Utility Engineer contacts the One-Call Center for the area
- We apply for a Dig Permit for the area, with applicable As-Built drawings
- The superintendent over the operation completes the blind sweep and reviews the appropriate As-Built drawings and survey data to mark and locate utilities
- We use potholes to locate all installed utilities if no installation GPS data exists
- The superintendent updates utility markings and features as needed.

3.9.8 REPORTING REQUIREMENTS

- If a utility strike occurs, we require several actions:
  - Clear and secure the area if there is potential for further exposure to hazards
  - Contact the appropriate Utility Owner to report the damage so they can inspect and repair if necessary
  - Notify the Project Manager, Sponsor, Area Manager, Kiewit District Safety Manager, and Kiewit District Manager
  - The Project Manager completes the utility strike report and submits it to the job sponsor and the Kiewit District Safety Manager within 24 hours.

3.10 LOCK-OUT/TAG-OUT POLICY

- Each job has a specific plan for lock-out/tag-out procedures.
- Lock-out/tag-out procedures protect employees from exposure to energized equipment.
  - *Lock-out* is turning off and locking out the flow of electricity
  - *Tag-out* is a physical restraint preventing re-energizing
- We require lock-out/tag-out procedures as a protection of personnel in or around equipment during installation, repair, maintenance, testing, operation, and associated activities, where injury by unexpected machine startup, or release of stored energy is possible.
- We plan and review lock-out/tag-out for specialized equipment before any maintenance is performed. A specific lock-out/tag-out plan is required for conveyor systems.
- All energy sources (electrical, mechanical, hydraulic, or pneumatic) of power-driven equipment are in lock-out/tag-out when maintenance is performed.
- The personnel performing the maintenance ensures all equipment is properly locked and tagged out prior to starting Work.
- Both maintenance and supervisors check the equipment prior to restart to ensure its safety, that no tools are inside, and that normal operation can resume safely.

3.10.1 APPLYING ENERGY CONTROLS

Only trained and authorized employees under supervision perform energy isolation and lock-out/tag-out procedures. Before using lock-out/tag-out, we notify all employees working in the affected area. After Notification, we follow this six-step procedure:

- **Preparation for Shutdown:** Before turning off any equipment, know the types and amounts of energy that power it, the hazards of that energy, and how to control it.
- **Equipment Shutdown:** Shut the system down using its operating controls. Follow the correct procedure for the equipment and bleed all lines.
- **Equipment Isolation:** Isolate ALL energy sources, including secondary sources. Never pull an electrical switch while it is under load. Never remove a fuse instead of disconnecting.
- **Applying lock-out/tag-out Devices:**
    - Lock and tag all energy-isolating devices
    - Use a lock-out device if your lock cannot be placed directly on the energy control, (for example, removal of an isolating circuit element, blocking of a controlling switch, or opening of an extra disconnecting device)
    - More than one employee can lock-out a single energy-isolating device by using a multiple lock hasp
    - If tags are used instead of locks, attach them where you would a lock, or as close as possible
    - Fill tags out completely and correctly
- **Control of Stored Energy:**
    - Inspect the system to ensure all parts are stopped
    - Install ground wires
    - Confirm all trapped pressure has been relieved
    - Block or brace parts that could fall
    - Block parts in hydraulic or pneumatic systems that could move from loss of power
    - Bleed the lines and leave vent lines open
    - Monitor the system to ensure stored energy has dispersed
- **Verifying Isolation Equipment:**
    - Ensure all danger areas are clear of personnel
    - Confirm main disconnect switch or circuit breaker cannot be moved to “on”
    - Press all start buttons and other activating controls on the equipment itself
    - Shut off all machine controls when the test is finished
- **Lock-out:** A lock is only be removed by the person who applied it, or a designee, after ensuring it can be safely removed, signing the tag, and complying with the following steps:
    - If not Onsite, contact the employee who applied the lock to inform him that the lock is being removed
    - Ensure the employee who applied the lock knows the lock has been removed before he resumes Work at the facilities
    - Tag out devices indicate the identity of the employee applying the devices
    - Tag out devices warn against hazardous conditions if the machine or equipment is energized, and must include a legend such as: Do Not Start, Do Not Open, Do Not Close, Do Not Energize, Do Not Operate

3.10.2 TRAINING:

KMP provides training sufficient to ensure the understanding of the purpose and function of the energy control program, and to provide the knowledge and skills for the safe application, usage, and removal of the energy controls.

- **For Authorized Employees:** The recognition of hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control
- **For Effected Employees:** Instruction in the purpose and use of energy control procedures
- **Other Employees:** Instruction in the procedures and prohibitions relating to restarting or re-energizing machines or equipment which are locked out or tagged out

3.10.3 PERFORMING THE WORK

Disable anything that could reactivate the equipment. Do not bypass the lock-out when putting in new piping or wiring.

3.10.3.1 Removing Lock-out/tag-out

- Ensure equipment is safe to operate—remove all tools from the work area and confirm system is fully assembled
- Safeguard all employees
- Conduct a head count to account for everyone, and confirm their clearance from the equipment
- Notify everyone in the area of lock-out/tag-out removal
- Remove lock-out/tag-out device
- Except in emergencies, a lock-out/tag-out must be removed by the person who put it on

3.10.4 SPECIAL SITUATIONS

- If you must temporarily re-activate equipment, remove unnecessary tools from the work area, and clear everyone away from the equipment
- Remove lock-out/tag-out devices and re-energize system
- When you no longer need energy, isolate the equipment and re-apply Lock-out/tag-out, using the six-step procedure
- Lock-out/tag-out protection must not be interrupted even if servicing lasts more than one Work shift
- Employees leaving Work do not remove their locks until the ones arriving are ready to lock-out
- When the worker who applied the lock is not available to remove it, the lock can be removed for emergencies, and at the direction of a supervisor
- File the necessary reports to the Safety Manager

3.10.5 HIGH VOLTAGE LOCK-OUT POLICY AND PROCEDURES (1,000+ VOLTS)

- Standard lock-out/tag-out procedures apply
- High Voltage Rooms and Collector Ring Compartments

- Whenever any high voltage rooms or areas such as collector ring compartments are unlocked and energized, the following must happen:
    - All personnel working in or near these areas place their lock and tag on the junction box that is disconnected or at the gate on the appropriate substation or disconnected baloney box
    - Multiple lock-outs are used so that each employee has a lock and tag in position
- High Voltage Lines and Equipment
- When working on a high voltage line, consider it energized until a Qualified Person determines it is de-energized and grounded. Such Qualified Persons visually observe to ensure that:
    - The disconnecting devices on the high voltage circuit are in the open position
    - Each ungrounded conductor of the high voltage circuit to be worked on is properly connected to the system ground medium

3.10.6 GROUNDING

Grounding of the ungrounded conductor is on the source side of the circuit. We provide grounding jumpers connected to the ground bus for this purpose. We accomplish grounding with the following procedure:

- Verifying the feeder disconnect is open and locked out
- Using a ground stick, ground each ungrounded phase to bleed off any residual electrical charge on the circuit
- Attaching grounding jumpers to each ungrounded phase of the circuit

3.10.7 HIGH VOLTAGE CIRCUITS

We only energize high voltage circuits after:

- All Work on the high voltage circuit is completed and inspected
- All personnel are cleared from the high voltage area and notified of the re-energizing
- All protective grounding installed is removed from underground conductors
- The high voltage area is secured and locked

3.10.8 PERIODIC INSPECTIONS

We conduct a periodic inspection of the energy control procedure at least annually to ensure compliance with the procedure and its requirements.

The inspections meet the following criteria:

- An authorized employee, other than the one using the procedure being inspected, conducts the periodic inspection
- The purpose of the inspection is to correct any deviations or inadequacies identified
- Where lock-out is used, the periodic inspection includes a review between the inspector and each authorized employee of that employee's responsibilities under the procedure
- Where tag-out is used, the periodic inspection includes a review between the inspector and each authorized employee of that employee's responsibilities under the procedure, and the training elements regarding the limitations of tag out systems

KMP certifies the completion of the periodic inspections in writing. The certification identifies:

- The machine or equipment on which the procedure was used
- The date of the inspection
- The names of employees included in the inspection
- The name of the person performing in the inspection

Outside Personnel

- Whenever contractors are engaged in activities related to this energy control program, Project and contractor personnel share and explain their respective lock-out/tag-out procedures.
- KMP ensures our employees understand and comply with the restrictions and prohibitions of the outside employer's energy control program.

3.10.9 TRAINING

- Emphasis at Safety Training
- Tool Box Meetings
- Bring in examples of locks and tags to be used on the Project for easy identification

3.10.10 CHECKLIST/FORMS

- Lock-out/tag-out checklist
- Lock-out/tag-out Hazard Assessment Checklist

3.10.11 REFERENCES

- OSHA 29 CFR 1910.147

  https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9804&p_table=STANDARDS

- OSHA 29 CFR 1926.417

  https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10718&p_table=STANDARDS

3.11 EQUIPMENT LOCK-OUT/TAG-OUT

We shut down and immobilize all equipment prior to performing maintenance or repairs. Before any Work involving Lock-out/Tag-out, the employee performing the maintenance or repair places "DO NOT START" tags and locks at the control box or main switch. He also completes a written Work plan and Job Hazard Analysis (JHA) with power source and lock install locations. All affected workers in the area sign the JHA.

Additionally:

- No person removes a lock, lock-out device, or "DO NOT START" tag other than his own.
- If an employee leaves the equipment and forgets to remove the lock and tag, he is required to return to the equipment and remove the lock and tag.
- Violations of this policy are unacceptable and cause for immediate termination
- Each employee has a lock with one key.

- This step cannot be performed by anyone other than the person who is performing maintenance on the equipment. After locking out, employees should place the key in their pocket.
- Only the Project Manager or Construction Manager may change these guidelines, which must be in writing.
- Equipment specific lock-out/tag-out procedures are available and clear to all employees at Project start, or when the equipment arrives Onsite.

3.11.1 ELECTRICAL

All electrical equipment involving the use of disconnect switches as a source of power for operation is turned off, locked-out in the “off” position, and tagged.

After the employee locks and tags the equipment, they attempt to start the equipment to confirm the locking of the proper switch and inoperability of the equipment.

If more than one employee is working on the equipment, individual locks for each employee are required.

3.11.2 PNEUMATIC AND HYDRAULIC

We disable all equipment operated pneumatically or hydraulically by turning off the air, oil, or water to the equipment, and locking and tagging the valve.

After locking out and tagging the equipment, the employee attempts to start the equipment and confirms its inoperability. The employee also confirms the absence of residual pneumatic or hydraulic pressure that could activate the equipment.

If more than one employee is working on the equipment, individual locks for each employee are required.

3.11.3 EQUIPMENT

Lockable master disconnect switches are installed on each possible piece of equipment and vehicle, as close to the batteries as practical, and in the ground circuit.

When a keyed switch controls the ignition, the key is placed in the “off” position, removed, and the switch tagged. The ground strap is removed and tagged if no locking master disconnect exists.

Vehicles not equipped with a keyed ignition switch are tagged with a “DO NOT START” tag at the starter button or switch, and the ground circuit of the battery is disconnected and tagged.

If more than one employee is working on the equipment, we use individual locks for each employee.

3.12 CRANE AND RIGGING

Crane, forklift, aerial lift, drill rigs, shotcrete pumps, and mixer operators have designated operator training for their equipment, and corresponding hard hat identification stickers.

All operations must be in accordance with the *Corporate Crane Procedures Manual*.

- Wear seatbelts at all times
- Operators inspect equipment prior to operation, document the inspection, and submit it to the maintenance department on a daily basis. We make required safety repairs prior to operating the machine. We do not leave any equipment in need of repair for someone else to find. Tag such equipment out of service, and notify the Project's Maintenance Supervisor.
- Never oil, grease, or fuel a running piece of equipment unless approved by Discipline Manager.
- Prior to the operator leaving the seat, all equipment loads and/or attachments must be grounded.
- Use the manufacturers supplied access ladders and walkways. Face the ladder when climbing up or down, and use a three-point hold at all times. Do not jump from equipment.
- When working around heavy equipment, make visual contact with the operator before moving on or around the equipment.
- Follow the power line policy for working or traveling equipment near Overhead Power Lines (OHP) at all times. Include in the operation's Hazard Analysis any Work within 50 ft. of an OHP, and complete an OHP permit prior to the start of the operation. See Utility Avoidance policy, Attachment 7 to this SMP.
- Inspect rigging prior to each use, and ensure an annual inspection and tagging by a Competent Person.
- Only use synthetic rigging when specified in a specific Hazard Analysis and approved by Discipline Manager.
- Chains are not used for rigging, except by the maintenance department, and when approved by Discipline Manager. Any other use of chains for lifting must have written Approval from the Project Safety Manager.
- Safety latches or other positive locking hooks are required for all rigging.
- Tag lines are required on all loads suspended from cranes and forklifts, unless otherwise addressed in JHA (See JHA Form in Attachment 5 to this SMP).
- Never allow anyone to get under a suspended load. Avoid walking around or working under a crane boom, drill platform, or concrete truck boom.
- Hydraulic crane outriggers must be fully extended, on pads with firm footing, with the rubber completely off the ground.
- Swing radius barricades are required on all cranes. On other equipment (such as a backhoe) with the potential to swing in a confined area, swing radius protection is also required. Signs stating, "Danger, Swing Hazard" are mounted on each side and on the back of the counterweight. Only the operator is allowed within the radius protection while the equipment is in use. If entry is required, the Construction Manager prepares and approves a specific Hazard Analysis.
- Only ratchet chain binders are allowed. We do not allow employees and subcontractors to operate supplier's snap binders.
- Each piece of manned KMP equipment and all vehicles are equipped with at least the minimum number and size of fire extinguishers required by OSHA for that vehicle.

3.13 PORTABLE SAWS, CHAIN OR CHOP SAWS, AND POWDER ACTUATED TOOLS

- Read the operator's manual and only operate equipment after having full knowledge of its safe use.
- Do not wear loose clothing or jewelry.

- Wear hearing protection when using portable saws for extended periods.
- The use of chainsaws and chop saws requires use of hearing protection at all times, regardless of exposure duration.
- Maintain a solid stance, preferably on flat ground, to minimize potential slips and falls; keep a two-handed grip during use, and watch your work.
- Kevlar reinforced chaps, face shields or mono goggles, gloves, and hearing protection are required when using chain or chop saws.
- Never fuel a saw while it is hot—wait until it has cooled.
- “Free Cutting” material using a skill saw (supported off the body) is not allowed. Small pieces are secured from movement.
- Only certified personnel operate powder-actuated tools. Loads or “shots” for the tool are kept separate from the tool in a locked area to prevent unauthorized use.

3.14 BURNING AND WELDING

- Flash back arrestors are required on all torch setups, including both the torch and regulator end. For Victor Model 315C, they need only be on the regulator end.
- Burning goggles or shields (shade 5) are required when using a torch. No tinted safety glasses.
- Employees engaged in overhead welding where burn hazards exist wear leather gloves, protective leathers, or protective coats.
- Oxygen and acetylene cylinders must remain upright and secured with valve protection caps in place at all times. In storage, a distance of 20 ft. must separate oxygen and fuel gas cylinders unless a 5-foot high firewall of 5/16 in. solid steel plate is between the two.
- Ensure all oxygen and fuel gas is bled from the lines when the torch is not in use.
- Travel with regulators attached and exposed is prohibited on public roadways, except in Approved trucks where the unit is secured internally from movement.
- Fire extinguishers are required in the immediate area where “hot work” is being performed. Fire watch (someone to confirm no fires after the work crew has finished) may be required following the completion of Work.
- “Hot work” is prohibited in confined spaces without the Approval of the Project Safety Manager.

3.15 VEHICLES

- Anyone operating a KMP vehicle has a current valid driver’s license, and is trained on this Project’s motor vehicle accident reporting procedures.
- Those employees with a company phone must use a hands free device while operating a company vehicle.
- Seatbelts are worn at all times.
- Riding in the back of pickups is prohibited.
- Each vehicle one ton or larger is equipped with, and uses, a wheel chock or blocking device whenever left unattended or parked. This is in addition to turning the vehicle off, placing it into park, and setting the emergency brake.
- Fire extinguishers are located in every company vehicle.
- A functioning back-up alarm is required on all equipment and vehicles, including passenger vehicles.
- Beacon lights and or flashers are required on equipment and company vehicles in the work area.

- Park a minimum of 200 ft. from any Work operation—do not park vehicles directly behind equipment.
- Posted speed limit signs apply to all personnel.
- Each driver is responsible for the inspection and safe operation of the vehicle they are driving.
- Always follow Haul Road rules and procedures.
- A 360 degree walk around program is mandatory for all contractor and subcontractor employees.
- No vehicles owned, leased, rented, or otherwise under our control are allowed to idle for more than five consecutive minutes; this includes all internal combustion power vehicles and equipment. An exception is when shutting down a unit that has a required system operating temperature, or other situations described in the Project Management Plan.

3.16 TEMPORARY STRUCTURES AND DEVICES MANUAL

The Temporary Structures and Devices Manual provides general and specific guidance in the administration of KMP's policy covering Temporary Structures and Construction Devices, Corporate policy, Section 4-24 (rev 12-2008).

> "It is KMP's policy to properly and systematically address the Design and Construction (D&C) of temporary structures and other Construction devices used in our operations. When the Design is not provided by the owner, the liability assumed by KMP requires even greater attention to minimize the risk of failure. The Design and Construction of temporary structures and other Construction devices requires thoughtful risk analysis and risk mitigation measures that begin with appropriate selection of designers, an independent review of the resultant Design, and proper inspection during Construction."

This manual is a living document—we update and modify it as specific practices change, and improvements develop over time. It is not a comprehensive, nor entirely prescriptive, list of procedures for all temporary structures and Construction devices. Rather, it serves as a guideline for Project Team members to reference when assessing, mitigating, and managing risk.

4. Safety Plans

4.1 CRAFT VOICE IN SAFETY (CVIS)

The CVIS Committee is a safety advisory group made up of craft representatives and sometimes craft supervisors. It is an effective link between the craft and management to communicate safety trends, provide training, and lead the safety effort. The CVIS members and leader collaborate with our craft, gaining feedback, and using it to identify training needs, focus programs, and trends. The CVIS Committee builds trust among all members of the Project Team, including the Management Team, throughout the duration of the Project.

4.2 JOBSITE TOURS AND VISITOR PROCEDURES

KMP establishes the time and travel route for all tours. Work Areas presenting hazards to tour groups are off limits. The tour's travel route is cleared of tripping hazards, cleaned, and properly protected to avoid potential personal injury. A representative from KMP or other Project entities' management Teams guides the Approved tours.

Parents or guardians must sign the “General Release—Visitors” form for minors. The Project Safety Manager must approve all tours involving minors.

All visitors must wear appropriate clothing such as long pants, shirts with sleeves, hard hats, eye protection, and hard-soled leather boots or shoes when Onsite. We do not permit loafers, soft leather dress shoes, tennis shoes, or open toe/heel shoes of any type Onsite. KMP must approve any deviations from appropriate clothing.

All visitors must attend a safety training prior to entering the Project Site. The Project Safety Manager, or a designated representative, conducts this training. The training is visitor-specific in relation to potential hazards, restricted access areas, and other safety related matters that are likely to be encountered on the tour.

All contractors and subcontractors have their visitors, vendors, supply companies, and rental companies sign a “Visitors Waiver of Liability and General Release” form. At no time do contractors or subcontractors leave any visitor(s) unattended on the Project Site. Noncompliance could result in removal from the Site.

4.3 SAFETY MEETINGS

4.3.1 MONTHLY MASS SAFETY MEETING

We hold the monthly mass safety meeting just prior to shift start up on the first Monday of each month. This is a mandatory meeting for all employees and KMP subcontractors. Safety Manager Representatives have a standing invitation to attend. The meeting agenda and sign in sheet of all that attend are maintained per the Document Control System until the Project is completed. This meeting reviews the past month’s incidents and near misses on the job, and the dangers and hazards of upcoming Work or conditions, such as weather changes, new subcontractors in the area, traffic control changes, and startup of new operations.

4.3.2 PLAY OF THE DAY MEETING

All operations have a “Play of the Day” Meeting. The foreman reviews the daily schedule with the crew and gets their input on the biggest hazards for that shift.

Once the hazards have been identified, the foreman and the crew decide on measures to eliminate or reduce identified hazards. All hazard elimination or reduction steps need to be observable actions or behaviors.

4.3.3 POST-ACCIDENT AND POST INCIDENT OR NEAR-MISS MEETING

After any serious accident or incident considered a near miss, OSHA recordable, or Lost Time Incident, a job-wide Mass Safety Meeting is held (including subcontractors) to review the incident(s). We hold this meeting as soon as possible—no later than the start of the next day’s shift. This meeting covers all facts of the incident, and any changes made to prevent a reoccurrence.

4.3.4 RESPONSIBILITIES

The following persons are responsible, at a minimum, for actions as indicated below:

4.3.4.1 All Employees

- Be aware of the hazards associated with subcontractor activities
- Do not take control of subcontractor activities

4.3.4.2 Management/Supervisors

- Ensure that subcontractors have required training and appropriate safety procedures for their Work
- Conduct pre-construction walk-through and meetings
- Inform subcontractors of Site-specific hazards
- Request MSDS for all chemicals that subcontractors bring Onsite
- Do not take control of subcontractor activities
- Do periodic Site walk-throughs of subcontractor activities, and discuss action items

4.3.4.3 Subcontractors

- Work in accordance with all state, federal, and local regulations and the subcontract
- Train employees on appropriate health and safety practices.
- Supervise the Work appropriately
- Review Site-specific documents and plans
- Discipline employees for safety violations
- Report all incidents
- Attend all safety meetings

4.4 RESPIRATORY PROTECTION PROGRAM

4.4.1 PURPOSE AND PROGRAM ELEMENTS

Introduction: OSHA issued a revised Respiratory Protection Final Rule in January 1998 that became effective in April 1998. The Rule governs the General and Construction Industries' use of respiratory protection equipment for employees.

Additional information on respiratory protection is available in CFR 1910.134

The use of respiratory protection equipment poses both physiological and psychological hazards to employees. Therefore our first obligation as an employer is to avoid situations where our employees are required to use this equipment. This is accomplished through the use of engineering controls, such as ventilation at the source by either capturing or exhausting, enclosure of the hazardous area, performing hazardous Work on off shifts, and/or substitution of less hazardous materials. Experience has shown that most atmospheric hazards associated with Construction Work can be controlled in this manner. If, following our best efforts to control these hazards through hazard controls, the atmospheric hazards remain at levels at or above established limits, this Respiratory Protection Program ensures that Project operations comply with the requirements of this program.

The provisions of this program apply to all affected KMP employees, its Core Team Members, and subcontractors of any tier.

The purpose of this Respiratory Protection Program is to ensure that all employees and subcontractors are protected from all recognized respiratory hazards in the workplace. This program provides Job Managers/Superintendents, Supervisors, and employees with the necessary information to plan Work in accordance with the regulations governing the selection, training, use, and maintenance of Respiratory Protection Equipment.

4.4.2 RESPONSIBILITIES

- Responsibility for implementation of this program begins with top management, and filters down to the individual employee. Managers must be familiar with the requirements of this program, and provide resources to perform required duties.
- The Kiewit District Safety Manager or Site Safety Manager serves as Program Administrator at the District level, with the authority to oversee the management and administration of the Respiratory Protection Program. At each project, when a respirator program is appropriate, the Project Manager appoints a Respirator Program Administrator. This individual must be knowledgeable with the requirements of the program, and is provided with the resources to perform the duties associated their position.
- A Hazard Analysis for each operation is necessary to find out the degree to which this program affects the operation. A Job Specific Respiratory Program (JSRP) is a requirement when any operation necessitates the use of respirators to protect employees.
- Operations which may require the use of respiratory protection may include, but are not limited to, the following:
    - Grinding, chipping, sawing, or drilling concrete
    - Welding/cutting of coated surfaces
    - Abrasive blasting
    - Use of chemicals/solvents
    - Work within confined areas
- Subcontractors who anticipate the use of Respiratory Protection Equipment in their scope of work submit a written JSRP to the Project Program Administrator (PPA). The JSRP addresses each element of the regulatory requirements and required components of this program prior to commencing any operations.

4.4.3 PROCEDURES

4.4.3.1 Program Administrator

- The Final Standard requires that a Qualified Person be designated as responsible for the overall management and administration of the program. Each employer must ensure that all jobs report to one overall Program Administrator for coordination of the program.

- The Program Administrator can use industrial hygienists, safety professionals, or other respirator experts to help implement the respirator program. The Program Administrator can work with a committee, or assign responsibility for portions of the program to other personnel; but the overall responsibility for management and administration of the program must remain with the Program Administrator. The Program Administrator can delegate responsibility for the day-to-day operation of the program at a specific Site to a Qualified Person. However, implementation of the overall respirator program remains the duty and responsibility of the Program Administrator.
- The Program Administrator (primary and job-assigned delegate) reviews each subcontractor's JSRP upon submission, and ensures the minimum program requirements are in compliance. We conduct periodic audits of their Program at least annually.

4.4.3.2 Voluntary Respirator Use

- Managers and supervisors anticipate some employees may request respirators even though control measures have reduced the specific contaminant levels below permissible limits. The standard allows the voluntary use of filtering face piece type respirators in these cases, without requiring a written program.
- Voluntary use of tight-fitting, air-purifying respirators require at least the Medical Evaluation and Cleaning and Disinfecting portions of a written program be implemented.
- Employees voluntarily using filtering face-piece respirators are provided with the information on proper use.
- Selection of filtering face-piece type respirators depends upon the type of airborne contaminant present. The respirators with an exhalation valve provide the greatest degree of comfort for employees and for this reason may last longer and reduce waste.
- Filtering face piece respirators should not be used beyond one Work shift.
- Employees voluntarily using filtering face piece respirators must be clean-shaven at all times to ensure proper fit and seal. (Jobs are encouraged to have a supply of clean razors and shave cream Onsite).

4.4.3.3 Respirator Selection

The type and quantity of respiratory hazards, the degree of protection required, and the employee's tolerance—as determined from the Medical Questionnaire and/or Physician/Licensed Health Care Professional (PLHCP)—determine the appropriate respirator. Historical data for similar operations or atmospheric testing can determine the degree of hazard.

The MSDS for a substance outlines the appropriate protection during an operation. Before use in the field, all respirator types listed below require employee medical evaluation, fit testing, and training. Cleaning and maintenance programs are also required and addressed below.

- **Air Purifying Respirators:** Not for use in oxygen deficient or toxic gas atmospheres.

- Air purifying, half mask respirators, covering the nose and mouth only, are the most common form of tight fitting respirator used in construction. These respirators come in a variety of sizes with filter cartridge selections to address most dust, mist, vapors and fume hazards found in Construction Work; up to approximately 10 times the permissible exposure limit.
- Air purifying (negative pressure) full-face respirators protect the nose, mouth, and eyes, affording a greater degree of protection from infiltration of contaminants up to approximately 50 times the permissible exposure limit.
- Powered air-purifying respirators provide filtered air to the facemask through a belt-mounted air pump fitted with the appropriate filters. This model greatly reduces breathing effort and may be appropriate for employees exposed to high temperatures and humidity, heavy workload, or a medical condition precluding use of a negative pressure respirator.
- Until respirator manufacturers perfect End of Service Life Indicators (ESLIs) for respirator filter cartridges, employers are required to formulate a change schedule, which prevents employee exposure to contaminants due to filter saturation.

- **Atmosphere Supplying Respirators (Airline Respirators):**
  - Airline respirators are required in situations where air filtering does not provide enough protection. Abrasive blasting with silica sand or of lead paint coated surfaces requires use of a blasting helmet supplied with breathing air.
  - Atmospheres that are Immediately Dangerous to Life or Health (IDLH), require the most sophisticated atmosphere supplying respirators. Situations where construction employees may be exposed to IDLH atmospheres are extremely rare and should remain so. The Project Manager consults with the Kiewit District Safety Manager (Respirator Program Administrator) before planning an operation in a potentially IDLH atmosphere.
  - When contemplating any airline respirator use, the Project Manager and Site Safety Manager or Kiewit District Safety Manager must develop a plan to comply with the requirements for proper use.

4.4.3.4 Medical Evaluation

The use of respiratory protection equipment imposes physical burdens on the user. The weight of the equipment, the increased effort of breathing through a filter, temperature, and humidity, and carbon dioxide buildup in the mask all make wearing respirators stressful. Therefore, before a fit test, OSHA standards require a medical evaluation or examination of each employee who is required to use a respirator.

- When the use of Respiratory Protection Equipment is anticipated, the Job Manager or a designee either:

  - Obtains the services of a Physician or Licensed Health Care Professional (PLHCP). The PLHCP must be familiar with and able to fulfill the requirements of the standard, and must be identified in the JSRP and accessible to employees, or
  - Administers the Medical Questionnaire
- The Construction Manager provides the PLHCP with a copy of the JSRP, OSHA Respiratory Protection Standard, and the Work plan, as well as all of the information required under the standard. The PLHCP must be made fully aware of the working conditions that employees are subject to. In some cases a Site visit by the PLHCP is advisable.
  - The PLHCP evaluates the employee during regular working hours, or at another time convenient to the employee, and prepares an evaluation of each employee's ability to use the type of respirator prescribed in the JSRP.
  - The PLHCP employee evaluations are provided in writing to the Job Manager or designee, and a copy forwarded to the Site Respirator Program Administrator.
  - Medical evaluations provided by the PLHCP are treated as confidential and stored in a locked file cabinet.
- **Additional Medical Evaluations:** Medical evaluations are not required annually under the new standard, but changing conditions in the workplace and/or in employee health may indicate the need for re-evaluation:
  - The employee reports medical symptoms related to the use of a respirator.
  - The PLHCP, Program Administrator, or supervisor recommends re-evaluation.
  - A change is noted in the employee's ability to wear a respirator during recurrent fit testing.
  - A change in workplace conditions, which places additional burdens on employees. These changes may include, but are not limited to, a significant increase in physical effort needed to perform the Work such as heavy lifting or climbing, higher than anticipated temperatures or humidity; all of which increase stress and breathing effort.
  - A different classification previously Approved by the PLHCP is used. For example, placing an employee in a full-face piece from a half face piece.

4.4.3.5 Fit Testing

Every employee required to use a tight-fitting respirator must pass a fit test using the respirator type approved by the PLHCP. Although several test methods are available, the Qualitative Fitting Test (QLFT) using irritant smoke is the most practical choice for a construction site.

- Project Managers ensure all necessary personnel, facilities, and supplies are available for performance of fit testing as required.
  - Obtain the services of an individual trained and certified to perform respirator fit testing. A copy of the certification is included in the JSRP.

  - Ensure availability of a selection of appropriate respirators. Employees must be "afforded a selection of respirators of various sizes and models from which to pick the most acceptable." This requirement includes accommodating those employees who use corrective eyewear.
  - Provide a ventilated room or space in which to conduct fit testing—over-exposure to the irritant smoke used in the test procedure is associated with health hazards
  - Complete a fit test for each employee required to use a respirator at least annually.
  - Ensure availability of testing equipment and respirator cleaning supplies as appropriate to comply with the program.
- Personnel Conducting Fit Testing:
  - Respirator manufacturers and/or suppliers often perform this function, or train and certify a KMP employee to provide fit testing at the Project level.
  - Perform fit testing in compliance with the mandatory protocols in Exhibit E.
  - Do not perform fit tests when facial hair may affect the face seal of the respirator.
  - Ensure all respirators worn by employees are clean and disinfected before being used for additional testing.
  - Complete the Personnel Fit Test Record form in Appendix D for each employee tested and retain in the employee's file.

4.4.3.6 Training and Information

The ultimate effectiveness of this Respiratory Protection Program depends on the employees who participate. Employees who do not comply with the program elements may expose themselves to significant health hazards. The employer avoids and eliminates these through effective training. Imparting clear and understandable instructions, demonstrating proper procedures, assuring that employee's questions receive logical, truthful answers ensures that our goal of protecting our employees from harm is successful.

Effective communication with all employees, including those not fluent in English, is the employer's responsibility. The standards do not require translators, but we engage our bilingual employees when necessary to help ensure we meet our obligation.

This training may be performed in a classroom setting with a group of employees present. Portions of this training may be in the form of a video presentation, but physical demonstration of some procedures, such as fitting adjustments, cleaning, and user seal checks is essential. This training must be performed at least annually or as required to show and maintain employee proficiency.

The Program Administrator, Construction Manager, and supervisors have the following responsibilities:

- Discuss the nature of the hazards—expected exposure levels vs. Permissible Exposure Levels (PEL), and IDLH the respirator protects against, possible health effects if the protection is compromised. Reference the MSDS for information.
- Explain how improper fit, usage, and maintenance compromises protection.
- Explain the capabilities and limitations of the respirator
- Show the proper methods for inspecting, donning and doffing the respirator, and checking user seals
- Show proper methods of cleaning and storing respirators.
- Explain how to recognize medical signs and symptoms that may limit or prevent the effective use of respirators
- Explain how to recognize the signs of filter saturation and instruct personnel to immediately leave the work area and report the situation to a supervisor
- If an employee fails to comprehend or understand the training, re-train. A system of pre- and post-testing may be used to document knowledge of the requirements

4.4.3.7 Respirator Use

Field Supervision is responsible for this portion of the program. Employees and direct supervisors have been evaluated, fit tested, and trained in the use of respirators.

At times, respirators may become uncomfortable for employees due to heat, humidity, dirt, or grit, and require cleaning. Filters may become saturated or clogged (to be avoided by effective filter change schedule) and require changing, or the respirator could malfunction. Supervisors must monitor for these conditions and ensure that these activities are not performed within the hazardous work area.

Responsibilities of the Program Administrator, Superintendents, and foremen include:

- DO NOT PERMIT an employee who has facial hair which comes between the sealing surface of the face piece and the face, or which may interfere with respirator valve operation, to wear a tight-fitting respirator.
- If an employee uses corrective or protective eyewear, ensure it is worn in a manner not compromising the respirator face piece seal (to be resolved at time of fit test).
- Ensure each employee inspects their respirator before each use to determine the condition of the face piece, valves, and head-straps and filter cartridges. Return respirators with defective components to the supervisor for repair, replacement, or cleaning as needed.
- Ensure each employee performs a user seal check at the start of the shift and at any time following temporary removal of the respirator.
- Ensure each employee has available and is using the appropriate filter cartridges for the hazard involved.

4.4.3.8 Maintenance and Care of Respirators

Respirator components are delicate out of necessity. Face pieces are molded of silicone or other similar material that conforms to the face; valves are a thin membrane of silicone or latex. These materials can be destroyed by, or deteriorate from, a number of environmental exposures. Respirators in normal use become contaminated with dirt, perspiration, or bacteria. Careful storage and maintenance at the worksite extends the operational life of the equipment and ensures employees the greatest degree of protection. Mandatory procedures for the cleaning and disinfection of respirators will be provided.

- Project Managers ensure all necessary facilities and supplies are available to employees for the proper cleaning, disinfecting, and storage of respirators. At a minimum, employees need a washbasin and counter top, warm water, mild detergent, bleach or disinfectant, disposable drying towels, and sealable plastic bags for storage.
- Program Administrator, Superintendents, and foremen must ensure that:
    - Respirators used exclusively by one employee are cleaned and sanitized daily by that employee.
    - Respirators used by multiple individuals are cleaned and disinfected after each use, and before the next.
    - Employees follow the mandatory procedures when cleaning respirators.
    - A copy of the job's cleaning procedures is posted at the cleaning station.
    - The cleaning station is maintained in a clean and sanitary condition.
    - At the end of each use, following cleaning, disinfecting, and drying, the employee places his respirator in a personally labeled sealed plastic bag. A respirator, if stored inside a toolbox, is in its own rigid box or compartment to avoid damage.
    - Employees do not expose respirators to excessive heat and cold.

4.4.3.9 Respirator Repairs

In practice, respirators typically used in construction are impractical to repair. The cost of some of the major parts exceeds that of a new respirator. A Qualified Person can replace smaller parts such as valve seats and membranes inexpensively with manufacturer-supplied parts. The manufacturer makes repairs to the more sophisticated atmosphere-supplying respirators.

Program Administrator, Superintendents, and foremen must:

- Determine the extent of damage to the respirator and authorize repairs or replacement as appropriate
- Confirm the appropriate training of the individual performing the repair
- Where required, replacement respirators must be of the same model and size unless the employee has also been fit tested for the new model of respirator within the past year

4.4.3.10 Breathing Air Quality and Use

Some Construction activities such as abrasive blasting require Construction personnel to be protected using atmosphere supplying respirators. For these operations the options are bottled air, or the more practical and versatile airline respirator.

There are a number of inherent hazards, however, in using this equipment to supply breathing air. Internal combustion engines may introduce exhaust gases into the air supply. The compressor side is lubricated with oil, potentially introducing carbon monoxide directly into the breathing air if the compressor overheats. (Filters are required to remove oil, moisture, and odors from the air). Carbon monoxide is monitored closely and maintained below established limits (10 ppm).

Program Administrator, Superintendents, and foremen must:

- Never use compressed oxygen as a substitute for breathing air.
- Situate air compressors to prevent contaminated air from entering into the air supply system, especially engine exhaust.
- Ensure suitable in-line air-purifying filters are in place and in satisfactory condition. A tag indicating the most recent filter change date and the signature of the technician is with the filters.
- If no information is available to indicate the most recent filter change, a person authorized by the manufacturer replaces the filters.
- An operable carbon monoxide alarm, set at 10 ppm or less, is installed on compressors used to supply breathing air for employees.

4.4.3.11 Identification of Filters, Cartridges, and Canisters

There are two methods for identifying filter cartridges and canisters:

The first method uses government standards which prescribe colors associated with a filter designed to protect against a particular hazard. For example, purple is associated with particulates (dusts, mists), black is associated with organic vapors (such as paint solvent). Combined particulate/organic vapor filters display both purple and black.

The second method is by direct labeling of each cartridge identifying the type and degree of protection and the National Institute of Safety and Health (NIOSH) Approval number of the cartridge.

The Program Administrator, superintendents, and foremen are responsible to:

- Purchase and distribute properly colored and labeled NIOSH Approved respirator filters only
- Through frequent and direct observation, confirm labels are neither removed nor become illegible during use

4.4.3.12 Program Evaluation

Federal standards require that the effectiveness of this program and resulting JSRP's be evaluated to ensure proper administration and implementation. The PPA supervises the initial implementation of the program at the worksite. We maintain an open dialog with employees using respirators. Under the revised standard, the employees' peace of mind is an important consideration in determining the success of the program. Job Managers and superintendents respond to any problems employees perceive with respirator use.

We notify the District Program Administrator of when the JSRP is in practice to facilitate the required evaluation.

The Program Administrator, Project Manager, Superintendent, and Site Safety Manager:

- Examine the Work in progress and confirm employees use the equipment properly, and maintain and store it in accordance with the written program elements. Each job is encouraged to seek assistance from the Zero Injury Team.
- Consult regularly with employees, inquiring about respirator fit, comfort, and practicality.
- Implement applicable changes to improve or maintain program effectiveness as necessary.
- The District and Project Program Administrator periodically review the effectiveness of the Respiratory Protection Program at least annually.

4.4.3.13 Record Keeping

The standard requires the retention of documentation regarding the programs and medical evaluations associated with respirator use. These records remain in Project files following closeout of the job.

The Program Administrator and Project Manager are responsible for the following records being kept:

- For each employee using respirators, a file containing the following records is maintained:
    - Written Medical Evaluation from PLHCP
    - Original Respirator Fit Test Record Form
    - Subsequent "Personnel Fit Test Record" Forms
    - Training documentation
- The employee's fit testing records must be available to the employee, OSHA representatives, and the employee's "designated representative" with the employee's authorization. These records are otherwise confidential.

4.5 TRAFFIC CONTROL

KMP ensures all traffic control devices are installed and maintained in accordance with the *Manual on Uniform Traffic Control Devices* (MUTCD) 2009 Edition (or most current at the time), and all local, state and federal jurisdictional requirements, and any special provisions contained in the Project Design Build Contract.

4.5.1 TRAFFIC CONTROL PLANS

The Traffic Control Supervisor (TCS), in cooperation with the designer, prepares the individual Traffic Control Plans.

No operation requiring traffic control begins without a Traffic Control Plan (TCP). The plan is incorporated into the operations Work plan, and reviewed with the crew prior to beginning the operation.

The Traffic Control Plan must include at a minimum:

- A detailed diagram, drawn to scale, that shows the location of all traffic control devices
- Method, length, and time duration of all lane closures
- Location of flaggers and time duration of flagging operations
- Proposed date of the TCP implementation and anticipated duration
- A tabulation of traffic control devices shown
- No parking in the buffer zone
- Each MOT set-up is photographed or videotaped each time it is setup and/or changed

4.5.2 DAILY TRAFFIC CONTROL REPORT

We maintain a Daily Traffic Control Report whenever permanent or temporary traffic control devices are in use (this includes days when the Work is “shut down”). The Traffic Control Supervisor maintains the Daily Traffic Control Report. The Daily Traffic Control Report includes the following information:

- **TCS/Acting TCS Name:** The name of the person who inspected the TCS setup. The amount of time the TCS was on the job and the names of any traffic control assistants are to be recorded.
- **Inspection Date and Times:** The date and times of inspection for each MOT setup
- **Weather Information:** Weather conditions during the shift the MOT is in use are noted
- **Operations:** A brief description of the operations under way and requiring traffic control during the shift are noted

4.5.2.1 Traffic Control Devices

We make an MOT sketch to indicate the type, number, and location of each traffic control device. For permanent traffic control setups the Daily Traffic Control Report may simply refer to the TCP as long as the TCP includes a current layout drawing, and any changes in the number of traffic control devices are noted on the Daily Traffic Control Report.

4.5.2.2 Pavement Markings

The Daily Traffic Control Report documents any removal of pavement markings during the shift as well the installation of temporary pavement markings.

4.5.2.3 Inspection Observations

The Daily Traffic Control Report details any missing or damaged traffic control devices as well as documenting any maintenance or corrective action taken during inspections.

4.5.2.4 Diary

The TCS/Acting TCS includes a comprehensive Daily Diary detailing the use of traffic control devices and methods; flagging (flagger names, locations and hours worked); incidents involving traffic control and traffic control personnel; contacts with non-contractor personnel; and other pertinent information related to traffic control.

4.5.3 TRAFFIC CONTROL SUPERVISOR RESPONSIBILITIES

In addition to the duties described above, the Traffic Control Supervisor documents all traffic incidents that occur on the contract. This documentation includes all incidents that occur within the contract limits regardless of whether there is apparent contract involvement in the incident or not. This documentation includes photographs of the incident scene, police reports, witness statements, and a description of the traffic control in place at the time of the incident. The TCS creates a separate file for each incident, containing collected documentation, including the Daily Traffic Control Report. The Traffic Control Engineer maintains these files.

4.5.4 NIGHT OPERATIONS AND WORK WITHIN TRAFFIC CONTROL

Operations with night activities have a written plan that addresses safety issues of working at night.

4.5.4.1 Retro-reflectivity

- All equipment used in the Work Zone have DOT Approved reflective material placed to increase the visibility of the equipment.
- We clean all reflective surfaces as required so the reflectivity of the material is not degraded. We replace any damaged or obscured areas of reflective surface.

4.5.4.2 Illumination

We use light plants to illuminate the work area whenever practical. On mobile operations, we may use additional lighting on equipment to illuminate the work area.

- All equipment, at a minimum, has working strobe or warning beacon lights.
- All equipment has working lights, confirmed through daily visuals.
- All flag persons are placed in illuminated areas only.
- All lighting is to be checked after setup to ensure that it is not blinding approaching traffic or other equipment in the Work Zone.

4.5.4.3 Communication

Prior to the start of any night operation, we make a detailed Hazard Analysis addressing the possible hazards of night Work and we review these with the crews and update as needed. At the start of each shift, we use the Daily Safety Reminder to reaffirm the provisions of the night Work requirements as found in the Hazard Analysis and this policy.

The Hazard Analysis also enables:

- The selection of a Competent Person responsible for maintaining surveillance to alert other workers of vehicles entering the Work Zone.
- A method to signal workers when vehicles enter the Work Zone.
- A system to account for workers at all times, which may include a buddy system.
- Emergency communication or warning signals used by a worker, such as a radio, signal horn, or whistle, to call for help.

4.5.4.4 Attenuator Vehicles

The Project Team considers the use of an attenuator truck or pickup truck immediately ahead of workers in a Work Zone. We position the vehicle to provide the best protection for workers, and angle the tires so it avoids both workers and other vehicles if struck.

4.5.4.5 Railroad Right-of-Way Safety

All employees, consultants and contractor personnel who are authorized to work within fouling distance of any live track is required to complete a Railroad right-of-way protection training course prior to the start of Work. The employee, consultant, and contractor must have evidence of this training on their person when they are within the Railroad ROW.

4.6 SAFETY PERFORMANCE PROGRAM

A main goal behind the Safety Performance Recognition Program is to generate excitement and thought about the Project Safety Program. When employees embrace the KMP safety culture, implement its fundamentals, and lead by example, we want to reward them.

4.6.1 NOBODYGETSHURT.COM

We established this website to enhance and increase communication with our craft employees, and to promote valuable safety information, videos, photos, online training and more. Although the tool is craft-focused, it is available to all employees throughout KMP.

4.7 WINTER WEATHER

Kiewit's *Winter Work Guide* originated with the recognition at the Project level throughout Kiewit that winter working conditions can have a material impact on the health and safety of the workforce, and their effectiveness in completing tasks in a safe and efficient manner.

Safety meetings, management reviews, and the post-season sharing of lessons learned have identified that some workplace-specific mitigations were successful, but others did not produce the desired results. This Guide incorporates those lessons into a single reference for all projects and sites, and provides strategies for developing overall goals for the winter Work program.

This Guide is not a mandatory policy or procedure. Its adoption and implementation is at the discretion of the responsible Project Manager or Construction Manager.

The development of this Guide has benefited from the experience, participation, and professionalism of many parties, including operations staff and safety personnel.

Goal:

- Raise overall awareness of the potential hazards of winter season Work.
- Provide comprehensive guidance on winter Work awareness, preparedness, and implementation for KMP, and subcontractor management
- Create a selection of cross-silo, proven processes, practice tools, and equipment specifications
- Provide recommendations for pre-winter activities to allow workplaces to prepare in advance for winter Work
- Promote (at the Project level) a pre-season readiness process and a post-season review process to fine-tune priorities for the winter Work program

4.8 SAFETY CRITICAL WORK

KMP submits a Construction Plan to the Department describing how we safely build each safety critical Work element. It includes an erection plan, bridge removal plan, and removal of portion of bridge plan. We submit the Construction Plan to the Department as described below:

- **Detailed Construction Plan:** Submitted two weeks prior to the safety critical element conference. We stamp this plan “Approved for Construction” signed by KMP.
- **Final Construction Plan:** Submitted following the safety critical conference and prior to the start of Work on the safety critical element. We stamp this plan “Approved for Construction” signed by KMP.

We hold the safety critical element conference two weeks prior to beginning Construction on each safety critical element such as removal of the existing viaduct. Representatives from these groups attend:

- Department
- Kiewit
- PB
- KMP
- Safety critical element subcontractor
- Other engineers

5. Training

5.1 SAFETY TRAINING

5.1.1 POLICY

We train all new employees. Prior to commencing Work Onsite, all employees must attend the jobsite safety training and receive an I-70 East Corridor Training sticker for their hard hat.

5.1.2 EMPLOYEE SAFETY TRAINING

As part of our *Nobody Gets Hurt* training, prospective employees are required to undergo a pre-employment drug test and complete required paperwork. If approved, the employee continues the four-step training process. KMP and its subcontractors are responsible for ensuring all workers assigned to this Project attend the jobsite safety training provided by the Project Safety Manager. We do not permit workers to work Onsite until they have successfully completed the safety training.

5.1.2.1 Discipline Superintendent

The Discipline Superintendents are the key to the execution of the training program. They impress on new employees that safety is our primary concern, and the spirit of *Nobody Gets Hurt*.

The Superintendent uses the new employee training checklist to do the following.

- Explain details of the job and the important role the new employee plays in the Construction of the Project
- Go over the key components of the Speak up Listen up (SULU) video and program
- Review safety expectations, Site-specific or unique safety concerns, and safety procedures on our Project
- Obtain a commitment from the employee that they will actively help to prevent injuries by being a member of the *Nobody Gets Hurt* Team
- Provide a Work assignment, considering any reasonable accommodation the employee may require
- Go over our basic safety rules and explain our commitment to working each day injury free
- Explain KMP's injury and accident reporting procedures
- Take the new employee to their foreman
- Give the checklist to the employee's foreman

5.1.2.2 Foreman

The foremen are a new employee's role model, mentor, and most immediate supervisor. Therefore, foremen play the greatest role in developing a new employee's understanding and commitment to *Nobody Gets Hurt*.

The foreman:

- Describes the Work to the employee and goes over the Work plan/Hazard Analysis and Play-of-the-Day
- Introduces them to the members of the crew
- Describes the emergency procedures for reporting an incident and or accident
- Shows the new employee the first aid kit, fire extinguishers, bathroom facilities, drinking water, telephone/radio, and employee parking areas
- Constantly monitors the new employee for the first few weeks to ensure they are working safely
- Explains personnel expectations of employees
- Once complete, turns the paper work in to their superintendent

5.2 GO/NO-GO PROCESS

Process: Evaluation happens within the first three days of employment or sooner. Evaluation is based on attitude and participation in the safety process —we only want safety champions to join our Team (KMP is selective).

5.3 SAFETY TRAINING

Ongoing training is an essential ingredient to developing strong safety culture. Training communicates the message of our Safety Management Plan, heightens awareness, allows people to learn from one another, and builds a better team.

Representative training categories include:

- Project Safety Training
- Railroad Safety Training
- Specific Training Required by Utilities
- OSHA-10 hour, OSHA-30 hour
- Other trainings as directed by the Safety Manager

The weekly Supervisor Safety Meeting and Mass Meetings are utilized to accomplish this training

5.3.1 SAFETY MANAGEMENT PLAN TRAINING/RE-TRAINING

In addition to KMP mandated Site-specific Safety Plan training for supervisors at the start of a job, the Project also conducts training on the provisions of the Safety Management Plan at the start of each year and as required and determined current Work activities.

See table below for additional training topic options:

Safety Training Topics

Training Topics	Training Topics
Access safety—ladders, scaffold, stairs	Ladder/scaffold
Proper stretching techniques (DAILY)	Steel erection
Fall protection	First aid/CPR
Equipment operations	Hearing conservation

Training Topics	Training Topics
Meetings	Heat stress prevention
Hazard Analysis workshop for supervisors and foremen	Tools (hand and power)
OTSLP	Hexavalent chromium program
Night operations	Utility knives and pocket knives
Traffic Control Plan	Hazard communication program
Incident management: incident investigation, medical management	Respiratory protection
How to perform a safety inspection	Personal Protective Equipment (PPE)
Small tool use	Site-specific Emergency Response Plan
Protective equipment: how and when to use	Fire prevention
Recognition of hazards	Severe weather
Proper lifting techniques	Crane safety
Railroad Safety Training (annual training)	Excavation: sloping/shoring/shielding, utility safety, confined spaces
Extreme housekeeping	Designated spotter training
Hazardous energy control: lock-out/tag-out	Designated rigging training
Hazard awareness/recognition: recognize. evaluate, control	Review and understanding of OSHA regulations and KMP policies
Temporary Structures and Device Manual (TSCD)	Weekly safety manager conference calls (lessons learned from other projects)
Utility policy: overhead powerlines and underground utilities	Additional topics TBD based on Site-specific hazards

6. Site Controls

6.1 WORKPLACE INSPECTIONS

To increase involvement in our Safety Program we ask for a commitment at all levels of supervision in regular unscheduled SAFETY ONLY Inspections of our projects.

- Craft superintendents, general foremen, and foremen do a DAILY SAFETY ONLY walk-a-round of their work area.

At the Crew Communicator meeting there is a debriefing regarding the findings from the previous day's safety walk. Unaddressed items are assigned to specific crew members for correction.

This Project has a designated Safety Manager who maintains all job safety records and files, assists the Project Manager in incident investigation and reporting, assigns a weekly safety person of the week, and arranges for Onsite safety training and seminars. In addition, the Safety Manager conducts regular inspections of the Work, assesses hazards, and follows up on suggestions made by any employee regarding safety procedures.

The designated Safety Manager reports directly to the Project Manager.

6.2 OSHA INSPECTIONS

6.2.1 OSHA COMPLIANCE OFFICER

If an OSHA compliance inspector requests to conduct an inspection, the senior management member of KMP is to ask to see the inspector's credentials. An OSHA inspector carries either US or Colorado's Department of Labor credentials bearing their photograph and a serial number. In every case, we verify the authenticity of the compliance inspector's identification by calling the nearest OSHA office.

The KMP Safety Manager and Project Manager are notified of pending OSHA inspections. The senior management member is to contact the Kiewit District Safety Manager immediately (it is required that management tours the Site with OSHA inspectors.)

Upon notification of an OSHA inspector being Onsite all subcontractors are to be notified to allow them sufficient time for their safety representation to attend the job tour with KMP.

6.2.2 OSHA FACTS

An OSHA inspection process:

- Define the purpose of the inspection:
  - Complaint, planned inspection, imminent danger, national/local emphasis program, follow up from a previous inspection
- Opening conference
- Walk around
- Closing conference
- Post inspection process

There are no time limits specifying how long an inspector may remain on the premises. Violations are considered to be "alleged violations" until they become a final order of the Occupational Safety and Health Review Commission.

- KMP may contest (appeal) in writing any part of a citation within 15 Working Days after receipt
- The citation must be posted in the workplace for three days following its receipt or until the condition creating the alleged violation is corrected
- Management asks for clarification about any point(s) an inspector raises
- Management and employees do not admit to violating any safety standard

6.3 HAZARD COMMUNICATION

To ensure all affected employees know about the dangers of hazardous chemicals used on this Project, we distribute the following hazardous communication information:

6.3.1 HAZARDOUS SUBSTANCES USED IN THE WORKPLACE

A list of all hazardous substances to which employees may be exposed and the corresponding Material Safety Data Sheet (MSDS) sheets are stored in the main MSDS book, located in the Project field office. Each foreman also carries MSDS sheets specific to the materials for the immediate operation.

6.3.2 CONTAINER LABELING

Supervisors:

- Verify clear content labelling on all containers received
- Identify the hazardous substances they contain
- Follow appropriate warnings of the physical and health hazards associated with those substances

These actions are also required when transferring hazardous materials to secondary containers. We replace damaged or missing labeling as necessary.

6.3.3 SAFETY DATA SHEETS (SDS)

The Project Environmental Coordinator (PEC) establishes and monitors the Project SDS program. An SDS is a document supplying information about a particular substance or mixture of substances to our employees. An appropriate SDS sheet must be included with the delivery of any new materials. After adding a new SDS sheet to the Project master file, the PEC relays any new information to the Project Team. We only unload delivered products when a proper SDS sheet from the supplier accompanies them.

6.4 HANDLING MATERIAL

The improper handling of material can cause serious injury to employees, and equipment damage. When handling materials, caution is critical. Some issues to consider are:

- Load size
- Necessary equipment for handling the load
- Necessary lifting or lowering of equipment
- Radial distance the load is lifted or lowered
- How the load path could affect nearby crew or equipment
- Potential overhead hazards

If the load must be handled without equipment, determine if one person can handle it, or if more are required. Generally, one person can handle the load if it is less than 50 lbs. and can be comfortably handled and picked up. If the weight exceeds 50 lbs. or the size is awkward, Team members are required to get help. Lifting a load is easier than lowering a load when done by hand.

When using equipment in handling material, the equipment must be appropriate for the type of Work it is doing. For example:

- Cranes are for picking and swinging not pulling up or out
- Excavators can pick and swing loads under certain circumstances
- Forklifts are for picking up loads not prying loads out of something
- Equipment is used according to the operator’s manual—all operators sign the manual stating that they have read and understood the contents
- Never pass any load over personnel or equipment

Safe operation requires correct tools and safe procedures. Ample room must be available for maneuvering equipment and loads. KMP policy states that operators of cranes and other equipment never swing loads over or near crews—it is extremely hazardous, and it detracts from the culture of safety we promote.

We ensure there is no chance of the load or equipment contacting overhead utilities, there is zero tolerance for anyone creating a situation causing contact with overhead utilities.

When equipment such as a crane, forklift, manlift, or scissor lift is used, a designated operator is required. Only properly trained operators are allowed to operate the equipment.

When we use rigging to hoist material, an on-the-spot-lift plan is required prior to beginning the hoist.

6.5 CONFINED SPACE PROGRAM

A confined space refers to a space which by design has limited openings for entry and exit that are not intended for continuous human occupancy and because of insufficient ventilation may contain or generate atmospheres with toxic or hazardous air contaminants, explosive gases, and oxygen deficiency. Incidents occur among workers because of failure to recognize that a confined space is a potential hazard. Because these incidents are capable of causing serious bodily injury, illness, and death, KMP must assume that the most unfavorable situation exists in every confined space and that precautions must be taken before entering.

On this Project, there are several confined space considerations. Some of the drainage pipes, drainage manholes, catch basins, and deep trenches constitute confined space, and precautions are required. Confined space precautions on this Project include but are not limited to:

- Controlling access into and out of confined spaces (identify “permit required” confined spaces)
- Continuous monitoring (ventilation/air monitoring)
- Emergency plans
- Training (bilingual)
- Permitting process

The determination as to whether a confined space is designated as a permit required confined space is made on a case-by-case basis as the situations occur and are identified and communicated by a Competent Person.

We use a non-permit sheet to record air samples.

KMP addresses this Confined Space Program as well as other safety items in a written Hazard Analysis plan for each specific operation.

6.5.1 CONTROLLING ACCESS INTO AND OUT OF CONFINED SPACES

No one enters a confined space without first informing their Discipline Superintendent. The Superintendent reviews the Hazard Analysis for the operation and determines if the confined space precautions and means of access are adequate. At least one person on the crew remains outside the confined space while someone is inside.

6.5.2 MAINTAINING VENTILATION/AIR MONITORING

The Hazard Analysis for all operations in a confined space includes provisions for ventilation as required on a case-by-case basis. An air monitor is available and is used to test the air in all confined spaces before entry, and to monitor the air during the entire time people are in the confined space.

6.5.3 EMERGENCY PLANS

The Hazard Analysis for all operations involving confined space includes emergency plans. Emergency plans address rescue procedures and emergency equipment required. We train all members of the crew in rescue procedures and use of the equipment before the operation can start. We keep all emergency equipment Onsite and in good working order. The crew foreman ensures that the emergency equipment is at the Work Area while Work is being done in a confined space.

7. Incident Response

7.1 ACCOUNTABILITY AND DISCIPLINARY ACTION

7.1.1 POLICY

It is the policy of the Project that every employee is accountable for his or her safety performance, including supervisory personnel. Failure to perform our Work in a safe manner may lead to disciplinary action taken against the violating employee and/or the supervisory personnel. All disciplinary action taken is consistent and swift.

7.1.2 ACCOUNTABILITY

7.1.2.1 Employees

We hold every Project employee accountable through the Progressive Accountability Program. The program follows these general progressions:

- **First offense:** verbal warning
- **Second offense:** written reprimand
- **Third offense:** days without pay or termination

We document each disciplinary action with date, time, and reason for reprimand, disciplinary action, and employee's signature.

We intend our disciplinary program not as punishment, but to promote awareness that safe Work is valued, while unsafe Work is unacceptable.

The seriousness of the violation dictates the type of disciplinary measure taken. A life threatening violation would justify termination rather than a reprimand or suspension.

7.1.2.2 Supervisors

Supervisors must lead by example. A supervisor's violation of safety policies is not tolerated.

We hold them accountable through reprimands, suspension, or termination. We deal with each incident on an individual basis with the involvement of Project Management and the Kiewit's area manager.

7.1.2.3 Salaried Employees

All disciplinary actions taken against a salaried employee must have the Kiewit District Manager's Approval. Report disciplinary actions to the Safety Manager upon actions being taking.

Supervision (craft superintendent and/or foreman) involved in a preventable accident or injury are penalized a mandatory minimum three days off without pay. Immediately after returning to Work, we require the supervisor to conduct a safety method analysis on a project or shift of the Kiewit's area manager's choosing. The person conducting the safety method analysis:

- Reviews and suggests updates to the Hazard Analyses for the operation(s) he analyzing.
- Looks for ways to improve the safety of the operation.
- Stops any observed unsafe acts or conditions and corrects them.
- Corrects any unsafe conditions or procedures.
- Holds a toolbox meeting with the crews of each operation analyzed.
- Prepares a report for each operation for which the safety method analysis was performed. The report lists the supervisors in charge of the operation, and discusses findings from the bullets above.

All reports are discussed with the Project Management when completed; the Kiewit management, Kiewit's area manager, and the Kiewit District Safety Manager receive copies within two days of their completion.

7.1.3 GUIDELINES

The following guidelines are for use by all Project Management in determining disciplinary action:

7.1.3.1 Identified Unsafe Acts or Conditions

- **First Incident**
  - **Minimum:** Reprimand, copy to employee and employee file
  - **Maximum:** Termination
- **Second Incident**
  - **Minimum:** Suspension, note to employee file
  - **Maximum:** Termination
- **Third Incident**
  - **Minimum:** Termination

7.1.3.2 At Fault Equipment Abuse or Damage (Over $2500)

- **First Incident**
  - **Minimum:** One-day suspension without pay, note to employee file
  - **Maximum:** Termination

- **Second Incident**
  - **Minimum:** Three-day suspension without pay, note to employee file
  - **Maximum:** Termination
- **Third Incident**
  - **Minimum:** Five-day suspension without pay, note to employee file
  - **Maximum:** Termination

7.1.3.3 Incidents

Resulting from a deviation from an established safety policy, Hazard Analysis, or Work plan:

- **First Incident**
  - **Minimum:** Suspension without pay, note to employee file
  - **Maximum:** Termination
- **Second Incident**
  - **Maximum:** Termination

Incidents (other than those addressed above):

- **First Incident**
  - **Minimum:** Reprimand, copy to employee, employee file
  - **Maximum:** Termination
- **Second Incident**
  - **Minimum:** Suspension
  - **Maximum:** Termination
- **Third Offense**
  - **Minimum:** Termination

7.1.3.4 Re-Hire Policy

The Construction Manager is responsible to determine whether a discharged employee is eligible for rehire. All disciplinary action is at the discretion of the Construction Manager and/or the Project Manager.

7.2 INCIDENT INVESTIGATION AND REPORTING

7.2.1 INCIDENT INVESTIGATION AND REPORTING POLICY

The Construction Manager must report the following incidents to the Safety Manager immediately.

- Any employee report of injury that occurred on the Project
- An employee report of an injury that occurred off the job Site
- Any incident resulting in property damage or public liability
- Any automobile incident involving a third party and company vehicle not covered by an Owner Controlled Insurance Program (OCIP)
- Equipment damage in excess of $2500
- Any near miss incidents
- Any incident involving subcontractors

- Any incident involving a crane or deficiencies found on a crane

We notify KMP's Safety Manager by phone immediately following an incident. The Project Safety Manager then contacts the Department immediately for incidents occurring Onsite or adjacent to the Project.

7.2.1.1 Required Incident Reports

We submit the following paper for incidents:

- **InEight Project Suite On The Spot Incident Report:** completed by reporting employee immediately following an event, and submitted to the Project Safety Manager.
- **InEight Project Suite Job Incident Report:** completed by Project Safety Manager, submitted within 24 hours to Kiewit District Safety Manager.
- **Incident Alert**: Completed by job personnel and submitted to Safety Manager within 24 hours.
- **Incident Log:** Completed by Project Safety Manager for Hurts only.

7.2.2 EMPLOYEE INJURIES

After providing the necessary treatment for the employee, we follow this reporting process:

- **NOTIFY THE KIEWIT DISTRICT SAFETY MANAGER IMMEDIATELY**. He makes a determination if further action should be taken. Report all injuries no matter how minor they may seem. All injuries require the Construction Manager to notify the Project Manager and Kiewit District Manager.
- If the injury requires a visit to the doctor or hospital, the Project Safety Manager notifies the Project Manager immediately prior to leaving for the clinic.
    - A salaried supervisor accompanies each injured employee to the medical facility. The supervisor explains the circumstances related to the injury to the treating physician.
    - The salaried supervisor who accompanies the injured employee documents all information possible pertaining to the treatment of the injury and the likely outcome of the injury. Information includes:
        - The treating physician's name, address, and phone number.
        - The name, address, and phone number of the treatment facility that treated the injured employee (hospital, clinic, or doctor's office).
        - What treatment the employee received.
        - When the treating physician anticipates full recovery.
    - *Modified duty or restricted duty is available to all injured employees:* The salaried supervisor explains this policy to the treating physician and that by indicating in writing the restrictions that the injured employee may have, a modified duty position can be identified that fits within the guidelines and restrictions placed on the injured employee. All modified duty is coordinated by KMP.
- Notification must be provided to OSHA within eight hours of any fatality which occurs within 30 days of the Work-related incident
    - In-patient hospitalization of one or more workers requires notice to OSHA within 24 hours

  - Amputations or loss of an eye must be reported to OSHA within 24 hours. If the injury is a fatality or three or more employees are hospitalized due to a single incident, OSHA is notified.
  - Jobsite personnel do not notify OSHA—the Kiewit District Safety Manager notifies the appropriate OSHA Office after consulting with the legal department in Omaha.
- Within 12 hours of the injury, an employee injury report must be sent to the Kiewit District Safety Manager to ensure the incident is analyzed so a reoccurrence can be avoided. The employee injury report must be prepared with the supervisor in charge of the operation and reviewed by the Construction Manager.

We scan and submit additional documents with the employee injury report. The Kiewit District Safety Manager determines the required documents. Some include:

- Complete reviewed Accident Alert by the Craft Superintendent and/or Job Superintendent, with reenactment photos
- A copy of the Hazard Analysis for the operation including revisions, and the Play-of-the-Day
- The employee's employment file
- The copy of the Foremen's Accident Report
- A copy of payroll registers showing the injured employee's wages for the previous four weeks
- Sign and dated, hand-written witness statements in the witness' native language
- Drug and Alcohol results
- Any disciplinary action taken and copies of reprimands
- All photos taken of the scene, include reconstruction photos of the incident showing how the injury occurred, must be taken

7.2.3 RETURN TO WORK POLICY

Our goal is the prompt return to work of all employees as soon as medically possible. These modified duty options are extended as necessary throughout the Term.

7.2.4 EMPLOYEE INJURIES THAT OCCUR OFF THE JOB

We immediately notify the Safety Manager when an employee reports an offsite injury. The Safety Manager has the employee write a brief statement regarding the injury and sign and date the report. A witness also signs and dates the report given by the employee. The report is maintained onsite in the employee file, and a copy is sent to the Kiewit District Safety Manager within 24 hours. All statements are made in the employee's native language. The statements are translated at a later time.

7.2.5 GENERAL LIABILITY INCIDENTS

General liability incidents involve damage that occurs to someone else's property or an injury to a non-employee. We report incidents involving parties other than the Project personnel. They follow these procedures:

- **NOTIFY THE KIEWIT DISTRICT SAFETY MANAGER IMMEDIATELY**. A determination is made by the Project Team on further action to be taken.

- We handle the incident investigation similarly to that of an employee injury. A documented description of what happened, who was hurt, what was damaged, other individuals involved, how the incident happened, photos, and written statements about why the incident happened.
- Documentation of the Work process is important in determining the outcome of General Liability (GL) claims. GL claims require the following information (for the previous week) be placed in a folder, scanned, and sent to the Kiewit District Safety Manager within 24 hours.
    - **Traffic control log and diary:** Updated on a daily basis. The log and diary may be necessary to assist in any future review of an incident. Attach the Traffic Control Log and diary to any drawings (plans, maps) used on the job. Take pictures of traffic control procedures daily on jobs with limited traffic control, and collect video daily on jobs with extensive traffic control. Subcontractors must submit traffic control documentation daily and a KMP employee reviews the documentation for completeness.
    - **Job photos:** The Traffic Control Manager takes daily photos or video of all MOT set up on the job. The photos show exactly what was going on during a specified period. In some cases, video may be appropriate. Take numerous photos of the incident from many angles and distances.
    - **Reconstruction photos:** Reconstruction photographs are taken during the investigation of incidents and are of sufficient number to reflect the general area as well as pertinent details from a variety of angles. Take photographs as soon as possible following the incident. A concise record is made of the locations photographed, date, time, and photographer. Note directions and landmarks in all photos.
    - **Incident diagram:** A diagram helps describe the area in which the incident occurred. Draw diagrams to accurately reflect the existing Site conditions and include any measurements and/or key information. The person constructing the diagram signs and dates it.
    - **Daily diaries:** Keep diaries and include any unusual events or circumstances observed during the day. Example: note any damage to the Work Site overnight and take photos of the damage.
    - **Correspondence:** This includes all correspondence from the Department to document instances where the owner directed a change that could affect a general liability claim.
- Provide the Kiewit District Safety Manager with the GL SRS report within 24 hours of the incident.

7.2.6 AUTOMOBILE INCIDENTS

We handle auto incidents involving non-company vehicles like general liability incidents. If a Project vehicle is involved, we complete an “On the Spot” incident report. **THE KIEWIT DISTRICT SAFETY MANAGER IS CONTACTED IMMEDIATELY.**

The Police are called on ALL auto accidents no matter how minor, and regardless of fault.

The “On the Spot” report includes:

- Name, address, and phone numbers of all people involved in the incident. This includes any passengers in the vehicles involved.

- Photos taken at the incident scene including photos of the other vehicles and any skid marks or signs that may help determine the cause of the incident. Take photos from many different angles, close-ups, and wide-angle shots.
- Registration and insurance company's name and policy number from all vehicles involved as well as the insurance agent's name and phone number.
- Copy of the police report.
- Location where disabled vehicles were taken.
- Facility location where injured people were taken.
- Witness statements.

The Construction Manager forwards all documentation to the Kiewit District Safety Manager.

7.2.7 EQUIPMENT DAMAGE

Employees report equipment damage in excess of $2500 on a job Site to the Kiewit District Safety Manager and the Kiewit District Equipment Manager. An incident report is completed and an investigation is performed. Photos, the detailed report, and any backup information (Hazard Analysis, toolbox meetings, damage estimates) are sent to the Kiewit District Safety Manager within 24 hours of the incident.

7.2.8 NEAR MISS

Our process for near misses includes:

1) Notify the Kiewit District Safety Manager.
2) Document near misses as we do an employee injury. The foreman of the crew participates in the investigation and accident write up. The report is forwarded to the Project Manager who reviews the incident, approves corrective actions, and verifies implementation of the corrective actions.
3) Send a copy of the report to the Kiewit District Safety Manager within 24 hours of the incident. The Hazard Analysis for the operation, Toolbox Meeting documentation, and Work plans should be included along with photos and the incident report.

A serious near miss requires a mass safety meeting as soon as possible after the incident to alert all personnel of the situation. We complete an Incident Alert to allow for hazard notification on future projects.

7.2.9 SUBCONTRACTOR INCIDENTS

We report subcontractor incidents that occur on the Project Site, and investigate using our standard procedures and, as required, procedures in the Subcontract Agreement. By federal law, KMP is liable for subcontractors' safe Work performance and therefore any incident is of interest. KMP may require corrective action for any unsafe condition or act leading to the incident. As with all incidents, notify the Kiewit District Safety Manager about subcontractor incidents immediately.

7.2.10 ADDITIONAL INFORMATION

7.2.10.1 Notification

Notify the Construction Manager immediately of any of the incidents detailed in this section. The Construction Manager, or his designee, notifies the Kiewit District Manager.

7.3 EMERGENCY RESPONSE PLAN

To be provided with SMP submittal after award.

8. Management of Safety Plan

The Safety Management Plan is a living document and we update it when a process, method, chemical, or other Construction Work criteria affecting the safety of a person or property changes. The Safety Manager is responsible for updating the Safety Management Plan and submitting the updated portion to the Department for Acceptance.

9. Attachments

To be provided with SMP submittal after award

1. Emergency Response Plan
2. Safety Manager and Team Resumes
3. KMP Corporate Crane Procedures Manual
4. Temporary Structures and Devices Manual
5. JHA/Mini HA
6. Respiratory Forms
7. Utility Avoidance Forms
8. CVIS Manual
9. Go/No Go Process Checklist
10. Training Guide
11. 5 Keys Follow Up Process
12. Initial Construction Safety Critical Plan

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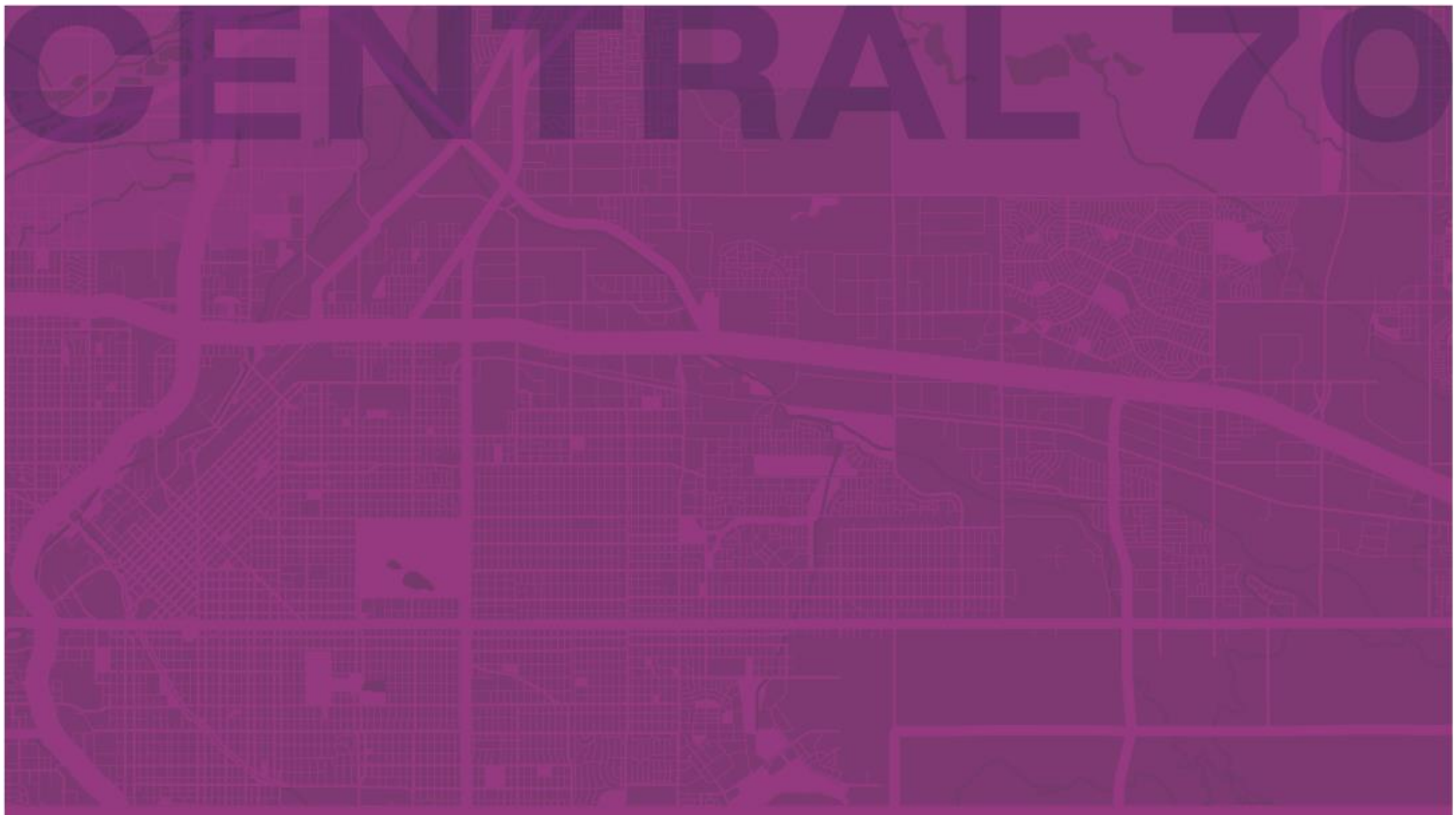

ATTACHMENT 2

Relates to Appendix B

Kiewit meridiam PARTNERS

Draft Deliverable Requirements Tracking List

SUBMITTED TO:

Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

DRAFT Deliverable Requirements Tracking List

Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
30% Roadway Design	Schedule 08	Acceptance	As defined in Project Schedules							
30% Signing Design	Schedule 08	Acceptance	As defined in Project Schedules							
30% Structures Design	Schedule 08	Acceptance	As defined in Project Schedules							
50% Cover Design (for 1st Cover Design Progress Review Meeting)	Schedule 08	Acceptance	As defined in Project Schedules							
60% Lighting Design	Schedule 08	Acceptance	As defined in Project Schedules							
Additional Survey Data	Schedule 10 Section 05	Information	Within 60 Calendar Days of completed additional survey							
Administrative settlement	Schedule 18	Approval	Prior to execution of MOA							
Air Quality Monitoring, Maintenance, and Mitigation Plan (“AQ3MP”)	Schedule 17	Acceptance	Prior to issuance of NTP2, updated annually							
All information required for the Transportation Commission to approve of ROW Plans and the acquisition of Additional ROW Parcels	Schedule 18	Approval	At least 60 Calendar Days prior to the date at which approval by the Transportation Commission is being sought							
Alternative Non-Destructive methods for testing non-redundant drilled caissons	Schedule 10 Section 13	Acceptance	As required							
Alternative subgrade treatments	Schedule 10 Section 07	Acceptance	Before any embankment, aggregate base course, pavement and pavement-related Construction Work commences							
Annual EEO Report (FHWA Form PR 1391)	Schedule 15	Acceptance	Annually by August 15 during the Construction Period and the Operating Period.							
Annual O&M Report	Schedule 11	Acceptance	30 Calendar Days after the end of each Contract Year							
Annual Renewal Work Schedule	Schedule 11	Acceptance	Not later than 60 Calendar Days before the end of each Contract Year							
Annual small and disadvantaged business annual performance progress review report	Schedule 15	Approval	No later than 30 Calendar Days before the end of each Contract Year during the Construction Period and the Operating Period.							
Annual Small Business Commitments	Schedule 15	Acceptance	Concurrently with the SDBPP and concurrently with the Annual Performance Progress Review Report thereafter during the Construction Period.							
Appraisals	Schedule 18	Acceptance	Prior to issuance of FMV by Department							
Approval form for each proposed OJT apprentice and trainee	Schedule 15	Approval	Approval must occur before training begins							
Asbestos, Lead-Based Paint and Regulated Materials Survey Report	Schedule 17	Acceptance	15 Working Days prior to demolition							
As-Built data and records	Schedule 10 Section 05	Information	Prior to Final Acceptance							
As-Built Documents	Schedule 08	Acceptance	As required by Schedule 10							
As-Built documents	Schedule 10 Section 13	Acceptance	Prior to Final Acceptance							
Asset Condition Report	Schedule 12	Acceptance	Submit with all Handback Inspection Reports							
Baseline Asset Condition Inspection Plan	Schedule 11	Acceptance	Prior to the issuance of NTP2							
Baseline Asset Condition Report	Schedule 11	Acceptance	Prior to the issuance of NTP2							
Baseline Schedule	Schedule 08	Acceptance	Prior to the issuance of NTP1							
Benefited Receptor Preference Survey supporting material	Schedule 17	Approval	14 Calendar Days prior to conducting Benefited Receptor Preference Survey							
Black-tailed prairie dog (BTPD) Management Plan	Schedule 17	Acceptance	Prior to impacting BTPD							
BNSF Design review submittal	Schedule 10 Section 10	Acceptance	As required by this Section 10							
BNSF Market Lead Bridge 100%	Schedule 08	Acceptance	As required by Schedule 10							
BNSF Market Lead Bridge 60%	Schedule 08	Acceptance	As defined in Project Schedules							
BNSF Market Lead Bridge RFC	Schedule 08	Acceptance	As required by Schedule 10							
Bridge Design Package A 100%	Schedule 08	Acceptance	As required by Schedule 10							
Bridge Design Package A 60%	Schedule 08	Acceptance	As defined in Project Schedules							
Bridge Design Package A RFC	Schedule 08	Acceptance	As required by Schedule 10							
Bridge Design Package B 100%	Schedule 08	Acceptance	As required by Schedule 10							
Bridge Design Package B 60%	Schedule 08	Acceptance	As defined in Project Schedules							
Bridge Design Package B RFC	Schedule 08	Acceptance	As required by Schedule 10							

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Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Bridge Design Package C 100%	Schedule 08	Acceptance	As required by Schedule 10							
Bridge Design Package C 60%	Schedule 08	Acceptance	As defined in Project Schedules							
Bridge Design Package C RFC	Schedule 08	Acceptance	As required by Schedule 10							
Bridge Design Package D 100%	Schedule 08	Acceptance	As required by Schedule 10							
Bridge Design Package D 60%	Schedule 08	Acceptance	As defined in Project Schedules							
Bridge Design Package D RFC	Schedule 08	Acceptance	As required by Schedule 10							
Bridge Removal Plan	Schedule 10 Section 13	Acceptance	No(t) less than 21 Calendar Days prior to start of Demolition							
BTPD Management Plan	Schedule 17	Acceptance	Prior to conducting activities that could potentially impact BTPD, updated annually.							
CCD Fiber 90% Design	Schedule 08	Acceptance	As defined in Project Schedules							
CCD Fiber RFC	Schedule 08	Acceptance	As required by Schedule 10							
CCTV and DSRC Coverage Plans	Schedule 10 Section 03	Approval	At preliminary (30%) and final (100%) design review, and RFC.							
CDOT Device Installation Checklist	Schedule 10 Section 03	Acceptance	30 Calendar Days prior to device integration							
Certificate of Compliance for Imported Topsoil	Schedule 10 Section 14	Information	Prior to hauling topsoil to the Project							
Certification of review of CDOT Right of Way Manual	Schedule 18	Information	Prior to the issuance of NTP1							
Class III, overhead signs, sign structure cross sections, and Tolled Express Lane regulatory and Guide Signs Plan	Schedule 10 Section 11	Acceptance	As part of the preliminary (30% level) plan package, final (100% level) plan package, and prior to RFC documents.							
Class III, overhead signs, sign structure cross sections, and Tolled Express Lane regulatory and Guide Signs Plan	Schedule 10 Section 11	Acceptance	As part of the preliminary (30% level) plan package, final (100% level) plan package, and prior to RFC documents.							
COC/CTR log	Schedule 08	Acceptance	Prior to Substantial Completion							
Commissioning of all system	Schedule 10 Section 12	Acceptance	Prior to Cover opening to traffic							
Commissioning Test Plan	Schedule 10 Section 12	Acceptance	Prior to undertaking the testing							
Community Development Program report	Schedule 15	Acceptance	Prior to the issuance of NTP2, no laterthan 30 Calendar Days prior to the commencement of each Contract Year during the Construction Period and the Operating Period and no later than 30 Calendar Days after Substantial Completion							
Condemnation memorandum and check list form	Schedule 18	Approval	Concurrent with the request to the Department for property condemnation							
Conditional Letter of Map Revision (CLOMR)	Schedule 10 Section 08	Acceptance	Prior to RFC Documents							
Construction Noise Mitigation and Monitoring Plan (“CNMMP”)	Schedule 17	Acceptance	Prior to issuance of NTP2, updated annually							
Construction of Relocation Acceptance Letter (CRAL)	Schedule 10 Section 04	Acceptance	Per Project Schedule							
Construction Period Communications Plan (CPCP)	Schedule 14	Approval	Prior to the issuance of NTP 1							
Construction Period Small and Disadvantaged Business Final Report	Schedule 15	Approval	No later than 30 Calendar Days prior to the Substantial Completion Date, with update as needed no lateer than 30 Calendar Days prior to the Final Acceptance Date.							
Construction Period Workforce Development Final Report	Schedule 15	Approval	No latere than 30 Calendar Days prior [to] the Substantial Completion Date, with update as needed no later than 30 Calendar Days priot [to] the Final Acceptance Date.							
Copies of Railroad notices, submittals, approvals, and correspondences	Schedule 10 Section 10	Information	Prior to RFC Documents							
Copy of written notice to Utility Owners	Schedule 10 Section 04	Information	Seven Calendar Days after Utility Owner notification							
Corrective Action Plan	Schedule 08	Approval	As required by Section 6.5 of this Schedule 8							

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Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Corridor – Existing Site Inventory	Schedule 10 Section 14	Acceptance	Prior to the issuance of NTP2							
Corridor – Final Landscape Plans	Schedule 10 Section 14	Acceptance	Prior to RFC Documents							
Corridor - Preliminary Landscape Plans	Schedule 08	Acceptance	As defined in Project Schedules							
Corridor – Preliminary Landscape Plans	Schedule 10 Section 14	Acceptance	Prior to Final Landscape Plan Submittal							
Cover and Swansea Elementary School outdoor areas – Final Landscape and Aesthetic Plans	Schedule 10 Section 14	Acceptance	Prior to RFC Documents							
Cover and Swansea Elementary School outdoor areas – Preliminary Landscape and Aesthetic Plans	Schedule 10 Section 14	Acceptance	Prior to the issuance of NTP2							
Cover Park 100%	Schedule 08	Acceptance	As required by Schedule 10							
Cover Park 90% (for 3rd Design Progress Review Meeting)	Schedule 08	Acceptance	As defined in Project Schedules							
Cover Park RFC	Schedule 08	Acceptance	As required by Schedule 10							
Cover Structure Design 100%	Schedule 08	Acceptance	As required by Schedule 10							
Cover Structure Design for Superstructure Procurement	Schedule 08	Acceptance	As defined in Project Schedules							
Cover Structure Design RFC	Schedule 08	Acceptance	As required by Schedule 10							
Cover Systems 100%	Schedule 08	Acceptance	As required by Schedule 10							
Cover Systems 90% (for 2nd Design Progress Review Meeting)	Schedule 08	Acceptance	As defined in Project Schedules							
Cover Systems 90% for Procurement	Schedule 08	Acceptance	As defined in Project Schedules							
Cover Systems RFC	Schedule 08	Acceptance	As required by Schedule 10							
Cover Top O&M Manual	Schedule 11	Approval	Prior to Substantial Completion							
CPCP Quarterly Report	Schedule 14	Acceptance	10 Working Days after 90 Calendar Days after issuance of NTP 2; quarterly thereafter							
Crisis Communications Plan (CCP)	Schedule 14	Approval	Prior to the issuance of NTP 1							
Cross sections for ITS, and ETC structures	Schedule 10 Section 03	Approval	At preliminary (30%) structural design of the sign structures, final (100%) design review, and RFC							
Davis-Bacon monthly payroll reports	Schedule 15	Acceptance	Monthly during the Construction Period and Operating Period							
Deliverable Requirements Tracking List (DRTL) (not in deliverables table, refer to Section 7.a)	Schedule 09	Acceptance	Prior to issuance of NTP1; Monthly Updates							
Demolition Plan	Schedule 18	Acceptance	15 Working Days prior to demolition							
Denver Wastewater Management Division Relocation Design Package 1 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Wastewater Management Division Relocation Design Package 1 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Denver Wastewater Management Division Relocation Design Package 2 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Wastewater Management Division Relocation Design Package 2 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Denver Wastewater Management Division Relocation Design Package 3 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Wastewater Management Division Relocation Design Package 3 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Denver Wastewater Management Division Relocation Design Package 4 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Wastewater Management Division Relocation Design Package 4 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Denver Water Distribution Conduits Relocation Design Package 1 30%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Conduits Relocation Design Package 1 60%	Schedule 08	Acceptance	As defined in Project Schedules							

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Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Denver Water Distribution Conduits Relocation Design Package 1 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Conduits Relocation Design Package 1 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Denver Water Distribution Conduits Relocation Design Package 2 30%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Conduits Relocation Design Package 2 60%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Conduits Relocation Design Package 2 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Conduits Relocation Design Package 2 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Denver Water Distribution Conduits Relocation Design Package 3 30%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Conduits Relocation Design Package 3 60%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Conduits Relocation Design Package 3 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Conduits Relocation Design Package 3 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Denver Water Distribution Relocation Design Package 1 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Relocation Design Package 1 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Denver Water Distribution Relocation Design Package 2 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Relocation Design Package 2 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Denver Water Distribution Relocation Design Package 3 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Relocation Design Package 3 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Denver Water Distribution Relocation Design Package 4 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Relocation Design Package 4 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Denver Water Distribution Relocation Design Package 5 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Denver Water Distribution Relocation Design Package 5 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Department MOT Variance request	Schedule 10 Section 02	Approval	30 Calendar Days prior to implementation							
Description of actual construction activities conducted during the previous Week	Schedule 08	Information	Weekly							
Design calculations and design-check calculations	Schedule 10 Section 13	Acceptance	Prior to RFC Documents							
Design exceptions	Schedule 10 Section 09	Approval	Prior to RFC Documents							
Design of Relocation Acceptance Letter (DRAL)	Schedule 10 Section 04	Acceptance	Prior to RFC Documents							
Design progress review meeting minutes	Schedule 08	Acceptance	Four Working Days after meeting							
Details of the Civil Rights Program Manager (CRPM)	Schedule 15	Acceptance	Prior to the issuance of NTP1, and at the time of any replacement							
Detour pavement mix design	Schedule 10 Section 06	Information	At the pre-paving conference							

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Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Developer DCS correspondence categorization and serialization method	Schedule 08	Acceptance	Prior to the issuance of NTP1							
Developer Provided Facilities	Schedule 08	Acceptance	30 Calendar Days after NTP1							
Developer's Communications Team Details	Schedule 14	Information	Prior to the issuance of NTP 1. Updates submitted quarterly during the Construction Period, annually during the Operating Period and otherwise as required							
Developer's Utility Matrix	Schedule 10 Section 04	Information	Monthly or at the Department's Request							
Device Orientation Details	Schedule 10 Section 03	Approval	At final (100%) design review, and RFC.							
Dewatering or Remediation Plan	Schedule 17	Acceptance	Prior to discharge as required by the permit							
Diesel Nonroad Construction Equipment ("DNRCE") Report	Schedule 17	Information	Quarterly, within 10 Working Days of the end of the reporting period.							
Documentation and Information required for IAR approval	Schedule 10 Section 11	Approval	Prior to RFC documents							
Documentation for the preservation or re-monumenta	Schedule 10 Sect	Information	Submit with As-Built documentation							
Documentation Indicating Successful Passing of Each Test	Schedule 10 Section 03	Acceptance	30 Calendar Days after completion of test							
Draft Utility Work Order	Schedule 10 Section 04	Acceptance	Prior to RFC Documents							
Draw Down Schedule	Schedule 08	Information	Prior to the issuance of NTP1							
Durability Plan	Schedule 08	Acceptance	60 Calendar Days after the issuance of NTP1; following completion of final plan sets and prior to Substantial Completion; annually thereafter							
Emergency response communications tree	Schedule 14	Acceptance	Prior to the issuance of NTP 1							
Emergency Response Plan	Schedule 10 Section 12	Acceptance	Submitted with the Cover Design Baseline Report and updated 60 days prior to Cover opening to traffic.							
Enrollment and Residency Disclosure for each proposed local worker	Schedule 15	Acceptance	Acceptance must occur before individual's hours may count toward the goal.							
Environmental Approval	Schedule 17	Approval	Prior to conducting Work where an Environmental Approval is required, including any Work that has not been approved in the ROD							
Environmental Approvals (all)	Schedule 17	Information	Per the requirements of Environmental Law and this Agreement							
Environmental Compliance and Mitigation Training Program	Schedule 17	Acceptance	Prior to issuance of NTP2							
Environmental Compliance and Mitigation Training Program Annual Update and Report	Schedule 17	Acceptance	Annually, 30 Calendar Days after the end of the Contract Year							
Environmental Compliance Work Plan ("ECWP")	Schedule 17	Approval (or Acceptance, but only with respect to any discipline specific management plan incorporated therein that requires Acceptance and not Approval in accordance with this Table 17-5)	Prior to issuance of NTP2 and annually thereafter in accordance with Section 2.1.3 of this Schedule 17							
Environmental Status Report (ESR)	Schedule 17	Acceptance	10 Working Days following the end of the reporting period (Monthly during the Construction Periods; quarterly during the Operating Period)							
Evidence of ASQ certification of IQCM and CPCM as per Section 6.2.7.f of this Schedule 8	Schedule 08	Information	Prior to the issuance of NTP2							
Existing lighting inventory	Schedule 10 Section 11	Acceptance	Prior to issuance of NTP 2							

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Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Existing signing and striping	Schedule 10 Section 11	Information	Prior to issuance of NTP 2							
Existing signing, striping and lighting inventory	Schedule 10 Section 11	Acceptance	Prior to issuance of NTP 2							
Fiber Test Results	Schedule 10 Section 03	Acceptance	10 Calendar Days after completion of test							
Final (100% level) plan sets	Schedule 08	Acceptance	As required by Schedule 10							
Final Cover Design Baseline Report	Schedule 10 Section 12	Acceptance	Prior to RFC Documents							
Final Drainage Report	Schedule 10 Sect	Acceptance	Prior to Substantial Completion							
Final Handback Inspection Report	Schedule 12	Acceptance	After final Handback Inspections							
Final Noise Technical Reports	Schedule 17	Acceptance	Prior to issuance of RFC Documents and at the time of any update required pursuant to Section 11.3.5 of this Schedule 17							
Final Water Quality Report	Schedule 10 Sect	Acceptance	Prior to Substantial Completion							
Fire System Performance Report	Schedule 10 Section 12	Acceptance	Prior to RFC Documents							
Five Year Renewal Work Schedule	Schedule 11	Acceptance	Not later than 60 Calendar Days before the end of each Contract Year							
Five-Year Renewal Work DBE Participation Plan	Schedule 15	Approval	Concurrently with the Maintenance Management Plan at the commencement of each new five-year period commencing with the Contract Year in which Substantial Completion occurs.							
Five-Year Routine O&M Work ESB Participation Plan	Schedule 15	Approval	Concurrently with the Maintenance Management Plan at the commencement of each new five Contract Year period commencing with the Contract Year in which Substantial Completion occurs.							
Fliers, posters or other public material	Schedule 14	Acceptance	As needed, five Working Days prior to the scheduled distribution date or, in cases of rapid response, 48 hours prior to distribution							
Full Scale System Test Program	Schedule 10 Section 12	Acceptance	Prior to undertaking the testing							
Full Scale System Test Report	Schedule 10 Section 12	Acceptance	14 Calendar Days after testing							
Full-Size Mockups of surface treatments showing texture, color and quality	Schedule 10 Section 13	Approval	Submitted as part of the Preliminary Design Package and/or In-Process Design Packages							
Functional Design Specification (FDS)	Schedule 10 Section 12	Acceptance	Prior to RFC Documents							
Governmental Approvals tracking list (not in deliverables table, refer to Section 5.1)	Schedule 08	Not Stated	30 Working Days after the Agreement Date, and thereafter on each anniversary of such date							
Groundwater Elevation Plans	Schedule 10 Section 08	Information	Concurrent with Preliminary (30% Level) Plan Package							
Handback Schedule	Schedule 12	Acceptance	70 months before the Expiry Date							
Handback Work Schedule	Schedule 12	Acceptance	Submit with all Handback Inspection Reports							
Health and Safety Plan (“HASP”)	Schedule 17	Acceptance	Prior to issuance of NTP2, updated annually							
I-70 Mainline Pavement Design Report	Schedule 10 Section 06	Information	Concurrent with Preliminary (30%) Level Plan Package							
Import Materials Documentation	Schedule 17	Acceptance	Prior to bringing the materials onto the Site							
Incident Management Plan (IMP)	Schedule 10 Section 02	Acceptance	30 Calendar Days after issuance of NTP1							
Information required for the statewide notification con	Schedule 10 Sect	Acceptance	Prior to Final Acceptance							
Initial Calculation of Handback Reserve Amount	Schedule 12	Acceptance	60 months before the Expiry Date							
Initial Handback Inspection Report	Schedule 12	Acceptance	60 months before the Expiry Date							
Integrated Noxious Weed Management Plan (“INWMP”)	Schedule 17	Acceptance	Prior to issuance of NTP2, updated annually							
Interim Drainage Reports	Schedule 10 Section 08	Acceptance	Concurrent with Final (100% Level) Plan Package and RFC Documents							
Interim Water Quality Reports	Schedule 10 Section 08	Acceptance	Concurrent with Final (100% Level) Plan Package and RFC Documents							
IQC test measurements and test results	Schedule 08	Information	Within 24 hours following inspection or test completion							

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Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
ITS and ETC Design Plans and Details	Schedule 10 Section 03	Acceptance	At final (100%) design review, and RFC							
ITS and ETC Device and Material Specification Sheets	Schedule 10 Section 03	Acceptance	30 Calendar Days prior to placing order of device or equipment							
ITS personnel in accordance with Section 3.2.8.c. of	Schedule 11	Approval	Prior to Substantial Completion							
ITS pole and tower cross sections for all CCTV, MVRD, TTI, DSRC poles, RWIS, Environmental Friction Sensors	Schedule 10 Section 03	Approval	At preliminary (30%), final (100%) design review, and RFC							
ITS Roll Plot	Schedule 10 Section 03	Acceptance	Preliminary (30%) plan level							
Joint Check Letter	Schedule 15	Approval	Prior to any payment intended to be made with a joint check to a DBE or ESB							
Joint Venture Commitments	Schedule 15	Acceptance	Concurrently with the Annual Small Business Commitments or by 10th Working Day of each month, and no earlier than 90 Calendar Days prior to the firm commencing work.							
Landscape and Aesthetic As-Built plans	Schedule 10 Section 14	Acceptance	Prior to Final Acceptance							
Landscape Maintenance Plan	Schedule 10 Sect	Information	Prior to Final Acceptance							
Lane Closure Reports	Schedule 14	Information	Weekly by Thursday at 10:30 a.m.							
Lane Closures and Construction Work Hours	Schedule 10 Section 02	Information	Thursday 10:30 AM the week in advance of implementation							
Layouts for all special and guide signs	Schedule 10 Section 11	Acceptance	Prior to RFC documents							
Layouts for all special and guide signs	Schedule 10 Section 11	Acceptance	Prior to RFC documents							
Level II Historic Archival Photographs and Measured Drawings (One submission per resource)	Schedule 17	Acceptance	10 Working Days prior to demolition or construction activities on affected parcels.							
Level II Historic Documentation for Submittal to SHPO (One submission per resource)	Schedule 17	Acceptance	Within 6 months of demolition of the resource.							
Lighting design, photometric, lighting materials and electrical design calculations for permanent lighting	Schedule 10 Section 11	Acceptance	Prior to RFC documents							
List of MOT Task Force members	Schedule 10 Section 02	Acceptance	30 Calendar Days after issuance of NTP1							
Load rating for box culverts	Schedule 10 Section 13	Acceptance	Prior to RFC Documents							
Load rating for bridges	Schedule 10 Section 13	Acceptance	Prior to RFC Documents							
Local Agency MOT Variance approval	Schedule 10 Section 02	Information	Promptly after MOT Variance approved							
Local Agency Roadways Pavement Design Report	Schedule 10 Section 06	Information	Concurrent with Preliminary (30%) Level Plan Package							
Local hiring monthly reports	Schedule 15	Acceptance	Monthly during the Construction Period.							
Locations requiring geotextile installation	Schedule 10 Section 07	Information	Submitted with pavement mix designs							
LOGOS signing location	Schedule 10 Section 11	Approval	Prior to RFC documents							
LOMR	Schedule 10 Sect	Acceptance	Prior to Substantial Completion							
Long-Term Clean Up Plan(s)	Schedule 17	Acceptance	As and when required pursuant to Section 23.9 of this Schedule 17							
Maintenance and Operations Communications Plan (MOCP)	Schedule 14	Approval	Prior to Substantial Completion							
Maintenance Management Information System (MMIS) Operating Manual, and demonstrated functionality	Schedule 11	Approval	Prior to the issuance of NTP2							

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Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Maintenance Management Plan (MMP), including Plans forming the MMP	Schedule 11	Acceptance	Prior to the issuance of NTP2, and updated version prior to Substantial Completion; 60 Calendar Days before the end of each Contract Year; or more frequently as required.							
Maintenance of ITS Plan	Schedule 10 Section 03	Acceptance	30 Calendar Days prior to start of disruption of communications or device outages in the area.							
Maintenance plan for each bridge type and box culvert structure type used	Schedule 10 Section 13	Acceptance	Prior to RFC Documents							
Maintenance Progress Report	Schedule 08	Information	Concurrent with each Progress Report							
Master Drainage Report	Schedule 10 Section 08	Acceptance	Concurrent with Preliminary (30% Level) Plan Package							
Master Water Quality Report	Schedule 10 Section 08	Acceptance	Concurrent with Preliminary (30% Level) Plan Package							
Materials Management Plan (“MMP”) , including any changes relative to the Beneficial Reuse and Materials Management Plan ("BRMMP")	Schedule 17	Approval	Prior to issuance of NTP2, updated annually							
Materials Testing and Inspection Plan (MTIP)	Schedule 08	Approval	Concurrent with QMP							
Materials Testing and Inspection Plan (MTIP)	Schedule 08	Acceptance	Concurrent with RFC Documents							
Meeting minutes	Schedule 10 Section 04	Acceptance	Four Working Days after meeting							
Meeting Minutes to be submitted for Acceptance per the Project Agreement	Schedule 08	Acceptance	Four Working Days after meeting							
Meeting minutes, other than those required to be Accepted	Schedule 08	Information	Four Working Days after meeting							
Method of Handling Traffic (MHT)	Schedule 10 Section 02	Acceptance	14 Calendar Days prior to implementation							
Metro Wastewater Sanitary Design Package 1 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Metro Wastewater Sanitary Design Package 1 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Metro Wastewater Sanitary Design Package 2 90%	Schedule 08	Acceptance	As defined in Project Schedules							
Metro Wastewater Sanitary Design Package 2 RFC	Schedule 08	Acceptance	As required by Schedule 10							
Micro tunneling and/or pipe jacking materials means and methods of installation	Schedule 10 Section 08	Acceptance	Prior to RFC Documents							
Migratory Bird Nest Survey	Schedule 17	Information	Prior to impacting existing structures or vegetation that may contain active bird nests and prior to specific activities (e.g., clearing), consistent with CDOT and CPW guidance and policy							
Mitigation Completion Report	Schedule 17	Acceptance	Prior to Final Acceptance							
MOCP Quarterly Report	Schedule 14	Acceptance	10 Working Days after 90 Calendar Days after Substantial Completion; quarterly thereafter							
Modifications to RTD station access or bus stop locations	Schedule 10 Section 02	Information	Prior to RFC Documents							
Modified Approach Slab details	Schedule 10 Section 13	Acceptance	Prior to RFC							
Monthly O&M Report	Schedule 11	Acceptance	No later than 10th Working Day of each month commencing the month following the issuance of NTP2							
Monthly Progress Schedule	Schedule 08	Acceptance	Concurrent with each Progress Report							
Monthly Statement of Recognized Hazardous Materials Management	Schedule 17	Acceptance	10 Working Days after the end of each month as per Section 23.15 of this Schedule 17; followed by submittal to CDPHE							
MOT operations and analysis	Schedule 10 Section 02	Acceptance	Submit with TCPs							
MS4 permit annual reporting	Schedule 11	Acceptance	December 31 of each Calendar Year							
Network and Splicing Plans	Schedule 10 Section 03	Approval	At final (100%) design review, and RFC							

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Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Newsletters	Schedule 14	Acceptance	Five Working Days prior to scheduled quarterly distribution date during the Construction Period							
Nonconformance Report	Schedule 08	Approval	As required by Section 6.5 of this Schedule 8							
Nonconforming Work log	Schedule 08	Acceptance	Weekly							
Noxious Weed Survey and Summary of Treatment Activities Report	Schedule 17	Acceptance	Monthly, within 10 Working Days of the end of each month (March through October) during the Construction Period. Three times per year during the Operating Period.							
O&M Limits After Construction Drawings; and subsequent updates	Schedule 11	Acceptance	Prior to the issuance of Substantial Completion; Update as needed							
O&M Limits During Construction Drawings; and subsequent updates	Schedule 11	Acceptance	Prior to the issuance of NTP2; Updated as required							
OJT monthly reports	Schedule 15	Acceptance	Monthly during the Construction Period and the Operating Period.							
One electronic copy of all manufacturers' warranties, guarantees, instruction sheets, parts lists, and other product data	Schedule 08	Acceptance	Within 20 Working Days after installation of the items to which they relate, and in any event prior to Substantial Completion							
Operations Management Plan (OMP), including Plans forming the OMP	Schedule 11	Acceptance	Prior to the issuance of NTP2, and updated version prior to Substantial Completion; 60 Calendar Days before the end of each Contract Year; or more frequently as required.							
Paleontological Annual Reports	Schedule 17	Acceptance	Annually, 60 Calendar Days after the end of the reporting period							
Paleontological Summary Report	Schedule 17	Acceptance	60 Calendar Days after earthwork is completed							
Parcel acquisition files	Schedule 18	Acceptance	No later than five Working Days prior to the tender of payment to land owner							
Paving Quality Control Plan	Schedule 10 Section 06	Information	At the pre-paving conference							
PCCP Jointing Plan CDOT Roadways and Local Agency Roadways	Schedule 10 Section 06	Acceptance	Condition to the initiation of paving Construction Work							
PCCP Jointing Plan I-70 Mainline Acceptance	Schedule 10 Section 06	Acceptance	Condition to the initiation of paving Construction Work							
PCCP mix designs CDOT Roadways and Local Agency Roadways	Schedule 10 Section 06	Acceptance	Condition to the initiation of paving Construction Work							
PCCP mix designs I-70 Mainline	Schedule 10 Section 06	Information	Condition to the initiation of paving Construction Work							
PDA testing criteria including number, type, layout and location	Schedule 10 Section 13	Acceptance	Prior to RFC Documents							
Permanent lighting plans and temporary lighting plans	Schedule 10 Section 11	Acceptance	As part of the preliminary (30% level) plan package, final (100% level) plan package, and prior to RFC documents.							
Permission to Enter Property Form	Schedule 18	Acceptance	At least five Working Days prior to entering private property							
Photos	Schedule 14	Acceptance	Two a month or as requested Aerial photographs annually during the Construction Period							
Pipe Abandonment Locations	Schedule 10 Section 08	Approval	Prior to Abandonment							
Pipe connections to manholes with material other than concrete	Schedule 10 Section 08	Information	Prior to RFC Documents							
Pond Certification Letter	Schedule 10 Section 08	Acceptance	Prior to Final Acceptance							
Pre-construction photo and video survey	Schedule 08	Information	Prior to the issuance of NTP1							
Preliminary (30% level) plan package	Schedule 08	Acceptance	As defined in Project Schedules							
Preliminary MOT Design (for Workshop)	Schedule 08	Information								
Preliminary Noise Technical Reports	Schedule 17	Acceptance	Prior to conducting Benefited Receptor Preference Survey							
Profile Plans for LUS, SMVMS, DMS, and VTMS structures	Schedule 10 Section 03	Approval	At preliminary (30%) and final (100%) design review, and RFC.							
Progress Report	Schedule 08	Acceptance	10 Working Days following prior month's end							
Progress Report format	Schedule 08	Approval	Within 10 Working Days after the issuance of NTP1							
Project Directory	Schedule 08	Information	Prior to the issuance of NTP1							
Project Foundation Report	Schedule 10 Section 13	Acceptance	Submitted as part of the Preliminary Design Package and/or In-Process Design Packages							

EXAMPLE

DRAFT Deliverable Requirements Tracking List

Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Project identification sign layout	Schedule 14	Acceptance	To permit installment by 14 Calendar Days following the issuance of NTP 2							
Project Management Plan (PMP)	Schedule 08	Acceptance	Prior to the issuance of NTP1, updated annually							
Project Tracking and Quality Control/Quality Assurance System	Schedule 18	Acceptance	Prior to Developer's acquisition of any Additional Right-of-Way or Temporary Easements							
Property Management Plan	Schedule 18	Acceptance	60 Calendar Days after issuance of NTP1							
Proposed bridge, foundation, or wall types not historically used by CDOT	Schedule 10 Section 13	Approval	Prior to proceeding with the design plan packages							
Proposed locations of access holes	Schedule 10 Section 13	Acceptance	Prior to RFC Documents							
Proposed Locations of PM-10 Monitors	Schedule 17	Acceptance	Two weeks prior to operating the monitor							
Protected Environmental Resources shown in all Plan Sets	Schedule 17	Acceptance	To be included with each plan set submittal							
Public Involvement Services Contact Sheet	Schedule 14	Information	Prior to the issuance of NTP 1. Updates submitted annually and otherwise as required							
Public Utility Plan submittal	Schedule 10 Section 04	Acceptance	Prior to RFC Documents							
PUC applications (all locations)	Schedule 10 Section 10	Approval	Prior to RFC Documents							
Punch Lists and Punch List logs	Schedule 08	Approval	As required by Part 7 of Schedule 3							
Quality Manager reports the status of the Work's quality	Schedule 08	Information	Monthly							
Railroad Permits and Regional Transportation District Railroad Permits	Schedule 10 Section 10	Approval	Prior to RFC Documents							
Ramp metering equipment and ground mounted cabinet cross sections	Schedule 10 Section 03	Approval	At preliminary (30%), final (100%) design review, and RFC							
Recognized Hazardous Materials Management Completion Report	Schedule 17	Acceptance	60 Calendar Days after Substantial Completion							
Record Schedule	Schedule 08	Acceptance	Concurrent with final Progress Report							
Release for Construction Documents	Schedule 08	Acceptance	As required by Schedule 10							
Relocation Plan	Schedule 18	Approval	With request for additional ROW							
Remedial Plan	Schedule 17	Acceptance	As part of Schedule 21 (Form of Supervening Event Submission)							
Renewal Work DBE Five-Year Final Report	Schedule 15	Approval	At the end of each sequential five Contract Year period within 30 Calendar Days after the end of the final Contract Year in such period.							
Requests for full Closures permitted by Section 2.11.5 or 2.11.6	Schedule 10 Section 02	Acceptance	As required							
Requests for use of the Colorado Transportation Management Center (CTMC) VMS boards (not in deliverables table, refer to Section 2.2.4.d)	Schedule 10 Section 02	Information	10:30 a.m. on Thursday of the week prior to when the VMS boards will be needed (Monday through Sunday of the following week)							
Requests to assign portions of the Small Business and Workforce Development Goals and associated deductions/ incentives to Subcontractors	Schedule 15	Acceptance	Prior to the execution of the applicable Subcontract.							
Requirements Traceability Matrix (RTM)	Schedule 10 Section 12	Information	Submitted with the Cover Design Baseline Report							
Residential Soils Sampling Plan	Schedule 17	Acceptance	Prior to issuance of NTP2, updated annually							
Residual Life Methodology Report	Schedule 12	Acceptance	70 months before the Expiry Date							
Results of supplemental soil survey along with any proposed mitigation measures	Schedule 10 Section 07	Information	Before any embankment, aggregate base course, pavement and pavement-related Construction Work commences							
Revised Baseline Schedule	Schedule 08	Acceptance	Upon the Department's or Developer's request							
Revised project control diagram	Schedule 10 Section 05	Information	Prior to Final Acceptance							
Revisions to Release for Construction Documents	Schedule 08	Acceptance	As required by Schedule 10							
Roadway Design Package 'Central' 100%	Schedule 08	Acceptance	As required by Schedule 10							
Roadway Design Package 'Central' 60% (for Design Progress Review Meeting)	Schedule 08	Acceptance	As defined in Project Schedules							
Roadway Design Package 'Central' RFC	Schedule 08	Acceptance	As required by Schedule 10							

EXAMPLE

DRAFT Deliverable Requirements Tracking List

Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Roadway Design Package 'East' 100%	Schedule 08	Acceptance	As required by Schedule 10							
Roadway Design Package 'East' 60% (for Design Progress Review Meeting)	Schedule 08	Acceptance	As defined in Project Schedules							
Roadway Design Package 'East' RFC	Schedule 08	Acceptance	As required by Schedule 10							
Roadway Design Package 'West 1' 100%	Schedule 08	Acceptance	As required by Schedule 10							
Roadway Design Package 'West 1' 60% (for Design Progress Review Meeting)	Schedule 08	Acceptance	As defined in Project Schedules							
Roadway Design Package 'West 1' RFC	Schedule 08	Acceptance	As required by Schedule 10							
Roadway Design Package 'West 2' 100%	Schedule 08	Acceptance	As required by Schedule 10							
Roadway Design Package 'West 2' 60% (for Design Progress Review Meeting)	Schedule 08	Acceptance	As defined in Project Schedules							
Roadway Design Package 'West 2' RFC	Schedule 08	Acceptance	As required by Schedule 10							
Routine O&M Work ESB Five-Year Final Report	Schedule 15	Approval	At the end of each sequential five Contract Year period within 30 Calendar Days after the end of the final Contract Year in such period.							
ROW Monumentation Plan	Schedule 10 Section 05	Information	Prior to Substantial Completion							
Safety Management Plan (SMP)	Schedule 08	Acceptance	Prior to the issuance of NTP1							
Sampling and Analysis Plan ("SAP")	Schedule 17	Approval	Prior to issuance of NTP2, updated annually							
Sampling Schedule for pipe selection	Schedule 10 Section 08	Information	30 Calendar Days after issuance of NTP 1							
SB 40 Certification Application Package	Schedule 17	Approval	Prior to construction work in SB 40 area							
Schedule of Planned Noxious Weed Management Activities	Schedule 17	Information	Monthly, five Calendar Days prior to the beginning of each month (March through October)							
Schedule Work Plan	Schedule 08	Acceptance	Prior to the issuance of NTP1							
Second Calculation of Handback Reserve Amount	Schedule 12	Acceptance	36 months before the Expiry Date							
Second Handback Inspection Report	Schedule 12	Acceptance	36 months before the Expiry Date							
Semi-annual small and disadvantaged business assessment	Schedule 15	Approval	Every six months during the Construction Period.							
Semi-annual workforce development assessment	Schedule 15	Acceptance	Every six months during the Construction Period.							
Sign Layouts for Special Signs	Schedule 10 Section 02	Acceptance	Submit with TCPs							
SMA & HMA mix designs CDOT Roadways and Local Agency Roadways	Schedule 10 Section 06	Acceptance	Condition to the initiation of paving Construction Work							
SMA & HMA mix designs I-70 Mainline	Schedule 10 Section 06	Information	Condition to the initiation of paving Construction Work							
Small and Disadvantaged Business monthly reports	Schedule 15	Acceptance	No later than the tenth Working Day of each month during the Construction Period and the Operating Period.							
Small and Disadvantaged Business Participation Plan (SDBPP)	Schedule 15	Approval	Prior to the issuance of NTP1							
Small Business Commitment for each DBE and ESB	Schedule 15	Acceptance	Concurrently with the Annual Small Business Commitments or by 10th Working Day of each month, and no earlier than 90 Calendar Days prior to the firm commencing work							
Small Business Commitment for each DBE on Renewal Work projects more than $1 million	Schedule 15	Acceptance	At least two weeks prior to the commencement of construction on each Renewal Work project more than $1 million during the Operating Period.							
Small Business Commitment Modification	Schedule 15	Acceptance	Prior to occurrence requiring termination or modification or, if that is not possible, within five Calendar Days of the occurrence							
Snow and Ice Control Plan	Schedule 11	Acceptance	Same schedule as the OMP; and annual updates by September 1 of each year							
Social media posts	Schedule 14	Acceptance	As needed, one Working Day in advance of inclusion on social media							
Special Event Plan (not in deliverables table, refer to Section 2.5)	Schedule 10 Section 02	Agenda at MOT TF	Within 15 Working Days after the issuance of NTP 2 and prior to the commencement of each Contract Year thereafter, and additionally when requested by the Department							

EXAMPLE

DRAFT Deliverable Requirements Tracking List

Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Spill Prevention Control and Countermeasures Plan (“SPCC Plan”)	Schedule 17	Acceptance	Prior to issuance of NTP2, updated annually							
Sprint Reimbursement Agreement	Schedule 10 Section 04	Acceptance	Prior to Execution							
Stage 1 Quality Management Plan (QMP)	Schedule 08	Approval	Prior to the issuance of NTP1							
Stage 2 Quality Management Plan (QMP)	Schedule 08	Approval	Prior to the issuance of NTP2							
Stakeholder Distribution List	Schedule 14	Acceptance	Prior to the issuance of NTP 2. Updates submitted annually							
Structural design for each sign structure	Schedule 10 Section 13	Acceptance	Prior to RFC Documents							
Structure Concept Report and Plans	Schedule 10 Section 13	Acceptance	Prior to proceeding with the design plan packages							
Structure Survey Assessment Plan (“SSAP”) (Project-wide document)	Schedule 17	Acceptance	Prior to the demolition of any structure or other relevant components of the Project							
Structure Survey Assessment Report (“SSAR”) (per parcel or structure)	Schedule 17	Acceptance	Prior to the demolition of any structure							
Structure Survey Assessment Report (“SSAR”) (per parcel structure)	Schedule 18	Acceptance	15 Working Days prior to demolition							
Structure Survey Completion Report (“SSCR”) (per parcel or structure)	Schedule 17	Acceptance	Within 30 Calendar Days after completion of abatement activities.							
Submit written acquisition and relocation procedures	Schedule 18	Acceptance	Concurrent with Developer request to acquire Additional ROW Parcel							
Summary of activity-specific Material quantities	Schedule 08	Acceptance	Monthly							
Summary Report of IQC Water Quality Documentation Audit	Schedule 17	Information	Monthly, within 7 Calendar Days of the end of the month.							
Supplemental geotechnical investigation report – Swansea Elementary School outdoor areas	Schedule 10 Section 06	Information	Concurrent with Preliminary (30%) Level Plan Package							
Supplemental geotechnical investigation report CDOT Roadways	Schedule 10 Section 06	Information	Concurrent with Preliminary (30%) Level Plan Package							
Supplemental geotechnical investigation report I-70 Mainline	Schedule 10 Section 06	Information	Submitted with Pavement Design Report							
Supplemental geotechnical investigation report Local Agency Roadways	Schedule 10 Section 06	Information	Submitted with Pavement Design Report							
Supplied Survey Data verification letter	Schedule 10 Section 05	Information	60 Calendar Days after issuance of NTP 1							
Supporting reports and design calculations	Schedule 10 Section 03	Information	At final (100%) design review, and RFC.							
Survey Records Report	Schedule 10 Section 05	Information	Prior to Final Acceptance							
Swansea Elementary School outdoor areas	Schedule 10 Section 06	Information	Concurrent with Preliminary (30%) Level Plan Package							
SWMP	Schedule 10 Section 08	Acceptance	Prior to RFC Documents							
SWMP Site Map Updates	Schedule 10 Section 08	Acceptance	Monthly during the Construction Period							
Task force meeting minutes	Schedule 08	Acceptance	Four Working Days after meeting							
Temporary and Permanent ramp meter plans	Schedule 10 Section 11	Acceptance	As part of the preliminary (30% level) plan package, final (100% level) plan package, and prior to RFC documents.							
Temporary and permanent traffic signal and ramp metering timing plans with the associated electronic and software files.	Schedule 10 Section 11	Acceptance	Prior to RFC documents							
Temporary and permanent traffic signalization plans	Schedule 10 Section 11	Acceptance	Prior to RFC documents							
Temporary Drainage Plans	Schedule 10 Section 08	Acceptance	Concurrent with Temporary Traffic Control Plan (TCP)							

EXAMPLE

DRAFT Deliverable Requirements Tracking List

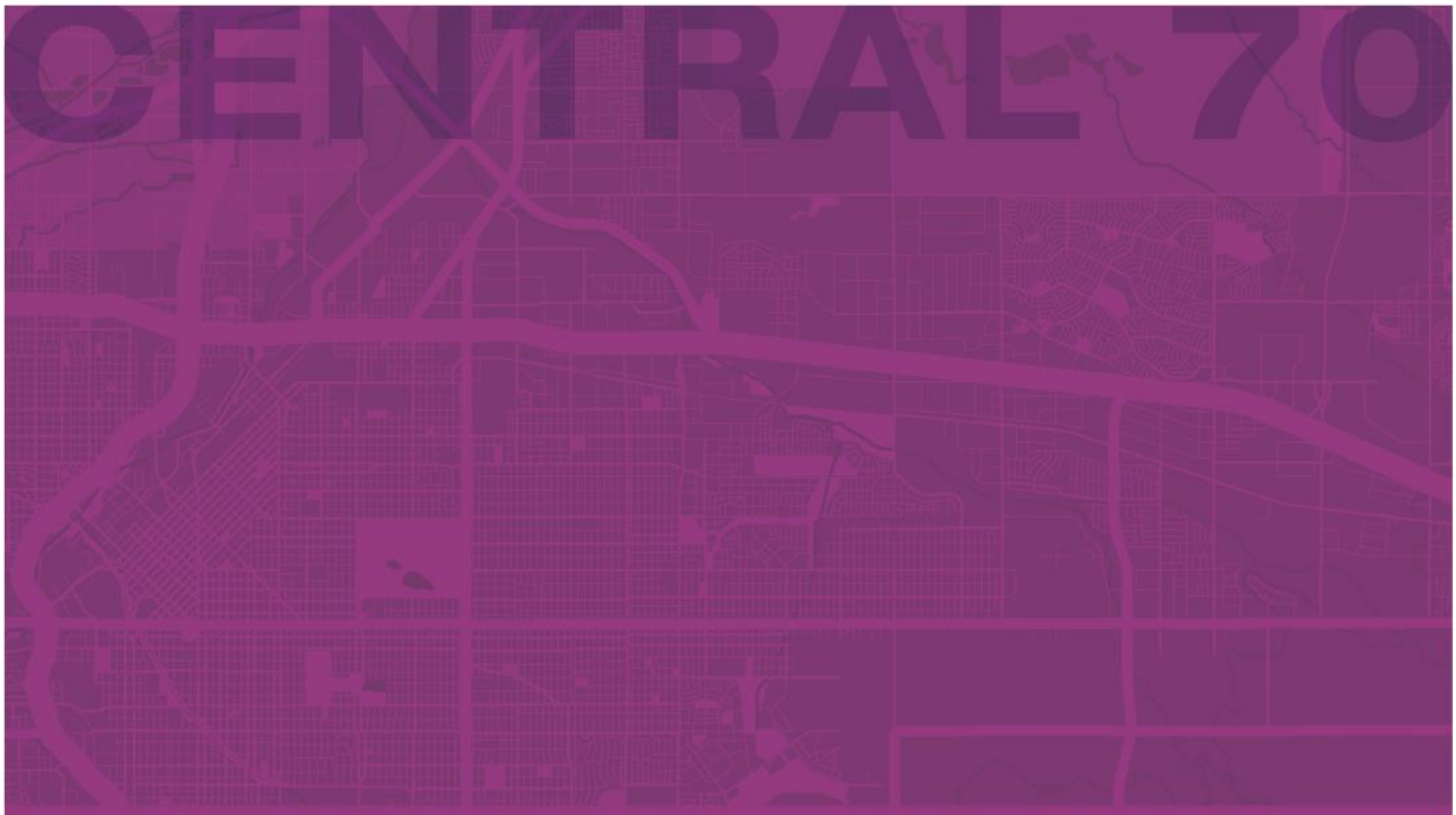
Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Temporary Traffic Control Plan (TCP)	Schedule 10 Section 02	Acceptance	Prior to RFC Documents							
Terms of warranties required by Section 3.12	Schedule 10 Section 03	Acceptance	30 Calendar Days prior to placing order of device or equipment							
Test Plan according to the manufacturer's recommendations	Schedule 10 Section 03	Acceptance	After issuance of NTP 2 and 30 Calendar Days prior to testing and integration of ITS and ETC devices							
Testing Plan for the Network Design	Schedule 10 Section 03	Approval	At final (100%) design review, and RFC.							
Third Calculation of Handback Reserve Amount	Schedule 12	Acceptance	14 months before the Expiry Date							
Third Handback Inspection Report	Schedule 12	Acceptance	14 months before the Expiry Date							
Traffic alerts/media releases	Schedule 14	Acceptance	Weekly by Thursday at 10:30 a.m.							
Transportation Management Plan (TMP)	Schedule 10 Section 02	Approval	Prior to the issuance of NTP2							
Tunnel Operation Maintenance Inspection and Evaluation Manual (TOMIE)	Schedule 10 Section 12	Acceptance	Prior to Cover opening to traffic							
Uniform Report of DBE Awards or Commitments and Payments Form	Schedule 15	Acceptance	Bi-annually by May 15 and November 15							
Uniformed traffic control certifications	Schedule 10 Section 02	Information	14 Calendar Days prior to implementation							
Updated Utility Drawings	Schedule 10 Section 04	Acceptance	Quarterly (and at such others times as reasonably requested by the Department)							
Updates to Crisis Communications Plan (CCP)	Schedule 14	Acceptance	Annually							
Updates to Maintenance and Operations Communications Plan (MOCP)	Schedule 14	Acceptance	Annually							
Updates to Performance and Measurement Table in Appendix A-2	Schedule 11	Approval	90 Calendar Days before the anticipated Substantial Completion Date; no later than 60 Calendar Days before the end of each Contract Year							
Updates to Stage 1 or Stage 2 QMP	Schedule 08	Approval	As needed to document changes to quality program							
Updates to the Construction Period Communications Plan (CPCP)	Schedule 14	Acceptance	Annually							
Updates to Useful Life Baseline Requirements Table	Schedule 11	Approval	90 Calendar Days before the anticipated Substantial Completion Date; and no later than 60 Calendar Days before the end of each Contract Year thereafter							
UPRR Concept Submittal	Schedule 08	Acceptance	As defined in Project Schedules							
UPRR Design 100%	Schedule 08	Acceptance	As required by Schedule 10							
UPRR Design 30%	Schedule 08	Acceptance	As defined in Project Schedules							
UPRR Design 60%	Schedule 08	Acceptance	As defined in Project Schedules							
UPRR Design RFC	Schedule 08	Acceptance	As required by Schedule 10							
UPRR Design Superstructure for Procurement	Schedule 08	Acceptance	As defined in Project Schedules							
Use of stormwater pump station	Schedule 10 Section 08	Approval	As required							
Utility As-Built plans Acceptance	Schedule 10 Section 04	Acceptance	90 Calendar Days after execution of CRAL							
Utility No-Conflict Closeout	Schedule 10 Section 04	Acceptance	Prior to RFC Documents							
Utility Relocation cost estimate	Schedule 10 Section 04	Approval	Prior to RFC Documents							
Utility Work Order	Schedule 10 Section 04	Approval	Prior to RFC Documents							
Value Findings	Schedule 18	Approval	Prior to offer being made							
Video	Schedule 14	Acceptance	One annually or at key project milestones							
VMS structural design	Schedule 10 Section 13	Acceptance	Prior to RFC Documents							
WBS Structure	Schedule 08	Acceptance	Prior to the issuance of NTP1							
Web page content	Schedule 14	Acceptance	Weekly or as often as reasonably required, two Working Days in advance of inclusion on the website							

EXAMPLE

DRAFT Deliverable Requirements Tracking List

Deliverable	PA Section	Information, Acceptance, or Approval	Schedule	Planned Submittal Date	Actual Submitted Date	Response Due Date	Actual Response Date	Comment Response Due	Comment Resolution Date	BIC
Weekly look ahead of specific scheduled construction activities	Schedule 08	Information	Weekly							
Wetland Finding Report (if required)	Schedule 17	Approval	Prior to impacting wetlands							
Workforce Development Plan (WDP)	Schedule 15	Approval	Prior to the issuance of NTP1.							
Written notice of failure of Utility Owner to cooperate or timely perform	Schedule 10 Section 04	Information	As Required							
Written notice of Permit violation	Schedule 10 Section 04	Information	As Required							
Written notice of Utility Owner not meeting Work Order time frame	Schedule 10 Section 04	Information	As Required							
Written notification by Developer to commence partial acquisitions	Schedule 18	Information / Acceptance with respect to the Safeway Parcel Only	Per Developer's Project Schedule							
Written request by Developer to acquire Additional ROW Parcel, including required accompanying documents	Schedule 18	Approval	As required							
Written request by Developer, including required accompanying documents, to acquire ROW Parcels that require prior notice as indicated in Appendix A	Schedule 18	Acceptance	No later than 18 months prior to the anticipated Substantial Completion Date (as determined by reference to the Project Schedule)							
Yearly WDP update	Schedule 15	Approval	No later than 30 Calendar Days prior to the commencement of each Contract Year during Construction Period.							
ZAYO Fiber 90% Design	Schedule 08	Acceptance	As defined in Project Schedules							
ZAYO Fiber RFC	Schedule 08	Acceptance	As required by Schedule 10							

EXAMPLE



ATTACHMENT 3

Relates to Appendix B

Kiewit meridiam PARTNERS

Key Personnel Resumes

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

Christopher Hodgkins

PROJECT MANAGER

20 years of experience

Chris has over 20 years of experience in municipal infrastructure and public sector development. He is currently serving as the Miami Access Tunnel's CEO and also chairs the Miami Dade P3 Task Force. The experience gained as CEO for the Miami Access Tunnel provided Chris the expertise that is necessary to manage multiple stakeholders. Through his leadership, the local communities were able to be involved in the project as well as benefit from the landmark project being implemented. He oversaw a complex construction process in order to meet the client's requirements and proved his ability to deal with pressing challenges to meet both schedule requirements and cost certainty. Chris has also demonstrated a talent to build efficient teams and to coordinate with regional stakeholders to meet the client's requirement both during the construction and operations phase.

Prior to working at Miami Access Tunnel, Chris gained experience in developing some of the nation's top Public Private Partnerships. Previously Chris served as Vice President for AECOM where he focused on Design-Build and P3 Projects and previous to that was Vice President at Veolia Water.

Years of similar work experience	Employment with current employer	Other employers in past 10 years
20 Years	6 Years	AECOM Engineering Veolia Water

FORM F – PROJECT EXPERIENCE:

Chief Executive Officer, MAT Concessionaire LLC (MAT)

Chris has worked on all aspects of the Public Private Partnership for the design, construction, financing and operations of the Port of Miami Tunnel and Access Improvements (POMT) Project, for MAT Concessionaire LLC (MAT), a Meridiam Affiliate that is the project company on the POMT project. As Chief Executive Officer, Chris is in charge of the management, external affairs, operations, and outreach for the design, build, finance, operate and maintain (DBFOM) contract that encompasses $762M in total private financing. The 35 year concession has constructed a tunnel to connect the Port of Miami to I-95, which was the first Public Private Partnership in South Florida. Chris remains responsible for all interactions with the client and has spearheaded multiple community outreach programs during construction as well as operational phases.

The project demonstrates Chris' ability to manage multiple team members including the 831 companies which partnered with MAT. He oversaw the "OPERATION 305" initiative, a program to pursue people and businesses from the Miami Dade Area for inclusion in the tunnel project. Under Chris' leadership, the project's DBE goals were exceeded and $325 million in subcontracts were awarded, including 465

local Miami-Dade County businesses. This allowed the local construction industry to benefit from the project as well.

As CEO, Chris not only focuses project but also prioritizes regional stakeholder involvement. Chris ensured construction impacts were mitigated at several nearby visitor attractions such as the Miami Children's Museum, Jungle Island and the Miami World Trade Center through a comprehensive noise monitoring and mitigation program. He has also maintained positive relations with the city's stakeholders – e.g. with clear communication lines with the Miami-Dade Police Department notably throughout a video surveillance system provided through the project that allows law enforcement to monitor resident safety in project corridor. He works closely with local emergency agencies and the authorities to provide emergency planning in hurricane evacuation routes and to ensure fire and life safety in the tunnel is not compromised. A prime example of this is his coordination efforts with Florida Department of Transportation to provide improved signage to and from the port beyond what was included in the contract requirements.

He continues to foster strong relationships with the community. To encourage interest in mathematics and science, Chris led the creation of the "Bob the Builder" museum exhibit where bulldozers, cranes, and backhoes were placed around the Miami Children's Museum for the opening of the exhibit. Chris also established a program with Miami-Dade County Public Schools Engineering Academies that developed an educational program for National Engineering Week and had project engineers visit more than 200 students to discuss the tunnel project and life as an engineer.

OTHER RELEVANT PROJECT EXPERIENCE(S):

Vice President, AECOM

As Vice President Chris oversaw all aspects of relationship building and helped develop strategic market opportunities. He actively participated in North American professional society activities and maintained strong contacts with regulatory agencies. He was responsible for client management, establishing and retaining client relations, marketing coordination, proposal and interview preparation and contract negotiation. During this time at AECOM he established the teams that executed two of the largest Design /Build and P3 water projects in South Florida at the time.

Vice President and General Manager, Veolia Water

As Vice President of the Northeast Business Center, Chris oversaw all sales, administrative operations, development and relations with municipalities in over 42 communities. He managed the operations and finances of 61 water and wastewater treatment plants and utility functions ($400 million in contract value). Chris was in charge of assessment of client needs, tailoring programs to meet those needs, and negotiating contracts. In response, Chris received - 2004 National League of Cities "Excellence" Award.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
N/A	OPERATION 305, Initiative 2004 League of Cities "Excellence"	NONE

FINAL RFP

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: Project Manager
Individual: Chris Hodgkins

References			
1)	**PORT OF MIAMI (F)**	**PORT OF MIAMI (F)**	**PORT OF MIAMI (F)**
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

1) Project(s) / Transaction(s)
2) Reference's Name
3) Reference's Tittle (current)
4) Reference's Employer (current)
5) Reference's Title (at time of project/transaction)
6) Reference's Employer (at time of project/transaction)
7) Reference's Phone and Email
8) References Location and Time Zone
9) Other

(F) – Identifes a Form F project from the SOQ submittal. See Section 3 of this submittal for project details.

Tom Howell

DESIGN-BUILD MANAGER

35 years of experience (all with Kiewit)

KEY PERSONNEL

Tom brings 35 years of experience in heavy transportation construction, including several alternative delivery projects. Through these projects, he has developed solid management experience, design-build expertise and executive acumen. He has managed complex construction projects where he oversaw design and construction operations and worked with clients to help them meet their project goals. Tom has recently completed management of the $440 million design build I-225 Rail Line project in Aurora, CO where he met the challenging completion schedule. The I-225 Rail Line project was the result of an unsolicited proposal that included financing options to optimize the delivery of the full scope of the I-225 line corridor for the Owner (RTD) and its constituents. While RTD ultimately took the financing solution in-house, Tom's presence as a trusted leader in the negotiations was instrumental to the parties reaching an agreement. The work involved the continuation of 10.5 miles of light rail from Parker Rd. 9-Mile Station (much of which includes CDOT right-of-way) to the Peoria Station where it tied into the existing Eagle commuter rail out to Denver International Airport. Tom also recently managed the east end work on the $34 million CDOT US 34 Big Thompson Canyon Emergency Repairs that required daily coordination and communication with CDOT and numerous third parties. This project was delivered in 59 days as an emergency repair contract. His career includes managing construction projects and efforts that focus on minimizing inconvenience to the public, business owners, and stakeholders, including the T-REX project through the heart of Denver from downtown to the Tech Center. Tom has a goal oriented management philosophy that focuses on client relations and he has earned a reputation in the industry for guiding projects to on-time delivery within budget

.Years of similar work experience	Employment with current employer	Other employers in past 10 years
35 Years	35 Years	NONE

FORM F – PROJECT EXPERIENCE:

Executive Management and Project Manager; I-225 Rail Line, RTD, Kiewit

The I-225 Rail Line project for RTD involved the design and construction of 10.5 miles of light rail, eight light rail stations, and acquisition of 128 ROW parcels in Aurora, CO. The project was built in a congested urban area with significant utility conflicts, traffic handling/phasing requirements, and coordination with adjacent contractors, local governments, and businesses. As Project Manager, Tom provided onsite management, and oversaw the discipline management team with all aspects of the design build contract. Tom routinely interfaced with clients, engaged in labor union negotiations, and

facilitated partnering agreements with the client. Tom's continued commitment to emphasizing the area's safety and quality performance was reflected through exceptional performance records.

Project Manager; I-25 Transportation Expansion (T-REX), CDOT/RTD, Kiewit

Tom was the Project Manager on this award-winning $1.28 billion Kiewit-led design build project involving construction of 19 miles of double-track light rail with 13 stations and the expansion of 17 miles of interstate highway. Tom helped lead the project to completion 22 months ahead of the client's schedule and under budget. The project included bridges, utility relocations, power feeds, and installation of numerous drainage structures and pipelines. Two of the team's top priorities were establishing and maintaining a consistent traffic control plan and minimizing the impact to the vehicles that traveled through the work zone each day. The project team also developed a proactive community outreach program to communicate with residents and businesses along the corridor. Tom managed all aspects of the project. He was responsible for design, construction, budget and schedule control, quality, agency and utility coordination, subcontractor management, and permitting.

Off-Site Management and Project Management, Denver Union Station Transit Improvements, Kiewit

This project involved the design and construction of transportation elements for the historic Denver Union Station turning it into a multi-modal transportation hub. Tom served as the initial Project Manager during the RFP phase and initial design and construction work. He played an instrumental role in working with RTD and City and County of Denver to develop a design management approach that included task forces of design, construction, and client's representation to facilitate timely delivery of design packages. The team invested two years into streamlining the client's design concept that would also comply with budget goals and leave them satisfied..

Second DB/O&M Estimate Manager, DFW Connector, TxDOT, Kiewit

DFW Connector is a design-build-maintain project of 8.4 centerline miles of urban interstate toll road adjacent to Dallas/Fort Worth International Airport. Tom led a team of over 20 DB and O&M estimators responsible for developing the team's Alternative Technical Concepts. Tom also participated in early MOT scheming and sequencing of work around the DFW International Airport. Currently, maintenance for the project is on budget during the first optional 5-year maintenance period agreement demonstrating validity in the project's original estimates.

OTHER RELEVANT PROJECT EXPERIENCE(S):

Project Sponsor, KCIcon, Missouri Department of Transportation (MoDOT), Kiewit

This design build project involved reconstruction of four miles of I-29/35 tightly constrained by urban corridors with businesses, residential property, and railroads throughout the entire area. Close coordination was required between MoDOT, the project team, the FAA, FHWA, USACE, and several municipalities. Kiewit provided more than 40 value-added change proposals and 600 design improvements. Two specific innovations included reducing MOT phases from 40 to 25 to minimize impacts to the traveling public, accelerating the schedule, and enhancing quality. Tom was responsible for management of Kiewit personnel from estimate to delivery, plus quality and design management.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
N/A	Marvin Black Partnering DBIA-National Design Build AGC/AON Build America Grand Award	N/A

FINAL RFP

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: Design-Build Manager
Individual: Tom Howell

References			
1)	**I-225 RAIL LINE (F)**	**I-15 CORRIDOR RECONSTRUCTION**	**CDOT T-REX (F)**
[redacted]	[redacted]	[redacted]	[redacted]
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6) Reference's Employer (at time of project/transaction)
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8) References Location and Time Zone
9) Other

(F) – Identifes a Form F project from the SOQ submittal. See Section 3 of this submittal for project details.

Barry Thoendel

CONSTRUCTION MANAGER

34 years of experience (all with Kiewit)

KEY PERSONNEL

Barry is a proven leader with 30 years of construction experience. His management and field experience is a sure foundation for making the Central 70 Project a success. Barry's experience includes oversight of management teams and all aspects of design-build projects including safety, quality, administration, costs, schedule, labor relations and availability of people and equipment. His involvement in the Project assures that CDOT will receive a final product that exceeds expectations.

Years of similar work experience	Employment with current employer	Other employers in past 10 years
34 Years	34 Years	None – Entire career with Kiewit

FORM F – PROJECT EXPERIENCE:

Segment Manager; I-25 Transportation Expansion (T-REX), CDOT/RTD, Kiewit

Barry was first a segment manager before being promoted to construction manager on this mega design-build transportation infrastructure project. His responsibilities included design coordination, review, planning and scheduling to maintain the critical path, methods of handling traffic, safety and quality. He partnered with both the Regional Transportation District and Colorado Department of Transportation to ensure that the project met client goals.

This $1.3 billion design-build highway improvement and light rail project consisted of reconstruction of 17 miles of existing highway and installation of 19 miles of new light rail work prior to placement of track and ties and site work for park-and-rides.

OTHER RELEVANT PROJECT EXPERIENCE(S):

Deputy Project Director / Construction Manager, Houston METRO, Kiewit

Barry began as construction manager on this $1.23 billion project for Houston METRO. He was promoted to deputy project director, overseeing the design and construction of four light rail lines in Downtown Houston. His responsibility is to safely build the project while minimizing impacts to the traveling public, ensure quality work, manage cost, maintain schedule, and provide a positive team environment. The four lines stretch 15 miles throughout the city, so coordination with the City of Houston team and third parties are also part of his duties and crucial to the success of the project.

Sponsor, Various projects, Kiewit

Barry served as an estimate sponsor and lead estimator responsible for providing accurate, competitive estimates on large projects such as the $1.8 billion A-30 Project in Montreal, Canada, and the $400 million Union Station Project in Denver.

Project Sponsor, State Highway 71 (Sylverino), Kiewit

Barry served as sponsor for this $17 million, 6.5-mile highway project for the Arkansas Highway and Transportation Department. The work included grading, drainage and bridge construction. Scope involved 14 box culverts, five bridges and related work.

Project Sponsor, Forest Highway 65 (Peanut), Kiewit

Barry oversaw all aspects of the project, which included safety, quality, administration, costs, schedule, and availability of resources. The $2.5 million, one-mile Forest Highway 65 Project included grading, drainage, bridge work and paving for the Federal Highway Administration.

Project Sponsor, Rail Car Unloading Facility, Kiewit

Barry oversaw all aspects of the project, which included safety, quality, administration, costs, schedule, and availability of resources. The goal of this $2 million project, which spanned 20 acres, was to establish an automobile unloading railcar site for Union Pacific. Work involved grading, concrete and asphalt paving.

Project Manager, State Highway 82 (Shale Bluffs), Kiewit

Barry's responsibilities included safety, owner relations, planning, cost control, scheduling, equipment management, and training. The $23 million highway improvement project for the Colorado Department of Transportation required construction of more than 3.5 miles on SH 82, located on the steep slopes of Shale Bluffs, 6 miles north of Aspen. Worked consisted of the construction of two, 300-foot-long, prestressed, precast, concrete girder bridges with 1,800 feet of precast, double-tee retaining walls, 2,500 feet of precast fascia retaining walls and three box culverts. Traffic crossed both new bridges and more than 1,500 feet of retained fill.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
N/A	Marvin Black Partnering AON Build America-Design Build DBIA-National Design Build AGC/AON Build America Grand Award	NONE

FINAL RFP

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: Construction Manager
Individual: Barry Thoendel

References			
1)	**HOUSTON METRO LRT DESIGN-BUILD**	**CDOT T-REX (F)**	**HOUSTON METRO LRT DESIGN-BUILD**
[redacted]	[redacted]	[redacted]	[redacted]
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8) References Location and Time Zone
9) Other

(F) – Identifes a Form F project from the SOQ submittal. See Section 3 of this submittal for project details.

Doug Andrew, PE

DESIGN MANAGER

34 years of experience (5 years with Parsons Brinckerhoff)

Doug Andrew is a Senior Project Manager experienced in the leadership of large multi-disciplined transportation infrastructure projects. He has extensive experience on DBFOM projects, including the Midtown Tunnel Project in Virginia and as the Owner's Representative for an extension of the Washington DC Metro Rail System. On every project, Doug ensures that design requirements are satisfied, life cycle efficiencies are incorporated; impacts to the public from construction are minimized; stakeholder input is incorporated; and project goals are met. In the past 10 years, Doug has been involved as part of the leadership or as a technical advisor with over 30 design build or DBFOM projects in a dozen states.

.Years of similar work experience	Employment with current employer	Other employers in past 10 years
34 Years	5 Years	Jacobs Engineering Group, Inc.

FORM F – PROJECT EXPERIENCE:

Design Manager, Downtown Tunnel/Midtown Tunnel/Martin Luther King Freeway Extension, Virginia Department of Transportation, Parsons Brinckerhoff

In December 2011, VDOT entered into a $2.1 billion comprehensive agreement with the developer, ERC, to build a new Midtown Tunnel; rehabilitate the existing Midtown Tunnel and two Downtown Tunnels; and extend the Martin Luther King Expressway. ERC hired SKW Construction (a JV including Kiewit) as the contractor and Parsons Brinckerhoff as lead engineer. Final design began in May 2012. Doug's experiences from the Midtown Tunnel project will be directly applicable to the Central 70 Project. On a day-to-day basis, Doug monitored the technical aspects of the work by attending technical group meetings and daily interaction with the contractor's staff. Doug was co-located with the contractor and worked closely with their staff, including Kiewit employees on the Project. Doug also monitored the design progress relative to submittal and construction milestones and made staffing changes when needed. He oversaw all commercial aspects of the work including monthly reporting, project finances, and the performance of sub-consultants.

Design Manager, I-15 South from Tropicana Avenue to Silverado Ranch Boulevard, Nevada Department of Transportation, Jacobs Engineering Group

A design build project, the work included widening six miles of limited access interstate including the addition of collector-distributor roads. This segment of I-15 serves as the southern entrance to the Las Vegas Strip. Because the resorts on the Strip are an important part of the local economy, special attention was provided for maintaining the urban traffic including scheduling operations to avoid peak

travel times, including weekends. Numerous utilities required relocation and a Union Pacific Railroad bridge crossing I-15 was lengthened using accelerated bridge construction techniques. The project received the major project of the year award from the Nevada chapter of the American Public Works Association and the Hermes Creative Gold Award for the best interactive project website, part of the extensive public outreach program conducted during the work.

Doug was responsible for all design activities. From the project hub office, he provided direct oversight for the design staff ensuring a quality product that met NDOT's goals in a timely manner. The hub office allowed for daily interaction with the whole team – contractor, NDOT, and designers fostering a spirit of partnering and leading to the success of the project. Doug had responsibility for the financial performance, monitoring changes in the work and sub-consultant performance.

OTHER RELEVANT PROJECT EXPERIENCE(S):

Deputy Design Manager, Intercounty Connector Contract "A" - MD 200 from I-370 to MD 97, Maryland State Highway Administration, Jacobs Engineering Group

Designed and constructed using a design build delivery method, the $479 million project consisted of 7.2-miles of new limited access open-road tolled freeway. The project included 3 interchanges, 18 bridges, 8 major culverts, 4 retaining walls, and approximately 5 miles of noise walls. This highly controversial project had been studied since the early 1960s along a corridor in suburban Washington, DC. To overcome project opposition, the Record of Decision contained over 200 various environmental requirements. A checklist was submitted with every design submittal and monthly status meetings were held with the Inter Agency Working Group – over 30 local, state, and federal stakeholders to monitor these commitments. A 612-foot-long urban deck was designed to meet current fire life safety codes covered the roadway to provide connectivity to the Cashell Estates neighborhood bisected by the planned roadway. Also included was a bridge crossing CSX railroad and numerous utility relocations.

Doug's role was to assess the status of the design and make changes in staffing or approach to keep the work on schedule. At the time of award, Contract "A" was the largest design build contract in state history state and Doug was instrumental in working via the partnering process to resolve issues and make this project become reality. Working in a project office with the contractor, design team, and Maryland State Highway staff, he developed constructible solutions and ensured a quality design.

The project was the recipient of numerous awards including the Women's Transportation Seminar Rosa Parks Diversity Leadership Award for exceeding the minority contracting goals in executing the project.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
PE CO #0049166	Young Civil Engineer of the Year (1991) American Society of Civil Engineers (ASCE) – Program Chair Maryland Section (1988-1991) Treasurer Maryland Section (1995-1997) Education Chair Maryland Section (1999-2002) American Council of Engineering Companies (ACEC) – Legislative Affairs Committee (2005-2007)	NONE

FINAL RFP

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: Design Manager
Individual: Doug Andrew

References			
1)	**DOWNTOWN TUNNEL / MIDTOWN TUNNEL / MARTIN LUTHER KING EXTENSION (F)**	**I-15 SOUTH CORRIDOR (F)**	**INTERCOUNTY CONNECTOR CONTRACT "A' – MD 200 FROM I-370 TO MD 97**
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9) Other

(F) – Identifes a Form F project from the SOQ submittal. See Section 3 of this submittal for project details.

Abraham Henningsgaard, PE

O&M MANAGER

13 years of experience (10 years with Jorgensen)

KEY PERSONNEL

Abraham Henningsgaard has served as maintenance engineer, project manager, general manager, regional manager, and vice president for the past 13 years on large infrastructure projects in the highway industry. He has significant and relevant experience in developing and implementing project maintenance and operational management systems, value engineering, capital expense budgeting, and project management. Abraham currently serves as a Vice President on the Jorgensen Board of Directors and as a Regional Manager responsible for overall project direction, including interface with Department of Transportation managers, subcontractors, and public clients on multiple performance-based asset management contracts.

.Years of similar work experience	Employment with current employer	Other employers in past 10 years
13 Years	10 Years	N/A

FORM F – PROJECT EXPERIENCE:

Senior Associate, I-495 Express Lanes, Jorgensen

As senior associate for I-495 Express, Abraham developed a performance-based O&M cost model, comprehensive work plan, and mobilization plan for the long term O&M to be performed by Jorgensen. He prepared engineering analyses to include KPI risk assessment, toll-way condition assessments, and development of O&M inventory plans for the 14 centerline mile limited access urban toll-way. He also continued operational support for the maintenance management system, capital maintenance considerations, and maintenance work plan modifications.

Senior Associate, I-595 Corridor Roadway Improvements, Florida DOT, Jorgensen

Abraham served as a senior associate in the pursuit and award of the first PPP project to be financially closed in Florida – I-595 Express. During the procurement phase where Jorgensen acted as a technical advisor to the Developer, he was involved in aiding and developing a long-term O&M program used to allocate routine maintenance and capital expenditures for the project term. Upon project award, Abraham supported contract negotiations to provide O&M services during construction and subsequent operational periods. He also provided input and development section of O&M plans and manuals and aided in mobilization efforts to procure staffing and resources.

OTHER RELEVANT PROJECT EXPERIENCE(S):

Senior Associate, US-34 Big Thompson Canyon Emergency Repairs, CDOT, Kiewit

Abraham served as a senior associate in the pursuit and award of the first P3 project to be financially closed in Florida – I-595 Express. During the procurement phase where Jorgensen acted as a technical advisor to the developer, he was involved in aiding and developing a long term O&M program used to allocate routine maintenance and capital expenditures for the project term. Upon project award, Abraham supported contract negotiations to provide O&M services during construction and subsequent operational periods. He also provided input and development section of O&M plans and manuals and aided in mobilization efforts to procure staffing and resources.

Regional Manager, I-95 Georgia Comprehensive Maintenance, Georgia DOT, Jorgensen

Jorgensen was awarded Georgia's first lump sum, performance-based comprehensive O&M contract of routine maintenance, and emergency and periodic maintenance repairs and operations for the 113-mile I-95 network in Georgia. Key activities included incident response and emergency repair, mowing, litter removal, herbicide applications, guardrail and attenuator repair, shoulder repair, tree trimming/clearing, road service patrol, bridge maintenance, and traffic sign maintenance. Abraham was responsible for the operational direction of the project including staffing, maintenance plans, third-party claims, and budgeting. He also implemented chemical herbicide management strategies, sign reflectivity replacement programs, and bridge maintenance to raise the condition of roadway assets.

Project Manager, Jacksonville Interstate Asset Maintenance, Florida DOT, Jorgensen

Jorgensen was awarded a seven-year, lump sum performance-based asset maintenance contract administration for over 160 centerline miles of interstate roadways in the Jacksonville, Florida area. Key responsibilities included performance of routine maintenance, incident response, and third-party claims. Abraham's responsibilities as project manager included developing and executing an annual maintenance work plan, managing the in-house maintenance work force, and supervising specialty maintenance subcontractors. This project is in an urban area of Jacksonville, Florida requiring a high demand for customer and client service. Abraham organized a responsive customer service approach and methodologies for documenting and transparently reporting O&M work.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
PE, FL # 72244, PE, GA # PE036228, PE IL # 062.063723, PE, TX # 109231, PE, SC # 29318, PE, Puerto Rico 25222, Certified GC in FL #CGC1514526	N/A	NONE

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: O&M Manager
Individual: Abraham Henningsgaard

References			
1)	**I-495 EXPRESS (F)**	**GEORGIA COMPREHENSIVE MAINTENANCE**	**JACKSONVILLE INTERSTATE ASSET, MAINTENANCE ASSET, CLAY, NASSAU AND BRADFORD COUNTIES**
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9) Other

(F) – Identifes a Form F project from the SOQ submittal. See Section 3 of this submittal for project details.

Gordon Peterson, PE

PROJECT QUALITY MANAGER

34 years of experience (32 years with Kiewit)

Gordon Peterson has served on many award-winning, design build urban transportation projects. Recently, he was lead quality manager on the successful $1.1 billion DFW Connector in Dallas/Fort Worth, which includes many of the same elements as the Central 70 project. Gordon will leverage his 34 years of experience in inspection, design, rehabilitation and quality control of major projects to ensure CDOT receives a high-quality result. Specifically, he will be responsible for implementing quality planning and training, and managing the team's quality management processes. He will report directly to the project manager, but will have the know how, expertise, and authority to stop work. He will be co-located and onsite until Final Acceptance. Gordon will assure Kiewit-Meridiam's commitment to high-quality construction for CDOT in completing the Central 70 project.

Gordon grew up in Fruita, Colorado and was a Colorado resident for 27 years. He has a passion for flying, and earned a Private Pilot Certificate from Centennial Airport.

Years of similar work experience	Employment with current employer	Other employers in past 10 years
34 Years	32 Years	N/A

FORM F – PROJECT EXPERIENCE:

Construction Quality Control Manager, DFW Connector, Grapevine, TX, Kiewit

Gordon developed project-specific quality programs, including construction quality control procedures, into an ISO 9001:2008 certified quality management plan for this $1.1 billion design build project. The DFW Connector, at the intersection of four of the area's most populous counties, improved a vital corridor traveled by about 200,000 vehicles per day. The corridor, north of the Dallas/Fort Worth International Airport, consisted of 9.4 miles of roadway, including four highways, two interchanges, five overpasses, 39 bridges, new direct connect ramps, and continuous frontage roads. Gordon managed jobsite quality supervisors, engineers and technicians. He was responsible for assuring that testing was performed in adherence to TxDOT specifications and that quality-related issues were quickly documented and resolved.

Lead Quality Manager, T-REX, CDOT/RTD, Denver, CO., Kiewit

This $1.29 billion Kiewit-led design-build project expanded 17-miles of interstate highway and constructed a new 19-miles double track light rail with 13 stations. The project included 61 bridges, 14 LRT bridges, three LRT tunnels, 800 utility relocations, 200 new power feeds, and $40 million in

drainage structures and pipeline. The project was completed 22 months ahead of schedule and under budget. Gordon was the lead quality manager for state certified Kiewit materials and testing lab. He was responsible for oversight of the testing, reporting, and documenting of materials incorporated into the paving materials for the project. He also served on a working group that developed the initial Kiewit DB quality management plan (QMP).

Lead Quality Manager, Denver Union Station Transit Improvements (DUS), Denver, CO. Kiewit

For this project, Gordon provided senior oversight to the project quality team in developing the project-specific quality programs, including quality system, construction quality control and quality acceptance procedures for this $374 million design build project. Following contract award, Gordon supported training efforts for supervisors, engineers, technicians, and testers on staff. He coordinated with the Workforce Investment Network to arrange quality workers for the project to augment Kiewit's project-specific quality staff. Gordon took responsibility for authoring a quality plan that was ISO certified and tailored the plan to the client's needs.

OTHER RELEVANT PROJECT EXPERIENCE(S):

Lead Quality Manager, Midtown Express, Dallas - Fort Worth, TX

The $847.6 million project covers approximately 27.8 miles of roadway, spanning five cities and two counties in Texas. The project involves the reconstruction of portions of SH 183, SH 114, and Loop 12 to include rehabilitation of frontage roads, general purpose roads, 44 bridges, and 4 connectors. The team will also construct one new TEXpress toll-managed lane in each direction, and 28 new bridges, as well as a wishbone structure connector. Gordon analyzes quality procedures and methods that will benefit the project's commitment to a 25 year operation and maintenance program. Gordon manages over 50 quality personnel and engineers. He is responsible for the Design, Quality Acceptance, Quality Control, and Operations and Maintenance Quality Programs.

District Quality Manager, Various Regional Projects, Kiewit

Gordon was responsible for project quality control and quality assurance of large, complex projects for Kiewit's entire Central District, a multi-state region. He managed quality assurance processes and programs that included audits to make sure construction met owner specifications. Gordon managed the activities of five area quality managers with total staff of 35 quality engineers, inspectors and technicians. He assured testing was performed per applicable standards and that testing equipment was maintained and calibrated. Gordon provided management oversight of the quality of pavement mix designs, aggregate production and ride quality testing, and maintaining AASHTO R-18 accreditations.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
PE CO # 27243 PE AZ # 22901 PE TX # 106790	CAPA Board of Directors 2009 Joint CAPA/CDOT Task Force Steering Committee Task Forces: SMA, QC for Pay, SHRP Gyratory Compactor Calibration Rocky Mountain Asphalt User Producer Group Conferences Speaker	NONE

FINAL RFP

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: Project Quality Manager
Individual: Gordon Peterson

References			
1)	**DFW CONNECTOR (F)**	**DFW CONNECTOR (F)**	**SHAFFER'S CROSSSING TURKEY CREEK**
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9) Other

(F) – Identifes a Form F project from the SOQ submittal. See Section 3 of this submittal for project details.

James J. Rozek, PE

INDEPENDENT DESIGN QUALITY MANAGER

46 years of experience (38 years with Parsons Brinckerhoff)

KEY PERSONNEL

James Rozek (Jim) possesses extensive managerial and engineering experience on major highways, structures, underground, wastewater and transit projects throughout the United States, Australia, and the Middle East. A key part of Jim's recent work included development and quality management leadership for the Dallas Horseshoe Design-Build Project and Loop 1604 Western Extension (San Antonio). These Texas Department of Transportation (TxDOT) alternative delivery projects utilize Quality Management Plans prepared by Parsons Brinckerhoff that also form the basis of the proposed Central 70 Project QMP (Appendix D). Currently Jim is the overall project quality manager for the $4 billion LaGuardia Central Terminal Building Reconstruction.

Prior to these quality roles, Jim managed and led design and project delivery, from planning and feasibility stages through detailed design and support during construction. He has also been Parsons Brinckerhoff's project manager on a number of major projects where the firm served as owner's engineer. Many of these projects were design-build-own-operate-transfer (DBOOT), or some variation that involved complex contractual arrangements, responsibilities and risk management.

.Years of similar work experience	Employment with current employer	Other employers in past 10 years
33 Years	23 Years	None

FORM F – PROJECT EXPERIENCE:

Design Quality Control Manager, Dallas Horseshoe (The Horseshoe) Design Build, TxDOT, Dallas, Texas, Parsons Brinckerhoff, Inc.

In December 2011, The Dallas Horseshoe DB project began upgrades for the aging bridges carrying IH 30 and IH 35E traffic over the Trinity River, and widening improvements for the Dallas "Mixmaster" interchange. The $718 million project included full reconstruction of the IH 30/IH 35E interchange and construction of a signature bridge designed by architect Santiago Calatrava (the Margaret McDermott Bridge). Approximately 80% of the 73 lane miles of the project are on an elevated roadway section.

Jim served as the Professional Services Quality Control Manager (PSQCM), responsible for compliance oversight and audit of the design quality. Key design efforts for the project are similar to the Central 70 project including roadway, drainage, bridge, retaining wall, traffic, hydraulic/hydrology, maintenance of traffic (using active traffic management) and geotechnical engineering.

Jim established, audited, implemented and oversaw the Project Design Quality Management Plan (DQMP); and ensured that it was distributed, understood, and used at all levels of the Project. This plan includes quality procedures, quality compliance audits, review of sub consultant Design Quality Plans, project documentation and monthly reports.

As the project neared completion, Jim verified that the contractor obtained approval from applicable Third Parties, completed formal review with TxDOT and Chaired the submittal review committee prior to issuing the Certificate of Compliance.

OTHER RELEVANT PROJECT EXPERIENCE(S):

Design Quality, Loop 1604 Western Extension Design Build Project, Texas Department of Transportation (TxDOT), San Antonio, Texas, Parsons Brinckerhoff, Inc.

Serving as the Project Manager, Jim was fully responsible for all design and quality control for the $126 million reconstruction of the principle urban arterial from a point south of the Loop 1604 and FM 1560 Interchange in San Antonio, Texas. Jim's leadership ensured that internal design checks were performed in accordance with the project design quality management plan for drawings, specifications, reports, calculations and other design documents prepared for prosecution of the work. Jim then verified that all agreed upon comments were incorporated into the design and that design packages were complete and he managed the design team's schedule for submittals. Provided final reviews and chaired the submittal review committee prior to issuing the Certificate of Compliance.

Section Manager, Interstate 10 Katy Freeway, Texas Department of Transportation (TxDOT), Houston, Texas, Parsons Brinckerhoff, Inc.

As the largest freeway reconstruction program in Texas history, development of the Katy Freeway required a number of strategic partnerships involving area transportation partners, municipalities, businesses and residential communities. Parsons Brinckerhoff served as the general engineering consultant (GEC) and Jim was the Section Manager reporting directly to TxDOT. The multi-phased program consisted of nine construction contracts and included widening the 11-lane highway to 18 lanes, expanding shoulders and frontage roads, adding dedicated turn lanes at major interchanges, upgrading lighting and adjusting highway geometry to improve sight distances.

The Katy Freeway featured the first multilane electronic tollway in the U.S. to operate within the right-of-way of an interstate highway, providing multiple entrance and exit locations. All lanes were opened to traffic in October 2008, more than 2 months ahead of the already accelerated schedule.

Other:

Throughout Jim's 46 years of experience, his work has allowed him to gain a level of expertise in project management, quality management, program management and operations. Through these efforts he has developed excellent skills in Highways, Tunnels, Airports, Transit Systems, Rail, Facilities and multiple Peer Reviews.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
PE Licenses: TX (53467) LA (15438) OK (14350) OH (82094)	ASCE – Fellow and Life Member Institute of Transportation Engineers – Fellow & Life Member	NONE

FINAL RFP

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: Independent Design Quality Manager
Individual: James Rozek

References			
1)	**LaGuardia Central Terminal Reconstruction**	**Dallas Horseshoe Project**	**Loop 1604 Western Extension**
[redacted]	[redacted]	[redacted]	[redacted]
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9) Other

Sean McAfee

CONSTRUCTION PROCESS CONTROL MANAGER

14 years of experience (12 years with Kiewit)

KEY PERSONNEL

Sean has more than a decade of quality control experience on large construction projects across the country. He has extensive field and laboratory inspection and technical experience in all disciplines of the construction industry. He is a skilled mediator and facilitator among operations, quality control, and quality assurance.

He has been responsible for quality compliance, as well as hiring and supervising craft technicians on large, complex projects such as the $556 million Inter-County Connector Contract B.

Years of similar work experience	Employment with current employer	Other employers in past 10 years
14 Years	12 Years	N/A

FORM F – PROJECT EXPERIENCE:

Not Applicable

OTHER RELEVANT PROJECT EXPERIENCE(S):

Quality Manager, Porter Road, Kiewit

Sean is responsible for quality planning and implementation, as well as compliance, on this $90 million bid-build project for the Arkansas Department of Transportation.

Quality Manager, District Lab Ft. Worth Texas, Kiewit

Sean is responsible mix designs and field support to asphalt paving projects.

Quality Process Control Manager, Connector-2499, Kiewit

Sean is responsible for quality planning and implementation, as well as compliance.

Quality Control Manager, Johnson County Gateway, Kiewit

Sean was responsible for quality planning and implementation, as well as compliance, on this $300 million design-build project for the Kansas Department of Transportation. Sean oversees and monitors quality control activities and documentation, ensuring materials and work meet project requirements.

Quality Manager, I-25 North, Kiewit

Sean was responsible for quality planning and implementation, as well as compliance, on this $51.7 million design-build project for the Colorado Department of Transportation. Scope includes widening 10 miles of interstate by one lane each way and improving bridges, as well as adding new drainage features, grading shoulders, paving and new signage. Sean oversees and monitors quality control activities and documentation, ensuring materials and work meet project requirements.

Quality Manager, Pantex High Explosive Pressing Facility (HEPF), Kiewit

Sean oversaw quality for this $65 million project to construct a fully designed, 45,000-square-foot pressing facility for the U.S. Department of Energy. Site work involved utilities, parking, grading, and communications. Sean's responsibilities included scheduling, managing subcontracts and overseeing a crew of quality assurance/quality control technicians.

Construction Process Control Manager, Inter-County Connector Contract B, Kiewit

In his role on this $556 million, design-build project for the Maryland State Highway Administration, Sean implemented a four-step planning process, which included work planning, pre-activity meetings, initial inspection and verifications. He was responsible for monitoring quality control records and compiling non-conformance reports. Sean also implemented and managed the thermal control plan and mass concrete temperature monitoring on 5-mile bridges. He served as mediator and facilitator among the operations, quality control and quality assurance organizations involved in the project.

Quality Manager, Border Fence M-2, Kiewit

Sean managed inspectors and engineers for this $7 million USACE project. He also reviewed and approved all documentations and coordinated meetings with USACE and other stakeholders.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
ACI Level I Certified for Field Concrete Testing ACI Level II Concrete Construction Special Inspector WAQTC Certified for Soils Testing Field and Lab CAPA Colorado Dept. of Transportation Certified Asphalt Inspector Federal Highway Administration Drilled Shaft Special Inspector USACE Certified Quality Control Manager	N/A	NONE

FINAL RFP

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: Construction Process Control Manager
Individual: Sean McAfee

References			
1)	**I-25 NORTH**	**JOHNSON COUNTY GATEWAY**	**JOHNSON COUNTY GATEWAY**
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
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1) Project(s) / Transaction(s)
2) Reference's Name
3) Reference's Tittle (current)
4) Reference's Employer (current)
5) Reference's Title (at time of project/transaction)
6) Reference's Employer (at time of project/transaction)
7) Reference's Phone and Email
8) References Location and Time Zone
9) Other

(F) – Identifes a Form F project from the SOQ submittal. See Section 3 of this submittal for project details.

Tracy Martin

INDEPENDENT QC MANAGER

32 years of experience (19 years with Kiewit)

KEY PERSONNEL

Tracy's 32 years of working on large-scale, design-build projects gives him the confidence and ability to take on even the most daunting projects. He has been the project quality manager for both the I-15 Corridor Reconstruction project in Salt Lake City and the Tacoma Narrows Bridge in Tacoma, WA, the first design-build programs for UDOT and WSDOT, respectively. Tracy develops quality programs specific to the Client and, no matter how challenging the specification, successfully administers it. He believes “quality is a Kiewit Core Value and a major key to our corporate success…We continue to learn, evolve and improve to achieve quality performance.” Tracy has solid work experience in design coordination, collocation task forces, and a willingness to partner with multiple agencies to improve each project.

Tracy’s knowledge of construction and schedule management, and project planning makes him a valuable manager. His organization and ability to disseminate information and coordinate the activities of a large team has led to the completion of many quality projects. His past experiences as a project quality manager have allowed him to effectively oversee quality assurance and quality control organizations to ensure that design coordination meets requirements. Tracy has proven his ability to ensure the satisfaction of clients and stakeholders while maintaining accordance with construction requirements.

Years of similar work experience	Employment with current employer	Other employers in past 10 years
32 Years	19 Years	N/A

FORM F – PROJECT EXPERIENCE:

None

OTHER RELEVANT PROJECT EXPERIENCE(S):

Project Quality Manager, Honolulu High Capacity Transit Corridor–Farrington and Kamehameha Guideway Projects, Kiewit

As project quality manager, Tracy is responsible for all quality aspects of the project including quality management plan creation and follow through during field operations. He is also responsible for safety program startup, environmental compliance, and public information and community awareness. The Farrington Guideway and Kamehameha projects consists of the design and construction of the first

phase of the new Honolulu High-Capacity Transit Corridor from the initial East Kapolei station approximately 11-miles to just east of the Aloha Stadium Pearl Highlands station. The guideway is mostly comprised of a two-track aerial structure with a 0.3-mile portion of twin single-track guideway and 0.3-mile of guideway at grade. The contract also includes the foundations for nine stations and the rail maintenance facility together with installation of rail. The scope of work includes extensive relocation of existing utilities, reconfiguring the highway median and left turn pockets, relocating traffic signals, widening the roadway, constructing an access road through the planned community of Hoʻopili, removal and salvage of existing landscaping and installation of temporary landscaping, construction of box culverts and retaining walls, and associated grading. Utility relocations will involve both public and private utilities including water, storm sewer, sanitary sewer, natural gas, fuel, electrical and communication lines (both underground & overhead), traffic signals and conduits. Comprehensive and effective public information, maintenance of traffic, systems interface, follow-on contract coordination, and environmental compliance programs will ensure success.

SENIOR PROJECT ENGINEER, Brightwater Wastewater Treatment Plant, Kiewit

The Brightwater Treatment Plant will be a new 36 mgd wastewater treatment plant utilizing membrane bioreactor technology and multiple-stage odor control systems to achieve strict odor control standards. The construction of the Solids/Odor Control Facilities includes all temporary and permanent site construction, architectural and structural planning and creating all building services. Tracy's responsibilities included setting up and maintaining a project schedule, project works plans, and administration of the job contract. Tracy saw that the construction schedules and the detailed cost control systems were adhered to. The Brightwater Treatment Plant requires stringent adherence to environmentally regulated waste management requirements with constant instrumentation, testing, and training to guarantee a well-executed project. Tracy ensured the project adhered to all environmental regulations. He also effectively employed DBE and WBE contractors in construction of this project.

DEPUTY DESIGN MANAGER/SENIOR PROJECT ENGINEER, I-25 Transportation Expansion (T-REX), Kiewit

This $1.28 billion design-build project involved the reconstructing of 17-mi. of two interstate highways while in tandem constructing 19 miles of new double-track light rail transit line and overhauling and reconstructing numerous bridges, tunnels, and pedestrian and bicycle access routes. The T-REX Project not only increased transit options, but also enhanced safety of the public by replacing aging infrastructure and significantly reducing travel time. Working as deputy design manager, Tracy was involved with vigilant monitoring of job safety and quality standards while overseeing construction. He coordinated with the design team and collocation task forces to make sure requirements were met. While working on this large undertaking. Tracy met with stakeholders within the surrounding cities to review all construction and work plans throughout the different stages of the project. Deftly managing complex traffic switches and maintaining an active roadway for daily commuter traffic made this large project run smoothly.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
WA PE # 46589, 2010-2017, OR PE #14471, UT PE #97.349290-2202, HI PE #13967	N/A	NONE

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: Independent Quality Control Manager
Individual: Tracy Martin

References			
1)	**HAWAII RAIL**	**TACOMA NARROWS BRIDGE**	**TACOMA NARROWS BRIDGE**
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
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9) Other

(F) – Identifes a Form F project from the SOQ submittal. See Section 3 of this submittal for project details.

Jenn Bradtmueller, PE

ENVIRONMENTAL MANAGER

14 years of experience (7 years with Kiewit)

KEY PERSONNEL

Jenn has managed environmental programs for multi-million and billion dollar complex design build projects throughout her career. Jenn is responsible for compliance with all mitigation requirements of the NEPA Decision Document and schedules, and participates in and coordinates meetings with regulatory agencies. Jenn brings best management practices from CDOT's design build on I-25 North, I-225 Rail Line, Denver Union Station (DUS), and T-REX to ensure compliance with all applicable environmental regulations and permit applications. Jenn has a solid relationship with regulatory agencies, including the Colorado Department of Public Health and Environment, and she is committed to monitoring the Central 70 Project and ensuring compliance throughout construction up to final completion. Jenn has 14 years of recent experience in environmental compliance including NPDES/MS4 regulatory requirements in an urban metropolitan setting; air quality permitting compliance and monitoring; and hazardous materials management.

.Years of similar work experience	Employment with current employer	Other employers in past 10 years
14 Years	7 Years	CH2M

FORM F – PROJECT EXPERIENCE:

Environmental Engineer, I-25 Transportation Expansion (T-REX), CH2M Hill

Jenn was the Environmental Engineer for CH2M Hill on this award-winning, $1.28 billion Kiewit-led design build project constructing 19 miles of double-track light rail with 13 stations, and expanding 17 miles of interstate highway. The project was completed 22 months ahead of schedule, $12 million under budget, and won a total of 28 awards, including the Colorado Contractor Associations' (CCA) Environmental Excellence Award in Noise Mitigation and Monitoring. Jenn performed RECAT inspections, illicit discharge surveys, and BMP evaluations.

Environmental Manager, Denver Union Station Transit Improvements, Kiewit

This $372 million design build project included construction of a 22-bay bus terminal 23 feet below grade, and 8-track commuter rail train hall and relocation of a light rail platform. Jenn oversaw the environmental program including: stormwater control, dewatering of contaminated groundwater, hazardous and non-hazardous waste management, and asbestos and lead-based paint management. Under Jenn's leadership, the project was awarded the CCA's Environmental Excellence Award.

District Environmental Manager, Kiewit

As District Environmental Manager, Jenn oversees environmental programs and compliance on all projects, including the I-225 Rail Line, DUS Improvements, I-25 North Design Build and Pecos Bridge over I-70 Bridge Replacement Project. On the $374 Million DUS project, Jenn oversaw stormwater control, dewatering of contaminated groundwater, hazardous and non-hazardous waste management, asbestos and lead-based paint management, air quality control, and compliance with the Emergency Planning Community Right-to-Know Act. Under Jenn's hands-on management, DUS won the Colorado Contractor Association's (CCA) Environmental Excellence Award.

OTHER RELEVANT PROJECT EXPERIENCE(S):

Environmental Manager, MoDOT 554 Project, Kiewit

Jenn managed all environmental aspects on this $487 million, Kiewit-led design build project, which included designing and constructing 554 bridges throughout Missouri. Jenn provided offsite management of the environmental program, ensuring 100% compliance. This included managing stormwater permits, 404 permits, 401 certifications, waste management, and compliance with the Emergency Planning Community Right-to-Know Act. Jenn also assisted in arranging for asbestos-contaminated and lead-based paint material disposal. Jenn's commitment to upholding the highest environmental standards and compliance contributed to the nearly 2-year-early and under-budget project completion

Environmental Manager, Kiewit Western Co.

Jenn ensured that Kiewit's Central region jobsites (comprised of 14 states) were 100% compliant with all environmental laws and regulations, including: the Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation and Liability Act, Migratory Bird Treaty Act, Endangered Species Act and the Emergency Planning and Community Right-to-Know Act. She also ensured jobsites complied with various requirements for waste management, stormwater management and Spill Prevention Control and Countermeasure.

Project Manager, Hydrogeologic Services, CH2M Hill

Jenn performed managerial duties for a $1.1 million hydrogeologic services project. This project consisted of providing drinking water resources for a rural area in Nevada. Project management duties included managing a team of five people, budget tracking, and maintaining strong client relationships.

Project Manager, Groundwater Monitoring Program, CH2M Hill

Jenn managed a $100,000 groundwater monitoring program for a local water and wastewater district. This included groundwater monitoring, database management, budget tracking, and obtaining additional work.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
PE CO # 43750	Corporate Environmental Manager Award, 2014, 2015 Associated General Contractors Association Environmental Steering Committee Member, 2015 – present	NONE

FINAL RFP

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: Environmental Manager
Individual: Jenn Bradtmueller

References			
1)	**PECOS BRIDGE OVER I-70 BRIDGE REPLACEMENT**	**MODOT 554 PROJECT**	**I-225 LIGHT RAIL (F) AND US 34 BIG THOMPSON**
[redacted]	[redacted]	[redacted]	[redacted]
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9) Other

(F) – Identifies a Form F project from the SOQ submittal. See Section 3 of this submittal for project details.

Kevin Custy

UTILITIES MANAGER

28 years of experience (7 years with Jacobs Engineering Group)

Kevin Custy is an expert in utilities and advises utility engineers throughout the country. He has 28 years of utility management experience, the past 15 years on multi-billion dollar design build projects. He has worked with utility company and local agency representatives in the Denver metropolitan area, and possesses in-depth knowledge of the CFR, state, and local utility laws. While Utilities Manager for CDOT, Kevin oversaw and authored the design build utility documents and processes used on alternative delivery projects for CDOT. He is a proven utilities expert that knows the local infrastructure and maintains trusted utility company relationships. All of these elements are vital to the success of the Central 70 Project.

.Years of similar work experience	Employment with current employer	Other employers in past 10 years
28 Years	7 Years	Colorado Department of Transportation

FORM F – PROJECT EXPERIENCE:

Senior Utility Manager, T-REX, CDOT/RTD, Jacobs

Kevin was the Senior Utility Manager from the EIS stage through construction on this award-winning $1.7 billion design build project involving construction of 19 miles of light rail with 13 stations and the expansion of 17 miles of interstate highway. The project included 61 bridges, 14 LRT bridges, three LRT tunnels, 400 utility relocations, 200 new power feeds, and $40 million in drainage structures and pipeline. Utility relocations were completed ahead of schedule and under budget with no major utility accidents and no contractor delay claims. Kevin helped to deliver the nation's first multi-modal transportation project that received nation-wide acclaim and over 30 awards. He supervised and trained staff utility team members. Additionally, Kevin coached, mentored, and managed utility team staff to perform assigned duties, in accordance with CDOT, RTD, state, and federal guidelines and policies; served on "T-REX Constructability Task Group;" and developed strategy and made recommendations to pass state laws (C.R.S. 43-1-1411) to allow for better utility company coordination with CDOT on a statewide basis.

Senior Utility Manager, RTD FasTracks Program, Jacobs Engineering Group

The RTD FasTracks Program is a $7 billion comprehensive transit expansion plan to build 122 miles of new commuter rail and light rail, 18 miles of bus rapid transit, 21,000 new parking spaces at light rail and bus stations, and enhanced bus service. Under Kevin's leadership, the utility deliverables are ahead of schedule, under budget, with no major utility incidents and no contractor delay claims. Kevin's duties include supervising staff utility team members and performing utility senior leadership duties for

FasTracks. Other project-specific duties include: Coordination of all utility relocations and new utility services including design, right-of-way, environmental, conflict resolution, construction, inspection, acceptance, costs and schedule. Kevin has served as Utility Manager during Environmental stage through construction of the project. As part of this service, Kevin supervised the staff utility team for the following projects.

Utilities Manager for RTD, Denver Union Station Transit Improvements (DUS), Jacobs

Kevin's duties included supervising staff utility team members and performing utility senior leadership duties for FasTracks.

Utilities Manager for RTD, I-225 Rail Line (LRT), Jacobs

Supervises staff utility team members and performing utility senior leadership duties for FasTracks.

OTHER RELEVANT PROJECT EXPERIENCE(S):

CDOT Utilities Manager, CDOT Region 6 (now known as Region 1)

During Kevin's tenure with CDOT, he became the utilities subject matter expert for all road construction and railroad/highway safety projects within CDOT's Region 6, the largest and most complex region in the state. He has worked on hundreds of CDOT projects, providing unparalleled comprehension of the utility and railroad infrastructure on the I-70 East Corridor and the I-70/I-25 and I-70/I-225 interchanges. He developed working partnerships with all of the utility companies within the Denver metropolitan area, managed utility teams, coordinated thousands of utility relocations for transportation projects, and efficiently and effectively negotiated all of these conflicts resulting in creative, low-cost solutions. Kevin served in multiple roles during his time at CDOT.

As a utilities manager he had the following responsibilities;

- Hired, coached, mentored, and managed utility unit staff to perform assigned duties, in accordance with CDOT, state, and federal guidelines, and policies.
- Coordinated with utility company representatives to implement schedules and work during design and construction phases, to promote "partnering" teamwork and ensure utility relocations for all projects were completed on time and within budget.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
N/A	FHA: AASHTO 2006 Utility Outstanding Achievement Award for Exceptional Accomplishment in the Category of Utility Innovation valued at $100+M FHA: AASHTO 2006 Utility Outstanding Achievement Award for Exceptional Accomplishment in the Category of Subsurface Utility Engineering	NONE

FINAL RFP

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: Utilities Manager
Individual: Kevin Custy

References

1)	T-REX & FASTRACKS (F)	FASTRACKS	T-REX, FASTTRACKS (F) AND CDOT PROJECTS
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
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9) Other

(F) – Identifes a Form F project from the SOQ submittal. See Section 3 of this submittal for project details.

Hunter Sydnor

PROJECT COMMUNICATIONS MANAGER

16 years of experience (13 years with Kiewit)

Hunter joined Kiewit in 2001 and has 16 years of public information/relations experience. She provides public relations, involvement, and outreach services for large, complex civil and transportation projects. Hunter collaborates with client and contractor senior management teams to anticipate and respond to stakeholder concerns. She has frequently worked with CDOT personnel to develop and implement communication plans to ensure effective information dissemination to relevant stakeholders. These projects included T-REX, DUS, I-25 North Expansion Project and the recent Pecos Street over I-70 Project. Hunter's roles vary from managing information distribution, producing written communication tools to keeping the public informed of project development, special event planning, responding to public inquiries, developing strategic key messages and participating in community outreach activities such as neighborhood walks, and community meetings. She has solid relationships with CDOT personnel and extensive experience in community relations, government and media relations and crisis communication. She brings a wealth in community knowledge and strategic thinking to our team. Her efforts with the T-REX Communication team earned the Gold Pick for the Best Communications Program Award from the Public Relations Society of America. In 2017, Hunter was elected as a Board Member for the Conference of Minority Transportation Officials (COMTO) (2017)

.Years of similar work experience	Employment with current employer	Other employers in past 10 years
16 Years	13 Years	N/A

FORM F – PROJECT EXPERIENCE:

Public Information Manager, I-225 Rail Line, Kiewit

The I-225 Rail Line is a design build project to construct 10.5 miles of new LRT track in Aurora, Colorado. The light rail tracks run along I-225 and the remainder runs along local streets. There are seven bridges, 16 grade crossings, and eight stations in the stretch between Nine Mile Station (existing) to the new Peoria/Smith Street Station. As the public information manager, Hunter developed the communications plan and crisis management plan for the project. She is responsible for keeping the public informed of all construction-related activities. Since the project occurs in a congested urban area with significant utility conflicts, traffic handling/phasing requirements, and intense coordination with adjacent contractors, local governments, and businesses, there is significant public interface.

Public Information Officer, Denver Union Station Transit Improvements, Kiewit

This $372 million project to build the DUS Transit Improvements Project covered 40 acres and transformed the historic Union Station into a multimodal transportation hub. The project included construction of a 22-bay bus terminal 23 ft. below grade, an 8-track commuter rail train hall designed to handle up to 10,000 travelers per hour, and relocation of a light rail platform. As public information officer, Hunter executed a strategic communications plan, which included media relations and public outreach. Hunter was also responsible for communicating construction activities, which involved developing communications plans to address specific elements of construction and determining the most effective communication tools for the project.

Public Information Officer, I-25 Transportation Expansion (T-REX), Kiewit

This $1.28 billion Kiewit-led design build project expanded 17-miles of interstate highway and constructed a new 19-miles of double-track light rail with 13 stations. The project included 61 bridges, 14 LRT bridges, three LRT tunnels, 800 utility relocations, 200 new power feeds, and $40 million in drainage structures and pipeline. The project was completed 22 months ahead of schedule and under budget. Hunter was the principal contact for elected officials, residents, business owners, commuters and emergency response teams. She worked with CDOT and RTD to determine issues with a political impact and strategized ways to minimize these impacts. She developed communication plans, conducted public meetings, and organized special events. Through constant communication with the public, Hunter helped to deliver the nation's first multi-modal transportation project that received nation-wide acclaim and over 30 awards, including the Gold Pick for Best Communications Program Award from the Public Relations Society of America, Colorado Chapter.

Public Information Officer, DFW Connector, Texas Department of Transportation, Kiewit

DFW Connector, a $991 million design-build-maintain urban interstate toll road located adjacent to Dallas/Fort Worth International Airport had the potential of impacting 200,000 drivers a day as well as the local businesses of Grapevine, Las Colinas, Westlake, and Southlake, TX. Hunter worked on the proposal for the project, researching the community, identifying stakeholders and developing communication tools. When the project started, she developed the Crisis Communication Plan, the Public Information Plan and got new staff trained. At project start, she worked with the construction management team and TxDOT to develop relationships and processes to share information as the project moved forward.

Licenses/Registrations	Service/Awards	Professional Disciplinary Action
N/A	Women's Transportation Seminar (WTS) Diversity Leader Award (2016)Nominated for Denver Business Journal Outstanding Women in Business (2016)	NONE

FINAL RFP

Attachment A to Annex 6
Form for Key Personnel References

Proposer Name: Kiewit-Meridian Partners
Position: Project Communications Manager
Individual: Hunter Sydnor

References			
1)	**DENVER UNION STATION TRANSIT IMPROVEMENT PROJECT (F)**	**CDOT T-REX (F)**	**I-25 EXPANSION PROJECT**
[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]
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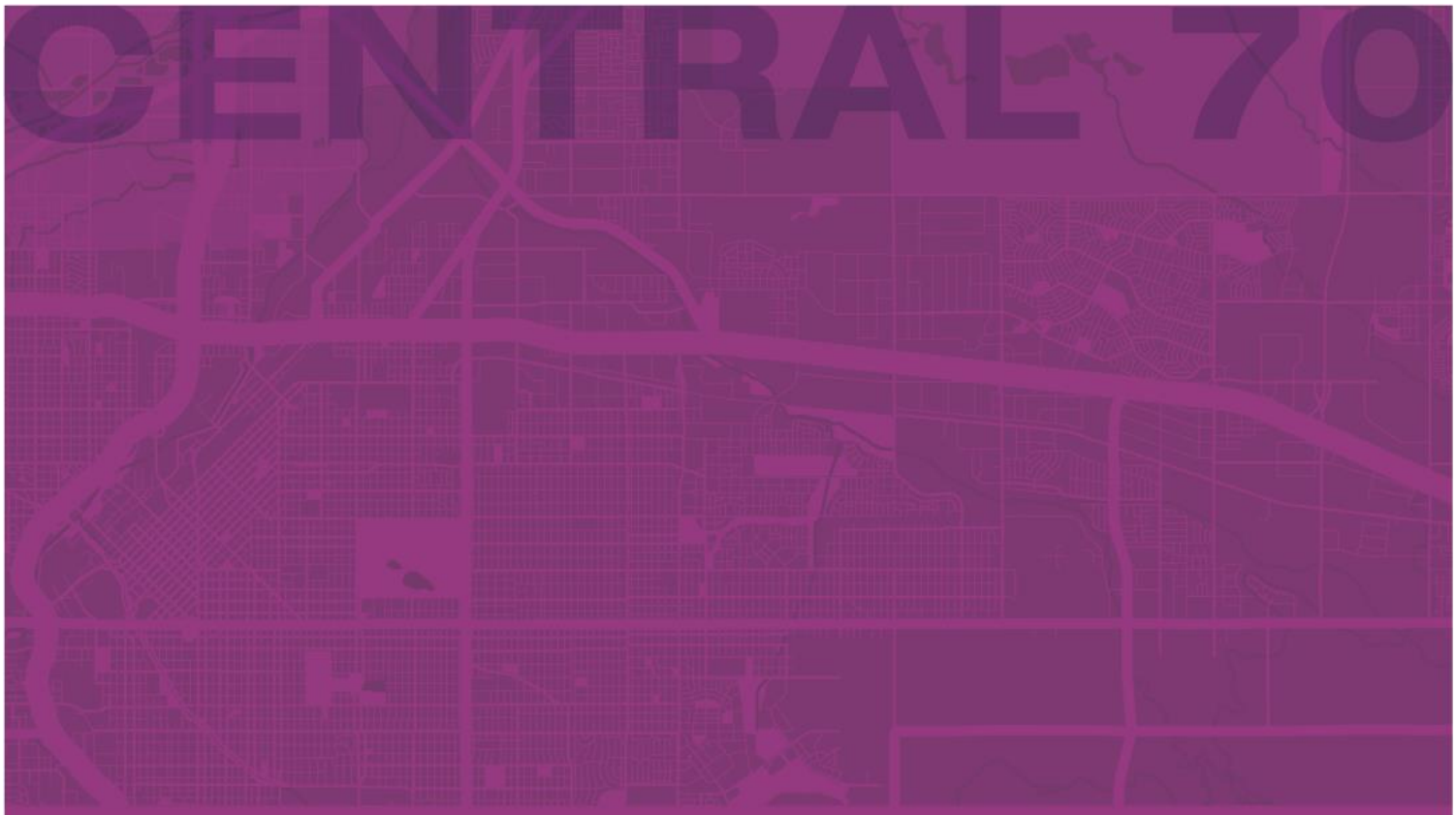
(F) – Identifies a Form F project from the SOQ submittal. See Section 3 of this submittal for project details.



ATTACHMENT 4

Relates to Appendix B

Kiewit meridiam PARTNERS

Critical Staff Biographies

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

Christophe Couallier, MBA

Financial Manager

YEARS OF EXPERIENCE:	15 Years
YEARS WITH MERIDIAM	7 Years
EDUCATION:	MBA Finance Crummer Graduate Business School, Rollins College Master in Petroleum Engineering French Petroleum Institute Graduate Engineer Mechanical & Industrial Engineering ENSAM, Angers & Paris, France

Christophe is a senior finance professional with demonstrated professional, entrepreneurial, and academic accomplishments in the US, Europe, and the Middle and Far East. He has over 15 years' experience in financial management, financial analysis and modeling, project finance, management accounting, financing strategies and reporting, and has served as both Chief Financial Officer and Vice President of Finance in the construction industry.

Christophe has successfully directed development and financial planning projects worth more than $2 billion, including an infrastructure tunnel P3 project, multiple oil production facilities, and a private airport. He has also direct a contract construction company, and a telecommunications start-up. He served as SPV concessionaire in charge of the financing, construction, and operations for the P3 Port of Miami Tunnel and Access Improvement Project.

Christophe is looking forward to bringing his experience and knowledge to the Central 70 project.

Matthew Christensen

Civil Rights Program Manager

YEARS OF EXPERIENCE:	30 Years
YEARS WITH KIEWIT	29 Years
EDUCATION:	B.S. Civil Engineering Technology University of Southern Colorado

Matt has held many leadership positions on major Colorado infrastructure projects throughout his career at Kiewit. His projects include Glenwood Canyon, I- 225 Light Rail, and US34 Emergency Repairs. As District Engineer, Matt is responsible for ensuring estimator, designer, and construction staff compliancy with all Federal Aid provisions associated with:

- *Davis-Bacon and Related Acts (DBRA)*
- *Equal Employment Opportunity (EEO) Provisions*
- *Title VI of the Civil Rights Act*
- *Americans with Disabilities Act*
- *Workforce development and small business participation*
- *Community development programs*

Matt serves on the Kiewit Diversity and Inclusion Council, is a Board member for the Denver Hispanic Contractor's Association, and is active with the Conference of Minority Transportation Officials (COMTO). He actively supports many programs and initiatives to advance the goals of these organizations.

Benjamin Snow

Safety Manager

YEARS OF EXPERIENCE:	9 Years
YEARS WITH KIEWIT	7 Years
EDUCATION:	B.S. Safety and Health Management and Risk Management emphasis Central Washington University

Ben has managed several challenging construction projects recognized for their safety excellence. Projects include massive waterline and canal projects in the open desert, mining operations, mass grading, building structures, and elevated mass transit systems. Ben is the district Safety Manager for Kiewit's Central District, and will provide full time support for the Central 70 proposal development and final delivery.

Ben has managed these major projects:

- West Oahu Farrington Guideway Project/ Kamehameha Highway Guideway Project, Kiewit
- Pohakuloa Project, Kiewit
- Unalakleet Costal Erosion Control Project, Kiewit
- Pine Tree Wind Project, Kiewit
- All American Canal
- Diemer Site Preparation, Kiewit

Colean Bembry

DBE/ESB Program Manager/Outreach Training Manager

YEARS OF EXPERIENCE:	11 Years
YEARS WITH KIEWIT	11 Years
EDUCATION	B.S. Electrical Engineering Technology Metro State College of Denver
MEMBERSHIPS	Conference of Minority Transportation Officials (COMTO) COMTO National Scholars Committee Kiewit's Diversity and Inclusion Council

Throughout her career, Colean has gained valuable skills in small business management and client relationships. Colean's technical experience includes quality management, construction management, and field engineering—including TPSS, OCS, signals, and communications systems for transportation industry projects. Colean has served as Quality Manager and engineer on complex alternative delivery projects.

Colean follows her passion for supporting the small and diverse business community. She is a leader on the Kiewit Diversity and Inclusion Council, is active with the Conference of Minority Transportation Officials (COMTO) locally and nationally, and serves on the COMTO National Scholars Committee. Colean has close relationships with firms in DBE/ESB community, and works with many of them on local projects.

Martin Currie

Technical Manager

YEARS OF EXPERIENCE:	25 Years
YEARS WITH KIEWIT	1 Year
EDUCATION:	B.S. Building Glasgow College of Technology

Martin is a professional construction manager with more than 25 years of experience in infrastructure projects in North America and the United Kingdom. Martin's experience includes Graduate Engineer, Design Manager, Construction Manager, and Public Private Partnership (P3) Project Manager managing construction and operations activities at the project concession level.

Martin's has 13 years' experience on P3 projects, including developing and managing complex infrastructure projects from inception to operations. His Building Engineer and Design and Construction Manager experience allows him to efficiently and effectively meet client requirements for deliverables, operations, maintenance, life cycle, and investment and risk management.

Kenyon Manley

Construction Safety Manager

YEARS OF EXPERIENCE:	17 Years
YEARS WITH KIEWIT	4 Years
EDUCATION:	A.S. Criminal Justice Remington University A.S. Biology Pikes Peak Community College

Kenyon is a Safety Manager with a strong professional background and experience. He has in-depth, hands-on experience as Lead Safety Manager for a complex $159M project in Minnesota, as Craft Safety Manager on a 10.5 mile light rail project in Colorado, and as Foreman and Operator on the I-25 North Design-Build Project for the Colorado Department of Transportation in Monument, Colorado.

Additional experience and training includes:

- Lead Safety Manager
- Craft Safety Manager
- Heavy Equipment Operator and Foreman
- OSHA 500
- Trainer of Competent Persons
- Trainer of On Track Safety Training
- Trained in On Track Safety
- Trained in 40 HR HAZWOPER
- Trained HazMat Supervisor

Mauricio Solano

Lead Scheduler

YEARS OF EXPERIENCE:	24 Years
YEARS WITH KIEWIT	24 Years
EDUCATION:	M.S. Civil Engineering (Construction Management) Northeastern University B.S. Civil Engineering National University of Colombia *Bilingual in Spanish and English*

Mauricio is the Scheduling Manager for the Southeast District of Kiewit Infrastructure South Co. His responsibilities include supervising all scheduling activities for existing and potential projects throughout the region.

For over 20 years, Mauricio has successfully managed projects with increasing responsibility based upon proven performance in safety, quality, and productivity objectives.

Mauricio has the required ATSSA certifications, and experience with projects involving extensive traffic control elements, including: traffic management for multiple diversions on the CONRAC project in Atlanta, significant MOT on the Alligator Alley Toll Plazas in southern Florida, and emergency repair of 1-10 Bridges in Pensacola.

Mauricio has hands-on experience in project management, government contract administration, and traffic control, and a proficient knowledge of scheduling software packages. He has a significant background coordinating subcontractors and vendor suppliers, and a strong knowledge of quality control and quality assurance requirements.

Tim Nelson

Design Integration Manager

YEARS OF EXPERIENCE:	26 Years
YEARS WITH KIEWIT	26 Years
EDUCATION:	B.S. Construction Management Washington State University

Tim has 26 years of construction experience, with 19 in alternative delivery projects. Tim has been Kiewit's lead for all design build projects in the Midwestern region for four years.

Tim's specialized experience includes: innovative bridgework and structures projects, including the billion-dollar DFW Connector Project for TxDOT. He currently provides pre-construction, design assistance, and constructability reviews on several project pursuits, including Colorado's I-25 North, Florida's I-395, and the successful Calgary Ring Road pursuit.

Tim has provided constructability, schedule and design reviews for large, complex projects in Colorado, including Central 70 RFP, the I-225 rail line, US 34 permanent repairs, and I-25 North design build projects. He was the job superintendent on the T-REX Project.

Jamie Harvey, PE

Commercial Manager

YEARS OF EXPERIENCE:	31 Years
YEARS WITH KIEWIT	31 Years
EDUCATION:	B.S. Architectural Engineering University of Colorado

Jamie has 31 years of experience on heavy-civil and transportation projects using alternative delivery methods. He has served as principal in charge, project manager, construction superintendent, project engineer, estimator, and foreman. He has expertise in guiding projects through all phases of estimating, bidding, planning, and execution. His strengths include structural concrete, water diversion and water control structures, mass grading, roadway construction, and complex bridge projects.

Jamie is a skilled engineer with experience providing constructability and design management and review, budget and schedule control, quality assurance and control, agency and utility coordination, permitting, client interface, and leading multidisciplinary teams. He has strong understanding of the alternative delivery process from his experience on the Pecos Bridge over I-70 project, and he understands how design coordination, pricing, and risk management are essential to the process.

Jamie is Kiewit's wall expert and is highly versed in the walls involved for the depressed sections on the Project.

Heath Therrien, PE

Cover Design Manager

YEARS OF EXPERIENCE:	19 Years
YEARS WITH PARSONS BRINCKERHOFF, INC.	2 Years
EDUCATION:	B.S. Civil Engineering Worcester Polytechnic Institute

Heath has over 19 years of experience in project management, engineering design, project controls, construction management, and alternative delivery projects. He has worked closely with clients on the successful delivery of design packages and reports for major projects—from the permitting stage through final completion. Heath has strong experience in roadway and utility design, with an emphasis on the preparation of final design plans, specifications, cost estimates, utility conflict identification, and utility relocation.

For the Central 70 Project, Heath is the Deputy Design Manager for Lead Engineer Parsons Brinckerhoff, and is responsible for managing a large design team focused on the Cover. This signature element of the Central 70 project consists of a 4-acre park over I-70 and all associated fire/life safety systems for the roadway beneath. Heath and his team are excited to deliver the Cover Park to the Department and to the local residents of the Swansea, Elyria, and Globeville communities.

Heath is a local resident of the Swansea neighborhood and brings this unique perspective to the design and coordination of the Cover.

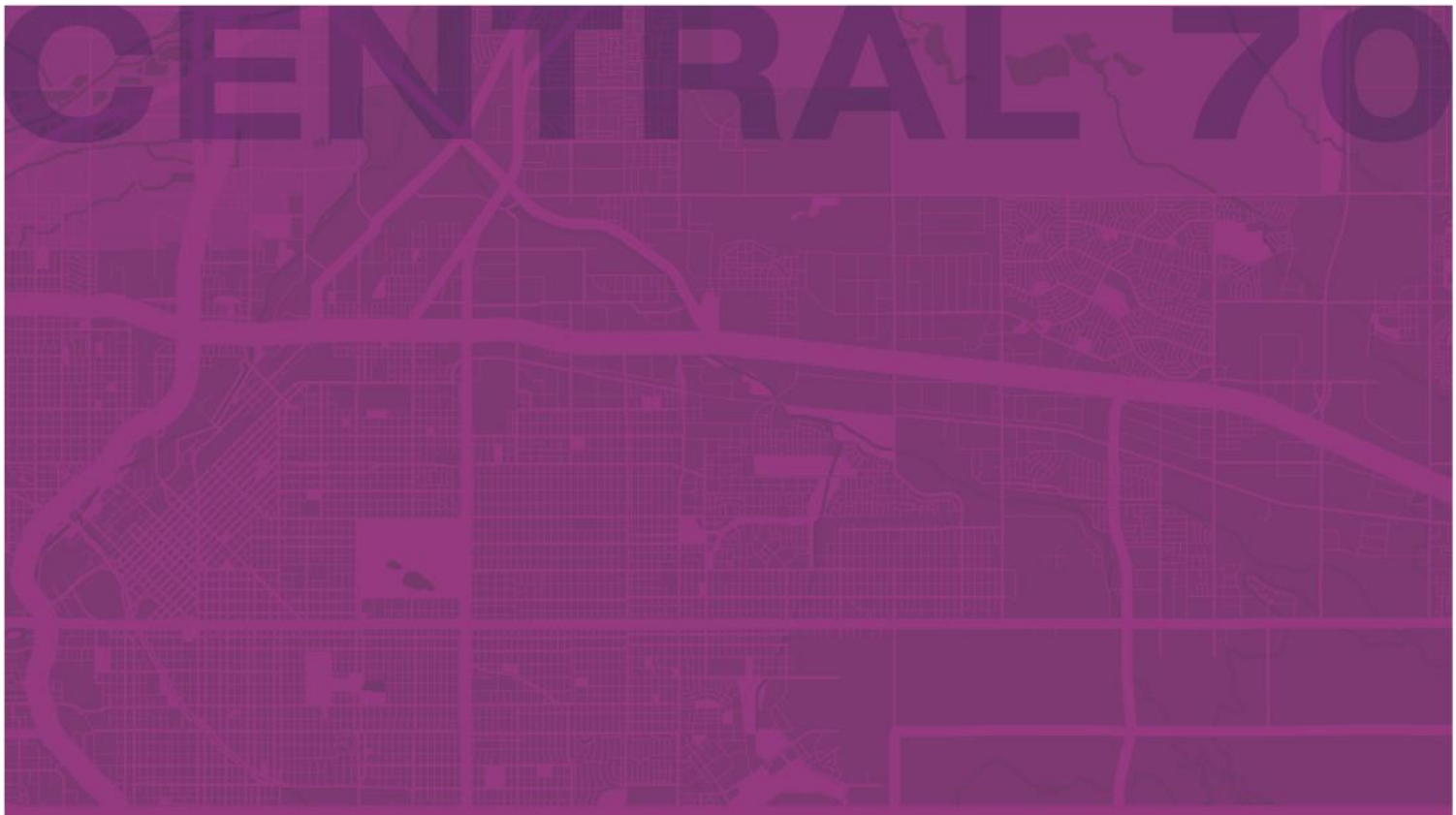
Mark Talvite, PE

Deputy Design Manager

YEARS OF EXPERIENCE:	32 Years
YEARS WITH JACOBS	14 Years
EDUCATION:	B.S. Civil Engineering Colorado State University

Mark is a Senior Project Manager with Jacobs and has 32 years of experience in design and management for a wide variety of transportation projects, most within Colorado. His experience includes urban roadway improvement projects, complex interchanges, major highway design build projects, and airports. Mark has been involved these projects from the planning and environmental phases through final design and construction. He has managed and coordinated efforts on many large, high-profile projects including US 36 Phase 1 and 2, E-470 Segments II, III and IV, I-15 CORE in Utah, and SH 128/120th.

Over the past five years, Mark has led and managed Jacobs' program management support effort for the Department's US 36 Phase 1 and 2 projects, and has provided senior support and oversight to the CMGC procurement and design of the US34 Big Thompson Canyon Permanent Repair Project. Mark has become a trusted resource the Department and other clients throughout the Denver metro area and Colorado.



ATTACHMENT 5

Relates to Appendix B

Kiewit meridiam PARTNERS

Project Directory

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

PROJECT DIRECTORY

Title/Position	Name	Phone Number	Email
	KEY PERSONNEL		
Project Manager	Chris Hodgkins		
Design-Build Manager	Tom Howell		
Construction Manager	Barry Thoendel		
Design Manager	Doug Andrew		
O&M Manager	Abraham Henningsgaard		
Project Quality Manager	Gordon Peterson		
Independent Design Quality Manager	James Rozek		
Construction Process Control Manager	Sean McAfee		
Independent Quality Control Manager	Tracy Martin		
Environmental Manager	Jenn Bradtmueller		
Utilities Manager	Kevin Custy		
Project Communications Manager	Hunter Sydnor		
	CRITICAL STAFF		
Technical Manager	Martin Currie		
Financial Manager	Christopher Couallier		
Safety Director	Ben Snow		
Safety Manager	Kenyon Manley		
Civil Rights Program Manager	Matt Christensen		
Lead Scheduler	Mauricio Solano		
Design Integration Manager	Tim Nelson		
Deputy Design Manager	Mark Talvite		
Cover Design Manager	Heath Therrien		
Commercial Manager	Jamie Harvey		
	SUBCONTRACTOR CONTACTS		

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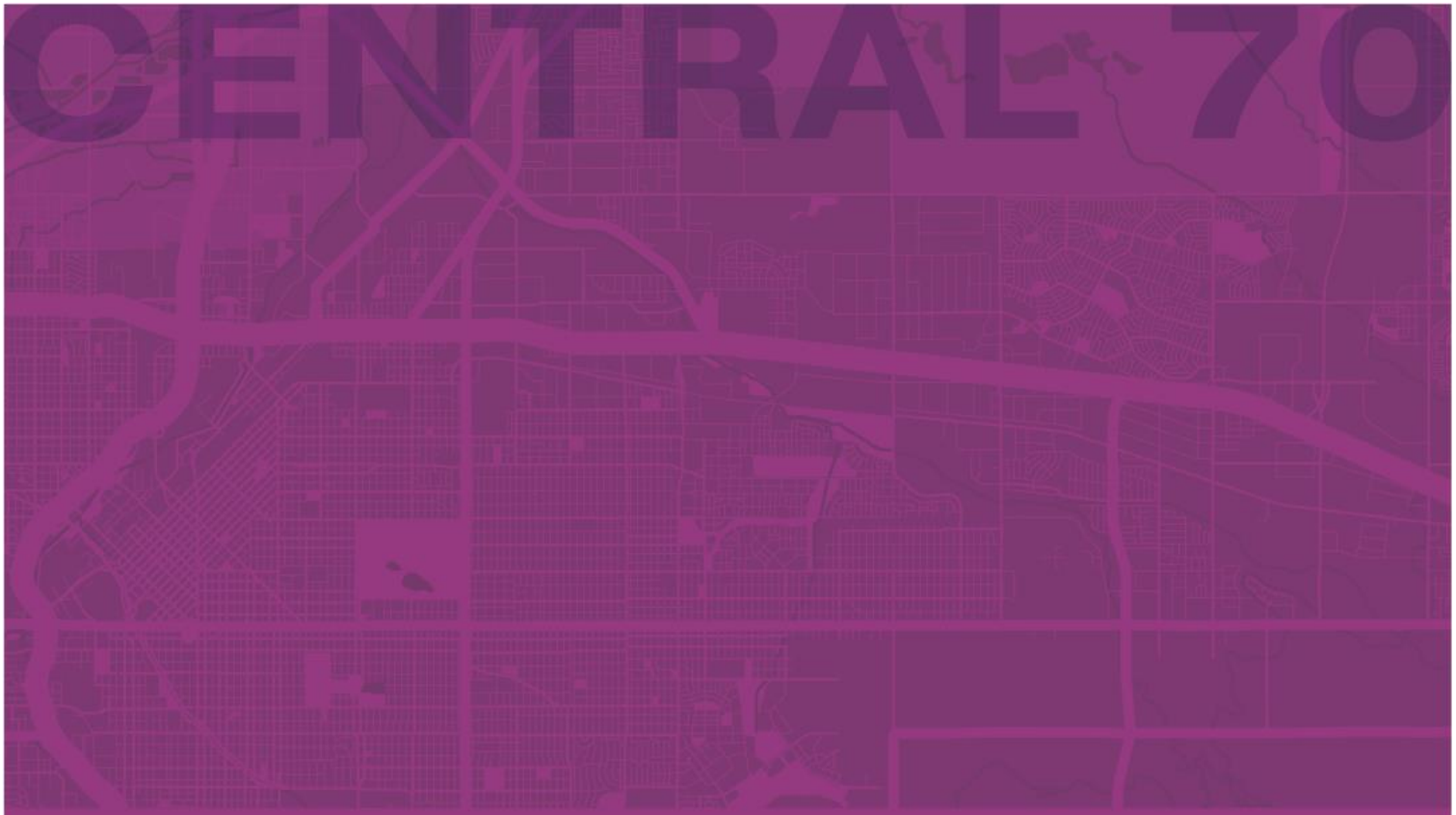

APPENDIX C

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Draft Schedule Narrative

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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SIGNATURE PAGE: APPENDIX C

PROJECT MANAGER DATE

DESIGN-BUILD MANAGER DATE

CONSTRUCTION MANAGER DATE

DESIGN MANAGER DATE

LEAD SCHEDULER DATE

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RECORD OF REVISIONS

Revision number	Date issued	Pages affected	Comments
0	5/18/2017	All	Proposal Draft Submittal

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ATTACHMENTS

- **Attachment 1:** Critical Path
- **Attachment 2:** Milestone Chart
- **Attachment 3:** Near-Critical Activities
- **Attachment 4:** Description of Schedule Sub-Areas and Blocks
- **Attachment 5:** Complete WBS
- **Attachment 6:** Resource Plan
- **Attachment 7:** Activity Codes and Values
- **Attachment 8:** Permit Matrix
- **Attachment 9:** Proposal Schedule

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EVALUATION CRITERIA: APPENDIX C, VOLUME 2

KMP has provided a full Evaluation Criteria Matrix to align the requirements of the Schedule Narrative per the Project Agreement with the sections of this plan.

Sch. 8 Section	Item	Narrative Section	Section Name	Check
	The Baseline Schedule shall include a Schedule Narrative Report describing, at a minimum,			☐
	• The Developer's plan and schedule for achieving the Project Agreement requirements and objectives for all Work.	3.0	Intent of Narrative	☐
	• **The narrative shall describe the methods of:**			
3.3.6.h	○ Operation	5.0	Construction Period Plan	☐
	○ resources to be employed	6.1	Resources	☐
	○ time frames for Project Administration, design, construction, time frames for accomplishment of specified milestones and Key Milestones	4.0	Time Frames	☐
	• A Resource Plan shall be included, which shall document in detail the types and quantities of resources needed to prosecute all aspects of the Work;	Attachment 6	Resource Plan	☐

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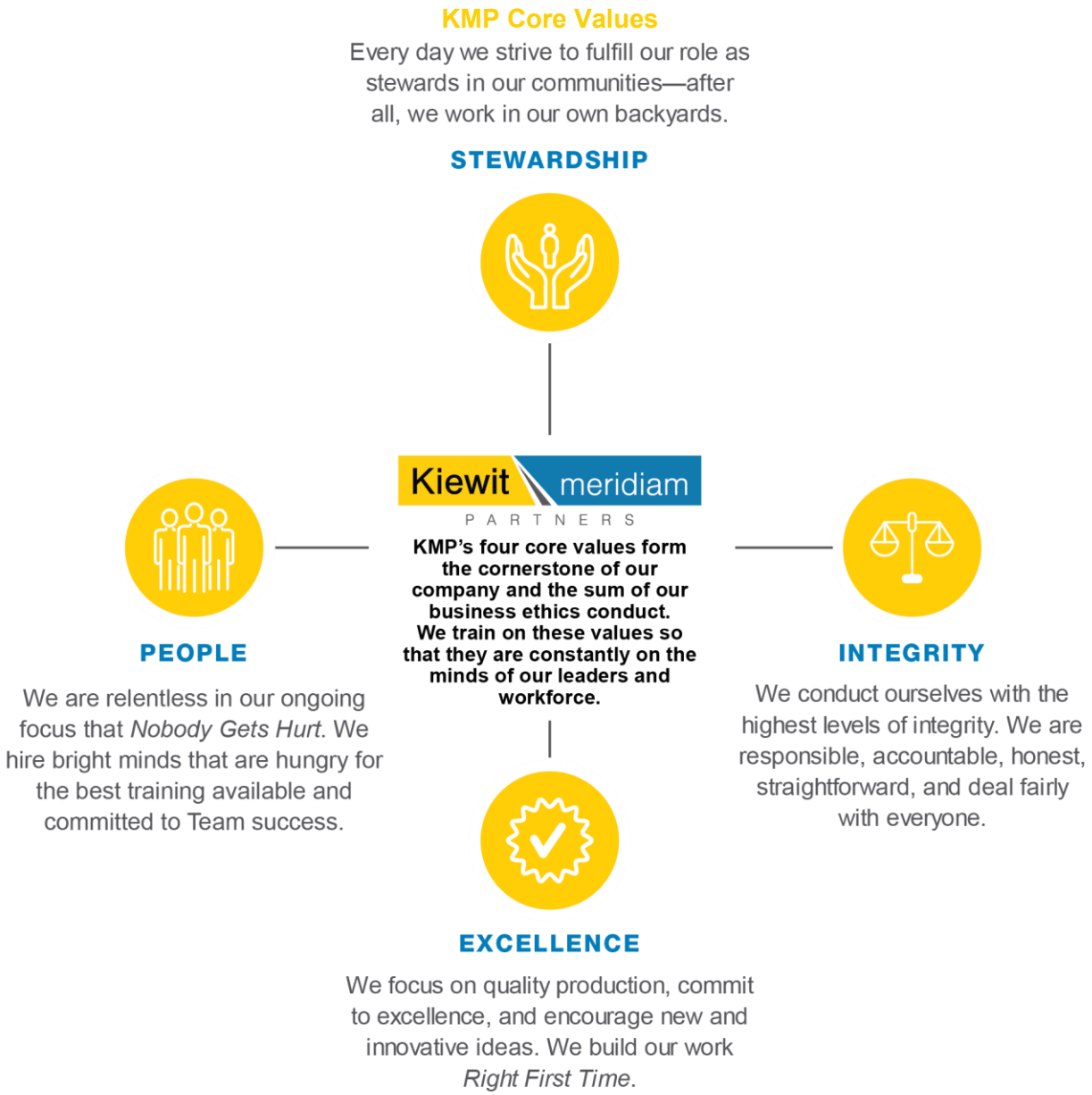
1. Project Summary

1.1 KIEWIT-MERIDIAM PARTNERS CORE VALUES

Kiewit-Meridiam Partners (KMP) is committed to delivering the Central 70 Project (Project) with a focus on client relations, achieving the Project goals, and maintaining transparency with the Department. To achieve these objectives, the KMP Team has adopted the following core values:



1.2 PLAN MANAGEMENT

This Project summary is presented at the start of each Appendix to serve as a quick reference to our core values, the Project overview, our Team's composition, and our Key Personnel and Critical Staff. We developed each Appendix to demonstrate our understanding of the Project requirements and facilitate timely Approval by the Department after award.

This document describes KMP's approach for the Work. KMP resubmits this Plan, including an updated Project summary, to the Department as required per the Project Agreement.

All Project plans, including this document, are stored electronically per KMP's Document Control System (DCS) Plan. Revisions to these documents may be required as the Project progresses, and annual updates are completed in accordance with Section 4.2 of the Project Management Plan (PMP). The latest revision of all Management Plans are stored per KMP's DCS and submitted to the Department through Aconex.

1.3 OVERVIEW

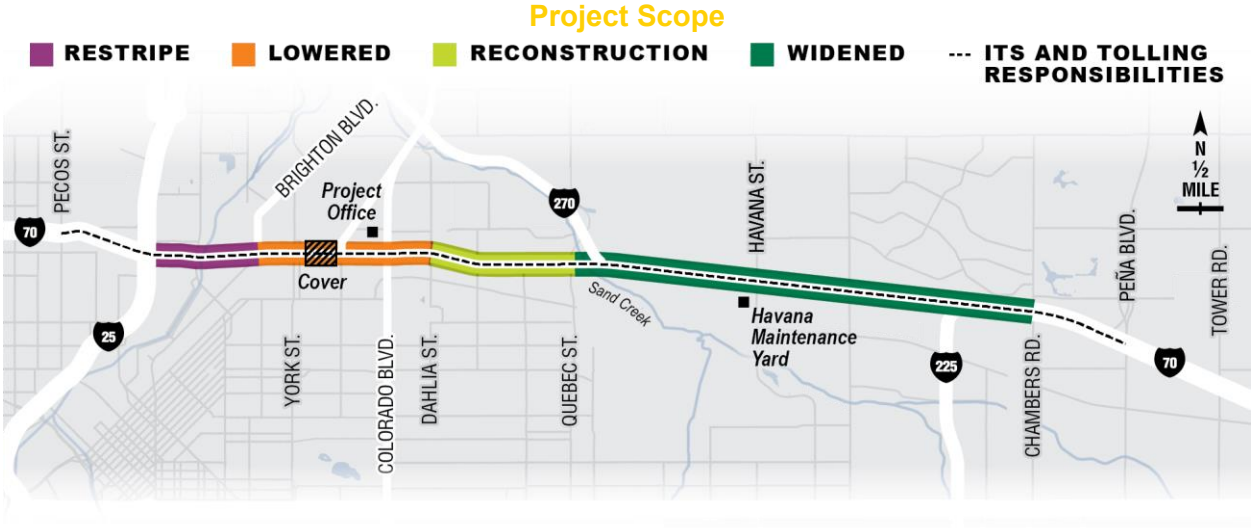
The Project is a Public-Private Partnership to design, build, finance, operate, and maintain planned improvements to the I-70 corridor between I-25 and Tower Road.

The Project's scope is broken down into the following timeframes:

Project Time Frames

Time Frame	Period	Description	Estimated Duration
Notice of Award to NTP1	Submittals	Plan development, submittals, and mobilization of Quality Management staff	3 months
NTP1 to NTP2	Construction	Financial Close and Design	6 months
NTP2 to Substantial Completion	Construction	Construction and O&M During Construction (other than snow and ice control services)	45 months
Pre-Substantial Completion to Substantial Completion	Transition	Transition from Construction to Operating Period, and O&M submittals	8 months
Substantial Completion to Final Acceptance	Operating	Final submissions and inspections	4 months
Substantial Completion to Expiry Date	Operating	Operations and Maintenance (including Renewal Work)	30 years
NTP3 to Term	Construction, Operating	KMP snow and ice control services	33-34 years
62-68 months prior to Expiry Date	Operating	Handback Inspections, Handback Work, and Department training to facilitate seamless handover at Expiry Date	62-68 months

Improvements made by KMP during the Construction Period, highlighted in the figure, are described below.



1.3.1 RESTRIPE: I-25 TO BRIGHTON BOULEVARD

Restriping I-70 from I-25 to Brighton Boulevard to accommodate one managed lane in each direction, including:

- Design and Construction for improvements to associated drainage infrastructure

1.3.2 LOWERED: BRIGHTON BOULEVARD TO DAHLIA STREET

Full reconstruction of I-70 between Brighton Boulevard and Dahlia Street, including:

- Removing the viaduct between Brighton Boulevard and Colorado Boulevard, and reconstructing the Interstate below grade to accommodate the Ultimate Project roadway configuration and associated elements
- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the Interstate structures over Brighton Boulevard
- Constructing the Cover and associated elements over the Interstate between Columbine Street and Clayton Street
- Constructing cross-street structures at York Street, Josephine Street, Columbine Street, Clayton Street, Fillmore Street, Steele Street/Vasquez Boulevard, Cook Street, Monroe Street, and Colorado Boulevard
- Constructing I-70 Mainline structures at Dahlia Street
- Removing one Railroad structure, and Constructing two Railroad structures at Union Pacific Railroad (UPRR) and BNSF Railway (BNSF)

1.3.3 RECONSTRUCTION: DAHLIA STREET TO SAND CREEK

Full reconstruction of I-70 Mainline between Dahlia Street and Sand Creek, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing Interstate structures over Holly Street, Monaco Street, Denver Rock Island Railroad, and Quebec Street

1.3.4 WIDENED: SAND CREEK TO CHAMBERS ROAD

Widening I-70 from Sand Creek to Chambers Road with associated elements, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the I-270 flyover structure to I-70 eastbound
- Removing and replacing Interstate structures over Peoria Street

1.3.5 INTELLIGENT TRANSPORTATION SYSTEMS (ITS) AND TOLLING RESPONSIBILITIES

Additional ITS and tolling responsibilities, including:

- Closed circuit television (CCTV) camera coverage for I-70 corridor, including interchanges between Pecos Street and Airport Boulevard
- Microwave vehicle radar detection between Pecos Street and Tower Road
- Travel time indicators between Pecos Street and Tower Road
- Lane use signals between Pecos Street and Chambers Road
- Dedicated short range communications radios between Pecos Street and Tower Road

1.3.6 OPERATIONS AND MAINTENANCE (O&M) WORK DURING CONSTRUCTION

Operations and maintenance of existing infrastructure within the O&M Limits During Construction as defined by the Project Agreement, including:

- I-70 Mainline and associated infrastructure
- Local Agency infrastructure
- Drainage
- Water quality
- ITS and electronic toll collection facilities
- Utility services
- Traffic signals and lighting
- Railway structures
- Fencing
- Snow and ice control services (following NTP3)

1.3.7 OPERATIONS AND MAINTENANCE WORK DURING THE OPERATING PERIOD

Operations and maintenance of I-70 within the limits defined by Schedule 11 of the Project Agreement for the Operating Period (dashed line in figure above), including:

- Providing resources to safely maintain the roadway throughout the Term

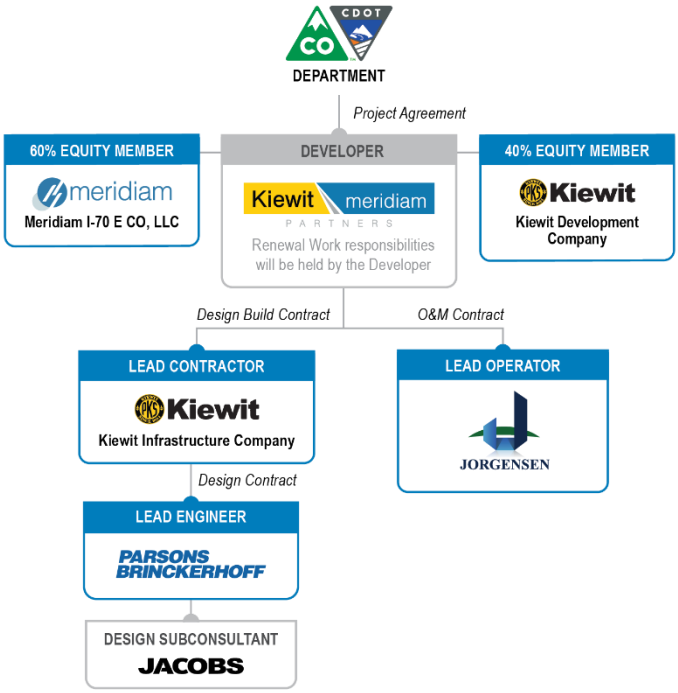
- Asset preservation including repair and Renewal
- Snow and ice control services
- Courtesy patrols
- Incident response
- Meet Handback requirements

1.4 KIEWIT-MERIDIAM PARTNERS COMPOSITION

KMP organized a streamlined Team to successfully deliver the Central 70 Project. The Core Proposer Team Members of Meridiam, Kiewit, Parsons Brinckerhoff, and Jorgenson are united by a commitment to Project success under a common project management system. KMP's lean approach has been cultivated from a history of working together, and by our shared cultures of safety, quality, environmental stewardship, and community service. The KMP Team needs no learning curve to start working together, and is positioned to execute on our joint Project delivery commitments from day one.

KMP's equity members—Meridiam and Kiewit Development Company—formed KMP for the sole purpose of developing this Project. KMP's Core Proposer Team Members, shown below, include Kiewit Infrastructure Company (KIC) as the Lead Contractor, Roy Jorgensen Associates (Jorgensen) as Lead Operator, and Parsons Brinckerhoff (PB) as Lead Engineer. Our Team is supported by the expertise of subconsultants and subcontractors who possess additional local knowledge and experience, including Jacobs as PB's main Design subconsultant. KMP is committed to identifying opportunities to maximize the involvement of small and disadvantaged businesses. Throughout the Project, KMP remains the single point of responsibility for meeting all Project Agreement requirements.

KMP co-locates with the Department in both the Project Office and the Colorado Transportation Management Center (CTMC) to foster a collaborative approach that ensures we meet the Department's Project goals throughout the Project.



1.5 KEY PERSONNEL AND CRITICAL STAFF

The table below shows KMP's Key Personnel overseeing the Project. KMP has also identified positions, and individuals, as Critical Staff who are instrumental in the successful delivery of the Project.

Key Personnel and Critical Staff

Staff Type	Title	Name	Employed by	Seconded to
KEY PERSONNEL	**Project Manager**	Chris Hodgkins	Meridiam	KMP
	Design-Build Manager	Tom Howell	KIC	
	Construction Manager	Barry Thoendel	KIC	
	Design Manager	Doug Andrew, PE	PB	
	O&M Manager	Abraham Henningsgaard, PE	Jorgensen	
	Project Quality Manager	Gordon Peterson, PE	KIC	KMP
	Independent Design Quality Manager	James Rozek, PE	PB*	
	Construction Process Control Manager	Sean McAfee	KIC	
	Independent Quality Control Manager	Tracy Martin, PE	KIC*	
	Environmental Manager	Jenn Bradtmueller, PE	KIC	KMP
	Utilities Manager	Kevin Custy	Jacobs	KIC
	Project Communications Manager	Hunter Sydnor	KIC	KMP
CRITICAL STAFF	**Technical Manager**	Martin Currie	KDC	KMP
	Financial Manager	Christopher Couallier	Meridiam	KMP
	Safety Manager	Ben Snow	KIC	KMP
	Construction Safety Manager	Kenyon Manley	KIC	
	Civil Rights Program Manager	Matt Christensen	KIC	
	DBE/ESB Program Manager and Outreach Training Manager	Colean Bembry	KIC	
	Lead Scheduler	Mauricio Solano	KIC	
	Design Integration Manager	Tim Nelson	KIC	
	Deputy Design Manager	Mark Talvite, PE	Jacobs	
	Cover Design Manager	Heath Therrien, PE	PB	
	Commercial Manager	Jamie Harvey, PE	KIC	

**Per Approved ATC 9.1 (see Attachment to the Quality Management Plan), KMP shall use in-house personnel in lieu of employees from an Independent Quality Control Firm*

2. Contents of this Submittal

This submittal accompanies KMP's proposed Schedule, which has been provided in printed form as Attachment 9, and attached in XER format:

Schedule Information	
Project ID	20000187-000
Project Name	Central 70-000—Proposal Schedule
Data Date	June 1, 2017
Substantial Completion Date	March 4, 2022

The following attachments are also included in this submittal:

Attachment	Description
Attachment 1	Critical Path
Attachment 2	Milestone Chart
Attachment 3	Near-Critical Activities
Attachment 4	Description of Schedule Sub-Areas and Blocks
Attachment 5	Complete WBS
Attachment 6	Resource Plan
Attachment 7	Activity Codes and Values
Attachment 8	Permit Matrix
Attachment 9	Proposal Schedule

3. Intent of Narrative

This narrative was prepared to outline KMP's plan and Schedule for achieving the Project Agreement requirements and objectives for all Construction Work. Specifically, this Appendix:

- Describes KMP's plan and strategy for the completion of the Project per the Project Agreement
- Explains KMP's proposed Schedule, including the Work activities and sequence of operations, anticipated durations, and resource requirements

KMP intends this narrative to be a tool for facilitating early and open communication with the Department regarding the Project Schedule.

3.1 PROPOSAL SCHEDULE

The Proposal Schedule is KMP's draft Project Baseline Schedule and is based on the information provided in the Project Agreement. Following award, KMP uses this Proposal Schedule to work with the Department to develop the Approved Project Baseline Schedule. Once Approved, KMP provides monthly Schedule updates based upon actual progress completed, as described in the Schedule Work Plan (Section 5.15 of Appendix B, Project Management Plan). Updates are submitted along with a narrative to keep the Department informed of progress and any issues that may affect Key Milestones. This Schedule and subsequent updates are used by KMP as a management tool as well as a reporting vehicle.

4. Time Frames

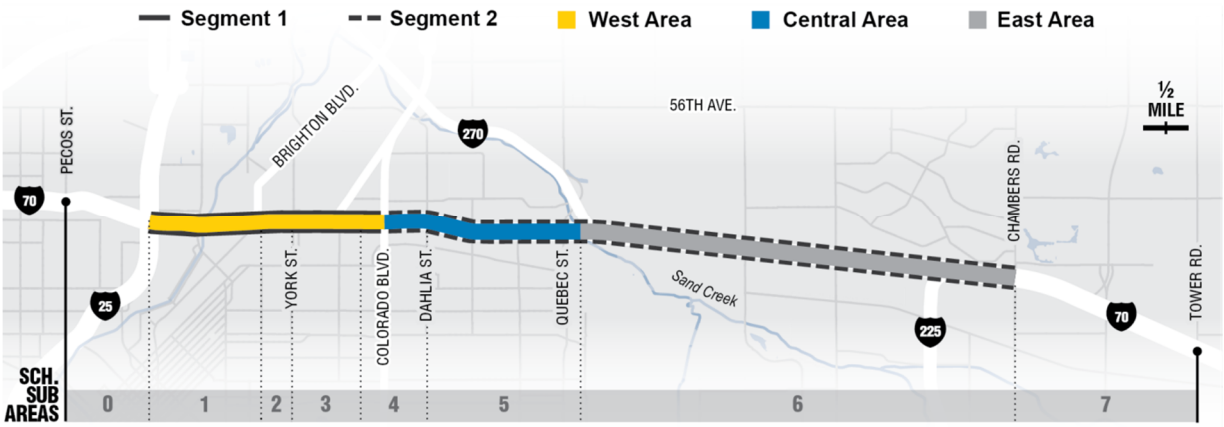
The tables below provide expected start and finish dates for Project Milestones. All Pre-NTP, NTP, and Milestone dates in this section are anticipated dates which are reflected in the Proposal Schedule. Following Notice of Award the week of August 28, 2017, the KMP Team plans to immediately finalize and submit all Deliverables required for NTP1. KMP works closely with the Department to achieve NTP1 by Financial Close. Prior to achieving NTP1, KMP focuses efforts on advancing NTP2 deliverables. KMP's approach to begin work on NTP2 deliverables early optimizes the Schedule by facilitating a submission immediately after NTP1 and Financial Close, thereby allowing KMP's Lead Contractor to begin Construction Work in June of 2018. This provides critical time for mobilization and planning to take full advantage of the 2018 Construction season.

Pre-NTP Milestones	
Announcement of Preferred Proposer	Week of August 28, 2017
Execution of Project Agreement	September, 2017
Financial Close	November 30, 2017

Construction Period Milestones		
	Start Date	**Finish Date**
NTP1	November 30, 2017	Not applicable (NA)
NTP2	June 1, 2018	NA
NTP3	July 1, 2018	NA
Payment Milestone 1	NA	November 18, 2019
Payment Milestone 2	NA	October 20, 2020
Payment Milestone 3	NA	September 26, 2020
Payment Milestone 4	NA	September 5, 2021
Substantial Completion	NA	March 4, 2022

5. Construction Period Plan

KMP has broken down the Project geographically to simplify management. The Project has been divided into two segments and three areas as shown below. Segment 1 includes the West Area and Segment 2 includes the Central and East Areas. The sub-areas which align with the WBS Level IV breakdown are also shown on the graphic below.



5.1 DESIGN

Design is developed to support the Construction activities. The Construction Work is divided geographically along the Project, and Design packaging is segmented similarly. Additional packaging is also created to facilitate specific reviews where third parties are required to approve the Design, such as the Union Pacific Railroad.

Submittals for Design packages follow the requirements of Schedule 8 of the Project Agreement. A 30% package is submitted corridor wide; then the Work is subdivided and 60%, 100%, and RFC submissions are made for roadway, bridges, and other supporting elements. Utilities are submitted at a 90% complete level, and following comment resolution, RFC packages are generated. Submissions to the UPRR, BNSF, and Denver Rock Island Railroad (DRIR) follow each Railroad's requirements for phased Design submissions. Each of these Design packages are shown on the Proposal Schedule as complete packages for each discipline, e.g. roadway, bridges, etc. KMP will work with the Department after award to develop more efficient design packages for the Department's review.

Design is performed by concurrent teams to expedite the delivery of the RFC documents.

5.1.1 EAST OF SAND CREEK (EAST AREA)

5.1.1.1 Roadway

One single Design package is developed for Roadway Design for the portion of the Project that lies east of Sand Creek. Drainage, lighting, ITS (including ramp metering), maintenance of traffic (MOT), and signing are included in the package. Also included in the package is the I-70 bridge over Peoria Street, any retaining walls in this segment, and the Node Building at I-70 and Airport Boulevard, along with the ITS ductbank from Sand Creek to Node 1 at Airport Boulevard.

5.1.1.2 I-270

Our Design optimizes the I-270 eastbound bridge over I-70 by simplifying it from four to three spans, and by reducing the U-girders required from three to two. This bridge is packaged independently to allow for early procurement and Construction. The independent packaging allows for segmenting the Design of substructure and superstructure into separate packages, and also supports an early Work activity for procurement of the beams for the bridge. Included in the package is the Roadway Design, MOT, retaining walls, and drainage associated with the I-270 structure. A separate related package addresses the Conditional Letter of Map Revision (CLOMR) required from the Federal Emergency Management Agency for the floodplain in the vicinity of the bridge.

5.1.2 COLORADO BOULEVARD TO SAND CREEK (CENTRAL AREA)

5.1.2.1 Roadway

Our Roadway Design for the Central Area incorporates optimizations and local knowledge which facilitates accelerated Construction. Specifically, our Design accommodates approved Design Exceptions, eliminates the need for an additional horizontal sight distance Design Exception at Dahlia Street, and reduces the number of spans on the Quebec Street bridge from two to one.

One single Design package is developed for Roadway Design for the portion of the Project between Colorado Boulevard and Sand Creek, including Stapleton Drive North and South. Drainage, lighting, ITS (including ramp metering), MOT, signals, and signing are included in the package. Also included in the package are the I-70 bridges over Dahlia Street, Holly Street, Monaco Street, and Quebec Street, as well as any retaining walls in this segment, and the median barrier adjustments on the I-70 bridge over Sand Creek.

5.1.2.2 Denver and Rock Island Railroad (DRIR)

KMP's design includes three bridges crossing DRIR. The bridges carrying westbound I-70 and Stapleton Drive North over the DRIR were combined into a single structure to facilitate more efficient Construction and eliminate redundant superstructure elements. Adjacent retaining walls are included in the package. The MSE walls on the east and west sides of the Railroad span were designed to be continuous to support abutments for all bridges.

These bridges are in a separate Design package due to the need for review by the Railroad.

5.1.3 WEST OF COLORADO BOULEVARD (WEST AREA)

5.1.3.1 Colorado Boulevard over I-70, and Steele Street/Vasquez Boulevard over I-70

These two bridges are early Construction activities needed to facilitate Construction of the Lowered Section. The Bridge Design is accompanied by roadway, utilities, drainage, MOT, and retaining walls. Further, casing has been designed for the Century Link-201 utility at Steele Street/Vasquez Boulevard. Our Design of this casing allows the Utility Owner to relocate this Critical Path utility prior to Construction of the bridge.

5.1.3.2 Lowered Section

Design of the Lowered Section is subdivided to facilitate an early start on this Work.

Package 1 contains the city streets north of 46th Avenue North, 46th Avenue North, temporary Traffic Control Plans (TCPs), and the preliminary pump station Design. Drainage improvements and the retaining wall along the north side of the Lowered Section are included, as is the noise wall along 46th Avenue North (from Brighton Boulevard to Gaylord Street). Rough grading limits are delineated so excavation can commence and that excavated material can be embanked in other areas on the Project. A basic layout of the stormwater pumping station is provided. As retaining walls are constructed, the pumping station can be built, along with the first half of the Lowered Section. KMP includes the Design of the BNSF crossing at 46th Avenue North and South during development of the roadway plans in Package 1 of the Lowered Section. In addition, KMP coordinates the design of the York Street Crossing, and associated Public Utility Commission (PUC) permits, during development of the roadway plans in Package 1 of the Lowered Section.

Our Design of the Lowered Section has optimized the profile to raise the Mainline pavement section above the groundwater table. This has been accomplished through advanced early Design and innovations such as eliminating the need for the storm and sanitary sewer bridges, as shown in our Alternative Technical Concepts (ATC) 11 and 12.

Package 2 contains the remainder of the Design for the Lowered Section. It contains roadway, drainage, lighting, ITS (including ramp metering), signing, and final pump station Design. The drainage Design in this area has been optimized through the implementation of a dual crown “butterfly” roadway section (ATC 14.0) which eliminates surface flows across the entire roadway section.

5.1.3.3 Cross Street Bridges

Cross street bridges for York Street, Josephine Street, Cook Street, Fillmore Street, and Monroe Street are grouped in a single package due to the similarities of their Design. Also included in this package is the I-70 bridge over Brighton Boulevard, and the noise wall along the I-70 westbound exit and entrance ramps at Brighton Boulevard.

The Design for the cross street bridges has been optimized by reducing the number of spans on all bridges to two, which improves sight distance, maintenance, and traffic flow. Bridges have been aligned to avoid conflicts with existing viaduct columns. In certain instances where bridges could not avoid viaduct columns, such as Steele Street/Vasquez Boulevard, the bridges are phased to accommodate the columns with minimal impacts to the Construction Schedule. Further, using local knowledge from previous projects, elements of the substructure for the existing I-70 bridges over Brighton Boulevard were identified for reuse. This allows for more efficient and sustainable Construction.

5.1.3.4 UPRR

The bridge carrying UPRR over I-70 is included in a separate package due to the need for review by the Railroad. Adjacent retaining walls and track Design associated with revised phasing in ATC 17 are included in the package. This bridge is identified as a Critical Path activity. To shorten the design duration, design of this bridge starts in early September of 2017. Additionally, *UPRR/BNSF Guidelines for Grade Separation Projects* are followed to ensure timely Railroad reviews.

5.1.3.5 BNSF

As with UPRR, the bridge carrying BNSF is included in a separate package due to the need for review by the Railroad. Adjacent retaining walls are included in the package. The Design of this bridge was simplified from a four-span bridge to a two-span bridge.

5.1.3.6 Cover

The Cover begins as a combined deliverable but is transitioned to separate packages based on specialty. This approach allows for early procurement of long lead time equipment.

An initial Design Progress Review Meeting is planned for the entire Cover to include the Cover Park, MEP systems, and structure. This initial review builds on the optimizations already included in our Design such as the increased usable area achieved by consolidating the control room and the concession building into a single structure (ATC 37). Following this initial meeting, the Park is segmented out to facilitate review by Denver Parks and Denver Public Schools. The first package includes the landscape Work, waterproofing, Cover buildings, and all furnishings.

The MEP systems are likewise segmented out due to the specialized nature of this Design. This package includes the equipment and supporting design calculations and reports. An early release portion of the Design is used for procurement of the jet fans. KMP team members have already confirmed adequate water capacity for the fixed firefighting system.

The Structure Design package for the Cover also takes a separate path to RFC and includes the Roadway Design for Columbine Street and Clayton Street. The Structure Design is optimized to ensure appropriate clearances are maintained while still allowing the Mainline pavement section to be above the groundwater table.

While separate packages are provided, all Design disciplines are coordinated prior to their submission for Approval.

5.1.4 PROJECT-WIDE DESIGNS

5.1.4.1 Right-Of-Way

Although not a separate Design package, KMP's designers support ROW acquisition work performed by the Department. For partial property takes and easements, KMP provides a MicroStation design file with the boundaries of the property in question for use in the acquisition process. Further, our Team's property management expert has in-depth knowledge of the process and documentation required for ROW acquisitions based on recent local experience. This allows us to help the Department efficiently carry out all acquisitions. Our Design also mitigates Schedule risk by minimizing partial ROW acquisitions to properties along the corridor, such as the Goodwill Building and the Historic Safeway Property.

5.1.4.2 Utilities

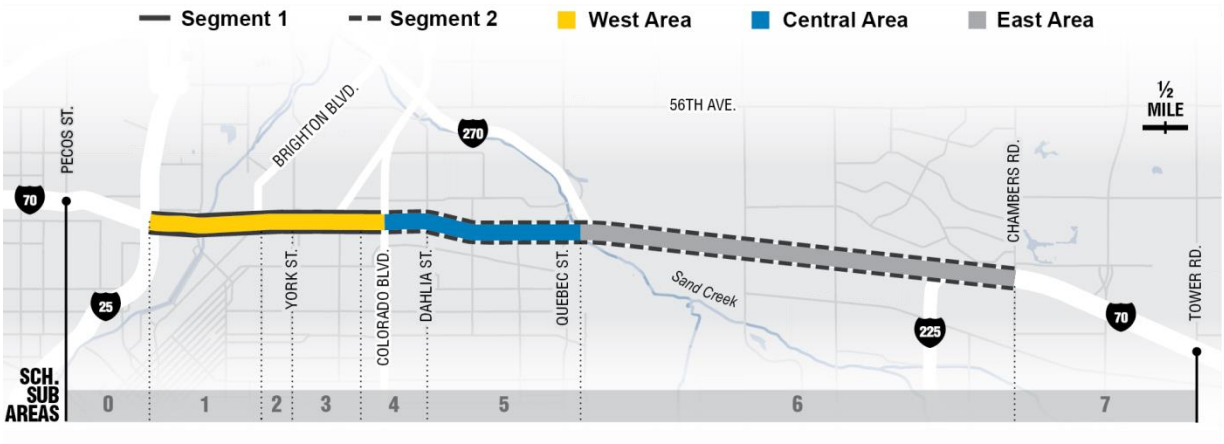
Utility Designs are packaged separately and are grouped by Utility Owner. Multiple utility adjustments are included in a package where allowed by the Utility Owner. Specific utilities included in a package to an Owner are based on Construction Schedule, outage restrictions from the Owner, and Project geography. KMP's Utilities Manager, Kevin Custy, will continue to work closely with Utility Owners and the Department to identify and mitigate potential impacts. Kevin Custy's in-depth knowledge of utilities within the Denver Metro Area and the Department's resolve to mitigate potential impacts has already benefitted the Project. Specifically, Schedule impacts due to relocations of Level 3-202 and Century Link-201, 202, and 203 were mitigated during procurement.

5.1.4.3 Landscaping

After all the Roadway Design packages are substantially complete, a corridor wide landscaping plan is finalized. Included in this package are plant selections, irrigation designs (as warranted), and planting details.

5.2 CONSTRUCTION

For the purposes of the Proposal Schedule, Segments 1 and 2 were treated as separate projects, with separate phasing and resource allotment for project management purposes. Areas were broken down in an effort to relate to Milestone Payments and design packages. Construction activities have been broken down into multiple sub-areas, and smaller blocks (of work) within those areas. Blocks were broken down within each sub-area to identify smaller units of Work that could be completed independently of one another. The broken down sub-areas and blocks can be found in Attachment 4, which includes a description of each block. An overview of the Project is shown below.



5.2.1 SEGMENT 1

Segment 1 includes all Work performed west of Colorado Boulevard, and generally features Work in the Lowered Section. Work in Segment 1 is scheduled independently of Work in Segment 2. Work through Sub-Areas 2, 3, and 4 is closely tied together through phasing to maintain traffic flow through the Project during Construction. Sub-Area 4 is divided between Segment 1 and Segment 2.

5.2.1.1 Sub-Area 0: Pecos Street to I-25

Sub-Area 0 includes all Work along the alignment between Pecos Street and the west side of I-25. The Work performed in Sub-Area 0 is the installation of ITS infrastructure along the alignment, which is some of the earliest Work planned on the Project. Our Team recognizes the importance of this Work and has fully incorporated it into our Proposal Schedule.

5.2.1.2 Sub-Area 1: I-25 to Brighton Boulevard

Sub-Area 1 includes all Work between the west side of I-25 and west of Brighton Boulevard. ITS infrastructure is constructed in this Sub-Area following completion of Sub-Area 0 Work as additional early Project Work. Final roadway striping, and associated drainage upgrades, are completed along with adjacent sub-area Work to support the comprehensive Traffic Control Plan.

5.2.1.3 Sub-Area 2: Brighton Boulevard to York Street

Sub-Area 2 includes all Work between the west side of the I-70 bridge over Brighton Boulevard and York Street. All Work adjacent to Brighton Boulevard is constructed outside the schedule of the National Western Stockshow. Work begins in Sub-Area 2 immediately following NTP2 and sufficient advancement of Design, beginning with utility Work under future 46th Avenue South. While water, sanitary, drainage, and ITS Work progresses to the South, all Work to the North of the current alignment begins. Utilities, drainage, and grading Work precede the beginning of caisson wall Construction, forming the northern limit of the Lowered Section, which is followed by completion of new 46th Avenue North.

As Work continues along 46th Avenue North, Work begins on the UPRR grade separation structure, which is built over the course of approximately 22 months. The phasing of the UPRR crossing has been optimized (ATC 17) to eliminate the need to perform Construction between live Railroad tracks. This allows for safer and more efficient Construction access. Further, covered and secure pedestrian access is maintained throughout Construction. Our Construction durations also take into account the utilities in this sub-area, MCI and Sprint, which need to be relocated during Construction.

Following the completion of the UPRR grade separation structure and placement of train traffic into its final configuration, the westbound I-70 alignment is excavated and the highway is constructed, including the westbound half of the I-70 bridge over Brighton Boulevard. All traffic is then placed onto the new westbound I-70, in a head-to-head configuration, allowing the demolition of the existing viaduct, and completion of the eastbound Mainline Work and the eastbound half of the I-70 bridge over Brighton Boulevard. The durations for these activities are shortened because of optimizations to remove the sanitary sewer bridge (ATC 11), remove the storm sewer bridge (ATC 12), and relocate the pump station adjacent to I-70 (ATC 68).

5.2.1.4 Sub-Area 3: York Street to BNSF Market Lead RR

The general progression of Work in Sub-Area 3 is similar to that of Sub-Area 2, as both are within the Lowered Section and require the same elements of Work to be completed to maintain traffic. Further, both sub-areas require Construction of temporary cut-off walls to install drainage pipe. This reduces the temporary dewatering of contaminated groundwater, providing significant schedule and environmental benefits to the Project.

As in Sub-Area 2, utility Work under 46th Avenue South begins immediately after NTP2, along with Work on 46th Avenue North and the Construction of the Steele Street/Vasquez Boulevard bridge. Work on the retaining wall begins around Swansea Elementary School as Work continues on 46th Avenue North, in order to complete the majority of Work outside of the school year. Our Construction phasing allows the Columbine Street and Clayton Street bridges to begin concurrently (ATC 57) the following summer, with temporary paving at Elizabeth Street maintaining traffic around the school during their Construction. Additionally, our Team has identified the need to install a bypass for the 42" waterline in Columbine Street, and accounted for this Work in our Schedule. This allows for a shutdown of the water line during the winter months, as required by Denver Water, without a closure of Columbine Street. Cross-street bridges in Sub-Area 3 are constructed at-grade, prior to excavation of Mainline I-70.

Following the completion of Work on 46th Avenue North and the cross-street bridges, westbound I-70 is excavated as traffic remains on the existing viaduct. After westbound I-70 is completed, I-70 traffic in both directions is moved to the new westbound lanes, allowing for demolition of the viaduct in Sub-Area 3, and completion of eastbound I-70, followed by remaining 46th Avenue South Work.

5.2.1.5 Sub-Area 4: BNSF Market Lead to Dahlia Street

Sub-Area 4 begins west of the BNSF Market Lead and ends at Dahlia Street. As such, it is divided between Segment 1 and Segment 2. Segment 1 Work in Sub-Area 4 begins on the west side of the BNSF Market Lead tracks and ends on the east side of Colorado Boulevard.

In Segment 1, Sub-Area 4 progresses in a similar fashion to Sub-Areas 2 and 3. Work begins on 46th Avenue North as well as utility Work on 46th Avenue South. Construction begins on the Monroe Street bridge, the BNSF Market Lead bridge, and half of the Colorado Boulevard bridge over I-70. Monroe Street and the BNSF Market Lead Bridge are constructed at grade prior to Mainline excavation. At Colorado Boulevard, the bridge was lengthened to relocate the center pier from the existing I-70 Mainline. This allows this bridge to be constructed early. Additionally, our duration accounts for the installation of conduit for Century Link-205 in the west half of the Colorado Boulevard bridge which allows Century Link to relocate their utility at any time with no delays to the Project.

Following completion of Work on 46th Avenue North and the cross-street bridges, excavation begins on remaining westbound I-70 in the Lowered Section west of Colorado Boulevard. Concurrent with Mainline Work in Sub-Areas 2 and 3, westbound I-70 is completed, allowing traffic to be shifted to new westbound I-70. The existing viaduct is then demolished following demolition in Sub-Areas 2 and 3, and eastbound I-70 is constructed. Remaining Work on 46th Avenue South is completed following the opening of eastbound I-70.

5.2.2 SEGMENT 2

Segment 2 includes all Work performed east of Colorado Boulevard, and includes full-depth reconstruction between Dahlia Street and Sand Creek, and widening from Sand Creek to Chambers Road. Work in Segment 2 is largely scheduled independently of Work in Segment 1.

5.2.2.1 Sub-Area 4: BNSF Market Lead to Dahlia Street

Sub-Area 4 is divided between Segment 1 and Segment 2. Segment 2 Work in Sub-Area 4 begins on the west side of Colorado Boulevard and ends on the east side of Dahlia Street. Sub-Area 4 is the crossover location for I-70 traffic for the different MOT phasing between Segment 1 and Segment 2 as it transitions from north-south Construction to outside-inside Construction.

In Segment 2, Work begins on Stapleton Drive North and Stapleton Drive South as soon as partial ROW acquisitions are accomplished. Utility relocations, drainage, and roadway Construction are completed through staged MOT of Stapleton Drive North and South. Mainline I-70 Construction commences once Stapleton Drive North and South are completed.

East of Colorado Boulevard, both directions of Mainline I-70 are constructed in two phases. Traffic is first reconfigured to the inside lanes and shoulder of existing I-70, and the outside shoulder, two travel lanes, auxiliary lanes, and the ramps at Colorado Boulevard are constructed.

After the ramps, outside shoulder and travel lanes are complete, traffic is moved to the outside lanes and shoulder, as Construction is completed on the inside shoulder and remaining travel lanes.

5.2.2.2 Sub-Area 5: Dahlia Street to Sand Creek

Sub-Area 5 includes all Work between the I-70 bridge over Dahlia Street and the I-70 bridge over Sand Creek. The Schedule in Sub-Area 5 is driven by the acquisition of right-of-way parcels required for Construction of Stapleton Drive North and South. Utility, drainage, and roadway Work for Stapleton Drive North and South are completed immediately following these acquisitions, as well as Work on Holly Street, Monaco Street, and Quebec Street under I-70 and at the intersections. The drainage crossing at I-70 and Colorado Boulevard is installed using jack and bore techniques to minimize the impacts to the traveling public that would otherwise be associated with open-cut installation.

Following completion of Work on Stapleton Drive North and South, Construction begins on eastbound and westbound I-70 concurrently. Our profile has been matched to the existing I-70 Mainline to allow for a high performance pavement rehabilitation (ATC 43) in place of a full reconstruction. Both directions of Mainline I-70 are constructed in two phases. Traffic is first reconfigured to the inside lanes of existing I-70, while the outside shoulder, two travel lanes, auxiliary lanes and the new ramps at Holly Street are constructed. Bridges over Holly Street, Monaco Street, and Quebec Street, as well as the Denver Rock Island Railroad, are also phased in. The I-70 bridge over the Denver Rock Island Railroad structure is being lengthened to minimize the amount of Railroad flagger hours needed, and to facilitate more efficient Construction.

After the outside shoulder and travel lanes are complete, traffic is moved to the outside lanes and shoulder, the new ramps are opened, and Construction is completed on the inside shoulder and remaining travel lanes.

5.2.2.3 Sub-Area 6: Sand Creek to Chambers Road

Sub-Area 6 includes all Work between the I-70 bridge over Sand Creek and Chambers Road. The first Construction Work to start in Sub-Area 6 is the I-270 fly-over bridge over I-70, beginning immediately after NTP2 and Design completion. Shortly thereafter, Construction begins on Mainline I-70, in the same fashion as Sub-Area 5; traffic in both directions is shifted to the inside, while widening and resurfacing are completed on the outside shoulders and travel lanes, and the outside of the I-70 bridges over Peoria Street are constructed. Following completion of the outside Work, traffic is switched to the outside, allowing Construction to be completed on the inside shoulders, lanes, and bridges over Peoria Street.

5.2.2.4 Sub-Area 7: Chambers Road to Tower Road

Sub-Area 7 includes all Work along the I-70 alignment between Chambers Road and Tower Road. The Work in this area consists of installation of ITS infrastructure, which begins concurrently with similar Work in Sub-Area 0, at the beginning of the Project.

5.3 CRITICAL PATH

The Critical Path for Construction begins with procurement of steel girders for the UPRR Bridge. This is currently scheduled as an approximately 7-month duration. While foundation and substructure Work begin after NTP2 and Design Approvals, the procurement of the girders drives the Construction of the bridge superstructure.

Following the setting of the girders on the west half of the new UPRR bridge, the Critical Path continues through the completion of the remainder of the west half of the UPRR bridge, including pouring deck concrete, and installation of ballast, ties, and rail.

After the completion of the west half of the UPRR bridge, the Critical Path progresses through the east half of the bridge, including removing and reconstructing shooflies, deep foundation and substructure Work, setting girders and installing diaphragms, and pouring deck concrete. Following the completion of the bridge, ballast is placed and ties and track are reconfigured for final UPRR traffic.

Following the completion of Work at the UPRR bridge, the Critical Path runs through completion of Work on westbound I-70 which could not be completed until after completion of the bridge. After the bridge is completed, the remainder of westbound I-70 under the UPRR bridge is excavated, drainage Work is finalized, precast wall facings are mounted on caisson walls and bridge abutments, pavement is placed, and all roadway finishes are completed in preparation for the first major traffic switch on the Project. In the fall of 2020, all I-70 traffic is moved off of the existing I-70 viaduct and onto new westbound I-70, in a head-to-head configuration. Moving this traffic allows Work to commence on eastbound I-70.

Following the traffic switch, the Critical Path includes demolition of the existing I-70 viaduct and then advances through Work pertaining to the Cover over eastbound I-70. After deep foundations, substructure, and superstructure Work is complete, installation of MEP systems under the south half of the Cover begin, with these systems becoming functional in late summer of 2021. After the MEP systems have been commissioned, eastbound and westbound traffic can be placed into its final configuration.

After traffic is in its final configuration, ITS and tolling system testing and integration becomes Critical Path Work, until their planned completion. After testing and integration is complete, the Project is at Substantial Completion in March of 2022.

Refer to Attachment 1 for a printout of the Critical Path.

5.4 ASSUMPTIONS

The following assumptions were made in developing this Proposal Schedule:

- Specified Holidays and an estimated number of weather days have been included in the Construction Schedule work calendar (see Section 6.2, below).
- The Work Area is accessible for all shifts utilized in scheduling the Work, with the exception of special events at the National Western Center, and any other agreed upon events. This includes weekdays, weekends, Holidays, and 24 hours per day to conduct production and maintenance operations as needed to complete the scope of work within the scheduled completion time.
- The Department and other Stakeholders support the Construction operations and Critical Path Schedule by reviewing and Approving submittals per the timelines in the Project Agreement, and conducting Onsite QA activities per the standard specifications.

5.5 MITIGATED ISSUES

The KMP Team has taken a conscientious approach to mitigating potential Schedule impacts. Our approach includes identifying high risk activities within the Project Schedule, and developing proactive mitigation strategies. These proactive strategies establish a high level of confidence that there are no major Schedule delays.

5.5.1 UTILITY RELOCATIONS

Our Team has developed a comprehensive strategy to mitigate utility delay risk which has included meeting with all Utility Owners associated with the Project. Through this process, we identified four utilities which pose the greatest risk to the Project's Schedule. These utilities are Century Link-201, Century Link-203, Century Link-205, and Level 3-202. These utilities pose a risk to the Project's Schedule because of the lengthy relocation process and their physical conflicts with Critical Path Construction Work.

Our Team, led by Utilities Manager Kevin Custy, has mitigated these risks through early identification, working with the Department to begin Utility Work during the proposal phase, and by developing a proactive plan for the path forward. After award, KMP will continue to work closely with the Utility Owners to establish realistic timelines for completion of any required utility adjustments. To expedite the process, we advance Utility Design and Construction early in the Project to accommodate the relocations.

Further, we have mitigated risks associated with the utility bridges over Mainline I-70. Based on in-depth analysis and local knowledge, our Design reroutes the sanitary sewer and storm sewer south of I-70 to eliminate both of the utility bridges (approved ATCs 11 and 12). This redesign allows for more conventional Construction, efficient maintenance, and additional capacity for future developments north of I-70.

5.5.2 RIGHT-OF-WAY AND EASEMENTS

Partial Acquisitions pose the greatest risk to the Project Schedule in relation to right-of-way. KMP's Management Team diligently works with the Department to define the limits for all Partial Acquisitions early in the Project. To avoid any delays associated with Partial Acquisitions, KMP will not change the limits for Partial Acquisitions after submission to the Department. This is accomplished by an advanced Design and high level of confidence of the limits at submission. Additionally, we are prepared to install walls and guardrails in areas where we can avoid potential ROW acquisitions.

5.5.3 HAZARDOUS MATERIALS

Based on information provided in the Project Agreement, our Team anticipates encountering contaminated soil and groundwater. Handling and/or treatment activities, as required, have been incorporated into the Proposal Schedule. The quantities of contaminated soil and groundwater have been estimated based on information available in the Project Agreement. However, if excessive quantities of contaminated soil are encountered, we have developed a mitigation plan to avoid Schedule risks. The mitigation plan includes stockpiling material at various locations Onsite until material can be properly tested and disposed of with no impact to the Project Schedule. Further, we plan to implement a boring exploration program to pre-characterize soils prior to Construction Work. This allows us to reduce unknowns prior to starting Construction. Our Design also utilizes piles in place of shafts for bridges at Dahlia Street, Holly Street, Monaco Street, DRIR, Quebec Street, and Peoria Street to reduce the risk of encountering contaminated groundwater associated with the Chemical Sales property.

Through several optimizations and ATCs (11, 12, 14, and 18) our Team has raised the pavement section above the groundwater table. This allows us to eliminate any permanent treatment of groundwater, removing the significant Schedule risk associated with permitting and commissioning a treatment facility.

5.5.4 WORK AT RAILROADS

The KMP Design Team has significant experience coordinating Design with the UPRR, BNSF, and DRIR. Based on this experience, adequate review times have been built into the Proposal Schedule. To ensure Railroad review times are met and resubmissions are not required, the Design is reviewed by our exclusive subconsultant, Sue Grabler, prior to submission to the Railroad. Sue Grabler, who has 34 years of UPRR experience, reviews submissions and allows our Team to anticipate and react to the Railroad's potential concerns prior to submission. The in-depth knowledge Sue has in regards to the review process will provide Schedule certainty for all Railroad submissions. Additionally, Jacobs Engineering recently acquired JL Patterson and Associates, who provides recent experience with design of UPRR and BNSF projects. This brings additional Railroad experience to ensure the Design and reviews stay on Schedule.

In addition, KMP's Lead Contractor has significant experience coordinating Construction with the UPRR, BNSF, and DRIR. This experience allows us to account for Railroad-specific requirements in our Proposal Schedule, such as shut-downs caused by train traffic. Further, KMP's Lead Contractor's local experience provides an in-depth knowledge of the operations of the rail lines within the Project, which allows our Team to more accurately anticipate Work windows.

5.5.5 WORK AT SWANSEA ELEMENTARY SCHOOL

The Construction Work at Swansea Elementary School was carefully considered in the development of the Proposal Schedule. It is critical that Construction activities do not interfere with or hinder the operations of the school. All bridge Work adjacent to the school has been scheduled within the Denver School District's summer break. To limit the impact to the school to one summer season, KMP is constructing Columbine Street and Clayton Street cross-street bridges concurrently (ATC 57) during the summer of 2019 by using at-grade detours. Additionally, Denver Water mandates that shutdowns for the 42" waterline in Columbine Street only occur in winter months. However, this would require a closure of Columbine Street during the school year. To mitigate this issue, we by-pass the 42" waterline in Columbine Street during Construction (in the summer months). This allows us to shut down the waterline in the winter months without impacting Swansea Elementary School.

6. Schedule Set-Up

6.1 RESOURCES

KMP based its Schedule on the use of Design and Construction methods that minimize the number of resources and optimize the productivity of those resources. KMP's comprehensive planning eliminates the need for large fluctuations in the number of resources, offering the best balance between crew resource/manpower requirements and Work activity durations, resulting in the most efficient performance of the Work. KMP's plan and Schedule is realistic and based on crew assignments and past productivity records experienced on similar work.

KMP maintains the responsibility for its means and methods used to construct the Work. KMP's plan is to maximize efficiency through continuity of operations, the establishment of extended production runs, proper matching of equipment to Work operations, and matching the daily production of follow-on crews to their predecessor activities.

The resources allocated to this Project have been optimized and therefore have been assigned to the Work activities in the quantity anticipated at the time of developing the Proposal Schedule. Efficient use of these resources is essential for KMP to perform the Work and complete the Project within the expected timeframe.

The use and analysis of our past experience in assigning resources ensures that our Schedules reflect field realities. We provide frequent opportunities for field supervisors to review actual performance versus planned performance and detect negative trends. If a negative trend is identified, a review of the operation is performed to discover why the operation is not going according to plan. We then develop and implement a recovery plan as required.

For Schedule certainty, we employ method analysis to identify areas to improve productivity and Schedule performance. In this process, an observer tracks the actual activities and duration of an operation identified for analysis, and produces a written record of that analysis. A complete cycle of production is observed, and then the crew and supervisors responsible for the Work are assembled to discuss and analyze the results and determine action items for Schedule adjustments. A brainstorming session is conducted, sometimes in association with an outside consultant, to improve the operation. Bottlenecks are identified, and steps such as re-sequencing activities or adding crews are taken to reduce or eliminate problems. The Schedule is modified to incorporate the refinements, and another cycle of production is conducted and observed. Results are noted, and the process is repeated again until the desired results are achieved.

Key subcontractors attend the Weekly Schedule Meetings to provide accurate progress updates for incorporation into the Project Schedule. This process allows our Team to determine if the Work is progressing according to plan; if not, a recovery plan is initiated immediately. If progress is still not satisfactory, the issue is escalated above the superintendent. By holding the superintendents and subcontractors responsible for meeting their Schedules, more realistic Schedules are created and people are motivated to achieve them.

All Construction activities have been assigned a crew resource. All self-performed activities have direct manhours allocated to them based upon estimated production rates. The resources included in the Schedule have been leveled through the use of preferential logic to communicate KMP's plan to complete the Construction Work.

6.1.1 CREW RESOURCES

The Schedule incorporates KMP's planned crews for the Project, and includes specific limits allocated to model KMP's current plan. These resources have been assigned to all Construction activities. KMP has sufficient crew and subcontractor relationships to ensure that Schedule needs are met.

6.1.2 MANHOUR RESOURCE

Represents the approximate total planned direct manhours for the KMP Team based on estimated production rates. Manhours are associated with KMP self-performed Construction activities and approximate manhours from KMP's major subcontractors. Manhour resources have been assigned to activities based on crew to allow for convenient breakdowns of manhours by work type.

6.1.3 REVENUE RESOURCE

KMP utilizes a revenue resource in the Baseline Schedule to account for and track the Construction Work budget performance.

The resource assignments are used by KMP to plan for craft and staff requirements, to forecast cash flow, and to monitor earned values on the Project. KMP's total crew hours, manhours, and revenue fluctuates over the course of the Project. Additionally, the manhour and revenue resources are distributed proportionally where limited data is available on specific quantities for each activity, and will not match exactly with KMP's budgets. No change is made to the Schedule unless there is a significant discrepancy between the Schedule and the anticipated totals at completion.

Resources may be reallocated to advance the Schedule as Work progresses. Refer to Attachment 6 for the Resource Plan which includes a complete list of all Resources used in the Schedule.

6.2 CALENDARS

KMP has accounted for all specified Holidays, anticipated adverse weather (per historical data), and other planned non-work days or periods using a series of 13 individual calendars. The following table describes each of the calendars included as part of the Proposal Schedule.

No.	Description	Activities Assigned to Calendar
1	**General Construction (5 days per week with weather and Holidays)**	Nearly all Construction activities have been assigned to this calendar
2	**Design (5 days per week with Holidays)**	All Design activities have been assigned to this calendar
3	**Department/Third Party Reviews (5 days per week with CDOT Holidays)**	Submittal review activities have been assigned to this calendar
4	**Administrative (7 days per week with no Holidays or weather)**	Used for activities that occur on a Calendar Day basis such as cure and procurement activities
5	**Superstructure (5 days per week with weather and Holidays and KMP elected moratorium from December 1st to March 1st)**	Applied to all bridge superstructure activities
6	**Paving (5 days per week with weather and Holidays and KMP elected moratorium from December 1st to March 1st)**	Applied to standard paving activities (not including Stone Matrix Asphalt [SMA] activities)
7	**SMA Paving (5 days per week with weather and Holidays and KMP elected moratorium from December 1st to March 1st)**	Applied to all SMA paving activities
8	**Utilities—Water (5 days per week with weather and Holidays and KMP elected moratorium from April 1st to November 1st)**	Applied to all Work on existing water lines for tie-ins and removals
9	**Utilities—Communications (5 days per week with weather and Holidays and KMP elected moratorium from November 1st to February 1st)**	Applied to all Work on existing fiber optic lines for tie-ins and removals
10	**Utilities—Gas/Transmission (5 days per week with weather and Holidays and KMP elected moratorium from October 1st to May 1st)**	Applied to all Work on existing gas lines for tie-ins and removals
11	**Swansea Elementary School (5 days per week with weather and Holidays, and required moratorium during Denver Public Schools school year)**	Applied to all Work on Columbine Street and Clayton Street minimize impact of Construction Swansea Elementary School
12	**Stock Show (5 days per week with weather and Holidays and KMP elected moratorium during month of January)**	Applied to all Work on or near Brighton Boulevard in the vicinity of the National Western Center
13	**Construction 6 Day (6 days per week with weather and Holidays)**	Used for Construction activities pertaining to the UPRR crossing

As the Project progresses, KMP may change the calendar assignments for any activity. KMP elected moratoriums are based on KMP's historical experience, and are utilized in the Schedule as a guideline to realistically Schedule the Work while assisting with determining if any other cost or resource impacts need to be included.

6.3 WORKING HOURS

KMP intends to work 6 to 7 days per week, both day and night shift, throughout the Construction Period, not including non-work timeframes such as Holidays or weather. While the Schedule is primarily based on 5 day per week calendars, Saturdays and Sundays are used for make-up days or for Work as determined by the Segment Manager or Discipline Managers. KMP manages its overtime exposure to concentrate on those operations and activities which advance the Schedule, provide added crew flexibility, or result in an overall benefit to Schedule. Critical path and near-critical activities may change throughout the course of the Project, and KMP adjusts its Work days and hours accordingly.

6.3.1 NIGHT WORK

KMP intends to primarily work night shift on the following activities: excavation of the Lowered Section, hauling, bridge decks, concrete placement, asphalt paving, bridge demolition, structure erection over traffic, and shoulder or median Work.

Night work is identified on a weekly basis on the Three-Week Schedule. KMP understands that a noise variance may be required for night work within the confines of the City and County of Denver.

To ensure productive nightshift operations, the dayshift crews wrap up their days by preparing the night shift for maximum productivity. This includes equipment placement on the job, such as setting up light plants, preparation of required materials and supplies, and ensuring clean and safe access for night employees.

6.4 WEATHER

The Weather days were developed based on the significant local experience and historical data from our Lead Contractor. Additionally, our weather data has been supplemented with historical weather data from National Oceanographic and Atmospheric Administration for the Denver Region.

	Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sept*	*Oct*	*Nov*	*Dec*
Weather Days	*2*	*2*	*2*	*2*	*1*	*2*	*1*	*1*	*1*	*2*	*2*	*3*

Weather days in excess of those included in the Schedule are likely to result in a Schedule effect, and may require adjustment to the logic, resources, or durations of activities to avoid impacts to the completion date for the Project.

6.5 HOLIDAYS

KMP has accounted for Holidays in its Construction calendars (Calendars 1, 2, and 5-13).

Holiday	Date
New Year's Day	January 1
Memorial Day	Last Monday in May
Independence Day	July 4
Labor Day	First Monday in September
Thanksgiving	Fourth Thursday and Friday in November
Christmas	December 24th and 25th

For Holidays falling on a Saturday, the preceding Friday is designated as a non-work day, and for Holidays falling on a Sunday, the following Monday is designated as a non-work day.

Holidays associated with Calendar 3, Department and Third Party Reviews, includes the following Holidays.

Holiday	Date
New Year's Day	January 1
Dr. Martin Luther King Jr.'s Birthday	Third Monday in January
President's Day	Third Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4
Labor Day	First Monday in September
Columbus Day	Second Monday in October
Veterans' Day	November 11
Thanksgiving Day	Fourth Thursday in November
Christmas Day	December 25

7. Schedule Structure

7.1 NETWORK STRUCTURE

KMP developed the Proposal Schedule using Oracle's Primavera P6 Project Management software, Release 15.1.0. For all submittals, KMP includes the Schedule in both PDF and XER file formats for the Department's review and use. All XER files are compatible with Primavera P6 v7, per Schedule 8 Section 3.1.

7.2 WORK BREAKDOWN STRUCTURE

In order to provide a consistent structure for managing and updating the Schedule, the activities are organized into a Work Breakdown Structure (WBS) in general conformance with Schedule 8 Section 3.3.8, Table 1 WBS Levels of the Project Agreement.

Level I	I-70 East Project Agreement Program	Department Use Only
Level II	Central 70—Proposal Schedule	KMP use
Level III	Construction Work Components	
	• Milestones • Mobilization • Construction Work Management • Quality Management Plan • Changes/Construction Modification Order • DBE/ESB Plan • Workforce Development Plan • Strategic Communications • Design • Environmental Management • Removals/Demolition • Earthwork • Drainage	• Utilities • Structures • Railroads • Right-of-Way • Aesthetics • Fire & Life Safety • Cover Park Deck Plans • Maintenance of Traffic • Roadway • ITS • ETC • Warranty
Level IV	Construction Work Subcomponents—Sub-Areas	
Design	• Early Work • 30% Design • Dry Utilities • Wet Utilities • UP Railroad • BNSF Railroad	• Landscaping • Signing • Lighting • Cover • Roadway • Bridges
Construction	• Sub-Area 0: Pecos Street to West of I-25 • Sub-Area 1: West of I-25 to West of Brighton Boulevard • Sub-Area 2: West of Brighton Boulevard to West of York Street • Sub-Area 3: West of York Street to West of BNSF Market Lead Bridge • Sub-Area 4: West of BNSF Bridge to East of Dahlia Street • Sub-Area 5: East of Dahlia Street to Sand Creek • Sub-Area 6: Sand Creek to East of Chambers Road • Sub-Area 7: East of Chambers Road to Tower Road	
Level V	• Construction Work Subcomponents—Blocks • For a complete list of Blocks see Attachment 4	
Level VI	Work Sub-Activities: KMP Defined Activities	

While our WBS is generally in line with the Project Agreement, KMP has added some additional nodes and levels not required by the Department (including Milestones, Design, and Removals/Demolition). These minor revisions provide a comprehensive structure for organizing the Project, but still satisfy the intent of the Project Agreement.

A complete printout of the WBS is included in Attachment 5.

7.3 ACTIVITY ID

The Activity ID is used to differentiate one Schedule activity from another and to divide activities into logical groupings. For Design, Construction, and Agreement-specific activities (i.e. Payment Milestones), a four-tiered activity code was developed. For utility and right-of-way activities, a three-tiered approach was used.

7.3.1 DESIGN ACTIVITIES

Design activity IDs are used to easily identify the Design package and stage of Design for a given activity. All Design activities' Activity IDs have the following structure:

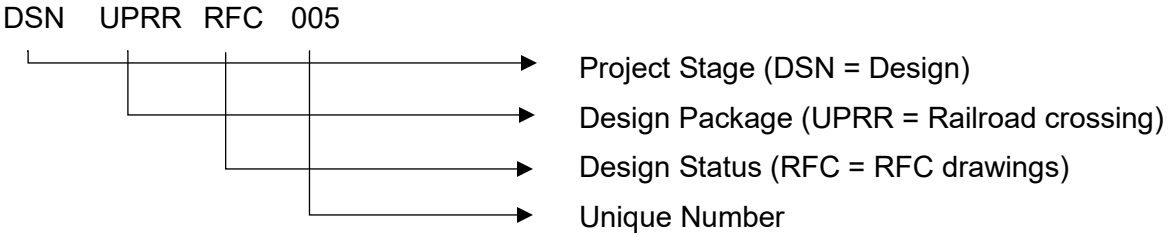
PROJECT STAGE: Stage of project (Design, Construction, etc.)

DESIGN PACKAGE: Scope of work (Cover, UPRR, etc.)

DESIGN STATUS: Stage of Design (30%, 60%, 90%, 100%, RFC)

UNIQUE NUMBER: For all activities sharing a common Design package, a three digit unique activity number has been assigned in increments of five in order to accommodate the addition of activities in the future. While the activity numbers are initially assigned in order, they are not intended to indicate any logic or sequence.

DSN.UPRR.RFC.005—Produce Design—RFC UPRR Design



7.3.2 CONSTRUCTION ACTIVITIES

Construction Activity IDs are used to identify the Work Discipline, Type of Work, and Work Location associated with each activity as well as a unique activity number.

PROJECT STAGE: Stage of the each constructed element (Design, Construction, etc.)

WORK DISCIPLINE: This portion of the Activity ID includes a 2 or 3 character abbreviation of the associated type of Work for each activity. For example, DRN is for the drainage discipline.

WORK LOCATION: This refers to the Block number. The first digit corresponds with the Sub-Area. For example, Block 413 is the 13th block identified in Sub-Area 4.

UNIQUE ACTIVITY NUMBER: For all activities within a common Location, a three digit unique activity number has been assigned in increments of five in order to accommodate the addition of activities in the future. While the activity numbers are initially assigned in order, they are not intended to indicate any logic or sequence.

CON.DRT.325.055—Pavement/Misc. Removals—Block 325—P1S1

CON DRT 325 055

- CON → Project Phase (CON = Construction)
- DRT → Work Discipline (DRT = Earthwork)
- 325 → Work Location (325 = Block 325)
- 055 → Unique Number

7.3.3 RIGHT-OF-WAY ACTIVITIES

Right-of-way (ROW) activity IDs are used to easily identify the stages of ROW acquisition and preparation.

PROJECT STAGE: Stage of each property (ROW)

ROW STAGE: Stage of ROW acquisition (PRO = Procurement, PREP = Prepare, ACQ = Acquired)

ROW PARCEL ID: Unique ROW Parcel Number as identified in Schedule 18.

or

BLOCK NUMBER: Block Number (Used for acquisition of all parcels in a block, or preparation of all parcels in a block)

ROW.PRO.AP-93—Procure ROW Parcel AP-93

ROW PRO AP-93

- ROW → Project stage (ROW = Right-of-way)
- PRO → ROW stage (PRO = Procure ROW)
- AP-93 → Parcel Number (AP-93 = Parcel AP-93)

7.3.4 UTILITY COORDINATION ACTIVITIES

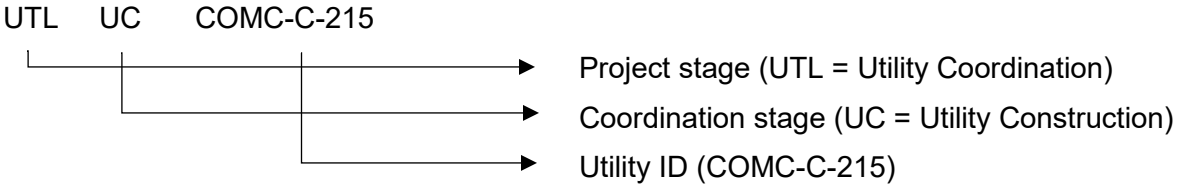
Utility activity IDs are used to easily identify the stages of Utility Design and Construction.

PROJECT STAGE: Stage of utility adjustment (Utility Coordination)

UTILITY STAGE: Utility coordination stage (UX = Execute Work Order, UD = Utility Design, UP = Utility Procurement, UC = Utility Construction)

UTILITY ID: Unique Utility Number as identified in the utility matrices in Schedule 29.

UTL.UC.COMC-C-215—Perform COMC-C-215



7.4 ACTIVITY CODES

Several activity codes were utilized in the Proposal Schedule and assigned to the activities in order to help organize, manage, and extract information from the Schedule. Additional activity codes may be added to the Schedule as the Project progresses through the Construction Period. No global activity codes have been used.

KMP utilizes activity codes to group and sort the Schedule. In addition to typical activity codes such as Type of Work and MOT Phase, KMP has implemented a “secondary WBS” to the Project using activity codes. The activity code C70-KMP WBS was created, and a breakdown hierarchy was created beneath it. This allows KMP to easily sort activities based on geographic locations and phasing rather than by type of Work as dictated in the WBS.

Activity code C70-KMP WBS is broken down into the eight geographical sub-areas depicted in the figure at the beginning of Section 5. These sub-areas are further broken down into blocks (Attachment 4), which are smaller pieces of each sub-area. Work in each block is then further broken down into MOT phasing.

7.4.1 ACTIVITY CODING SYSTEM

Schedule activities have been assigned the following Project Activity Codes in order to help organize, manage, and extract information from the Schedule:

- **C70—Sub-Area:** Designates the Construction Area (0-7) that an activity occurs in. Also used to separate Utility coordination activities (Work Order, Design, Procurement, Construction) and right-of-way activities (Procurement, Preparation).
- **C70—Block:** Designates the smaller Construction Location within each area; All block numbers contain the sub-area in which the block is located in their first digit (i.e. Block 302 is located in Sub-Area 3). Also used for Utility Conflict types: (Relocate, Protect in Place, No Conflict, Abandon).
- **C70—Milestone Segment:** Designates the Payment Milestone associated with each activity.
- **C70—MOT Phase:** Designates the MOT Phase that each activity occurs in. Phases per Appendix F, Traffic Control Plan.
- **C70—Type of Work:** Designates the Discipline of Work for each activity. Also indicates the Level III WBS node for each activity.
- **C70—Utility Owner:** For Utility Coordination activities, indicates the owner of utility for each activity.
- **C70—Utility Type:** For Utility Coordination activities, indicates the type of utility for each activity.

In addition to the above Project Activity Codes, the following Global codes have been assigned to activities, in compliance with KMP policy, in order to accommodate KMP's corporate tracking and reporting initiatives:

- **GM-ACTSOURCE:** Designates the origin of each activity; Baseline Schedule, Time Impact Analysis (TIA), new activity added by update, etc.
- **GM-RESP:** Designates responsible party for each activity; Department, Designer, Contractor, third party, etc.
- **GM-TYPE:**Designates Type of Work; generally matches with C70-Type of Work, as described above.

Refer to Attachment 7 for a list of all Activity Codes and their values.

8. Permits

KMP understands that the Department is providing the approvals listed below, per Table 17-1 in Schedule 17:

Environmental Approvals	Permitting Agency/Approval Agency
• Record of Decision and Section 4(f) Evaluation • Federal Highway Administration (FHWA)Programmatic Agreement	• FHWA • State Historic Preservation Office (SHPO) the Department, and FHWA

KMP also understands that we are responsible for additional approvals and permits required pursuant to the Agreement. Refer to Attachment 8 for a non-exhaustive Permit Matrix listing known permits and approvals required for the Project. KMP's Lead Designer and Lead Contractor both have extensive experience with permits and environmental approvals in Colorado. This experience was used to develop a realistic Schedule.

9. Conclusion

The Proposal Schedule demonstrates KMP's plan to accomplish its Schedule goals while satisfying the requirements of the Project Agreement. Completing this Project in accordance with the Project Agreement is mutually beneficial to the Department, KMP, and all parties involved. This Proposal Schedule as the Draft Project Baseline Schedule provides a significant advancement toward the ultimate goal of getting the Approved Baseline Schedule in place quickly after award.

KMP plans for the Work to be performed in an aggressive manner in order to minimize the overall inconvenience to the community and complete all Construction Work in the time stipulated in the Agreement. KMP takes a proactive approach, and works with the Department to minimize and/or eliminate potential disruptions to Work by:

- Forming a cooperative and trusting relationship with the Department
- Providing the Department with prompt notice identifying items which could impact the Schedule
- Tracking potential issues, and thus creating a means to identify those items critical to the progression of the Work

- Scheduling meetings with the Department to review high priority and problem submittals when required.

KMP has made every effort to prepare this Schedule submittal in accordance with the Project Agreement. The schedule will be accurately progressed on a periodic basis and should be used as a management tool by all parties. The schedule progress and any changes will be reported as part of the monthly Schedule Update along with an analysis regarding the current status of the scheduled work and any effects that changes or impacts may have had on the schedule progress. KMP's Schedule Work Plan is discussed in Appendix B, Project Management Plan, in Section 5.15.

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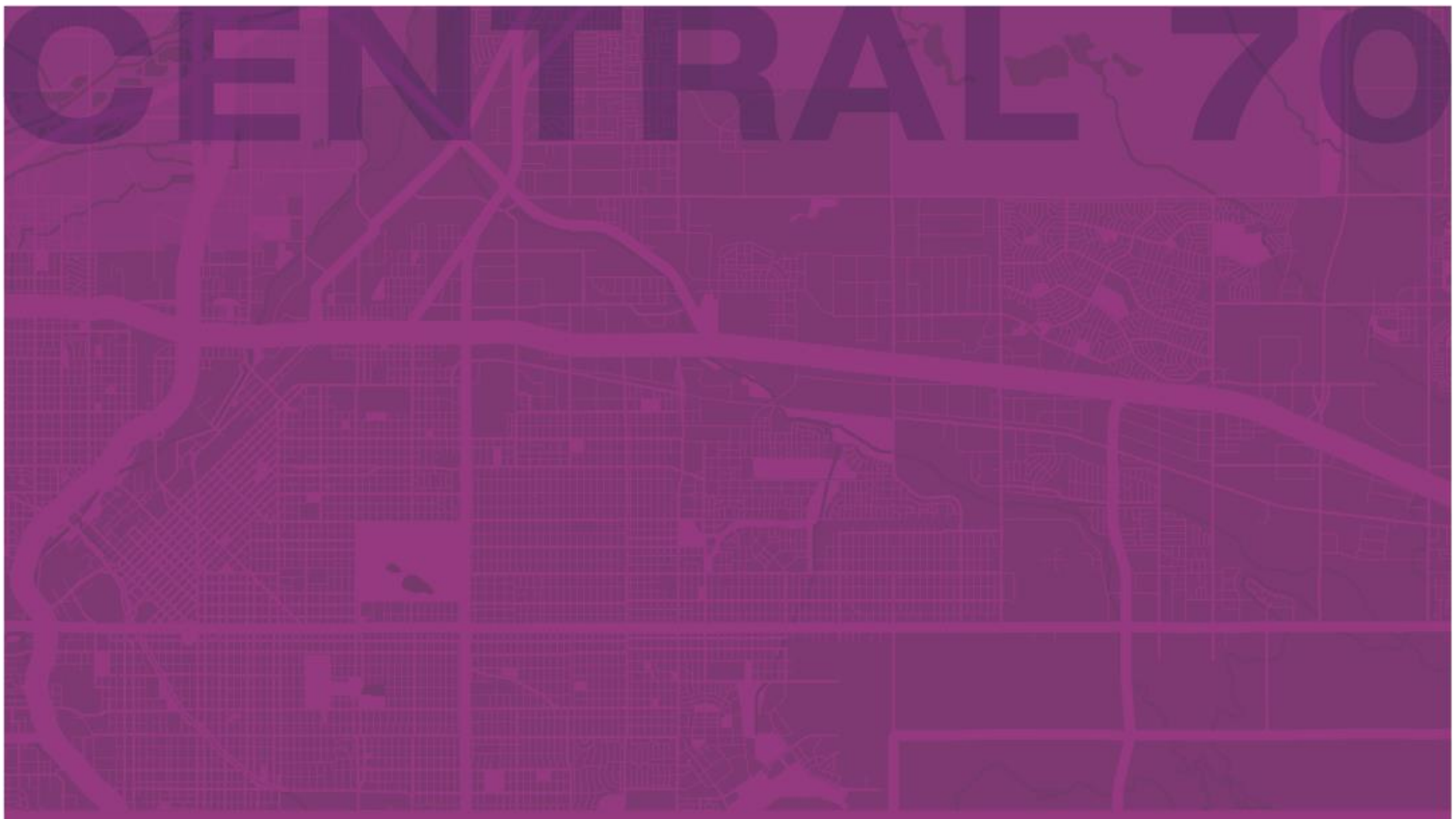

ATTACHMENT 1

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Critical Path

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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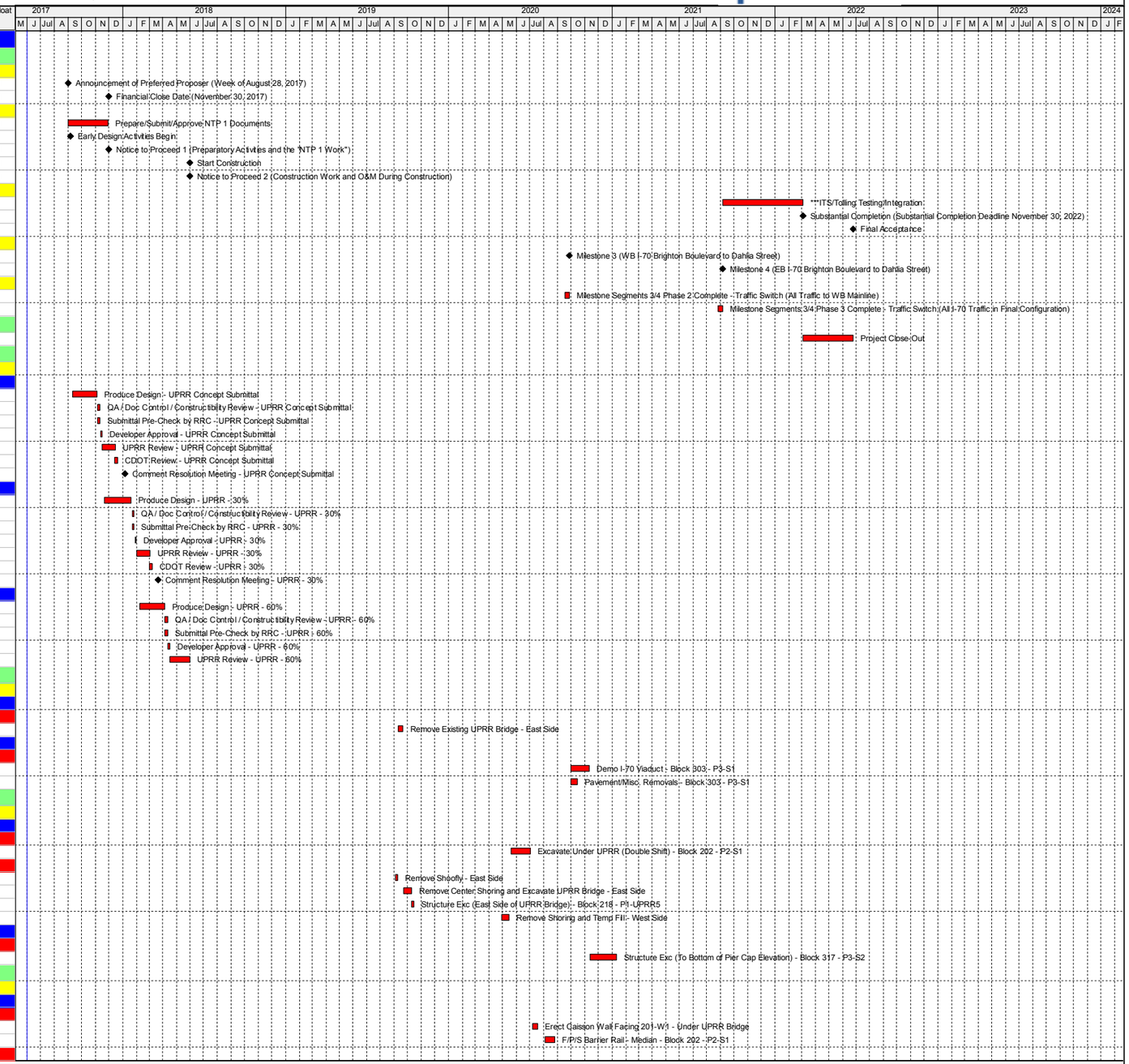
Kiewit-Meridiam Partners

Central 70 Project - Proposal Schedule - Critical Path

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
KMP - Central 70 Project - Proposal Schedule		1127d	01-Sep-17	25-Jun-22	0d
Milestones*		1127d	01-Sep-17	25-Jun-22	0d
Contract Procurement		90d	01-Sep-17	30-Nov-17	20d
AGR.CWM.PRO.015	Announcement of Preferred Proposer (Week of August 28, 2017)	0d	01-Sep-17*		12d
AGR.CWM.PRO.025	Financial Close Date (November 30, 2017)	0d	30-Nov-17*		20d
Notices to Proceed		170d	01-Sep-17	01-Jun-18	8d
AGR.CWM.PRO.030	Prepare/Submit/Approve NTP 1 Documents	61d	01-Sep-17	29-Nov-17	14d
AGR.CWM.ED.005	Early Design Activities Begin	0d	05-Sep-17*		8d
AGR.CWM.NTP.001	Notice to Proceed 1 (Preparatory Activities and the "NTP 1 Work")	0d	30-Nov-17*		20d
AGR.CWM.NTP.SC	Start Construction	0d	01-Jun-18*		13d
AGR.CWM.NTP.002	Notice to Proceed 2 (Construction Work and O&M During Construction)	0d	01-Jun-18*		13d
Completion Milestones		293d	06-Sep-21	25-Jun-22	0d
CON.ITS.JW.005	***ITS/Tolling Testing/Integration	180d	06-Sep-21	04-Mar-22	0d
AGR.CWM.MS.020	Substantial Completion (Substantial Completion Deadline November 30, 2022)	0d		04-Mar-22*	0d
AGR.CWM.MS.025	Final Acceptance	0d		25-Jun-22	0d
Payment Milestones		344d	26-Sep-20	05-Sep-21	0d
AGR.CWM.PMT.003	Milestone 3 (WB I-70 Brighton Boulevard to Dahlia Street)	0d		26-Sep-20	1d
AGR.CWM.PMT.004	Milestone 4 (EB I-70 Brighton Boulevard to Dahlia Street)	0d		05-Sep-21	0d
Intermediate Milestones (KMP)*		354d	17-Sep-20	05-Sep-21	0d
CON.CWM.MS.030	Milestone Segments 3/4 Phase 2 Complete - Traffic Switch (All Traffic to WB Mainline)	10d	17-Sep-20	26-Sep-20	1d
CON.CWM.MS.025	Milestone Segments 3/4 Phase 3 Complete - Traffic Switch (All I-70 Traffic in Final Configuration)	10d	27-Aug-21	05-Sep-21	0d
Construction Work Management		113d	05-Mar-22	25-Jun-22	0d
CON.CWM.MGT.025	Project Close-Out	113d	05-Mar-22	25-Jun-22	0d
Design*		165d	11-Sep-17	31-May-18	2d
Union Pacific Railroad		165d	11-Sep-17	31-May-18	2d
Concept Submittal (For Acceptance)		71d	11-Sep-17	05-Jan-18	4d
DSN.UPRR.CON.005	Produce Design - UPRR Concept Submittal	40d	11-Sep-17	03-Nov-17	5d
DSN.UPRR.CON.010	QA / Doc Control / Constructibility Review - UPRR Concept Submittal	5d	06-Nov-17	10-Nov-17	5d
DSN.UPRR.CON.015	Submittal Pre-Check by RRC - UPRR Concept Submittal	5d	06-Nov-17	10-Nov-17	5d
DSN.UPRR.CON.020	Developer Approval - UPRR Concept Submittal	3d	13-Nov-17	15-Nov-17	5d
DSN.UPRR.CON.025	UPRR Review - UPRR Concept Submittal	30d	16-Nov-17	15-Dec-17	7d
DSN.UPRR.CON.030	CDOT Review - UPRR Concept Submittal	5d	14-Dec-17	20-Dec-17	4d
DSN.UPRR.CON.040	Comment Resolution Meeting - UPRR Concept Submittal	0d		05-Jan-18	4d
30% Design (For Acceptance)		71d	21-Nov-17	21-Mar-18	3d
DSN.UPRR.30.005	Produce Design - UPRR - 30%	40d	21-Nov-17	19-Jan-18	4d
DSN.UPRR.30.010	QA / Doc Control / Constructibility Review - UPRR - 30%	5d	22-Jan-18	26-Jan-18	4d
DSN.UPRR.30.015	Submittal Pre-Check by RRC - UPRR - 30%	5d	22-Jan-18	26-Jan-18	4d
DSN.UPRR.30.020	Developer Approval - UPRR - 30%	3d	29-Jan-18	31-Jan-18	4d
DSN.UPRR.30.025	UPRR Review - UPRR - 30%	30d	01-Feb-18	02-Mar-18	6d
DSN.UPRR.30.030	CDOT Review - UPRR - 30%	5d	01-Mar-18	07-Mar-18	4d
DSN.UPRR.30.040	Comment Resolution Meeting - UPRR - 30%	0d		21-Mar-18	4d
60% Design (For Acceptance)		74d	08-Feb-18	31-May-18	2d
DSN.UPRR.60.005	Produce Design - UPRR - 60%	40d	08-Feb-18	04-Apr-18	4d
DSN.UPRR.60.010	QA / Doc Control / Constructibility Review - UPRR - 60%	5d	05-Apr-18	11-Apr-18	4d
DSN.UPRR.60.015	Submittal Pre-Check by RRC - UPRR - 60%	5d	05-Apr-18	11-Apr-18	4d
DSN.UPRR.60.020	Developer Approval - UPRR - 60%	3d	12-Apr-18	16-Apr-18	4d
DSN.UPRR.60.025	UPRR Review - UPRR - 60%	45d	17-Apr-18	31-May-18	4d
Removals/Demolition*		281d	10-Sep-19	11-Nov-20	0d
West Area		281d	10-Sep-19	11-Nov-20	0d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		10d	10-Sep-19	20-Sep-19	2d
Block 218 - UPRR Bridge Over I-70		10d	10-Sep-19	20-Sep-19	2d
CON.RMV.218.105	Remove Existing UPRR Bridge - East Side	10d	10-Sep-19	20-Sep-19	2d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		30d	30-Sep-20	11-Nov-20	0d
Block 303 - EB I-70		30d	30-Sep-20	11-Nov-20	0d
CON.RMV.303.105	Demo I-70 Viaduct - Block 303 - P3-S1	30d	30-Sep-20	11-Nov-20	0d
CON.RMV.303.095	Pavement/Misc. Removals - Block 303 - P3-S1	12d	30-Sep-20	15-Oct-20	0d
Earthwork		316d	04-Sep-19	11-Jan-21	0d
West Area		316d	04-Sep-19	11-Jan-21	0d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		197d	04-Sep-19	02-Jul-20	1d
Block 202 - WB I-70		30d	19-May-20	02-Jul-20	1d
CON.DRT.202.035	Excavate Under UPRR (Double Shift) - Block 202 - P2-S1	30d	19-May-20	02-Jul-20	1d
Block 218 - UPRR Bridge Over I-70		198d	04-Sep-19	15-May-20	2d
CON.DRT.218.120	Remove Shoofly - East Side	5d	04-Sep-19	09-Sep-19	2d
CON.DRT.218.145	Remove Center Shoring and Excavate UPRR Bridge - East Side	15d	21-Sep-19	09-Oct-19	2d
CON.DRT.218.235	Structure Exc (East Side of UPRR Bridge) - Block 218 - P1-UPRR5	4d	10-Oct-19	15-Oct-19	2d
CON.DRT.218.110	Remove Shoring and Temp Fill - West Side	15d	29-Apr-20	15-May-20	2d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		30d	13-Nov-20	11-Jan-21	0d
Block 317 - Cover over EB I-70		30d	13-Nov-20	11-Jan-21	0d
CON.DRT.317.045	Structure Exc (To Bottom of Pier Cap Elevation) - Block 317 - P3-S2	30d	13-Nov-20	11-Jan-21	0d
Structures		666d	01-Jun-18	01-Apr-21	0d
West Area		666d	01-Jun-18	01-Apr-21	0d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		527d	01-Jun-18	25-Aug-20	1d
Block 202 - WB I-70		35d	06-Jul-20	25-Aug-20	1d
CON.STR.202.095	Erect Caisson Wall Facing 201-W1 - Under UPRR Bridge	10d	06-Jul-20	17-Jul-20	1d
CON.STR.202.090	F/P/S Barrier Rail - Median - Block 202 - P2-S1	15d	04-Aug-20	25-Aug-20	1d
Block 218 - UPRR Bridge Over I-70		414d	01-Jun-18	09-Mar-20	2d

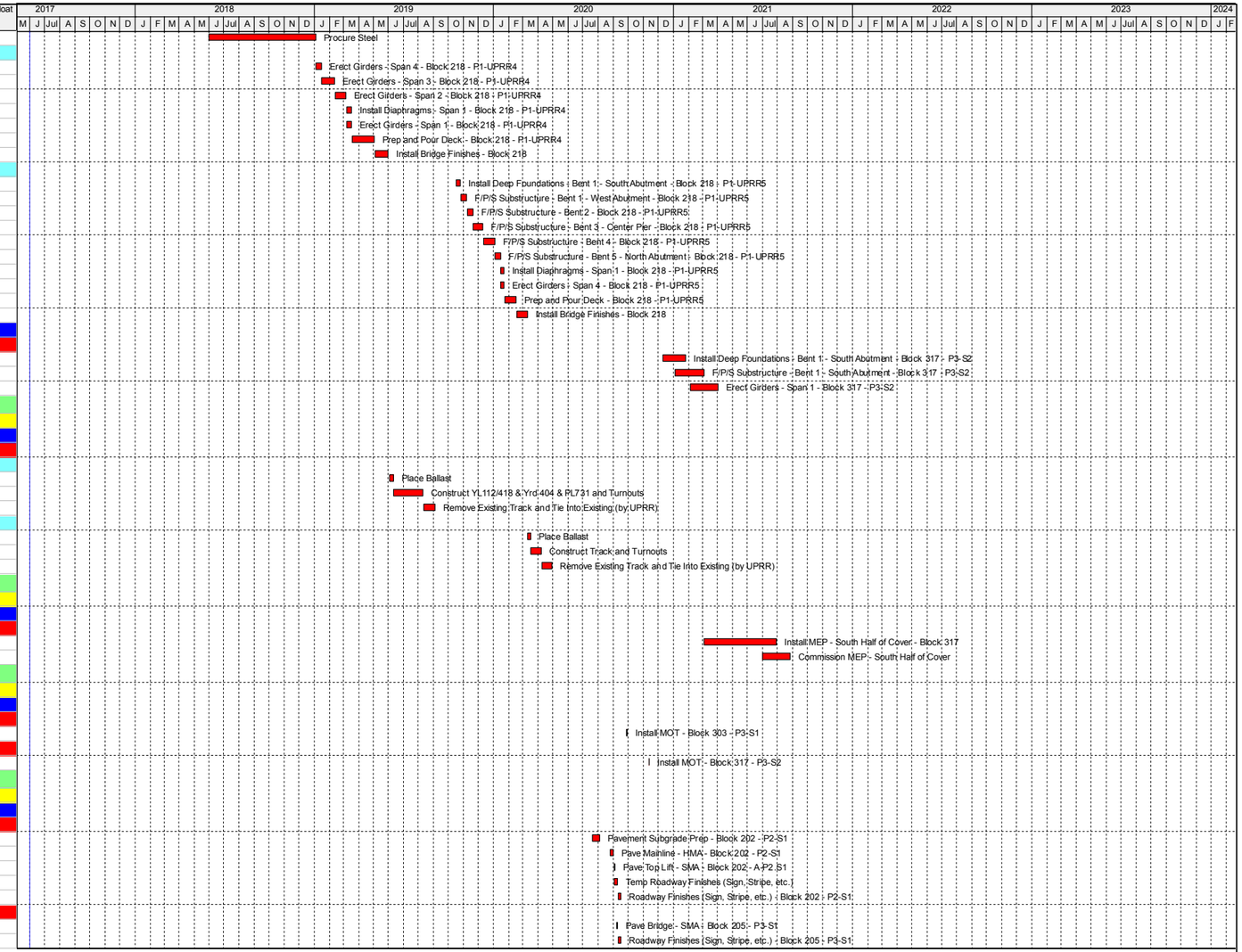


Critical Remaining Work

◆ Milestone

Kiewit meridiam PARTNERS

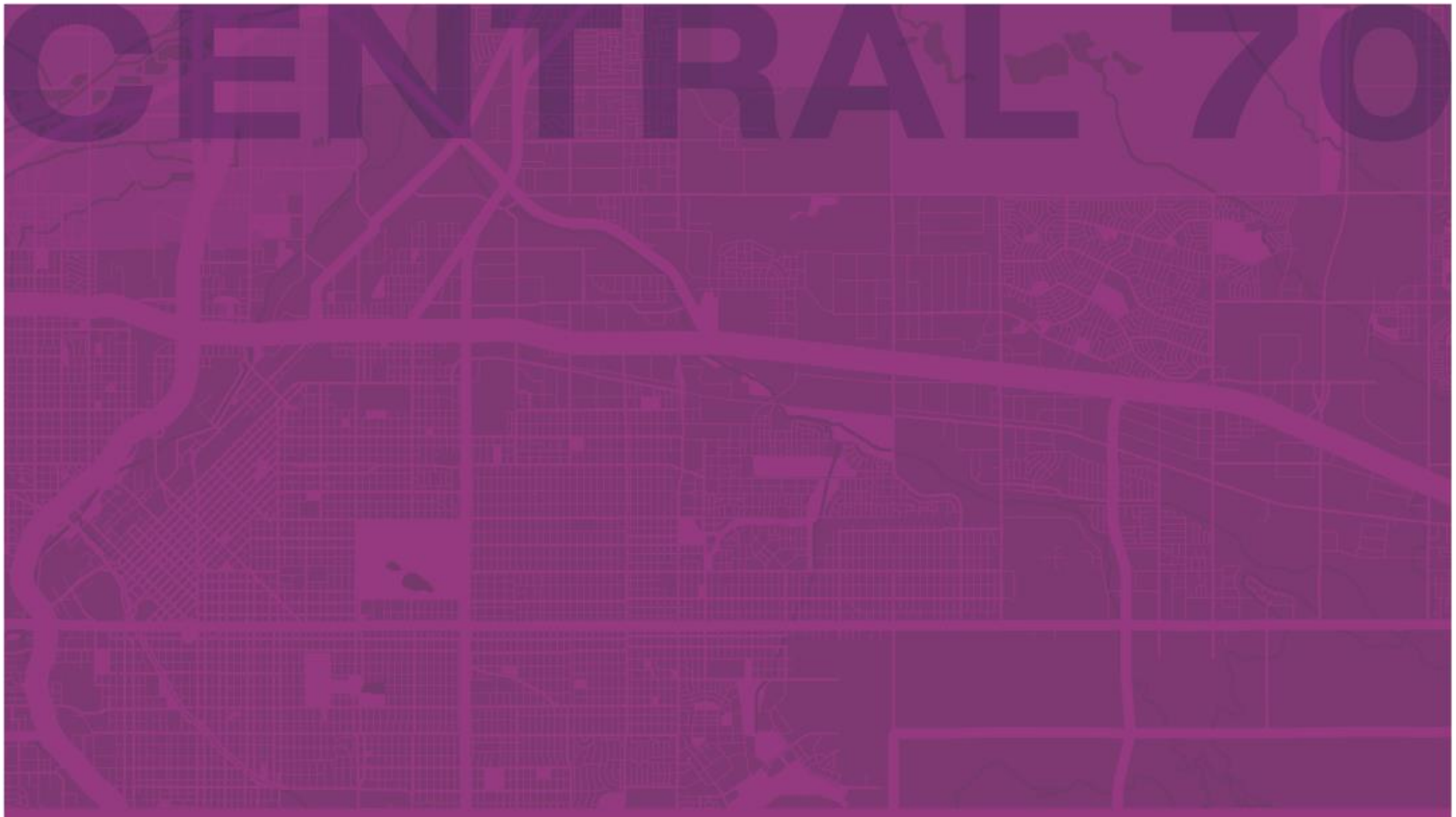
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.218.140	Procure Steel	217d	01-Jun-18	03-Jan-19	4d
UPRR Phase 4		116d	04-Jan-19	31-May-19	3d
CON.STR.218.285	Erect Girders - Span 4 - Block 218 - P1-UPRR4	10d	04-Jan-19	15-Jan-19	3d
CON.STR.218.270	Erect Girders - Span 3 - Block 218 - P1-UPRR4	19d	16-Jan-19	11-Feb-19	3d
CON.STR.218.255	Erect Girders - Span 2 - Block 218 - P1-UPRR4	19d	12-Feb-19	06-Mar-19	3d
CON.STR.218.195	Install Diaphragms - Span 1 - Block 218 - P1-UPRR4	10d	07-Mar-19	18-Mar-19	3d
CON.STR.218.240	Erect Girders - Span 1 - Block 218 - P1-UPRR4	10d	07-Mar-19	18-Mar-19	3d
CON.STR.218.185	Prep and Pour Deck - Block 218 - P1-UPRR4	35d	19-Mar-19	03-May-19	3d
CON.STR.218.150	Install Bridge Finishes - Block 218	23d	04-May-19	31-May-19	3d
UPRR Phase 5		108d	16-Oct-19	09-Mar-20	2d
CON.STR.218.370	Install Deep Foundations - Bent 1 - South Abutment - Block 218 - P1-UPRR5	8d	16-Oct-19	25-Oct-19	2d
CON.STR.218.440	F/P/S Substructure - Bent 1 - West Abutment - Block 218 - P1-UPRR5	11d	26-Oct-19	07-Nov-19	2d
CON.STR.218.445	F/P/S Substructure - Bent 2 - Block 218 - P1-UPRR5	10d	08-Nov-19	20-Nov-19	2d
CON.STR.218.395	F/P/S Substructure - Bent 3 - Center Pier - Block 218 - P1-UPRR5	13d	21-Nov-19	10-Dec-19	2d
CON.STR.218.405	F/P/S Substructure - Bent 4 - Block 218 - P1-UPRR5	12d	11-Dec-19	03-Jan-20	2d
CON.STR.218.435	F/P/S Substructure - Bent 5 - North Abutment - Block 218 - P1-UPRR5	10d	04-Jan-20	15-Jan-20	2d
CON.STR.218.230	Install Diaphragms - Span 1 - Block 218 - P1-UPRR5	5d	16-Jan-20	22-Jan-20	2d
CON.STR.218.290	Erect Girders - Span 4 - Block 218 - P1-UPRR5	5d	16-Jan-20	22-Jan-20	2d
CON.STR.218.170	Prep and Pour Deck - Block 218 - P1-UPRR5	21d	23-Jan-20	15-Feb-20	2d
CON.STR.218.155	Install Bridge Finishes - Block 218	18d	18-Feb-20	09-Mar-20	2d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		70d	10-Dec-20	01-Apr-21	0d
Block 317 - Cover over EB I-70		70d	10-Dec-20	01-Apr-21	0d
CON.STR.317.055	Install Deep Foundations - Bent 1 - South Abutment - Block 317 - P3-S2	25d	10-Dec-20	26-Jan-21	0d
CON.STR.317.060	F/P/S Substructure - Bent 1 - South Abutment - Block 317 - P3-S2	40d	05-Jan-21	04-Mar-21	0d
CON.STR.317.050	Erect Girders - Span 1 - Block 317 - P3-S2	40d	04-Feb-21	01-Apr-21	0d
Railroads		214d	04-Jun-19	28-Apr-20	2d
West Area		214d	04-Jun-19	28-Apr-20	2d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		214d	04-Jun-19	28-Apr-20	2d
Block 218 - UPRR Bridge Over I-70		214d	04-Jun-19	28-Apr-20	2d
UPRR Phase 4		60d	04-Jun-19	03-Sep-19	2d
CON.RR.218.025	Place Ballast	5d	04-Jun-19	11-Jun-19	2d
CON.RR.218.085	Construct YL112/418 & Yrd 404 & PL731 and Turnouts	40d	12-Jun-19	09-Aug-19	2d
CON.RR.218.090	Remove Existing Track and Tie Into Existing (by UPRR)	15d	12-Aug-19	03-Sep-19	2d
UPRR Phase 5		35d	10-Mar-20	28-Apr-20	2d
CON.RR.218.030	Place Ballast	5d	10-Mar-20	16-Mar-20	2d
CON.RR.218.095	Construct Track and Turnouts	15d	17-Mar-20	07-Apr-20	2d
CON.RR.218.100	Remove Existing Track and Tie Into Existing (by UPRR)	15d	08-Apr-20	28-Apr-20	2d
Deck Cover Park Plans		120d	05-Mar-21	26-Aug-21	0d
West Area		120d	05-Mar-21	26-Aug-21	0d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		120d	05-Mar-21	26-Aug-21	0d
Block 317 - Cover over EB I-70		120d	05-Mar-21	26-Aug-21	0d
CON.DEK.317.020	Install MEP - South Half of Cover - Block 317	100d	05-Mar-21	29-Jul-21	0d
CON.DEK.317.025	Commission MEP - South Half of Cover	40d	01-Jul-21	26-Aug-21	0d
Maintenance of Traffic		33d	28-Sep-20	12-Nov-20	0d
West Area		33d	28-Sep-20	12-Nov-20	0d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		33d	28-Sep-20	12-Nov-20	0d
Block 303 - EB I-70		2d	28-Sep-20	29-Sep-20	0d
CON.MOT.303.035	Install MOT - Block 303 - P3-S1	2d	28-Sep-20	29-Sep-20	0d
Block 317 - Cover over EB I-70		1d	12-Nov-20	12-Nov-20	0d
CON.MOT.317.030	Install MOT - Block 317 - P3-S2	1d	12-Nov-20	12-Nov-20	0d
Roadway		40d	20-Jul-20	16-Sep-20	1d
West Area		40d	20-Jul-20	16-Sep-20	1d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		40d	20-Jul-20	16-Sep-20	1d
Block 202 - WB I-70		40d	20-Jul-20	16-Sep-20	1d
CON.RD.202.075	Pavement Subgrade Prep - Block 202 - P2-S1	10d	20-Jul-20	03-Aug-20	1d
CON.RD.202.070	Pave Mainline - HMA - Block 202 - P2-S1	5d	26-Aug-20	01-Sep-20	1d
CON.RD.202.080	Pave Top Lift - SMA - Block 202 - A-P2.S1	3d	02-Sep-20	04-Sep-20	1d
CON.RD.202.065	Temp Roadway Finishes (Sign, Stripe, etc.)	5d	02-Sep-20	09-Sep-20	1d
CON.RD.202.060	Roadway Finishes (Sign, Stripe, etc.) - Block 202 - P2-S1	5d	10-Sep-20	16-Sep-20	1d
Block 205 - WB I-70 Bridge Over Brighton Blvd.		7d	08-Sep-20	16-Sep-20	1d
CON.RD.205.020	Pave Bridge - SMA - Block 205 - P3-S1	2d	08-Sep-20	09-Sep-20	1d
CON.RD.205.015	Roadway Finishes (Sign, Stripe, etc.) - Block 205 - P3-S1	5d	10-Sep-20	16-Sep-20	1d



Critical Remaining Work

◆ Milestone

Kiewit meridiam PARTNERS



ATTACHMENT 2

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Milestone Chart

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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Milestone Chart

Milestone	Proposal Schedule	Baseline Schedule	Update 001	Update 002
NTP1	November 30, 2017			
NTP2	June 1, 2018			
NTP3	June 1, 2018			
Payment Milestone 1	November 18, 2019			
Payment Milestone 2	October 20, 2020			
Payment Milestone 3	September 26, 2020			
Payment Milestone 4	September 5, 2021			
Substantial Completion	March 4, 2022			

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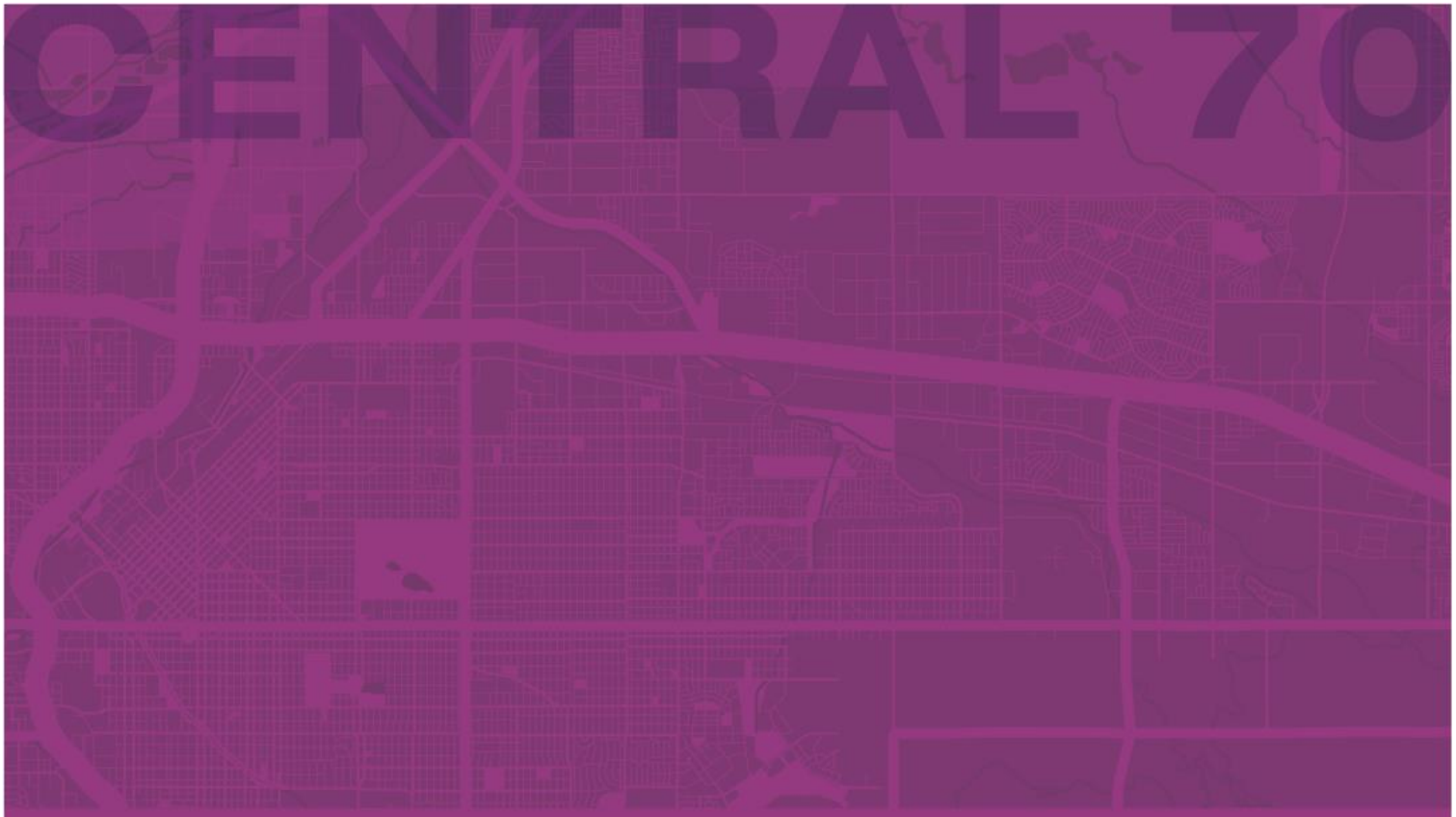

ATTACHMENT 3

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Near-Critical Activities

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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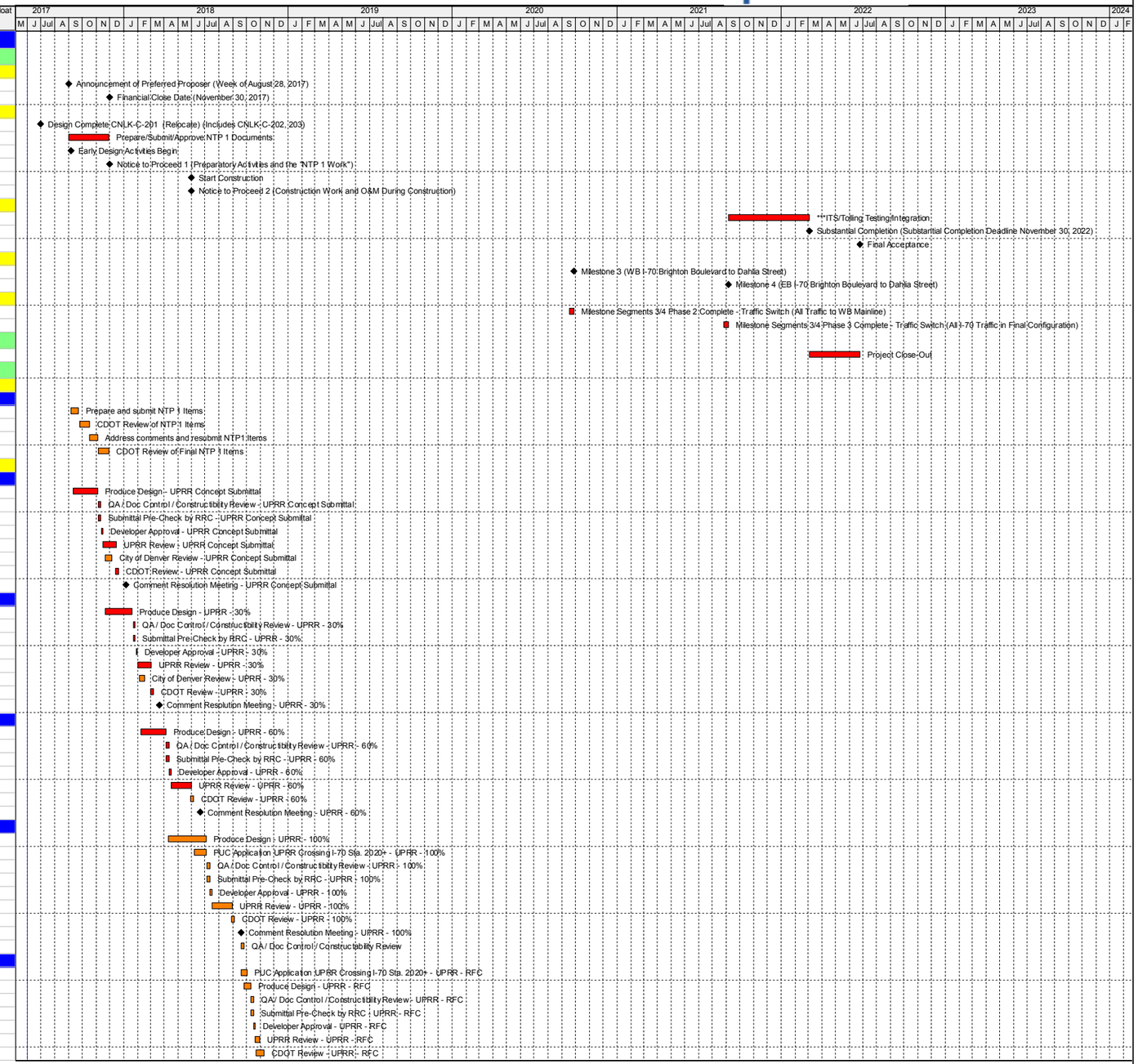
Kiewit-Meridiam Partners

Central 70 Project - Proposal Schedule - Near-Critical Activities (Total Float ≤ 30d)

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
KMP - Central 70 Project - Proposal Schedule		1167d	30-Jun-17	25-Jun-22	0d
Milestones*		1167d	30-Jun-17	25-Jun-22	0d
Contract Procurement		90d	01-Sep-17	30-Nov-17	20d
AGR.CWM.PRO.015	Announcement of Preferred Proposer (Week of August 28, 2017)	0d	01-Sep-17*		12d
AGR.CWM.PRO.025	Financial Close Date (November 30, 2017)	0d	30-Nov-17*		20d
Notices to Proceed		210d	30-Jun-17	01-Jun-18	8d
UTL.UD.CNLK-C-201	Design Complete CNLK-C-201 (Relocate) (Includes CNLK-C-202, 203)	0d		30-Jun-17*	0d
AGR.CWM.PRO.030	Prepare/Submit/Approve NTP 1 Documents	61d	01-Sep-17	29-Nov-17	14d
AGR.CWM.ED.005	Early Design Activities Begin	0d	05-Sep-17*		8d
AGR.CWM.NTP.001	Notice to Proceed 1 (Preparatory Activities and the "NTP 1 Work")	0d	30-Nov-17*		20d
AGR.CWM.NTP.SC	Start Construction	0d	01-Jun-18*		13d
AGR.CWM.NTP.002	Notice to Proceed 2 (Construction Work and O&M During Construction)	0d	01-Jun-18*		13d
Completion Milestones		293d	06-Sep-21	25-Jun-22	0d
CON.ITS.JW.005	***ITS/Tolling Testing/Integration	180d	06-Sep-21	04-Mar-22	0d
AGR.CWM.MS.020	Substantial Completion (Substantial Completion Deadline November 30, 2022)	0d		04-Mar-22*	0d
AGR.CWM.MS.025	Final Acceptance	0d		25-Jun-22	0d
Payment Milestones		344d	26-Sep-20	05-Sep-21	0d
AGR.CWM.PMT.003	Milestone 3 (WB I-70 Brighton Boulevard to Dahlia Street)	0d		26-Sep-20	1d
AGR.CWM.PMT.004	Milestone 4 (EB I-70 Brighton Boulevard to Dahlia Street)	0d		05-Sep-21	0d
Intermediate Milestones (KMP)*		354d	17-Sep-20	05-Sep-21	0d
CON.CWM.MS.030	Milestone Segments 3/4 Phase 2 Complete - Traffic Switch (All Traffic to WB Mainline)	10d	17-Sep-20	26-Sep-20	1d
CON.CWM.MS.025	Milestone Segments 3/4 Phase 3 Complete - Traffic Switch (All I-70 Traffic in Final Configuration)	10d	27-Aug-21	05-Sep-21	0d
Construction Work Management		113d	05-Mar-22	25-Jun-22	0d
CON.CWM.MGT.025	Project Close-Out	113d	05-Mar-22	25-Jun-22	0d
Design*		293d	05-Sep-17	05-Dec-18	11d
Early Work		56d	05-Sep-17	29-Nov-17	13d
Pre-NTP1 Items		56d	05-Sep-17	29-Nov-17	13d
DSN.EW.PNTP.005	Prepare and submit NTP 1 Items	14d	05-Sep-17	22-Sep-17	17d
DSN.EW.PNTP.010	CDOT Review of NTP 1 Items	15d	25-Sep-17	16-Oct-17	16d
DSN.EW.PNTP.015	Address comments and resubmit NTP1 Items	14d	17-Oct-17	03-Nov-17	16d
DSN.EW.PNTP.020	CDOT Review of Final NTP 1 Items	15d	06-Nov-17	29-Nov-17	15d
Union Pacific Railroad		289d	11-Sep-17	05-Dec-18	11d
Concept Submittal (For Acceptance)		71d	11-Sep-17	05-Jan-18	4d
DSN.UPRR.CON.005	Produce Design - UPRR Concept Submittal	40d	11-Sep-17	03-Nov-17	5d
DSN.UPRR.CON.010	QA / Doc Control / Constructibility Review - UPRR Concept Submittal	5d	06-Nov-17	10-Nov-17	5d
DSN.UPRR.CON.015	Submittal Pre-Check by RRC - UPRR Concept Submittal	5d	06-Nov-17	10-Nov-17	5d
DSN.UPRR.CON.020	Developer Approval - UPRR Concept Submittal	3d	13-Nov-17	15-Nov-17	5d
DSN.UPRR.CON.025	UPRR Review - UPRR Concept Submittal	30d	16-Nov-17	15-Dec-17	7d
DSN.UPRR.CON.035	City of Denver Review - UPRR Concept Submittal	10d	20-Nov-17	05-Dec-17	15d
DSN.UPRR.CON.030	CDOT Review - UPRR Concept Submittal	5d	14-Dec-17	20-Dec-17	4d
DSN.UPRR.CON.040	Comment Resolution Meeting - UPRR Concept Submittal	0d		05-Jan-18	4d
30% Design (For Acceptance)		71d	21-Nov-17	21-Mar-18	3d
DSN.UPRR.30.005	Produce Design - UPRR - 30%	40d	21-Nov-17	19-Jan-18	4d
DSN.UPRR.30.010	QA / Doc Control / Constructibility Review - UPRR - 30%	5d	22-Jan-18	26-Jan-18	4d
DSN.UPRR.30.015	Submittal Pre-Check by RRC - UPRR - 30%	5d	22-Jan-18	26-Jan-18	4d
DSN.UPRR.30.020	Developer Approval - UPRR - 30%	3d	29-Jan-18	31-Jan-18	4d
DSN.UPRR.30.025	UPRR Review - UPRR - 30%	30d	01-Feb-18	02-Mar-18	6d
DSN.UPRR.30.035	City of Denver Review - UPRR - 30%	10d	05-Feb-18	16-Feb-18	17d
DSN.UPRR.30.030	CDOT Review - UPRR - 30%	5d	01-Mar-18	07-Mar-18	4d
DSN.UPRR.30.040	Comment Resolution Meeting - UPRR - 30%	0d		21-Mar-18	4d
60% Design (For Acceptance)		86d	08-Feb-18	19-Jun-18	11d
DSN.UPRR.60.005	Produce Design - UPRR - 60%	40d	08-Feb-18	04-Apr-18	4d
DSN.UPRR.60.010	QA / Doc Control / Constructibility Review - UPRR - 60%	5d	05-Apr-18	11-Apr-18	4d
DSN.UPRR.60.015	Submittal Pre-Check by RRC - UPRR - 60%	5d	05-Apr-18	11-Apr-18	4d
DSN.UPRR.60.020	Developer Approval - UPRR - 60%	3d	12-Apr-18	16-Apr-18	4d
DSN.UPRR.60.025	UPRR Review - UPRR - 60%	45d	17-Apr-18	31-May-18	4d
DSN.UPRR.60.030	CDOT Review - UPRR - 60%	5d	30-May-18	05-Jun-18	11d
DSN.UPRR.60.040	Comment Resolution Meeting - UPRR - 60%	0d		19-Jun-18	11d
100% Design (For Acceptance)		112d	10-Apr-18	25-Sep-18	11d
DSN.UPRR.100.005	Produce Design - UPRR - 100%	60d	10-Apr-18	03-Jul-18	11d
DSN.UPRR.100.010	PUC Application UPRR Crossing I-70 Sta. 2020+ - UPRR - 100%	20d	06-Jun-18	03-Jul-18	11d
DSN.UPRR.100.015	QA / Doc Control / Constructibility Review - UPRR - 100%	5d	05-Jul-18	11-Jul-18	11d
DSN.UPRR.100.020	Submittal Pre-Check by RRC - UPRR - 100%	5d	05-Jul-18	11-Jul-18	11d
DSN.UPRR.100.025	Developer Approval - UPRR - 100%	3d	12-Jul-18	16-Jul-18	11d
DSN.UPRR.100.030	UPRR Review - UPRR - 100%	45d	17-Jul-18	30-Aug-18	15d
DSN.UPRR.100.035	CDOT Review - UPRR - 100%	5d	28-Aug-18	04-Sep-18	11d
DSN.UPRR.100.045	Comment Resolution Meeting - UPRR - 100%	0d		18-Sep-18	11d
DSN.UPRR.100.055	QA / Doc Control / Constructability Review	5d	19-Sep-18	25-Sep-18	11d
RFC Design (For Acceptance)		51d	19-Sep-18	05-Dec-18	11d
DSN.UPRR.RFC.010	PUC Application UPRR Crossing I-70 Sta. 2020+ - UPRR - RFC	10d	19-Sep-18	02-Oct-18	16d
DSN.UPRR.RFC.005	Produce Design - UPRR - RFC	10d	26-Sep-18	09-Oct-18	11d
DSN.UPRR.RFC.015	QA / Doc Control / Constructibility Review - UPRR - RFC	5d	10-Oct-18	16-Oct-18	11d
DSN.UPRR.RFC.020	Submittal Pre-Check by RRC - UPRR - RFC	5d	10-Oct-18	16-Oct-18	11d
DSN.UPRR.RFC.025	Developer Approval - UPRR - RFC	3d	17-Oct-18	19-Oct-18	11d
DSN.UPRR.RFC.030	UPRR Review - UPRR - RFC	10d	20-Oct-18	29-Oct-18	17d
DSN.UPRR.RFC.040	CDOT Review - UPRR - RFC	15d	22-Oct-18	09-Nov-18	12d

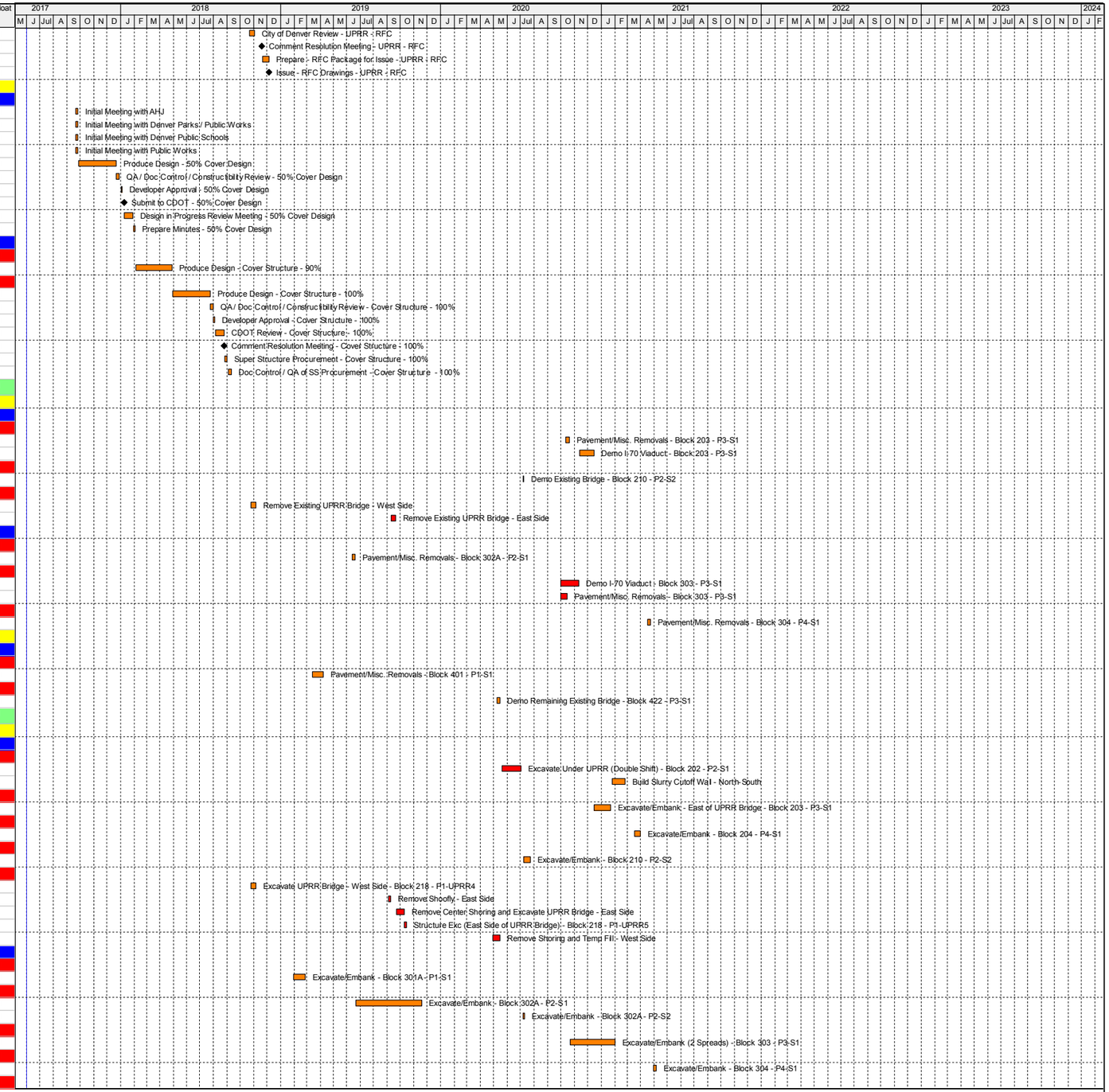


Critical Remaining Work

Near-Critical Remaining Work

◆ Milestone

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
DSN.UPRR.RFC.045	City of Denver Review - UPRR - RFC	10d	22-Oct-18	02-Nov-18	13d
DSN.UPRR.RFC.050	Comment Resolution Meeting - UPRR - RFC	0d		19-Nov-18	12d
DSN.UPRR.RFC.055	Prepare - RFC Package for Issue - UPRR - RFC	10d	20-Nov-18	05-Dec-18	12d
DSN.UPRR.RFC.060	Issue - RFC Drawings - UPRR - RFC	0d		05-Dec-18	12d
Cover		225d	20-Sep-17	10-Sep-18	27d
50% Design (for 1st Cover Design Progress Review Meeting)		94d	20-Sep-17	02-Feb-18	29d
DSN.COV.50.005	Initial Meeting with AHJ	5d	20-Sep-17	26-Sep-17	29d
DSN.COV.50.010	Initial Meeting with Denver Parks / Public Works	5d	20-Sep-17	26-Sep-17	29d
DSN.COV.50.015	Initial Meeting with Denver Public Schools	5d	20-Sep-17	26-Sep-17	29d
DSN.COV.50.020	Initial Meeting with Public Works	5d	20-Sep-17	26-Sep-17	29d
DSN.COV.50.025	Produce Design - 50% Cover Design	60d	27-Sep-17	21-Dec-17	29d
DSN.COV.50.030	QA / Doc Control / Constructibility Review - 50% Cover Design	5d	22-Dec-17	29-Dec-17	29d
DSN.COV.50.035	Developer Approval - 50% Cover Design	3d	02-Jan-18	04-Jan-18	29d
DSN.COV.50.040	Submit to CDOT - 50% Cover Design	0d		08-Jan-18	29d
DSN.COV.50.045	Design in Progress Review Meeting - 50% Cover Design	15d	09-Jan-18	29-Jan-18	29d
DSN.COV.50.050	Prepare Minutes - 50% Cover Design	4d	30-Jan-18	02-Feb-18	29d
Cover Structure		144d	05-Feb-18	10-Sep-18	27d
90% Design (For 2nd Design Progress Review Meeting)		60d	05-Feb-18	27-Apr-18	29d
DSN.COV.STR.90.005	Produce Design - Cover Structure - 90%	60d	05-Feb-18	27-Apr-18	29d
100% Design (For Acceptance)		89d	30-Apr-18	10-Sep-18	27d
DSN.COV.STR.100.005	Produce Design - Cover Structure - 100%	60d	30-Apr-18	24-Jul-18	29d
DSN.COV.STR.100.010	QA / Doc Control / Constructibility Review - Cover Structure - 100%	5d	25-Jul-18	31-Jul-18	29d
DSN.COV.STR.100.015	Developer Approval - Cover Structure - 100%	3d	01-Aug-18	03-Aug-18	29d
DSN.COV.STR.100.025	CDOT Review - Cover Structure - 100%	15d	06-Aug-18	24-Aug-18	29d
DSN.COV.STR.100.030	Comment Resolution Meeting - Cover Structure - 100%	0d		24-Aug-18	29d
DSN.COV.STR.100.035	Super Structure Procurement - Cover Structure - 100%	5d	27-Aug-18	31-Aug-18	29d
DSN.COV.STR.100.040	Doc Control / QA of SS Procurement - Cover Structure - 100%	5d	04-Sep-18	10-Sep-18	29d
Removals/Demolition*		584d	25-Oct-18	23-Apr-21	27d
West Area		584d	25-Oct-18	23-Apr-21	27d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		503d	25-Oct-18	15-Dec-20	6d
Block 203 - EB I-70		42d	12-Oct-20	15-Dec-20	6d
CON.RMV.203.075	Pavement/Misc. Removals - Block 203 - P3-S1	6d	12-Oct-20	20-Oct-20	22d
CON.RMV.203.080	Demo I-70 Viaduct - Block 203 - P3-S1	20d	12-Nov-20	15-Dec-20	6d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		2d	07-Jul-20	08-Jul-20	4d
CON.RMV.210.060	Demo Existing Bridge - Block 210 - P2-S2	2d	07-Jul-20	08-Jul-20	4d
Block 218 - UPRR Bridge Over I-70		258d	25-Oct-18	20-Sep-19	2d
CON.RMV.218.080	Remove Existing UPRR Bridge - West Side	10d	25-Oct-18	05-Nov-18	9d
CON.RMV.218.105	Remove Existing UPRR Bridge - East Side	10d	10-Sep-19	20-Sep-19	2d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		440d	13-Jun-19	23-Apr-21	27d
Block 302A - WB I-70 - York St. to Steele/Vasquez		6d	13-Jun-19	20-Jun-19	13d
CON.RMV.302A.095	Pavement/Misc. Removals - Block 302A - P2-S1	6d	13-Jun-19	20-Jun-19	13d
Block 303 - EB I-70		30d	30-Sep-20	11-Nov-20	0d
CON.RMV.303.105	Demo I-70 Viaduct - Block 303 - P3-S1	30d	30-Sep-20	11-Nov-20	0d
CON.RMV.303.095	Pavement/Misc. Removals - Block 303 - P3-S1	12d	30-Sep-20	15-Oct-20	0d
Block 304 - 46th Ave. S.		6d	16-Apr-21	23-Apr-21	27d
CON.RMV.304.070	Pavement/Misc. Removals - Block 304 - P4-S1	6d	16-Apr-21	23-Apr-21	27d
Central Area		277d	15-Mar-19	14-May-20	14d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		277d	15-Mar-19	14-May-20	14d
Block 401 - 46th Ave. N.		15d	15-Mar-19	08-Apr-19	21d
CON.RMV.401.065	Pavement/Misc. Removals - Block 401 - P1-S1	15d	15-Mar-19	08-Apr-19	21d
Block 422 - WB I-70 Bridge Over Dahlia		5d	08-May-20	14-May-20	14d
CON.RMV.422.040	Demo Remaining Existing Bridge - Block 422 - P3-S1	5d	08-May-20	14-May-20	14d
Earthwork		619d	17-Sep-18	06-May-21	27d
West Area		619d	17-Sep-18	06-May-21	27d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		568d	25-Oct-18	31-Mar-21	6d
Block 202 - WB I-70		178d	19-May-20	24-Feb-21	8d
CON.DRT.202.035	Excavate Under UPRR (Double Shift) - Block 202 - P2-S1	30d	19-May-20	02-Jul-20	1d
CON.DRT.202.50	Build Slurry Cutoff Wall - North-South	20d	26-Jan-21	24-Feb-21	8d
Block 203 - EB I-70		20d	16-Dec-20	22-Jan-21	6d
CON.DRT.203.035	Excavate/Embank - East of UPRR Bridge - Block 203 - P3-S1	20d	16-Dec-20	22-Jan-21	6d
Block 204 - 46th Ave. S.		10d	18-Mar-21	31-Mar-21	6d
CON.DRT.204.050	Excavate/Embank - Block 204 - P4-S1	10d	18-Mar-21	31-Mar-21	6d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		10d	09-Jul-20	22-Jul-20	4d
CON.DRT.210.020	Excavate/Embank - Block 210 - P2-S2	10d	09-Jul-20	22-Jul-20	4d
Block 218 - UPRR Bridge Over I-70		441d	25-Oct-18	15-May-20	2d
CON.DRT.218.015	Excavate UPRR Bridge - West Side - Block 218 - P1-UPRR4	10d	25-Oct-18	05-Nov-18	9d
CON.DRT.218.120	Remove Shoofly - East Side	5d	04-Sep-19	09-Sep-19	2d
CON.DRT.218.145	Remove Center Shoring and Excavate UPRR Bridge - East Side	15d	21-Sep-19	09-Oct-19	2d
CON.DRT.218.235	Structure Exc (East Side of UPRR Bridge) - Block 218 - P1-UPRR5	4d	10-Oct-19	15-Oct-19	2d
CON.DRT.218.110	Remove Shoring and Temp Fill - West Side	15d	29-Apr-20	15-May-20	2d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		619d	17-Sep-18	06-May-21	27d
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		18d	30-Jan-19	25-Feb-19	13d
CON.DRT.301A.020	Excavate/Embank - Block 301A - P1-S1	18d	30-Jan-19	25-Feb-19	13d
Block 302A - WB I-70 - York St. to Steele/Vasquez		250d	21-Jun-19	10-Jul-20	13d
CON.DRT.302A.025	Excavate/Embank - Block 302A - P2-S1	100d	21-Jun-19	18-Nov-19	13d
CON.DRT.302A.030	Excavate/Embank - Block 302A - P2-S2	5d	06-Jul-20	10-Jul-20	13d
Block 303 - EB I-70		60d	22-Oct-20	01-Feb-21	27d
CON.DRT.303.025	Excavate/Embank (2 Spreads) - Block 303 - P3-S1	60d	22-Oct-20	01-Feb-21	27d
Block 304 - 46th Ave. S.		5d	30-Apr-21	06-May-21	27d
CON.DRT.304.025	Excavate/Embank - Block 304 - P4-S1	5d	30-Apr-21	06-May-21	27d
Block 316 - Cover over WB I-70		35d	17-Sep-18	06-Nov-18	13d



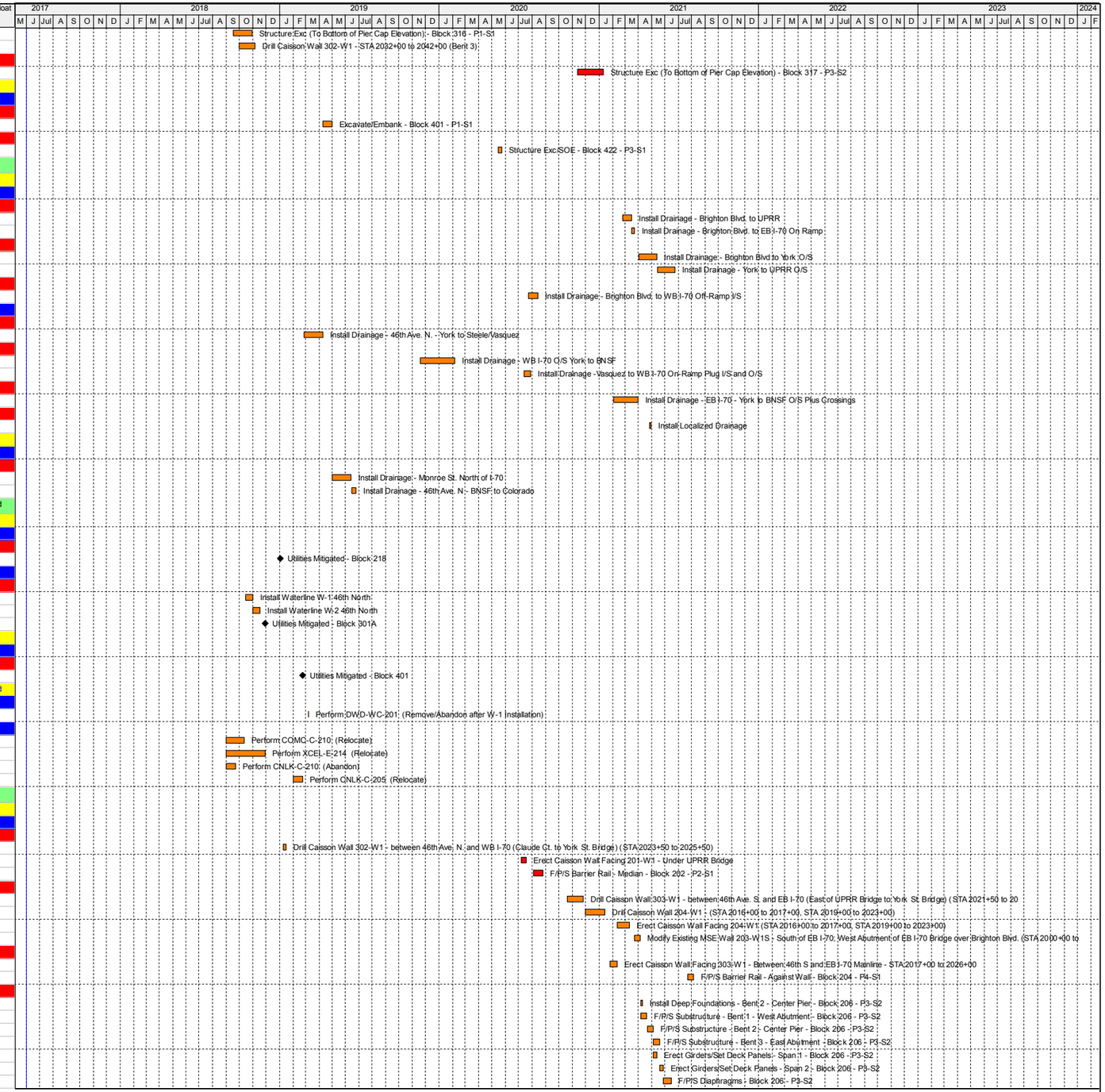
Critical Remaining Work

Near-Critical Remaining Work

◆ Milestone

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.DRT.316.045	Structure Exc (To Bottom of Pier Cap Elevation) - Block 316 - P1-S1	30d	17-Sep-18	30-Oct-18	13d
CON.STR.316.070	Drill Caisson Wall 302-W1 - STA 2032+00 to 2042+00 (Bent 3)	25d	01-Oct-18	06-Nov-18	13d
Block 317 - Cover over EB I-70		30d	13-Nov-20	11-Jan-21	0d
CON.DRT.317.045	Structure Exc (To Bottom of Pier Cap Elevation) - Block 317 - P3-S2	30d	13-Nov-20	11-Jan-21	0d
Central Area		267d	09-Apr-19	22-May-20	14d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		267d	09-Apr-19	22-May-20	14d
Block 401 - 46th Ave. N.		15d	09-Apr-19	01-May-19	21d
CON.DRT.401.025	Excavate/Embank - Block 401 - P1-S1	15d	09-Apr-19	01-May-19	21d
Block 422 - WB I-70 Bridge Over Dahlia		5d	15-May-20	22-May-20	14d
CON.DRT.422.090	Structure Exc/SOE - Block 422 - P3-S1	5d	15-May-20	22-May-20	14d
Drainage		550d	26-Feb-19	23-Jun-21	6d
West Area		550d	26-Feb-19	23-Jun-21	6d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		216d	23-Jul-20	23-Jun-21	6d
Block 203 - EB I-70		18d	25-Feb-21	22-Mar-21	8d
CON.DRN.203.020	Install Drainage - Brighton Blvd. to UPRR	13d	25-Feb-21	15-Mar-21	8d
CON.DRN.203.015	Install Drainage - Brighton Blvd. to EB I-70 On Ramp	5d	16-Mar-21	22-Mar-21	8d
Block 204 - 46th Ave. S.		56d	01-Apr-21	23-Jun-21	6d
CON.DRN.204.045	Install Drainage - Brighton Blvd to York O/S	30d	01-Apr-21	13-May-21	6d
CON.DRN.204.015	Install Drainage - York to UPRR O/S	26d	14-May-21	23-Jun-21	6d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		15d	23-Jul-20	13-Aug-20	4d
CON.DRN.210.015	Install Drainage - Brighton Blvd. to WB I-70 Off-Ramp I/S	15d	23-Jul-20	13-Aug-20	4d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		514d	26-Feb-19	29-Apr-21	27d
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		30d	26-Feb-19	10-Apr-19	13d
CON.DRN.301A.015	Install Drainage - 46th Ave. N. - York to Steele/Vasquez	30d	26-Feb-19	10-Apr-19	13d
Block 302A - WB I-70 - York St. to Steele/Vasquez		160d	19-Nov-19	27-Jul-20	13d
CON.DRN.302A.015	Install Drainage - WB I-70 O/S York to BNSF	45d	19-Nov-19	06-Feb-20	13d
CON.DRN.302A.020	Install Drainage -Vasquez to WB I-70 On-Ramp Plug I/S and O/S	10d	13-Jul-20	27-Jul-20	13d
Block 303 - EB I-70		40d	03-Feb-21	31-Mar-21	27d
CON.DRN.303.020	Install Drainage - EB I-70 - York to BNSF O/S Plus Crossings	40d	03-Feb-21	31-Mar-21	27d
Block 304 - 46th Ave. S.		4d	26-Apr-21	29-Apr-21	27d
CON.DRN.304.020	Install Localized Drainage	4d	26-Apr-21	29-Apr-21	27d
Central Area		35d	02-May-19	24-Jun-19	21d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		35d	02-May-19	24-Jun-19	21d
Block 401 - 46th Ave. N.		35d	02-May-19	24-Jun-19	21d
CON.DRN.401.020	Install Drainage - Monroe St. North of I-70	28d	02-May-19	13-Jun-19	21d
CON.DRN.401.015	Install Drainage - 46th Ave. N - BNSF to Colorado	7d	14-Jun-19	24-Jun-19	21d
Utilities		119d	31-Aug-18	08-Mar-19	167d
West Area		44d	15-Oct-18	02-Jan-19	25d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		0d	02-Jan-19	02-Jan-19	25d
Block 218 - UPRR Bridge Over I-70		0d	02-Jan-19	02-Jan-19	25d
CON.UTL.218.450	Utilities Mitigated - Block 218	0d		02-Jan-19	25d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		30d	15-Oct-18	29-Nov-18	21d
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		30d	15-Oct-18	29-Nov-18	21d
CON.UTL.301A.090	Install Waterline W-1 46th North	11d	15-Oct-18	31-Oct-18	28d
CON.UTL.301A.095	Install Waterline W-2 46th North	12d	01-Nov-18	16-Nov-18	28d
CON.UTL.301A.085	Utilities Mitigated - Block 301A	0d		29-Nov-18	21d
Central Area		0d	22-Feb-19	22-Feb-19	21d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		0d	22-Feb-19	22-Feb-19	21d
Block 401 - 46th Ave. N.		0d	22-Feb-19	22-Feb-19	21d
CON.UTL.401.095	Utilities Mitigated - Block 401	0d		22-Feb-19	21d
Utilities Construction		119d	31-Aug-18	08-Mar-19	167d
Wet Utilities - Construct		1d	08-Mar-19	08-Mar-19	25d
UTL.UC.DWD-WC-201	Perform DWD-WC-201 (Remove/Abandon after W-1 Installation)	1d	08-Mar-19	08-Mar-19	25d
Dry Utilities - Construct		109d	31-Aug-18	22-Feb-19	21d
UTL.UC.COMC-C-210	Perform COMC-C-210 (Relocate)	30d	31-Aug-18	12-Oct-18	21d
UTL.UC.XCEL-E-214	Perform XCEL-E-214 (Relocate)	60d	31-Aug-18	29-Nov-18	21d
UTL.UC.CNLK-C-210	Perform CNLK-C-210 (Abandon)	15d	31-Aug-18	21-Sep-18	26d
UTL.UC.CNLK-C-205	Perform CNLK-C-205 (Relocate)	15d	01-Feb-19	22-Feb-19	21d
Structures		751d	01-Jun-18	05-Aug-21	8d
West Area		751d	01-Jun-18	05-Aug-21	8d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		751d	01-Jun-18	05-Aug-21	8d
Block 202 - WB I-70		387d	09-Jan-19	25-Aug-20	1d
CON.STR.201.125	Drill Caisson Wall 302-W1 - between 46th Ave. N. and WB I-70 (Claude Ct. to York St. Bridge) (STA 2023+50 to 2025+50)	5d	09-Jan-19	15-Jan-19	13d
CON.STR.202.095	Erect Caisson Wall Facing 201-W1 - Under UPRR Bridge	10d	06-Jul-20	17-Jul-20	1d
CON.STR.202.090	F/P/S Barrier Rail - Median - Block 202 - P2-S1	15d	04-Aug-20	25-Aug-20	1d
Block 203 - EB I-70		104d	21-Oct-20	05-Apr-21	8d
CON.STR.203.100	Drill Caisson Wall 303-W1 - between 46th Ave. S. and EB I-70 (East of UPRR Bridge to York St. Bridge) (STA 2021+50 to 2	25d	21-Oct-20	25-Nov-20	22d
CON.STR.203.090	Drill Caisson Wall 204-W1 - (STA 2016+00 to 2017+00, STA 2019+00 to 2023+00)	25d	30-Nov-20	14-Jan-21	22d
CON.STR.203.095	Erect Caisson Wall Facing 204-W1 (STA 2016+00 to 2017+00, STA 2019+00 to 2023+00)	20d	11-Feb-21	10-Mar-21	6d
CON.STR.203.125	Modify Existing MSE Wall 203-W1S - South of EB I-70; West Abutment of EB I-70 Bridge over Brighton Blvd. (STA 2000+00	10d	23-Mar-21	05-Apr-21	8d
Block 204 - 46th Ave. S.		131d	26-Jan-21	05-Aug-21	6d
CON.STR.203.105	Erect Caisson Wall Facing 303-W1 - Between 46th S and EB I-70 Mainline - STA 2017+00 to 2026+00	10d	26-Jan-21	10-Feb-21	6d
CON.STR.204.105	F/P/S Barrier Rail - Against Wall - Block 204 - P4-S1	10d	23-Jul-21	05-Aug-21	6d
Block 206 - EB I-70 Bridge Over Brighton Blvd.		83d	06-Apr-21	05-Aug-21	8d
CON.STR.206.065	Install Deep Foundations - Bent 2 - Center Pier - Block 206 - P3-S2	4d	06-Apr-21	09-Apr-21	14d
CON.STR.206.075	F/P/S Substructure - Bent 1 - West Abutment - Block 206 - P3-S2	10d	06-Apr-21	20-Apr-21	8d
CON.STR.206.070	F/P/S Substructure - Bent 2 - Center Pier - Block 206 - P3-S2	10d	21-Apr-21	04-May-21	8d
CON.STR.206.080	F/P/S Substructure - Bent 3 - East Abutment - Block 206 - P3-S2	10d	05-May-21	19-May-21	8d
CON.STR.206.055	Erect Girders/Set Deck Panels - Span 1 - Block 206 - P3-S2	6d	05-May-21	12-May-21	28d
CON.STR.206.060	Erect Girders/Set Deck Panels - Span 2 - Block 206 - P3-S2	6d	20-May-21	27-May-21	8d
CON.STR.206.045	F/P/S Diaphragms - Block 206 - P3-S2	10d	28-May-21	14-Jun-21	8d



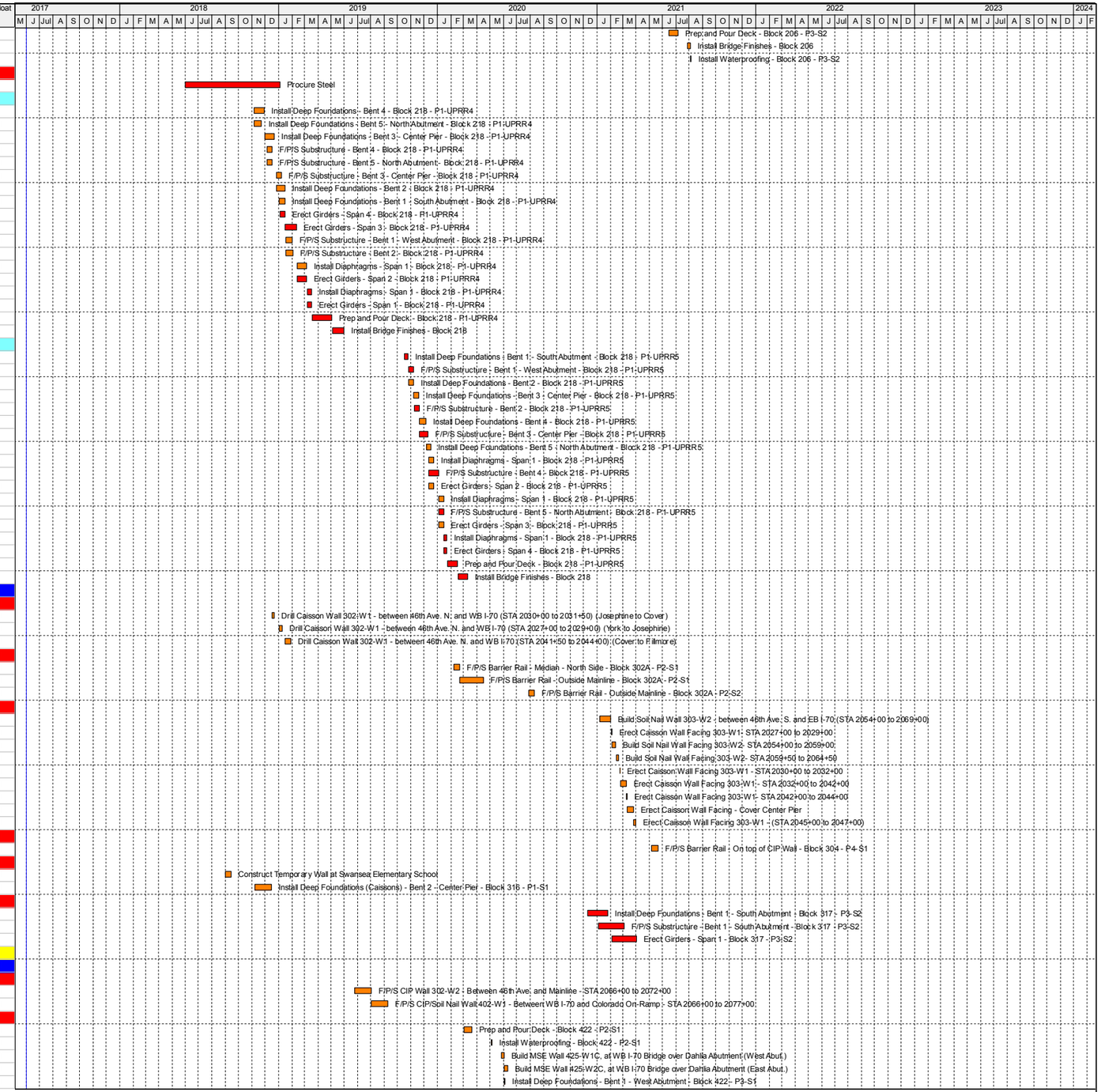
Critical Remaining Work

Near-Critical Remaining Work

◆ Milestone

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.206.040	Prep and Pour Deck - Block 206 - P3-S2	15d	15-Jun-21	06-Jul-21	8d
CON.STR.206.035	Install Bridge Finishes - Block 206	5d	28-Jul-21	03-Aug-21	8d
CON.STR.206.085	Install Waterproofing - Block 206 - P3-S2	2d	04-Aug-21	05-Aug-21	8d
Block 218 - UPRR Bridge Over I-70		**414d**	**01-Jun-18**	**09-Mar-20**	**2d**
CON.STR.218.140	Procure Steel	217d	01-Jun-18	03-Jan-19	4d
UPRR Phase 4		**159d**	**06-Nov-18**	**31-May-19**	**3d**
CON.STR.218.320	Install Deep Foundations - Bent 4 - Block 218 - P1-UPRR4	18d	06-Nov-18	29-Nov-18	9d
CON.STR.218.330	Install Deep Foundations - Bent 5 - North Abutment - Block 218 - P1-UPRR4	13d	06-Nov-18	21-Nov-18	23d
CON.STR.218.310	Install Deep Foundations - Bent 3 - Center Pier - Block 218 - P1-UPRR4	18d	30-Nov-18	22-Dec-18	9d
CON.STR.218.425	F/P/S Substructure - Bent 4 - Block 218 - P1-UPRR4	10d	06-Dec-18	17-Dec-18	14d
CON.STR.218.415	F/P/S Substructure - Bent 5 - North Abutment - Block 218 - P1-UPRR4	10d	06-Dec-18	17-Dec-18	14d
CON.STR.218.375	F/P/S Substructure - Bent 3 - Center Pier - Block 218 - P1-UPRR4	10d	26-Dec-18	07-Jan-19	10d
CON.STR.218.300	Install Deep Foundations - Bent 2 - Block 218 - P1-UPRR4	18d	26-Dec-18	16-Jan-19	9d
CON.STR.218.365	Install Deep Foundations - Bent 1 - South Abutment - Block 218 - P1-UPRR4	13d	02-Jan-19	16-Jan-19	30d
CON.STR.218.285	Erect Girders - Span 4 - Block 218 - P1-UPRR4	10d	04-Jan-19	15-Jan-19	3d
CON.STR.218.270	Erect Girders - Span 3 - Block 218 - P1-UPRR4	19d	16-Jan-19	11-Feb-19	3d
CON.STR.218.410	F/P/S Substructure - Bent 1 - West Abutment - Block 218 - P1-UPRR4	10d	17-Jan-19	31-Jan-19	30d
CON.STR.218.380	F/P/S Substructure - Bent 2 - Block 218 - P1-UPRR4	12d	17-Jan-19	02-Feb-19	9d
CON.STR.218.205	Install Diaphragms - Span 1 - Block 218 - P1-UPRR4	19d	12-Feb-19	06-Mar-19	13d
CON.STR.218.255	Erect Girders - Span 2 - Block 218 - P1-UPRR4	19d	12-Feb-19	06-Mar-19	3d
CON.STR.218.195	Install Diaphragms - Span 1 - Block 218 - P1-UPRR4	10d	07-Mar-19	18-Mar-19	3d
CON.STR.218.240	Erect Girders - Span 1 - Block 218 - P1-UPRR4	10d	07-Mar-19	18-Mar-19	3d
CON.STR.218.185	Prep and Pour Deck - Block 218 - P1-UPRR4	35d	19-Mar-19	03-May-19	3d
CON.STR.218.150	Install Bridge Finishes - Block 218	23d	04-May-19	31-May-19	3d
UPRR Phase 5		**108d**	**16-Oct-19**	**09-Mar-20**	**2d**
CON.STR.218.370	Install Deep Foundations - Bent 1 - South Abutment - Block 218 - P1-UPRR5	8d	16-Oct-19	25-Oct-19	2d
CON.STR.218.440	F/P/S Substructure - Bent 1 - West Abutment - Block 218 - P1-UPRR5	11d	26-Oct-19	07-Nov-19	2d
CON.STR.218.305	Install Deep Foundations - Bent 2 - Block 218 - P1-UPRR5	10d	26-Oct-19	06-Nov-19	3d
CON.STR.218.315	Install Deep Foundations - Bent 3 - Center Pier - Block 218 - P1-UPRR5	10d	07-Nov-19	19-Nov-19	3d
CON.STR.218.445	F/P/S Substructure - Bent 2 - Block 218 - P1-UPRR5	10d	08-Nov-19	20-Nov-19	2d
CON.STR.218.325	Install Deep Foundations - Bent 4 - Block 218 - P1-UPRR5	10d	20-Nov-19	05-Dec-19	6d
CON.STR.218.395	F/P/S Substructure - Bent 3 - Center Pier - Block 218 - P1-UPRR5	13d	21-Nov-19	10-Dec-19	2d
CON.STR.218.335	Install Deep Foundations - Bent 5 - North Abutment - Block 218 - P1-UPRR5	10d	06-Dec-19	17-Dec-19	8d
CON.STR.218.210	Install Diaphragms - Span 1 - Block 218 - P1-UPRR5	10d	11-Dec-19	23-Dec-19	19d
CON.STR.218.405	F/P/S Substructure - Bent 4 - Block 218 - P1-UPRR5	12d	11-Dec-19	03-Jan-20	2d
CON.STR.218.260	Erect Girders - Span 2 - Block 218 - P1-UPRR5	10d	11-Dec-19	23-Dec-19	19d
CON.STR.218.220	Install Diaphragms - Span 1 - Block 218 - P1-UPRR5	10d	04-Jan-20	15-Jan-20	7d
CON.STR.218.435	F/P/S Substructure - Bent 5 - North Abutment - Block 218 - P1-UPRR5	10d	04-Jan-20	15-Jan-20	2d
CON.STR.218.275	Erect Girders - Span 3 - Block 218 - P1-UPRR5	10d	04-Jan-20	15-Jan-20	7d
CON.STR.218.230	Install Diaphragms - Span 1 - Block 218 - P1-UPRR5	5d	16-Jan-20	22-Jan-20	2d
CON.STR.218.290	Erect Girders - Span 4 - Block 218 - P1-UPRR5	5d	16-Jan-20	22-Jan-20	2d
CON.STR.218.170	Prep and Pour Deck - Block 218 - P1-UPRR5	21d	23-Jan-20	15-Feb-20	2d
CON.STR.218.155	Install Bridge Finishes - Block 218	18d	18-Feb-20	09-Mar-20	2d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		**639d**	**31-Aug-18**	**21-May-21**	**27d**
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		**22d**	**17-Dec-18**	**29-Jan-19**	**13d**
CON.STR.301A.065	Drill Caisson Wall 302-W1 - between 46th Ave. N. and WB I-70 (STA 2030+00 to 2031+50) (Josephine to Cover)	4d	17-Dec-18	21-Dec-18	13d
CON.STR.301A.060	Drill Caisson Wall 302-W1 - between 46th Ave. N. and WB I-70 (STA 2027+00 to 2029+00) (York to Josephine)	5d	02-Jan-19	08-Jan-19	13d
CON.STR.301A.070	Drill Caisson Wall 302-W1 - between 46th Ave. N. and WB I-70 (STA 2041+50 to 2044+00) (Cover to Fillmore)	8d	16-Jan-19	29-Jan-19	13d
Block 302A - WB I-70 - York St. to Steele/Vasquez		**125d**	**07-Feb-20**	**10-Aug-20**	**13d**
CON.STR.302A.105	F/P/S Barrier Rail - Median - North Side - Block 302A - P2-S1	10d	07-Feb-20	20-Feb-20	13d
CON.STR.302A.110	F/P/S Barrier Rail - Outside Mainline - Block 302A - P2-S1	38d	21-Feb-20	15-Apr-20	13d
CON.STR.302A.115	F/P/S Barrier Rail - Outside Mainline - Block 302A - P2-S2	10d	28-Jul-20	10-Aug-20	13d
Block 303 - EB I-70		**57d**	**07-Jan-21**	**31-Mar-21**	**27d**
CON.STR.303.180	Build Soil Nail Wall 303-W2 - between 46th Ave. S. and EB I-70 (STA 2054+00 to 2069+00)	17d	07-Jan-21	01-Feb-21	29d
CON.STR.303.165	Erect Caisson Wall Facing 303-W1- STA 2027+00 to 2029+00	2d	03-Feb-21	04-Feb-21	27d
CON.STR.303.190	Build Soil Nail Wall Facing 303-W2- STA 2054+00 to 2059+00	5d	05-Feb-21	12-Feb-21	27d
CON.STR.303.195	Build Soil Nail Wall Facing 303-W2- STA 2059+50 to 2064+50	5d	15-Feb-21	19-Feb-21	27d
CON.STR.303.155	Erect Caisson Wall Facing 303-W1 - STA 2030+00 to 2032+00	2d	22-Feb-21	23-Feb-21	27d
CON.STR.303.160	Erect Caisson Wall Facing 303-W1 - STA 2032+00 to 2042+00	10d	24-Feb-21	09-Mar-21	27d
CON.STR.303.170	Erect Caisson Wall Facing 303-W1- STA 2042+00 to 2044+00	2d	10-Mar-21	11-Mar-21	27d
CON.STR.303.150	Erect Caisson Wall Facing - Cover Center Pier	10d	12-Mar-21	25-Mar-21	27d
CON.STR.303.135	Erect Caisson Wall Facing 303-W1 - (STA 2045+00 to 2047+00)	4d	26-Mar-21	31-Mar-21	27d
Block 304 - 46th Ave. S.		**10d**	**07-May-21**	**21-May-21**	**27d**
CON.STR.304.075	F/P/S Barrier Rail - On top of CIP Wall - Block 304 - P4-S1	10d	07-May-21	21-May-21	27d
Block 316 - Cover over WB I-70		**70d**	**31-Aug-18**	**14-Dec-18**	**13d**
CON.STR.316.075	Construct Temporary Wall at Swansea Elementary School	10d	31-Aug-18	14-Sep-18	13d
CON.STR.316.055	Install Deep Foundations (Caissons) - Bent 2 - Center Pier - Block 316 - P1-S1	25d	07-Nov-18	14-Dec-18	13d
Block 317 - Cover over EB I-70		**70d**	**10-Dec-20**	**01-Apr-21**	**0d**
CON.STR.317.055	Install Deep Foundations - Bent 1 - South Abutment - Block 317 - P3-S2	25d	10-Dec-20	26-Jan-21	0d
CON.STR.317.060	F/P/S Substructure - Bent 1 - South Abutment - Block 317 - P3-S2	40d	05-Jan-21	04-Mar-21	0d
CON.STR.317.050	Erect Girders - Span 1 - Block 317 - P3-S2	40d	04-Feb-21	01-Apr-21	0d
Central Area		**269d**	**25-Jun-19**	**11-Aug-20**	**23d**
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		**269d**	**25-Jun-19**	**11-Aug-20**	**23d**
Block 401 - 46th Ave. N.		**50d**	**25-Jun-19**	**09-Sep-19**	**21d**
CON.STR.401.070	F/P/S CIP Wall 302-W2 - Between 46th Ave. and Mainline - STA 2066+00 to 2072+00	25d	25-Jun-19	01-Aug-19	21d
CON.STR.401.075	F/P/S CIP/Soil Nail Wall 402-W1 - Between WB I-70 and Colorado On-Ramp - STA 2066+00 to 2077+00	25d	02-Aug-19	09-Sep-19	21d
Block 422 - WB I-70 Bridge Over Dahlia		**110d**	**02-Mar-20**	**11-Aug-20**	**23d**
CON.STR.422.065	Prep and Pour Deck - Block 422 - P2-S1	15d	02-Mar-20	20-Mar-20	29d
CON.STR.422.165	Install Waterproofing - Block 422 - P2-S1	1d	04-May-20	04-May-20	13d
CON.STR.422.145	Build MSE Wall 425-W1C, at WB I-70 Bridge over Dahlia Abutment (West Abut.)	5d	26-May-20	01-Jun-20	14d
CON.STR.422.155	Build MSE Wall 425-W2C, at WB I-70 Bridge over Dahlia Abutment (East Abut.)	5d	02-Jun-20	10-Jun-20	14d
CON.STR.422.115	Install Deep Foundations - Bent 1 - West Abutment - Block 422 - P3-S1	2d	02-Jun-20	04-Jun-20	17d



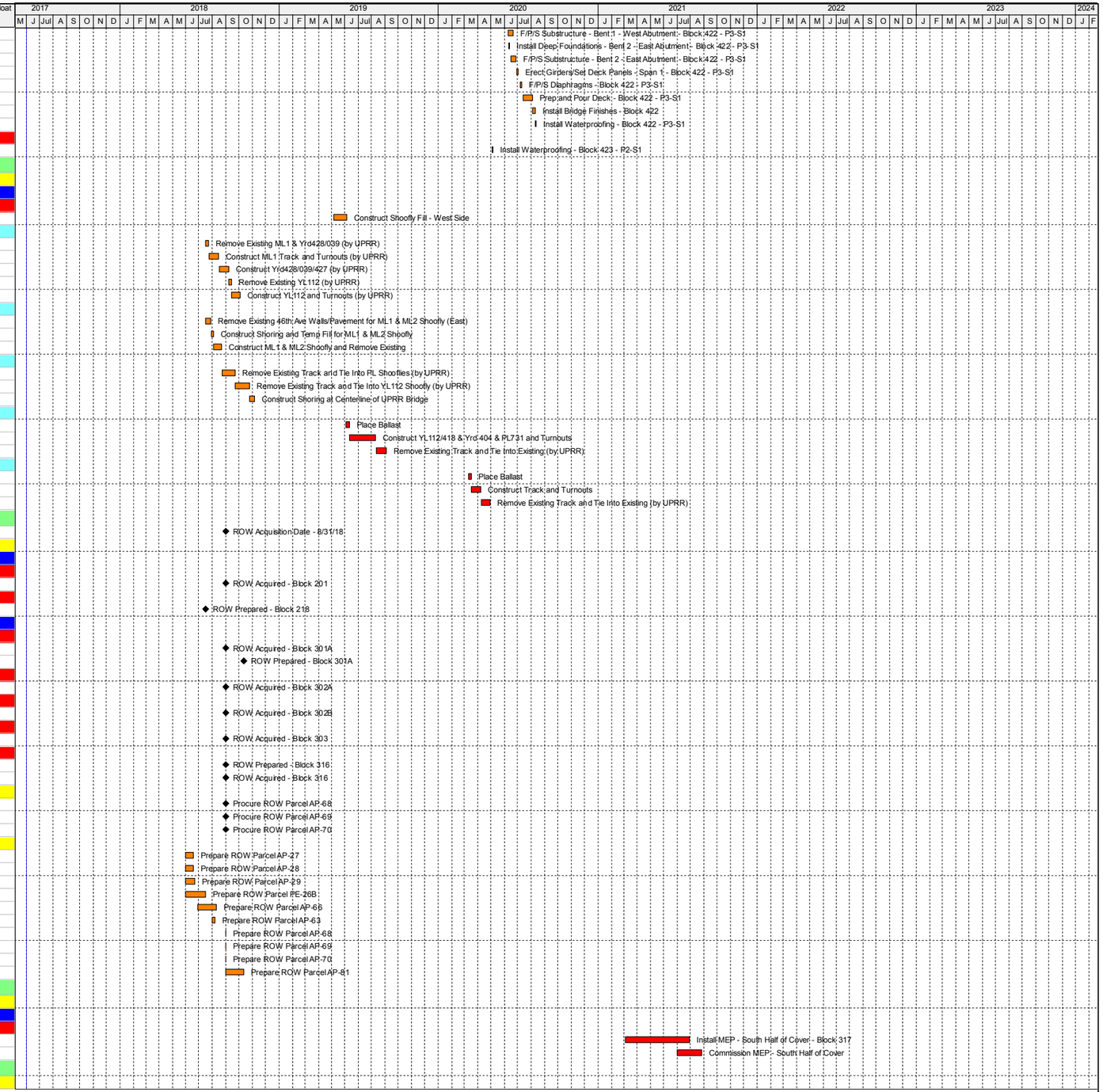
Critical Remaining Work

Near-Critical Remaining Work

◆ Milestone

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.422.135	F/P/S Substructure - Bent 1 - West Abutment - Block 422 - P3-S1	10d	08-Jun-20	19-Jun-20	19d
CON.STR.422.120	Install Deep Foundations - Bent 2 - East Abutment - Block 422 - P3-S1	2d	11-Jun-20	12-Jun-20	14d
CON.STR.422.140	F/P/S Substructure - Bent 2 - East Abutment - Block 422 - P3-S1	10d	15-Jun-20	26-Jun-20	14d
CON.STR.422.100	Erect Girders/Set Deck Panels - Span 1 - Block 422 - P3-S1	4d	29-Jun-20	02-Jul-20	14d
CON.STR.422.080	F/P/S Diaphragms - Block 422 - P3-S1	5d	06-Jul-20	10-Jul-20	14d
CON.STR.422.070	Prep and Pour Deck - Block 422 - P3-S1	15d	13-Jul-20	03-Aug-20	14d
CON.STR.422.060	Install Bridge Finishes - Block 422	5d	04-Aug-20	10-Aug-20	23d
CON.STR.422.170	Install Waterproofing - Block 422 - P3-S1	1d	11-Aug-20	11-Aug-20	23d
Block 423 - EB I-70 Bridge Over Dahlia		1d	04-May-20	04-May-20	13d
CON.STR.423.160	Install Waterproofing - Block 423 - P2-S1	1d	04-May-20	04-May-20	13d
Railroads		419d	17-Jul-18	28-Apr-20	2d
West Area		419d	17-Jul-18	28-Apr-20	2d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		419d	17-Jul-18	28-Apr-20	2d
Block 218 - UPRR Bridge Over I-70		419d	17-Jul-18	28-Apr-20	2d
CON.RR.218.125	Construct Shoofly Fill - West Side	20d	06-May-19	04-Jun-19	6d
UPRR Phase 1		55d	17-Jul-18	04-Oct-18	19d
CON.RMV.218.130	Remove Existing ML1 & Yrd428/039 (by UPRR)	5d	17-Jul-18	23-Jul-18	8d
CON.RR.218.035	Construct ML1 Track and Turnouts (by UPRR)	15d	25-Jul-18	15-Aug-18	19d
CON.RR.218.045	Construct Yrd428/039/427 (by UPRR)	15d	16-Aug-18	06-Sep-18	19d
CON.RR.218.050	Remove Existing YL112 (by UPRR)	5d	07-Sep-18	13-Sep-18	19d
CON.RR.218.040	Construct YL112 and Turnouts (by UPRR)	15d	14-Sep-18	04-Oct-18	19d
UPRR Phase 2		30d	17-Jul-18	22-Aug-18	9d
CON.RMV.218.135	Remove Existing 46th Ave Walls/Pavement for ML1 & ML2 Shoofly (East)	10d	17-Jul-18	28-Jul-18	9d
CON.RR.218.060	Construct Shoring and Temp Fill for ML1 & ML2 Shoofly	5d	30-Jul-18	03-Aug-18	9d
CON.RR.218.055	Construct ML1 & ML2 Shoofly and Remove Existing	15d	04-Aug-18	22-Aug-18	9d
UPRR Phase 3		60d	23-Aug-18	05-Nov-18	9d
CON.RR.218.070	Remove Existing Track and Tie Into PL Shooflies (by UPRR)	25d	23-Aug-18	21-Sep-18	9d
CON.RR.218.075	Remove Existing Track and Tie Into YL112 Shoofly (by UPRR)	25d	22-Sep-18	24-Oct-18	9d
CON.RR.218.065	Construct Shoring at Centerline of UPRR Bridge	10d	25-Oct-18	05-Nov-18	9d
UPRR Phase 4		60d	04-Jun-19	03-Sep-19	2d
CON.RR.218.025	Place Ballast	5d	04-Jun-19	11-Jun-19	2d
CON.RR.218.085	Construct YL112/418 & Yrd 404 & PL731 and Turnouts	40d	12-Jun-19	09-Aug-19	2d
CON.RR.218.090	Remove Existing Track and Tie Into Existing (by UPRR)	15d	12-Aug-19	03-Sep-19	2d
UPRR Phase 5		35d	10-Mar-20	28-Apr-20	2d
CON.RR.218.030	Place Ballast	5d	10-Mar-20	16-Mar-20	2d
CON.RR.218.095	Construct Track and Turnouts	15d	17-Mar-20	07-Apr-20	2d
CON.RR.218.100	Remove Existing Track and Tie Into Existing (by UPRR)	15d	08-Apr-20	28-Apr-20	2d
Right-of-Way		91d	01-Jun-18	12-Oct-18	28d
ROW.MS.8/31/18	ROW Acquisition Date - 8/31/18	0d	31-Aug-18*		20d
West Area		61d	16-Jul-18	12-Oct-18	28d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		31d	16-Jul-18	31-Aug-18	26d
Block 201 - 46th Ave. N.		0d	31-Aug-18	31-Aug-18	26d
ROW.ACQ.201	ROW Acquired - Block 201	0d		31-Aug-18	26d
Block 218 - UPRR Bridge Over I-70		0d	16-Jul-18	16-Jul-18	8d
ROW.PREP.218	ROW Prepared - Block 218	0d		16-Jul-18	8d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		30d	31-Aug-18	12-Oct-18	28d
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		30d	31-Aug-18	12-Oct-18	28d
ROW.ACQ.301A	ROW Acquired - Block 301A	0d		31-Aug-18	21d
ROW.PREP.301A	ROW Prepared - Block 301A	0d		12-Oct-18	28d
Block 302A - WB I-70 - York St. to Steele/Vasquez		0d	31-Aug-18	31-Aug-18	21d
ROW.ACQ.302A	ROW Acquired - Block 302A	0d		31-Aug-18	21d
Block 302B - WB I-70 - Steele/Vasquez to BNSF		0d	31-Aug-18	31-Aug-18	21d
ROW.ACQ.302B	ROW Acquired - Block 302B	0d		31-Aug-18	21d
Block 303 - EB I-70		0d	31-Aug-18	31-Aug-18	21d
ROW.ACQ.303	ROW Acquired - Block 303	0d		31-Aug-18	21d
Block 316 - Cover over WB I-70		0d	31-Aug-18	31-Aug-18	13d
ROW.PREP.316	ROW Prepared - Block 316	0d		31-Aug-18	13d
ROW.ACQ.316	ROW Acquired - Block 316	0d		31-Aug-18	13d
Procure Right-of-Way		0d	31-Aug-18	31-Aug-18	20d
ROW.PRO.AP-68	Procure ROW Parcel AP-68	0d	31-Aug-18		20d
ROW.PRO.AP-69	Procure ROW Parcel AP-69	0d	31-Aug-18		20d
ROW.PRO.AP-70	Procure ROW Parcel AP-70	0d	31-Aug-18		20d
Prepare Right-of-Way		91d	01-Jun-18	12-Oct-18	28d
ROW.PREP.AP-27	Prepare ROW Parcel AP-27	11d	01-Jun-18	18-Jun-18	27d
ROW.PREP.AP-28	Prepare ROW Parcel AP-28	11d	01-Jun-18	18-Jun-18	27d
ROW.PREP.AP-29	Prepare ROW Parcel AP-29	15d	01-Jun-18	22-Jun-18	23d
ROW.PREP.PE-26B	Prepare ROW Parcel PE-26B	30d	01-Jun-18	16-Jul-18	8d
ROW.PREP.AP-66	Prepare ROW Parcel AP-66	30d	28-Jun-18	10-Aug-18	26d
ROW.PREP.AP-63	Prepare ROW Parcel AP-63	5d	31-Jul-18	06-Aug-18	30d
ROW.PREP.AP-68	Prepare ROW Parcel AP-68	0d	31-Aug-18	31-Aug-18	13d
ROW.PREP.AP-69	Prepare ROW Parcel AP-69	0d	31-Aug-18	31-Aug-18	13d
ROW.PREP.AP-70	Prepare ROW Parcel AP-70	0d	31-Aug-18	31-Aug-18	13d
ROW.PREP.AP-81	Prepare ROW Parcel AP-81	30d	31-Aug-18	12-Oct-18	28d
Deck Cover Park Plans		120d	05-Mar-21	26-Aug-21	0d
West Area		120d	05-Mar-21	26-Aug-21	0d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		120d	05-Mar-21	26-Aug-21	0d
Block 317 - Cover over EB I-70		120d	05-Mar-21	26-Aug-21	0d
CON.DEK.317.020	Install MEP - South Half of Cover - Block 317	100d	05-Mar-21	29-Jul-21	0d
CON.DEK.317.025	Commission MEP - South Half of Cover	40d	01-Jul-21	26-Aug-21	0d
Maintenance of Traffic		526d	13-Dec-18	17-Mar-21	6d
West Area		526d	13-Dec-18	17-Mar-21	6d



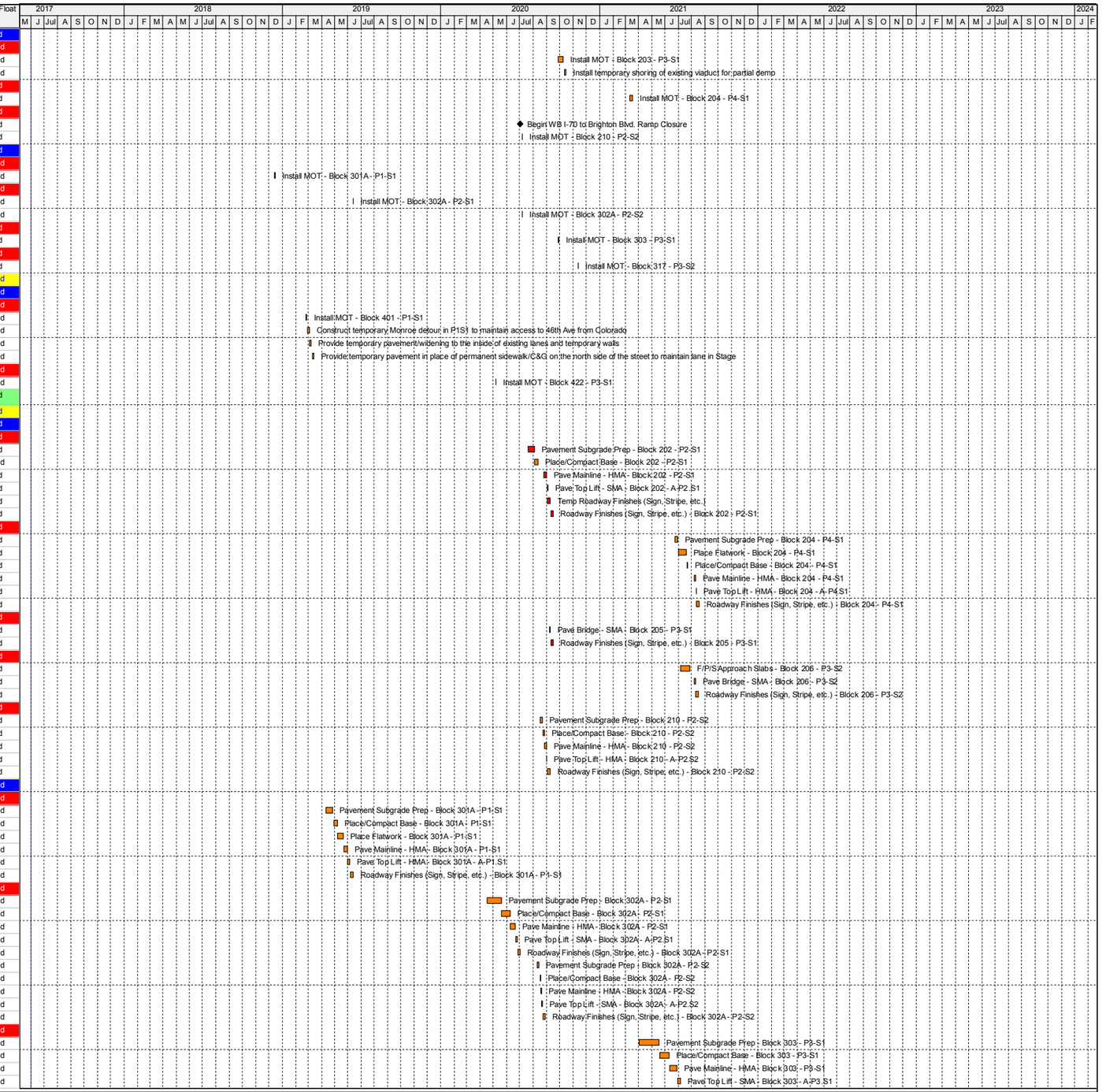
Critical Remaining Work

Near-Critical Remaining Work

◆ Milestone

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA2000+00 AH to 2025+00)		163d	02-Jul-20	17-Mar-21	6d
Block 203 - EB I-70		14d	28-Sep-20	15-Oct-20	24d
CON.MOT.203.045	Install MOT - Block 203 - P3-S1	10d	28-Sep-20	09-Oct-20	22d
CON.MOT.203.130	Install temporary shoring of existing viaduct for partial demo	4d	12-Oct-20	15-Oct-20	24d
Block 204 - 46th Ave. S.		5d	11-Mar-21	17-Mar-21	6d
CON.MOT.204.065	Install MOT - Block 204 - P4-S1	5d	11-Mar-21	17-Mar-21	6d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		1d	02-Jul-20	06-Jul-20	4d
CON.MOT.210.025	Begin WB I-70 to Brighton Blvd. Ramp Closure	0d		02-Jul-20	4d
CON.MOT.210.030	Install MOT - Block 210 - P2-S2	1d	06-Jul-20	06-Jul-20	4d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA2025+00 to 2064+00)		452d	13-Dec-18	12-Nov-20	0d
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		2d	13-Dec-18	14-Dec-18	13d
CON.MOT.301A.025	Install MOT - Block 301A- P1-S1	2d	13-Dec-18	14-Dec-18	13d
Block 302A - WB I-70 - York St. to Steele/Vasquez		251d	13-Jun-19	06-Jul-20	13d
CON.MOT.302A.035	Install MOT - Block 302A- P2-S1	0d	13-Jun-19	13-Jun-19	13d
CON.MOT.302A.040	Install MOT - Block 302A- P2-S2	0d	06-Jul-20	06-Jul-20	13d
Block 303 - EB I-70		2d	28-Sep-20	29-Sep-20	0d
CON.MOT.303.035	Install MOT - Block 303 - P3-S1	2d	28-Sep-20	29-Sep-20	0d
Block 317 - Cover over EB I-70		1d	12-Nov-20	12-Nov-20	0d
CON.MOT.317.030	Install MOT - Block 317 - P3-S2	1d	12-Nov-20	12-Nov-20	0d
Central Area		286d	25-Feb-19	07-May-20	14d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA2064+00 to 2105+00)		286d	25-Feb-19	07-May-20	14d
Block 401 - 46th Ave. N.		14d	25-Feb-19	14-Mar-19	21d
CON.MOT.401.030	Install MOT - Block 401 - P1-S1	2d	25-Feb-19	26-Feb-19	21d
CON.MOT.401.090	Construct temporary Monroe detour in P1S1 to maintain access to 46th Ave from Colorado	4d	27-Feb-19	04-Mar-19	21d
CON.MOT.401.080	Provide temporary pavement/widening to the inside of existing lanes and temporary walls	4d	05-Mar-19	08-Mar-19	21d
CON.MOT.401.085	Provide temporary pavement in place of permanent sidewalk/C&G on the north side of the street to maintain lane in Stage	4d	11-Mar-19	14-Mar-19	21d
Block 422 - WB I-70 Bridge Over Dahlia		1d	07-May-20	07-May-20	14d
CON.MOT.422.020	Install MOT - Block 422 - P3-S1	1d	07-May-20	07-May-20	14d
Roadway		559d	11-Apr-19	18-Aug-21	6d
West Area		559d	11-Apr-19	18-Aug-21	6d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA2000+00 AH to 2025+00)		258d	20-Jul-20	18-Aug-21	6d
Block 202 - WB I-70		40d	20-Jul-20	16-Sep-20	1d
CON.RD.202.075	Pavement Subgrade Prep - Block 202 - P2-S1	10d	20-Jul-20	03-Aug-20	1d
CON.RD.202.055	Place/Compact Base - Block 202 - P2-S1	6d	04-Aug-20	11-Aug-20	10d
CON.RD.202.070	Pave Mainline - HMA - Block 202 - P2-S1	5d	26-Aug-20	01-Sep-20	1d
CON.RD.202.080	Pave Top Lift - SMA - Block 202 - A-P2.S1	3d	02-Sep-20	04-Sep-20	1d
CON.RD.202.065	Temp Roadway Finishes (Sign, Stripe, etc.)	5d	02-Sep-20	09-Sep-20	1d
CON.RD.202.060	Roadway Finishes (Sign, Stripe, etc.) - Block 202 - P2-S1	5d	10-Sep-20	16-Sep-20	1d
Block 204 - 46th Ave. S.		39d	24-Jun-21	18-Aug-21	6d
CON.RD.204.095	Pavement Subgrade Prep - Block 204 - P4-S1	5d	24-Jun-21	30-Jun-21	6d
CON.RD.204.080	Place Flatwork - Block 204 - P4-S1	13d	01-Jul-21	20-Jul-21	6d
CON.RD.204.070	Place/Compact Base - Block 204 - P4-S1	2d	21-Jul-21	22-Jul-21	6d
CON.RD.204.090	Pave Mainline - HMA - Block 204 - P4-S1	3d	06-Aug-21	10-Aug-21	6d
CON.RD.204.085	Pave Top Lift - HMA - Block 204 - A-P4.S1	1d	11-Aug-21	11-Aug-21	6d
CON.RD.204.075	Roadway Finishes (Sign, Stripe, etc.) - Block 204 - P4-S1	5d	12-Aug-21	18-Aug-21	6d
Block 205 - WB I-70 Bridge Over Brighton Blvd.		7d	08-Sep-20	16-Sep-20	1d
CON.RD.205.020	Pave Bridge - SMA - Block 205 - P3-S1	2d	08-Sep-20	09-Sep-20	1d
CON.RD.205.015	Roadway Finishes (Sign, Stripe, etc.) - Block 205 - P3-S1	5d	10-Sep-20	16-Sep-20	1d
Block 206 - EB I-70 Bridge Over Brighton Blvd.		29d	07-Jul-21	16-Aug-21	8d
CON.RD.206.030	F/P/S Approach Slabs - Block 206 - P3-S2	15d	07-Jul-21	27-Jul-21	8d
CON.RD.206.020	Pave Bridge - SMA - Block 206 - P3-S2	2d	06-Aug-21	09-Aug-21	8d
CON.RD.206.015	Roadway Finishes (Sign, Stripe, etc.) - Block 206 - P3-S2	5d	10-Aug-21	16-Aug-21	8d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		17d	17-Aug-20	09-Sep-20	6d
CON.RD.210.055	Pavement Subgrade Prep - Block 210 - P2-S2	5d	17-Aug-20	21-Aug-20	4d
CON.RD.210.035	Place/Compact Base - Block 210 - P2-S2	3d	24-Aug-20	26-Aug-20	4d
CON.RD.210.050	Pave Mainline - HMA - Block 210 - P2-S2	3d	27-Aug-20	31-Aug-20	4d
CON.RD.210.045	Pave Top Lift - HMA - Block 210 - A-P2.S2	1d	01-Sep-20	01-Sep-20	4d
CON.RD.210.040	Roadway Finishes (Sign, Stripe, etc.) - Block 210 - P2-S2	5d	02-Sep-20	09-Sep-20	6d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA2025+00 to 2064+00)		538d	11-Apr-19	20-Jul-21	27d
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		40d	11-Apr-19	12-Jun-19	13d
CON.RD.301A.055	Pavement Subgrade Prep - Block 301A - P1-S1	10d	11-Apr-19	26-Apr-19	13d
CON.RD.301A.030	Place/Compact Base - Block 301A - P1-S1	7d	29-Apr-19	07-May-19	13d
CON.RD.301A.040	Place Flatwork - Block 301A - P1-S1	10d	08-May-19	21-May-19	13d
CON.RD.301A.050	Pave Mainline - HMA - Block 301A - P1-S1	6d	22-May-19	30-May-19	13d
CON.RD.301A.045	Pave Top Lift - HMA - Block 301A - A-P1.S1	2d	31-May-19	04-Jun-19	13d
CON.RD.301A.035	Roadway Finishes (Sign, Stripe, etc.) - Block 301A - P1-S1	5d	06-Jun-19	12-Jun-19	13d
Block 302A - WB I-70 - York St. to Steele/Vasquez		90d	16-Apr-20	28-Aug-20	13d
CON.RD.302A.075	Pavement Subgrade Prep - Block 302A - P2-S1	23d	16-Apr-20	19-May-20	13d
CON.RD.302A.045	Place/Compact Base - Block 302A - P2-S1	11d	20-May-20	08-Jun-20	13d
CON.RD.302A.065	Pave Mainline - HMA - Block 302A - P2-S1	9d	09-Jun-20	19-Jun-20	13d
CON.RD.302A.085	Pave Top Lift - SMA - Block 302A - A-P2.S1	4d	22-Jun-20	25-Jun-20	13d
CON.RD.302A.055	Roadway Finishes (Sign, Stripe, etc.) - Block 302A - P2-S1	5d	26-Jun-20	02-Jul-20	13d
CON.RD.302A.080	Pavement Subgrade Prep - Block 302A - P2-S2	3d	11-Aug-20	13-Aug-20	13d
CON.RD.302A.050	Place/Compact Base - Block 302A - P2-S2	2d	17-Aug-20	18-Aug-20	13d
CON.RD.302A.070	Pave Mainline - HMA - Block 302A - P2-S2	2d	19-Aug-20	20-Aug-20	13d
CON.RD.302A.090	Pave Top Lift - SMA - Block 302A - A-P2.S2	1d	21-Aug-20	21-Aug-20	13d
CON.RD.302A.060	Roadway Finishes (Sign, Stripe, etc.) - Block 302A - P2-S2	5d	24-Aug-20	28-Aug-20	13d
Block 303 - EB I-70		74d	01-Apr-21	20-Jul-21	27d
CON.RD.303.075	Pavement Subgrade Prep - Block 303 - P3-S1	32d	01-Apr-21	17-May-21	27d
CON.RD.303.045	Place/Compact Base - Block 303 - P3-S1	15d	19-May-21	10-Jun-21	27d
CON.RD.303.065	Pave Mainline - HMA - Block 303 - P3-S1	12d	11-Jun-21	28-Jun-21	27d
CON.RD.303.085	Pave Top Lift - SMA - Block 303 - A-P3.S1	5d	29-Jun-21	06-Jul-21	27d

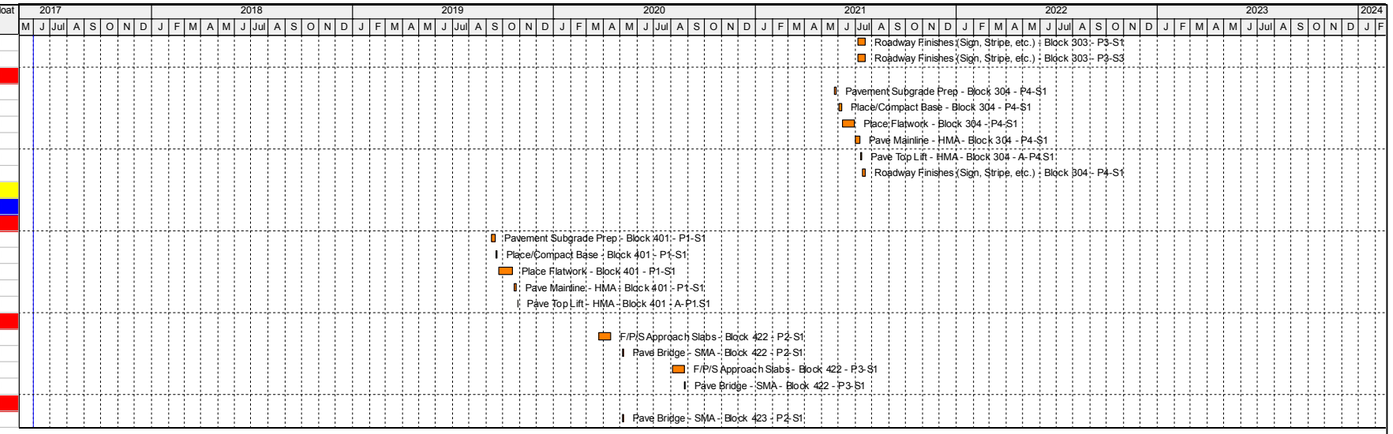


Critical Remaining Work ◆ ◆ Milestone

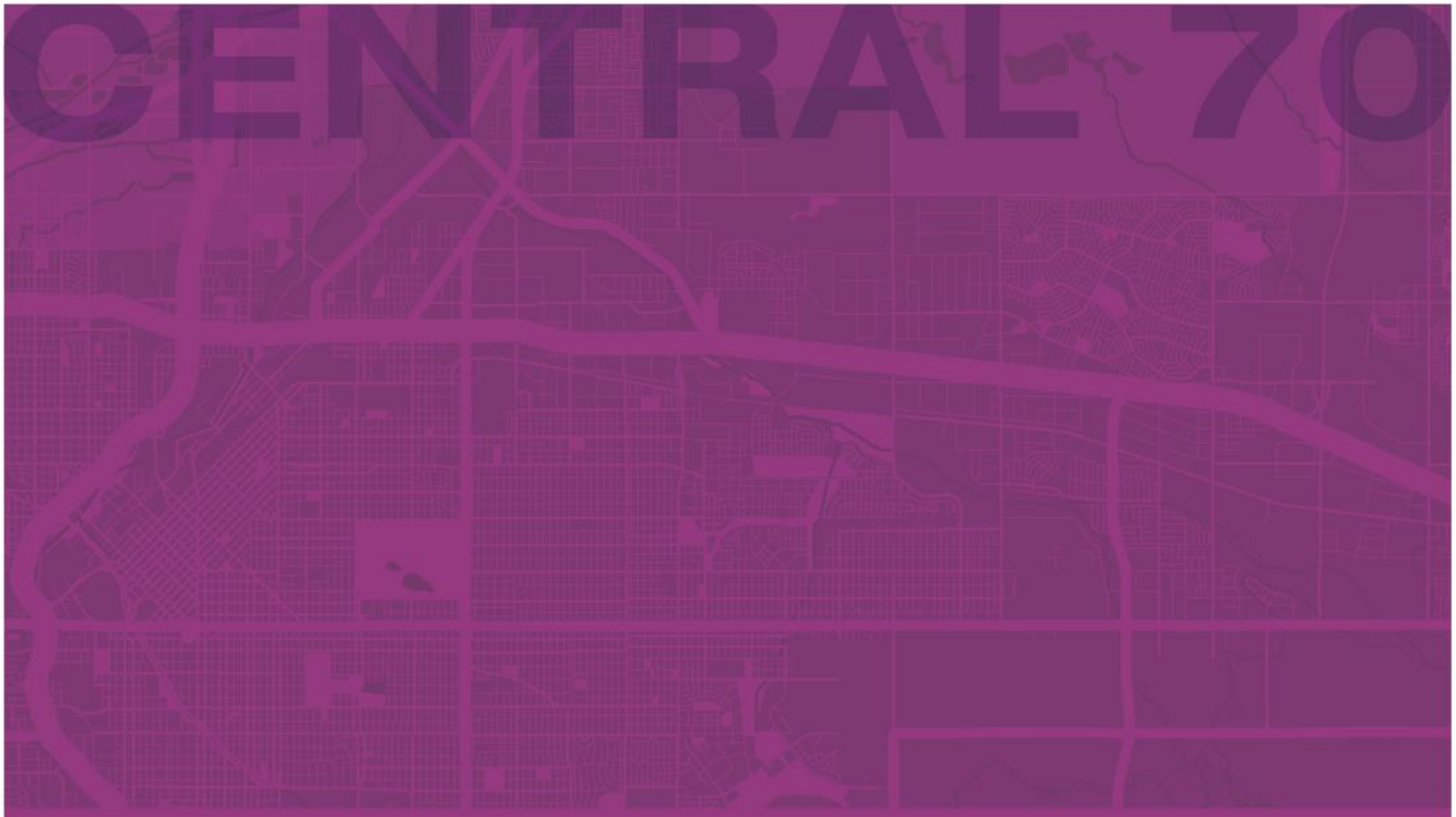
Near-Critical Remaining Work

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.RD.303.055	Roadway Finishes (Sign, Stripe, etc.) - Block 303 - P3-S1	10d	07-Jul-21	20-Jul-21	27d
CON.RD.303.060	Roadway Finishes (Sign, Stripe, etc.) - Block 303 - P3-S3	10d	07-Jul-21	20-Jul-21	27d
Block 304 - 46th Ave. S.		39d	24-May-21	20-Jul-21	27d
CON.RD.304.065	Pavement Subgrade Prep - Block 304 - P4-S1	5d	24-May-21	28-May-21	27d
CON.RD.304.040	Place/Compact Base - Block 304 - P4-S1	4d	01-Jun-21	07-Jun-21	27d
CON.RD.304.050	Place Flatwork - Block 304 - P4-S1	17d	08-Jun-21	30-Jun-21	27d
CON.RD.304.060	Pave Mainline - HMA - Block 304 - P4-S1	6d	01-Jul-21	09-Jul-21	27d
CON.RD.304.055	Pave Top Lift - HMA - Block 304 - A-P4.S1	2d	12-Jul-21	13-Jul-21	27d
CON.RD.304.045	Roadway Finishes (Sign, Stripe, etc.) - Block 304 - P4-S1	5d	14-Jul-21	20-Jul-21	27d
Central Area		230d	10-Sep-19	27-Aug-20	14d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		230d	10-Sep-19	27-Aug-20	14d
Block 401 - 46th Ave. N.		33d	10-Sep-19	28-Oct-19	21d
CON.RD.401.060	Pavement Subgrade Prep - Block 401 - P1-S1	6d	10-Sep-19	17-Sep-19	21d
CON.RD.401.035	Place/Compact Base - Block 401 - P1-S1	3d	18-Sep-19	20-Sep-19	21d
CON.RD.401.045	Place Flatwork - Block 401 - P1-S1	18d	24-Sep-19	17-Oct-19	21d
CON.RD.401.055	Pave Mainline - HMA - Block 401 - P1-S1	5d	21-Oct-19	25-Oct-19	21d
CON.RD.401.050	Pave Top Lift - HMA - Block 401 - A-P1.S1	1d	28-Oct-19	28-Oct-19	21d
Block 422 - WB I-70 Bridge Over Dahlia		106d	23-Mar-20	27-Aug-20	14d
CON.RD.422.045	F/P/S Approach Slabs - Block 422 - P2-S1	15d	23-Mar-20	13-Apr-20	29d
CON.RD.422.025	Pave Bridge - SMA - Block 422 - P2-S1	2d	05-May-20	06-May-20	13d
CON.RD.422.050	F/P/S Approach Slabs - Block 422 - P3-S1	15d	04-Aug-20	25-Aug-20	14d
CON.RD.422.030	Pave Bridge - SMA - Block 422 - P3-S1	2d	26-Aug-20	27-Aug-20	14d
Block 423 - EB I-70 Bridge Over Dahlia		2d	05-May-20	06-May-20	13d
CON.RD.423.025	Pave Bridge - SMA - Block 423 - P2-S1	2d	05-May-20	06-May-20	13d



Critical Remaining Work
Near-Critical Remaining Work
◆ Milestone



ATTACHMENT 4

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Description of Sub-Areas & Blocks

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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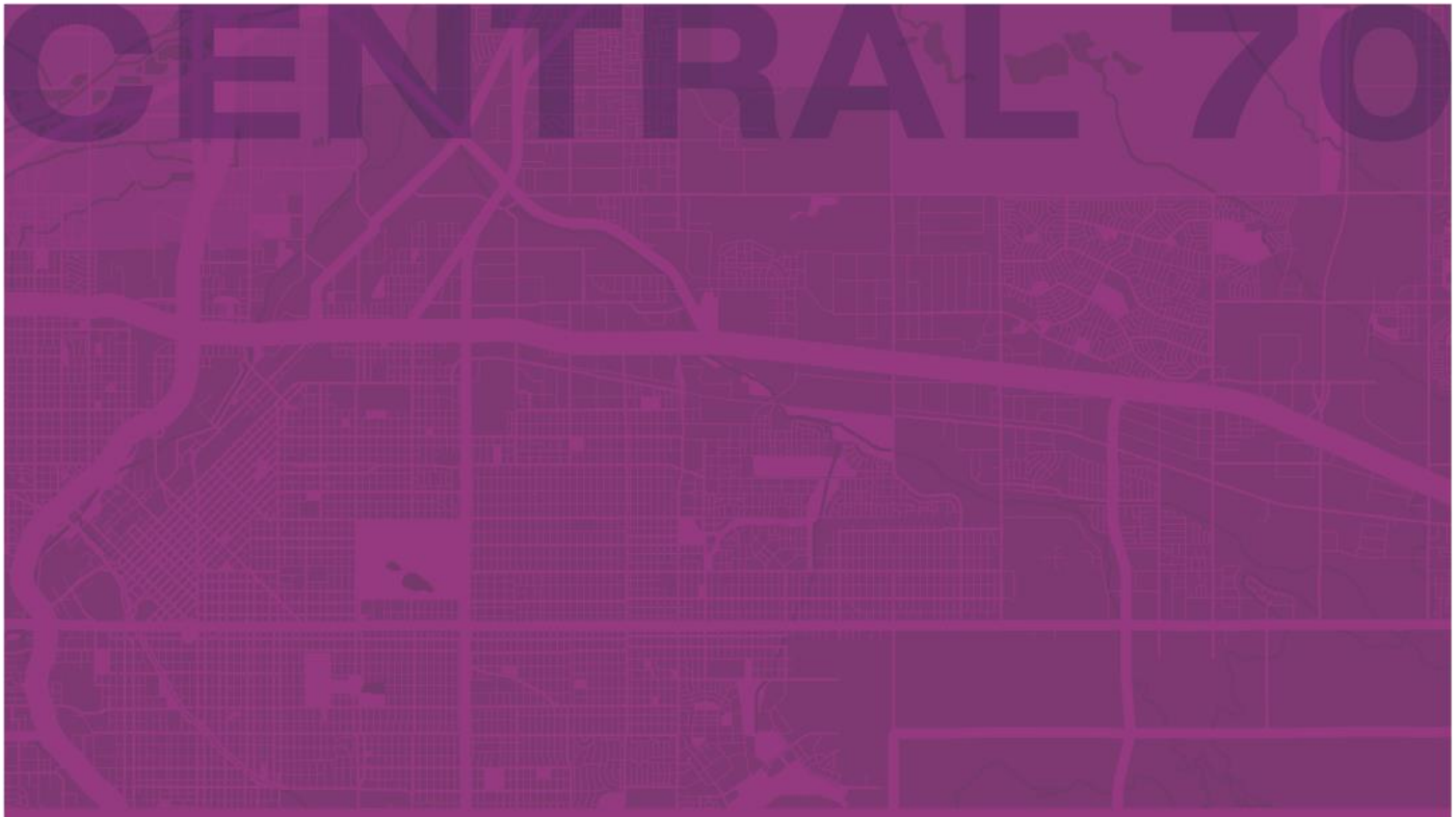
	Area / Block	Description
Sub-Area 1	**Sub-Area 1**	**Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)**
	Block 102	WB I-70
	Block 103	EB I-70
Sub-Area 2	**Sub-Area 2**	**Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)**
	Block 201	46th Ave. N.
	Block 202	WB I-70
	Block 203	EB I-70
	Block 204	46th Ave. S.
	Block 205	WB I-70 Bridge Over Brighton Blvd.
	Block 206	EB I-70 Bridge Over Brighton Blvd.
	Block 207	Brighton Blvd.
	Block 209	Brighton Blvd. to WB I-70 On-Ramp
	Block 210	WB I-70 to Brighton Blvd. Off-Ramp
	Block 213	EB I-70 to Brighton Blvd. Off-Ramp
	Block 214	Brighton Blvd. to EB I-70 On-Ramp
	Block 217	E. 47th Ave.
	Block 218	UPRR Bridge Over I-70
	Block 219	Local Road North of 46th Ave
Sub-Area 3	**Sub-Area 3**	**Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)**
	Block 301A	46th Ave. N. - York St. to Steele/Vasquez
	Block 301B	46th Ave. N. - Steele/Vasquez to BNSF
	Block 302A	WB I-70 - York St. to Steele/Vasquez
	Block 302B	WB I-70 - Steele/Vasquez to BNSF
	Block 303	EB I-70
	Block 304	46th Ave. S.
	Block 305	York St. North of I-70
	Block 306	York St. Bridge Over I-70
	Block 308	York St. South of I-70
	Block 309	Josephine St. North of I-70
	Block 310	Josephine St. Bridge Over I-70
	Block 311	Josephine St. South of I-70
	Block 312	Columbine St. North of I-70
	Block 313	Columbine St. Bridge Over I-70
	Block 315	Columbine St. South of I-70
	Block 316	Cover over WB I-70
	Block 317	Cover over EB I-70
	Block 318	Clayton St. North of I-70
	Block 319	Clayton St. Bridge Over I-70

	Area / Block	Description
Sub-Area 3	Block 321	Clayton St. South of I-70
	Block 322	Fillmore St. North of I-70
	Block 323	Fillmore St. Bridge Over I-70
	Block 324	Fillmore St. South of I-70
	Block 325	Milwaukee St. North of I-70
	Block 326	Milwaukee St. South of I-70
	Block 327	Steele/Vasquez Bridge Over I-70
	Block 329	Vasquez Blvd. North of I-70
	Block 331	Vasquez Blvd. to WB I-70 On-Ramp
	Block 333	EB I-70 to Steele St. Off-Ramp
	Block 335	Steele St. South of I-70
	Block 337	Cook St. Bridge Over I-70
	Block 338	Cook St. South of I-70
	Block 339	Swansea Elemenatry School
Sub-Area 4	**Sub-Area 4**	**Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)**
	Block 401	46th Ave. N. (BNSF Bridge to Colorado Blvd.)
	Block 402A	WB I-70 - BNSF Bridge to Colorado Blvd. CL
	Block 402B	WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
	Block 403A	EB I-70 - BNSF Bridge to Colorado Blvd. CL
	Block 403B	EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
	Block 404	46th Ave. S. (BNSF Bridge to Colorado Blvd.)
	Block 405	BNSF Market Lead Bridge Over I-70
	Block 406	Monroe St. North of I-70
	Block 407	Monroe St. Bridge Over I-70
	Block 408	Monroe St. South of I-70
	Block 409A	Colorado Blvd. Bridge Over I-70 - Southbound (West Half)
	Block 409B	Colorado Blvd. Bridge Over I-70 - Northbound (East Half)
	Block 411	Colorado Blvd. North of I-70
	Block 413	Colorado Blvd. to WB I-70 On-Ramp
	Block 414	WB I-70 to Colorado Blvd. Off-Ramp
	Block 415	EB I-70 to Colorado Blvd. Off-Ramp
	Block 416	Colorado Blvd. to EB I-70 On-Ramp
	Block 417	Colorado Blvd. South of I-70
	Block 419	Stapleton Dr. N. (Colorado Blvd. to Dahlia St.)
	Block 420	Stapleton Dr. S. (Colorado Blvd. to Dahlia St.)
	Block 421	Dahlia St.
	Block 422	WB I-70 Bridge Over Dahlia
	Block 423	EB I-70 Bridge Over Dahlia
	Block 426	Local Road - Colorado to Dahlia
	Block 427	Garfield St.

	Area / Block	Description
Sub-Area 5	**Sub-Area 5**	**Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)**
	Block 501	Stapleton Dr. N.
	Block 501A	Stapleton Dr. N. - STA 2105 +00 to Holly St.
	Block 501B	Stapleton Dr. N. - Holly St. to Monaco St.
	Block 501C	Stapleton Dr. N. - Monaco St. to DRIR Bridge
	Block 502A	WB I-70 - STA 2105+00 to Holly St. CL
	Block 502B	WB I-70 - Holly St. CL to Monaco St. CL
	Block 502C	WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
	Block 502D	WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
	Block 503A	EB I-70 - STA 2105+00 to Holly St. CL
	Block 503B	EB I-70 - Holly St. CL to Monaco St. CL
	Block 503C	EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
	Block 503D	EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
	Block 504A	Stapleton Dr. S. - STA 2105 +00 to Holly St.
	Block 504B	Stapleton Dr. S. - Holly St. to Monaco St.
	Block 504C	Stapleton Dr. S. - Monaco St. to Airlawn
	Block 505	Holly St.
	Block 506	WB I-70 Bridge Over Holly
	Block 507	EB I-70 Bridge Over Holly
	Block 510	Monaco St.
	Block 511	WB I-70 Bridge Over Monaco
	Block 512	EB I-70 Bridge Over Monaco
	Block 515	WB I-70 Bridge Over DRIR
	Block 516	EB I-70 Bridge Over DRIR
	Block 517	WB I-70 Bridge Over Quebec
	Block 518	EB I-70 Bridge Over Quebec
	Block 519	Quebec St.
	Block 521	Quebec St. to WB I-70 On-Ramp
	Block 522	WB I-70 to Quebec St. Off-Ramp
	Block 523	EB I-70 to Quebec St. Off-Ramp
	Block 524	Quebec St. to EB I-70 On-Ramp
	Block 528	WB I-70 to Holly Off-Ramp
	Block 529	EB I-70 to Holly Off-Ramp
	Block 530	Holly to EB I-70 On-Ramp
	Block 531	Holly to WB I-70 On-Ramp
	Block 532	Stapleton N. Bridge Over DRIR
	Block 533	Stapleton S. Bridge Over DRIR

	Area / Block	Description
Sub-Area 6	**Sub-Area 6**	**Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)**
	Block 602A	WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
	Block 602B	WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
	Block 602C	WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
	Block 602D	WB I-70 - STA 2334+00 to 2353+00
	Block 602E	WB I-70 - STA 2353+00 to 2391+00
	Block 602F	WB I-70 - STA 2391+00 to Chambers Rd.
	Block 603A	EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
	Block 603B	EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
	Block 603C	EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
	Block 603D	EB I-70 - STA 2334+00 to 2353+00
	Block 603E	EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)
	Block 603F	EB I-70 - STA 2391+00 to Chambers Rd.
	Block 605	I-270 Bridge Over I-70
	Block 606	EB I-270 to Central Park Blvd. Off-Ramp
	Block 607	EB I-270 to EB I-70 On-Ramp
	Block 608	WB I-70 to WB I-270 On-Ramp
	Block 609	WB I-70 to Central Park Blvd. Off-Ramp
	Block 610	Central Park Blvd. to WB I-70 On-Ramp
	Block 611	EB I-70 to Central Park Blvd. Off-Ramp
	Block 612	Central Park Blvd. to EB I-70 On-Ramp
	Block 613	WB I-70 to Havana St. Off-Ramp
	Block 614	Havana St. to WB I-70 On-Ramp
	Block 615	EB I-70 to Havana St. Off-Ramp
	Block 616	Havana St. to EB I-70 On-Ramp
	Block 617	Havana St. Under I-70
	Block 618	WB I-70 Bridge Over Peoria St.
	Block 619	EB I-70 Bridge Over Peoria St.
	Block 620	EB I-70 to Peoria St. Off-Ramp
	Block 621	Peoria St. to EB I-70 On-Ramp
	Block 622	Peoria St. to WB I-70 On-Ramp
	Block 623	WB I-70 to Peoria St. Off-Ramp
	Block 624	Peoria St. Under I-70
	Block 625	EB I-70 Ramp to SB I-225
Sub-Area 7	**Sub-Area 7**	**Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)**
	Block 702	WB I-70
	Block 703	EB I-70



ATTACHMENT 5

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Complete WBS

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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Kiewit-Meridiam Partners

Central 70 - Proposal Schedule - Work Breakdown Structure

WBS Code	WBS Name
20000187-000	Central 70 - 000 - Proposal Schedule
20000187-000.MS	Milestones*
20000187-000.MS.PRO	Contract Procurement
20000187-000.MS.NTP	Notices to Proceed
20000187-000.MS.COMP	Completion Milestones
20000187-000.MS.PYMT	Payment Milestones
20000187-000.MS.1	Intermediate Milestones (KMP)*
20000187-000.MOB	Mobilization
20000187-000.CWM	Construction Work Management
20000187-000.QMP	Quality Management Plan
20000187-000.CMO	Changes/Construction Modification Orders
20000187-000.DBE	DBE/ESB Plan
20000187-000.WDP	Workforce Development Plan
20000187-000.SC	Strategic Communications
20000187-000.DSN	Design*
20000187-000.DSN.EW	Early Work
20000187-000.DSN.EW.PNTP	Pre-NTP1 Items
20000187-000.DSN.EW.PREP	Preparation for Field Work
20000187-000.DSN.EW.SUR	Survey
20000187-000.DSN.EW.SUE	SUE
20000187-000.DSN.EW.MOT	MOT
20000187-000.DSN.EW.GEO	Geotechnical
20000187-000.DSN.EW.ENV	Environmental
20000187-000.DSN.EW.NR	Noise Reports
20000187-000.DSN.EW.CLOMR	CLOMR
20000187-000.DSN.30	30% Design
20000187-000.DSN.30.RD	30% Roadway Design - For Acceptance
20000187-000.DSN.30.BR	30% Bridge Design - For Approval
20000187-000.DSN.DU	Dry Utilities
20000187-000.DSN.DU.DTR	Design Team Review
20000187-000.DSN.DU.CCD	CCD Fiber
20000187-000.DSN.DU.CCD.90	90% Design (For Acceptance)
20000187-000.DSN.DU.CCD.RFC	RFC Design (For Acceptance)
20000187-000.DSN.DU.ZAYO	ZAYO
20000187-000.DSN.DU.ZAYO.90	90% Design (For Acceptance)
20000187-000.DSN.DU.ZAYO.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU	Wet Utilities
20000187-000.DSN.WU.DWD	Denver Water Distribution
20000187-000.DSN.WU.DWD.1	Package 1
20000187-000.DSN.WU.DWD.1.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWD.1.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWD.2	Package 2
20000187-000.DSN.WU.DWD.2.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWD.2.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWD.3	Package 3
20000187-000.DSN.WU.DWD.3.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWD.3.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWD.4	Package 4
20000187-000.DSN.WU.DWD.4.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWD.4.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWD.5	Package 5
20000187-000.DSN.WU.DWD.5.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWD.5.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWD.6	Package 6
20000187-000.DSN.WU.DWD.6.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWD.6.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWDC	Denver Water Distribution Conduits
20000187-000.DSN.WU.DWDC.1	Package 1
20000187-000.DSN.WU.DWDC.1.30	30% Design (For Acceptance)
20000187-000.DSN.WU.DWDC.1.60	60% Design (For Acceptance)
20000187-000.DSN.WU.DWDC.1.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWDC.1.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWDC.2	Package 2

WBS Code	WBS Name
20000187-000.DSN.WU.DWDC.2.30	30% Design (For Acceptance)
20000187-000.DSN.WU.DWDC.2.60	60% Design (For Acceptance)
20000187-000.DSN.WU.DWDC.2.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWDC.2.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWDC.3	Package 3
20000187-000.DSN.WU.DWDC.3.30	30% Design (For Acceptance)
20000187-000.DSN.WU.DWDC.3.60	60% Design (For Acceptance)
20000187-000.DSN.WU.DWDC.3.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWDC.3.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWWMD	Denver Wastewater Management Division
20000187-000.DSN.WU.DWWMD.1	Package 1
20000187-000.DSN.WU.DWWMD.1.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWWMD.1.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWWMD.2	Package 2
20000187-000.DSN.WU.DWWMD.2.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWWMD.2.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWWMD.3	Package 3
20000187-000.DSN.WU.DWWMD.3.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWWMD.3.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.DWWMD.4	Package 4
20000187-000.DSN.WU.DWWMD.4.90	90% Design (For Acceptance)
20000187-000.DSN.WU.DWWMD.4.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.MWW	Metro Wastewater
20000187-000.DSN.WU.MWW.1	Package 1
20000187-000.DSN.WU.MWW.1.90	90% Design (For Acceptance)
20000187-000.DSN.WU.MWW.1.RFC	RFC Design (For Acceptance)
20000187-000.DSN.WU.MWW.2	Package 2
20000187-000.DSN.WU.MWW.2.90	90% Design (For Acceptance)
20000187-000.DSN.WU.MWW.2.RFC	RFC Design (For Acceptance)
20000187-000.DSN.UPRR	Union Pacific Railroad
20000187-000.DSN.UPRR.CON	Concept Submittal (For Acceptance)
20000187-000.DSN.UPRR.30	30% Design (For Acceptance)
20000187-000.DSN.UPRR.60	60% Design (For Acceptance)
20000187-000.DSN.UPRR.100	100% Design (For Acceptance)
20000187-000.DSN.UPRR.RFC	RFC Design (For Acceptance)
20000187-000.DSN.BNSF	Burlington Northern-Santa Fe Railroad - Market Lead
20000187-000.DSN.BNSF.60	60% Design (For Acceptance)
20000187-000.DSN.BNSF.100	100% Design (For Acceptance)
20000187-000.DSN.BNSF.RFC	RFC Design (For Acceptance)
20000187-000.DSN.LS	Landscaping
20000187-000.DSN.LS.PRE	Corridor Preliminary Landscape Design (For Acceptance)
20000187-000.DSN.LS.100	100% Design (For Acceptance)
20000187-000.DSN.LS.RFC	RFC Design (For Acceptance)
20000187-000.DSN.SIG	Signing
20000187-000.DSN.SIG.30	30% Design (For Acceptance)
20000187-000.DSN.LIG	Lighting
20000187-000.DSN.LIG.60	60% Design (For Acceptance)
20000187-000.DSN.COV	Cover
20000187-000.DSN.COV.50	50% Design (for 1st Cover Design Progress Review Meeting)
20000187-000.DSN.COV.STR	Cover Structure
20000187-000.DSN.COV.STR.90	90% Design (For 2nd Design Progress Review Meeting)
20000187-000.DSN.COV.STR.100	100% Design (For Acceptance)
20000187-000.DSN.COV.STR.RFC	RFC Design (For Acceptance)
20000187-000.DSN.COV.SYS	Cover Systems
20000187-000.DSN.COV.SYS.90	90% Design (For 2nd Design Progress Review Meeting)
20000187-000.DSN.COV.SYS.100	100% Design (For Acceptance)
20000187-000.DSN.COV.SYS.RFC	RFC Design (For Acceptance)
20000187-000.DSN.COV.PRK	Cover Park
20000187-000.DSN.COV.PRK.90	90% Design (For 2nd Design Progress Review Meeting)
20000187-000.DSN.COV.PRK.100	100% Design (For Acceptance)
20000187-000.DSN.COV.PRK.RFC	RFC Design (For Acceptance)
20000187-000.DSN.RD	Roadway
20000187-000.DSN.RD.W1	Roadway Package West 1 - I-70 West
20000187-000.DSN.RD.W1.60	60% Design (For Design Progress Review Meeting)
20000187-000.DSN.RD.W1.100	100% Design (For Approval)
20000187-000.DSN.RD.W1.RFC	RFC Design (For Approval)
20000187-000.DSN.RD.W2	Roadway Package West 2 - I-70 West

WBS Code	WBS Name
20000187-000.DSN.RD.W2.60	60% Design (For Design Progress Review Meeting)
20000187-000.DSN.RD.W2.100	100% Design (For Approval)
20000187-000.DSN.RD.W2.RFC	RFC Design (For Approval)
20000187-000.DSN.RD.C	Roadway Package Center - I-70 Center
20000187-000.DSN.RD.C.60	60% Design (For Design Progress Review Meeting)
20000187-000.DSN.RD.C.100	100% Design (For Approval)
20000187-000.DSN.RD.C.RFC	RFC Design (For Approval)
20000187-000.DSN.RD.E	Roadway Package East - I-70 East
20000187-000.DSN.RD.E.60	60% Design (For Design Progress Review Meeting)
20000187-000.DSN.RD.E.100	100% Design (For Approval)
20000187-000.DSN.RD.E.RFC	RFC Design (For Approval)
20000187-000.DSN.BR	Bridges
20000187-000.DSN.BR.A	Bridge Package A (Steele/Colorado)
20000187-000.DSN.BR.A.30	30% Design
20000187-000.DSN.BR.A.60	60% Design (For Design Progress Review Meeting)
20000187-000.DSN.BR.A.100	100% Design (For Acceptance)
20000187-000.DSN.BR.A.RFC	RFC Design (For Acceptance)
20000187-000.DSN.BR.B	Bridge Package B (I-270)
20000187-000.DSN.BR.B.30	30% Design
20000187-000.DSN.BR.B.60	60% Design (For Design Progress Review Meeting)
20000187-000.DSN.BR.B.100	100% Design (For Acceptance)
20000187-000.DSN.BR.B.RFC	RFC (For Acceptance)
20000187-000.DSN.BR.C	Bridge Package C (DRIR)
20000187-000.DSN.BR.C.30	30% Design
20000187-000.DSN.BR.C.60	60% Design (For Design Progress Review Meeting)
20000187-000.DSN.BR.C.100	100% Design (For Acceptance)
20000187-000.DSN.BR.C.RFC	RFC (For Acceptance)
20000187-000.DSN.BR.D	Bridge Package D
20000187-000.DSN.BR.D.30	30% Design
20000187-000.DSN.BR.D.60	60% Design (For Design Progress Review Meeting)
20000187-000.DSN.BR.D.100	100% Design (For Acceptance)
20000187-000.DSN.BR.D.RFC	RFC (For Acceptance)
20000187-000.PMT	Permitting*
20000187-000.PMT.CDPHE	Colorado Division of Public Health and Environment (CDPHE)
20000187-000.PMT.CDPHE.APCD	Air Pollution Control Division (APCD)
20000187-000.PMT.CDPHE.WQCD	Water Quality Control Division (WQCD)
20000187-000.PMT.CDPHE.HAZ	Hazardous Materials and Waste Management Division (HMWMD)
20000187-000.PMT.CCD	City and County of Denver (CCD)
20000187-000.PMT.CCD.LDMK	Landmark Preservation Commission
20000187-000.PMT.CCD.WWM	Wastewater Management
20000187-000.PMT.DWR	Colorado Division of Water Resources (DWR)
20000187-000.PMT.COA	City of Aurora
20000187-000.PMT.OSE	State of Colorado, Office of State Engineer
20000187-000.PMT.CPW	Colorado Parks and Wildlife (CPW)
20000187-000.PMT.USFWS	United States Fish and Wildlife Service (USFWS)
20000187-000.PMT.USACE	United States Army Corps of Engineers (USACE)
20000187-000.PMT.CDOT	Colorado Department of Transportation (CDOT)
20000187-000.ENV	Environmental Management
20000187-000.ENV.W	West Area
20000187-000.ENV.W.1	Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)
20000187-000.ENV.W.1.102	Block 102 - WB I-70
20000187-000.ENV.W.1.103	Block 103 - EB I-70
20000187-000.ENV.W.2	Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)
20000187-000.ENV.W.2.201	Block 201 - 46th Ave. N.
20000187-000.ENV.W.2.202	Block 202 - WB I-70
20000187-000.ENV.W.2.203	Block 203 - EB I-70
20000187-000.ENV.W.2.204	Block 204 - 46th Ave. S.
20000187-000.ENV.W.2.205	Block 205 - WB I-70 Bridge Over Brighton Blvd.
20000187-000.ENV.W.2.206	Block 206 - EB I-70 Bridge Over Brighton Blvd.
20000187-000.ENV.W.2.207	Block 207 - Brighton Blvd.
20000187-000.ENV.W.2.209	Block 209 - Brighton Blvd. to WB I-70 On-Ramp
20000187-000.ENV.W.2.210	Block 210 - WB I-70 to Brighton Blvd. Off-Ramp
20000187-000.ENV.W.2.213	Block 213 - EB I-70 to Brighton Blvd. Off-Ramp
20000187-000.ENV.W.2.214	Block 214 - Brighton Blvd. to EB I-70 On-Ramp
20000187-000.ENV.W.2.217	Block 217 - E. 47th Ave.
20000187-000.ENV.W.2.218	Block 218 - UPRR Bridge Over I-70
20000187-000.ENV.W.2.219	Block 219 - Local Road North of 46th Ave.

WBS Code	WBS Name
20000187-000.ENV.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
20000187-000.ENV.W.3.301A	Block 301A - 46th Ave. N. - York St. to Steele/Vasquez
20000187-000.ENV.W.3.301B	Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF
20000187-000.ENV.W.3.302A	Block 302A - WB I-70 - York St. to Steele/Vasquez
20000187-000.ENV.W.3.302B	Block 302B - WB I-70 - Steele/Vasquez to BNSF
20000187-000.ENV.W.3.303	Block 303 - EB I-70
20000187-000.ENV.W.3.304	Block 304 - 46th Ave. S.
20000187-000.ENV.W.3.306	Block 306 - York St. Bridge Over I-70
20000187-000.ENV.W.3.308	Block 308 - York St. South of I-70
20000187-000.ENV.W.3.309	Block 309 - Josephine St. North of I-70
20000187-000.ENV.W.3.310	Block 310 - Josephine St. Bridge Over I-70
20000187-000.ENV.W.3.311	Block 311 - Josephine St. South of I-70
20000187-000.ENV.W.3.312	Block 312 - Columbine St. North of I-70
20000187-000.ENV.W.3.313	Block 313 - Columbine St. Bridge Over I-70
20000187-000.ENV.W.3.315	Block 315 - Columbine St. South of I-70
20000187-000.ENV.W.3.316	Block 316 - Cover over WB I-70
20000187-000.ENV.W.3.317	Block 317 - Cover over EB I-70
20000187-000.ENV.W.3.318	Block 318 - Clayton St. North of I-70
20000187-000.ENV.W.3.319	Block 319 - Clayton St. Bridge Over I-70
20000187-000.ENV.W.3.321	Block 321 - Clayton St. South of I-70
20000187-000.ENV.W.3.322	Block 322 - Fillmore St. North of I-70
20000187-000.ENV.W.3.323	Block 323 - Fillmore St. Bridge Over I-70
20000187-000.ENV.W.3.324	Block 324 - Fillmore St. South of I-70
20000187-000.ENV.W.3.325	Block 325 - Milwaukee St. North of I-70
20000187-000.ENV.W.3.326	Block 326 - Milwaukee St. South of I-70
20000187-000.ENV.W.3.327	Block 327 - Steele/Vasquez Bridge Over I-70
20000187-000.ENV.W.3.329	Block 329 - Vasquez Blvd. North of I-70
20000187-000.ENV.W.3.331	Block 331 - Vasquez Blvd. to WB I-70 On-Ramp
20000187-000.ENV.W.3.333	Block 333 - EB I-70 to Steele St. Off-Ramp
20000187-000.ENV.W.3.335	Block 335 - Steele St. South of I-70
20000187-000.ENV.W.3.337	Block 337 - Cook St. Bridge Over I-70
20000187-000.ENV.W.3.338	Block 338 - Cook St. South of I-70
20000187-000.ENV.W.3.339	Block 339 - Swansea Elementary School
20000187-000.ENV.C	Central Area
20000187-000.ENV.C.4	Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
20000187-000.ENV.C.4.401	Block 401 - 46th Ave. N.
20000187-000.ENV.C.4.402A	Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.ENV.C.4.402B	Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.ENV.C.4.403A	Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.ENV.C.4.403B	Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.ENV.C.4.404	Block 404 - 46th Ave. S.
20000187-000.ENV.C.4.405	Block 405 - BNSF Market Lead Bridge Over I-70
20000187-000.ENV.C.4.406	Block 406 - Monroe St. North of I-70
20000187-000.ENV.C.4.407	Block 407 - Monroe St. Bridge Over I-70
20000187-000.ENV.C.4.408	Block 408 - Monroe St. South of I-70
20000187-000.ENV.C.4.409A	Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)
20000187-000.ENV.C.4.409B	Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)
20000187-000.ENV.C.4.411	Block 411 - Colorado Blvd. North of I-70
20000187-000.ENV.C.4.413	Block 413 - Colorado Blvd. to WB I-70 On-Ramp
20000187-000.ENV.C.4.414	Block 414 - WB I-70 to Colorado Blvd. Off-Ramp
20000187-000.ENV.C.4.415	Block 415 - EB I-70 to Colorado Blvd. Off-Ramp
20000187-000.ENV.C.4.416	Block 416 - Colorado Blvd. to EB I-70 On-Ramp
20000187-000.ENV.C.4.417	Block 417 - Colorado Blvd. South of I-70
20000187-000.ENV.C.4.419	Block 419 - Stapleton Dr. N.
20000187-000.ENV.C.4.420	Block 420 - Stapleton Dr. S.
20000187-000.ENV.C.4.421	Block 421 - Dahlia St.
20000187-000.ENV.C.4.422	Block 422 - WB I-70 Bridge Over Dahlia
20000187-000.ENV.C.4.423	Block 423 - EB I-70 Bridge Over Dahlia
20000187-000.ENV.C.4.426	Block 426 - Local Road - Colorado to Dahlia
20000187-000.ENV.C.4.427	Block 427 - Garfield St.
20000187-000.ENV.C.5	Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)
20000187-000.ENV.C.5.501	Block 501 - Stapleton Dr. N.
20000187-000.ENV.C.5.501A	Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.
20000187-000.ENV.C.5.501B	Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.
20000187-000.ENV.C.5.501C	Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge
20000187-000.ENV.C.5.502A	Block 502A - WB I-70 - STA 2105+00 to Holly St. CL
20000187-000.ENV.C.5.502B	Block 502B - WB I-70 - Holly St. CL to Monaco St. CL

WBS Code	WBS Name
20000187-000.ENV.C.5.502C	Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.ENV.C.5.502D	Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.ENV.C.5.503A	Block 503A - EB I-70 - STA 2105+00 to Holly St. CL
20000187-000.ENV.C.5.503B	Block 503B - EB I-70 - Holly St. CL to Monaco St. CL
20000187-000.ENV.C.5.503C	Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.ENV.C.5.503D	Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.ENV.C.5.504A	Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.
20000187-000.ENV.C.5.504B	Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.
20000187-000.ENV.C.5.504C	Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn
20000187-000.ENV.C.5.505	Block 505 - Holly St.
20000187-000.ENV.C.5.506	Block 506 - WB I-70 Bridge Over Holly
20000187-000.ENV.C.5.507	Block 507 - EB I-70 Bridge Over Holly
20000187-000.ENV.C.5.510	Block 510 - Monaco St.
20000187-000.ENV.C.5.511	Block 511 - WB I-70 Bridge Over Monaco
20000187-000.ENV.C.5.512	Block 512 - EB I-70 Bridge Over Monaco
20000187-000.ENV.C.5.515	Block 515 - WB I-70 Bridge Over DRIR
20000187-000.ENV.C.5.516	Block 516 - EB I-70 Bridge Over DRIR
20000187-000.ENV.C.5.517	Block 517 - WB I-70 Bridge Over Quebec
20000187-000.ENV.C.5.518	Block 518 - EB I-70 Bridge Over Quebec
20000187-000.ENV.C.5.519	Block 519 - Quebec St.
20000187-000.ENV.C.5.521	Block 521 - Quebec St. to WB I-70 On-Ramp
20000187-000.ENV.C.5.522	Block 522 - WB I-70 to Quebec St. Off-Ramp
20000187-000.ENV.C.5.523	Block 523 - EB I-70 to Quebec St. Off-Ramp
20000187-000.ENV.C.5.524	Block 524 - Quebec St. to EB I-70 On-Ramp
20000187-000.ENV.C.5.528	Block 528 - WB I-70 to Holly Off-Ramp
20000187-000.ENV.C.5.529	Block 529 - EB I-70 to Holly Off-Ramp
20000187-000.ENV.C.5.530	Block 530 - Holly to EB I-70 On-Ramp
20000187-000.ENV.C.5.531	Block 531 - Holly to WB I-70 On-Ramp
20000187-000.ENV.C.5.532	Block 532 - Stapleton N. Bridge Over DRIR
20000187-000.ENV.C.5.533	Block 533 - Stapleton S. Bridge Over DRIR
20000187-000.ENV.E	East Area
20000187-000.ENV.E.6	Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)
20000187-000.ENV.E.6.602A	Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.ENV.E.6.602B	Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.ENV.E.6.602C	Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.ENV.E.6.602D	Block 602D - WB I-70 - STA 2334+00 to 2353+00
20000187-000.ENV.E.6.602E	Block 602E - WB I-70 - STA 2353+00 to 2391+00
20000187-000.ENV.E.6.602F	Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.ENV.E.6.603A	Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.ENV.E.6.603B	Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.ENV.E.6.603C	Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.ENV.E.6.603D	Block 603D - EB I-70 - STA 2334+00 to 2353+00
20000187-000.ENV.E.6.603E	Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)
20000187-000.ENV.E.6.603F	Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.ENV.E.6.605	Block 605 - I-270 Bridge Over I-70
20000187-000.ENV.E.6.606	Block 606 - EB I-270 to Central Park Blvd. Off-Ramp
20000187-000.ENV.E.6.607	Block 607 - EB I-270 to EB I-70 On-Ramp
20000187-000.ENV.E.6.608	Block 608 - WB I-70 to WB I-270 On-Ramp
20000187-000.ENV.E.6.609	Block 609 - WB I-70 to Central Park Blvd. Off-Ramp
20000187-000.ENV.E.6.610	Block 610 - Central Park Blvd. to WB I-70 On-Ramp
20000187-000.ENV.E.6.611	Block 611 - EB I-70 to Central Park Blvd. Off-Ramp
20000187-000.ENV.E.6.612	Block 612 - Central Park Blvd. to EB I-70 On-Ramp
20000187-000.ENV.E.6.613	Block 613 - WB I-70 to Havana St. Off-Ramp
20000187-000.ENV.E.6.614	Block 614 - Havana St. to WB I-70 On-Ramp
20000187-000.ENV.E.6.615	Block 615 - EB I-70 to Havana St. Off-Ramp
20000187-000.ENV.E.6.616	Block 616 - Havana St. to EB I-70 On-Ramp
20000187-000.ENV.E.6.617	Block 617 - Havana St. Under I-70
20000187-000.ENV.E.6.618	Block 618 - WB I-70 Bridge Over Peoria St.
20000187-000.ENV.E.6.619	Block 619 - EB I-70 Bridge Over Peoria St.
20000187-000.ENV.E.6.620	Block 620 - EB I-70 to Peoria St. Off-Ramp
20000187-000.ENV.E.6.621	Block 621 - Peoria St. to EB I-70 On-Ramp
20000187-000.ENV.E.6.622	Block 622 - Peoria St. to WB I-70 On-Ramp
20000187-000.ENV.E.6.623	Block 623 - WB I-70 to Peoria St. Off-Ramp
20000187-000.ENV.E.6.624	Block 624 - Peoria St. Under I-70
20000187-000.ENV.E.6.625	Block 625 - EB I-70 Ramp to SB I-225
20000187-000.ENV.E.7	Sub-Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)
20000187-000.ENV.E.7.702	Block 702 - WB I-70

WBS Code	WBS Name
20000187-000.ENV.E.7.703	Block 703 - EB I-70
20000187-000.RMV	Removals/Demolition*
20000187-000.RMV.W	West Area
20000187-000.RMV.W.1	Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)
20000187-000.RMV.W.1.102	Block 102 - WB I-70
20000187-000.RMV.W.1.103	Block 103 - EB I-70
20000187-000.RMV.W.2	Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)
20000187-000.RMV.W.2.201	Block 201 - 46th Ave. N.
20000187-000.RMV.W.2.202	Block 202 - WB I-70
20000187-000.RMV.W.2.203	Block 203 - EB I-70
20000187-000.RMV.W.2.204	Block 204 - 46th Ave. S.
20000187-000.RMV.W.2.205	Block 205 - WB I-70 Bridge Over Brighton Blvd.
20000187-000.RMV.W.2.206	Block 206 - EB I-70 Bridge Over Brighton Blvd.
20000187-000.RMV.W.2.207	Block 207 - Brighton Blvd.
20000187-000.RMV.W.2.209	Block 209 - Brighton Blvd. to WB I-70 On-Ramp
20000187-000.RMV.W.2.210	Block 210 - WB I-70 to Brighton Blvd. Off-Ramp
20000187-000.RMV.W.2.213	Block 213 - EB I-70 to Brighton Blvd. Off-Ramp
20000187-000.RMV.W.2.214	Block 214 - Brighton Blvd. to EB I-70 On-Ramp
20000187-000.RMV.W.2.217	Block 217 - E. 47th Ave.
20000187-000.RMV.W.2.218	Block 218 - UPRR Bridge Over I-70
20000187-000.RMV.W.2.219	Block 219 - Local Road North of 46th Ave
20000187-000.RMV.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
20000187-000.RMV.W.3.301A	Block 301A - 46th Ave. N. - York St. to Steele/Vasquez
20000187-000.RMV.W.3.301B	Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF
20000187-000.RMV.W.3.302A	Block 302A - WB I-70 - York St. to Steele/Vasquez
20000187-000.RMV.W.3.302B	Block 302B - WB I-70 - Steele/Vasquez to BNSF
20000187-000.RMV.W.3.303	Block 303 - EB I-70
20000187-000.RMV.W.3.304	Block 304 - 46th Ave. S.
20000187-000.RMV.W.3.305	Block 305 - York St. North of I-70
20000187-000.RMV.W.3.306	Block 306 - York St. Bridge Over I-70
20000187-000.RMV.W.3.308	Block 308 - York St. South of I-70
20000187-000.RMV.W.3.309	Block 309 - Josephine St. North of I-70
20000187-000.RMV.W.3.310	Block 310 - Josephine St. Bridge Over I-70
20000187-000.RMV.W.3.311	Block 311 - Josephine St. South of I-70
20000187-000.RMV.W.3.312	Block 312 - Columbine St. North of I-70
20000187-000.RMV.W.3.313	Block 313 - Columbine St. Bridge Over I-70
20000187-000.RMV.W.3.315	Block 315 - Columbine St. South of I-70
20000187-000.RMV.W.3.316	Block 316 - Cover over WB I-70
20000187-000.RMV.W.3.317	Block 317 - Cover over EB I-70
20000187-000.RMV.W.3.318	Block 318 - Clayton St. North of I-70
20000187-000.RMV.W.3.319	Block 319 - Clayton St. Bridge Over I-70
20000187-000.RMV.W.3.321	Block 321 - Clayton St. South of I-70
20000187-000.RMV.W.3.322	Block 322 - Fillmore St. North of I-70
20000187-000.RMV.W.3.323	Block 323 - Fillmore St. Bridge Over I-70
20000187-000.RMV.W.3.324	Block 324 - Fillmore St. South of I-70
20000187-000.RMV.W.3.325	Block 325 - Milwaukee St. North of I-70
20000187-000.RMV.W.3.326	Block 326 - Milwaukee St. South of I-70
20000187-000.RMV.W.3.327	Block 327 - Steele/Vasquez Bridge Over I-70
20000187-000.RMV.W.3.329	Block 329 - Vasquez Blvd. North of I-70
20000187-000.RMV.W.3.331	Block 331 - Vasquez Blvd. to WB I-70 On-Ramp
20000187-000.RMV.W.3.333	Block 333 - EB I-70 to Steele St. Off-Ramp
20000187-000.RMV.W.3.335	Block 335 - Steele St. South of I-70
20000187-000.RMV.W.3.337	Block 337 - Cook St. Bridge Over I-70
20000187-000.RMV.W.3.338	Block 338 - Cook St. South of I-70
20000187-000.RMV.W.3.339	Block 339 - Swansea Elemenatry School
20000187-000.RMV.C	Central Area
20000187-000.RMV.C.4	Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
20000187-000.RMV.C.4.401	Block 401 - 46th Ave. N.
20000187-000.RMV.C.4.402A	Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.RMV.C.4.402B	Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.RMV.C.4.403A	Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.RMV.C.4.403B	Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.RMV.C.4.404	Block 404 - 46th Ave. S.
20000187-000.RMV.C.4.405	Block 405 - BNSF Market Lead Bridge Over I-70
20000187-000.RMV.C.4.406	Block 406 - Monroe St. North of I-70
20000187-000.RMV.C.4.407	Block 407 - Monroe St. Bridge Over I-70
20000187-000.RMV.C.4.408	Block 408 - Monroe St. South of I-70

WBS Code	WBS Name
20000187-000.RMV.C.4.409A	Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)
20000187-000.RMV.C.4.409B	Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)
20000187-000.RMV.C.4.411	Block 411 - Colorado Blvd. North of I-70
20000187-000.RMV.C.4.413	Block 413 - Colorado Blvd. to WB I-70 On-Ramp
20000187-000.RMV.C.4.414	Block 414 - WB I-70 to Colorado Blvd. Off-Ramp
20000187-000.RMV.C.4.415	Block 415 - EB I-70 to Colorado Blvd. Off-Ramp
20000187-000.RMV.C.4.416	Block 416 - Colorado Blvd. to EB I-70 On-Ramp
20000187-000.RMV.C.4.417	Block 417 - Colorado Blvd. South of I-70
20000187-000.RMV.C.4.419	Block 419 - Stapleton Dr. N.
20000187-000.RMV.C.4.420	Block 420 - Stapleton Dr. S.
20000187-000.RMV.C.4.421	Block 421 - Dahlia St.
20000187-000.RMV.C.4.422	Block 422 - WB I-70 Bridge Over Dahlia
20000187-000.RMV.C.4.423	Block 423 - EB I-70 Bridge Over Dahlia
20000187-000.RMV.C.4.426	Block 426 - Local Road - Colorado to Dahlia
20000187-000.RMV.C.4.427	Block 427 - Garfield St.
20000187-000.RMV.C.5	Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)
20000187-000.RMV.C.5.501	Block 501 - Stapleton Dr. N.
20000187-000.RMV.C.5.501A	Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.
20000187-000.RMV.C.5.501B	Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.
20000187-000.RMV.C.5.501C	Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge
20000187-000.RMV.C.5.502A	Block 502A - WB I-70 - STA 2105+00 to Holly St. CL
20000187-000.RMV.C.5.502B	Block 502B - WB I-70 - Holly St. CL to Monaco St. CL
20000187-000.RMV.C.5.502C	Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.RMV.C.5.502D	Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.RMV.C.5.503A	Block 503A - EB I-70 - STA 2105+00 to Holly St. CL
20000187-000.RMV.C.5.503B	Block 503B - EB I-70 - Holly St. CL to Monaco St. CL
20000187-000.RMV.C.5.503C	Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.RMV.C.5.503D	Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.RMV.C.5.504A	Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.
20000187-000.RMV.C.5.504B	Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.
20000187-000.RMV.C.5.504C	Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn
20000187-000.RMV.C.5.505	Block 505 - Holly St.
20000187-000.RMV.C.5.506	Block 506 - WB I-70 Bridge Over Holly
20000187-000.RMV.C.5.507	Block 507 - EB I-70 Bridge Over Holly
20000187-000.RMV.C.5.510	Block 510 - Monaco St.
20000187-000.RMV.C.5.511	Block 511 - WB I-70 Bridge Over Monaco
20000187-000.RMV.C.5.512	Block 512 - EB I-70 Bridge Over Monaco
20000187-000.RMV.C.5.515	Block 515 - WB I-70 Bridge Over DRIR
20000187-000.RMV.C.5.516	Block 516 - EB I-70 Bridge Over DRIR
20000187-000.RMV.C.5.517	Block 517 - WB I-70 Bridge Over Quebec
20000187-000.RMV.C.5.518	Block 518 - EB I-70 Bridge Over Quebec
20000187-000.RMV.C.5.519	Block 519 - Quebec St.
20000187-000.RMV.C.5.521	Block 521 - Quebec St. to WB I-70 On-Ramp
20000187-000.RMV.C.5.522	Block 522 - WB I-70 to Quebec St. Off-Ramp
20000187-000.RMV.C.5.523	Block 523 - EB I-70 to Quebec St. Off-Ramp
20000187-000.RMV.C.5.524	Block 524 - Quebec St. to EB I-70 On-Ramp
20000187-000.RMV.C.5.528	Block 528 - WB I-70 to Holly Off-Ramp
20000187-000.RMV.C.5.529	Block 529 - EB I-70 to Holly Off-Ramp
20000187-000.RMV.C.5.530	Block 530 - Holly to EB I-70 On-Ramp
20000187-000.RMV.C.5.531	Block 531 - Holly to WB I-70 On-Ramp
20000187-000.RMV.C.5.532	Block 532 - Stapleton N. Bridge Over DRIR
20000187-000.RMV.C.5.533	Block 533 - Stapleton S. Bridge Over DRIR
20000187-000.RMV.E	East Area
20000187-000.RMV.E.6	Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)
20000187-000.RMV.E.6.602A	Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.RMV.E.6.602B	Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.RMV.E.6.602C	Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.RMV.E.6.602D	Block 602D - WB I-70 - STA 2334+00 to 2353+00
20000187-000.RMV.E.6.602E	Block 602E - WB I-70 - STA 2353+00 to 2391+00
20000187-000.RMV.E.6.602F	Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.RMV.E.6.603A	Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.RMV.E.6.603B	Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.RMV.E.6.603C	Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.RMV.E.6.603D	Block 603D - EB I-70 - STA 2334+00 to 2353+00
20000187-000.RMV.E.6.603E	Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)
20000187-000.RMV.E.6.603F	Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.RMV.E.6.605	Block 605 - I-270 Bridge Over I-70

WBS Code	WBS Name
20000187-000.RMV.E.6.606	Block 606 - EB I-270 to Central Park Blvd. Off-Ramp
20000187-000.RMV.E.6.607	Block 607 - EB I-270 to EB I-70 On-Ramp
20000187-000.RMV.E.6.608	Block 608 - WB I-70 to WB I-270 On-Ramp
20000187-000.RMV.E.6.609	Block 609 - WB I-70 to Central Park Blvd. Off-Ramp
20000187-000.RMV.E.6.610	Block 610 - Central Park Blvd. to WB I-70 On-Ramp
20000187-000.RMV.E.6.611	Block 611 - EB I-70 to Central Park Blvd. Off-Ramp
20000187-000.RMV.E.6.612	Block 612 - Central Park Blvd. to EB I-70 On-Ramp
20000187-000.RMV.E.6.613	Block 613 - WB I-70 to Havana St. Off-Ramp
20000187-000.RMV.E.6.614	Block 614 - Havana St. to WB I-70 On-Ramp
20000187-000.RMV.E.6.615	Block 615 - EB I-70 to Havana St. Off-Ramp
20000187-000.RMV.E.6.616	Block 616 - Havana St. to EB I-70 On-Ramp
20000187-000.RMV.E.6.617	Block 617 - Havana St. Under I-70
20000187-000.RMV.E.6.618	Block 618 - WB I-70 Bridge Over Peoria St.
20000187-000.RMV.E.6.619	Block 619 - EB I-70 Bridge Over Peoria St.
20000187-000.RMV.E.6.620	Block 620 - EB I-70 to Peoria St. Off-Ramp
20000187-000.RMV.E.6.621	Block 621 - Peoria St. to EB I-70 On-Ramp
20000187-000.RMV.E.6.622	Block 622 - Peoria St. to WB I-70 On-Ramp
20000187-000.RMV.E.6.623	Block 623 - WB I-70 to Peoria St. Off-Ramp
20000187-000.RMV.E.6.624	Block 624 - Peoria St. Under I-70
20000187-000.RMV.E.6.625	Block 625 - EB I-70 Ramp to SB I-225
20000187-000.RMV.E.7	Sub-Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)
20000187-000.RMV.E.7.702	Block 702 - WB I-70
20000187-000.RMV.E.7.703	Block 703 - EB I-70
20000187-000.DRT	Earthwork
20000187-000.DRT.W	West Area
20000187-000.DRT.W.1	Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)
20000187-000.DRT.W.1.102	Block 102 - WB I-70
20000187-000.DRT.W.1.103	Block 103 - EB I-70
20000187-000.DRT.W.2	Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)
20000187-000.DRT.W.2.201	Block 201 - 46th Ave. N.
20000187-000.DRT.W.2.202	Block 202 - WB I-70
20000187-000.DRT.W.2.203	Block 203 - EB I-70
20000187-000.DRT.W.2.204	Block 204 - 46th Ave. S.
20000187-000.DRT.W.2.205	Block 205 - WB I-70 Bridge Over Brighton Blvd.
20000187-000.DRT.W.2.206	Block 206 - EB I-70 Bridge Over Brighton Blvd.
20000187-000.DRT.W.2.207	Block 207 - Brighton Blvd.
20000187-000.DRT.W.2.209	Block 209 - Brighton Blvd. to WB I-70 On-Ramp
20000187-000.DRT.W.2.210	Block 210 - WB I-70 to Brighton Blvd. Off-Ramp
20000187-000.DRT.W.2.213	Block 213 - EB I-70 to Brighton Blvd. Off-Ramp
20000187-000.DRT.W.2.214	Block 214 - Brighton Blvd. to EB I-70 On-Ramp
20000187-000.DRT.W.2.217	Block 217 - E. 47th Ave.
20000187-000.DRT.W.2.218	Block 218 - UPRR Bridge Over I-70
20000187-000.DRT.W.2.219	Block 219 - Local Road North of 46th Ave
20000187-000.DRT.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
20000187-000.DRT.W.3.301A	Block 301A - 46th Ave. N. - York St. to Steele/Vasquez
20000187-000.DRT.W.3.301B	Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF
20000187-000.DRT.W.3.302A	Block 302A - WB I-70 - York St. to Steele/Vasquez
20000187-000.DRT.W.3.302B	Block 302B - WB I-70 - Steele/Vasquez to BNSF
20000187-000.DRT.W.3.303	Block 303 - EB I-70
20000187-000.DRT.W.3.304	Block 304 - 46th Ave. S.
20000187-000.DRT.W.3.305	Block 305 - York St. North of I-70
20000187-000.DRT.W.3.306	Block 306 - York St. Bridge Over I-70
20000187-000.DRT.W.3.308	Block 308 - York St. South of I-70
20000187-000.DRT.W.3.309	Block 309 - Josephine St. North of I-70
20000187-000.DRT.W.3.310	Block 310 - Josephine St. Bridge Over I-70
20000187-000.DRT.W.3.311	Block 311 - Josephine St. South of I-70
20000187-000.DRT.W.3.312	Block 312 - Columbine St. North of I-70
20000187-000.DRT.W.3.313	Block 313 - Columbine St. Bridge Over I-70
20000187-000.DRT.W.3.315	Block 315 - Columbine St. South of I-70
20000187-000.DRT.W.3.316	Block 316 - Cover over WB I-70
20000187-000.DRT.W.3.317	Block 317 - Cover over EB I-70
20000187-000.DRT.W.3.318	Block 318 - Clayton St. North of I-70
20000187-000.DRT.W.3.319	Block 319 - Clayton St. Bridge Over I-70
20000187-000.DRT.W.3.321	Block 321 - Clayton St. South of I-70
20000187-000.DRT.W.3.322	Block 322 - Fillmore St. North of I-70
20000187-000.DRT.W.3.323	Block 323 - Fillmore St. Bridge Over I-70
20000187-000.DRT.W.3.324	Block 324 - Fillmore St. South of I-70

WBS Code	WBS Name
20000187-000.DRT.W.3.325	Block 325 - Milwaukee St. North of I-70
20000187-000.DRT.W.3.326	Block 326 - Milwaukee St. South of I-70
20000187-000.DRT.W.3.327	Block 327 - Steele/Vasquez Bridge Over I-70
20000187-000.DRT.W.3.329	Block 329 - Vasquez Blvd. North of I-70
20000187-000.DRT.W.3.331	Block 331 - Vasquez Blvd. to WB I-70 On-Ramp
20000187-000.DRT.W.3.333	Block 333 - EB I-70 to Steele St. Off-Ramp
20000187-000.DRT.W.3.335	Block 335 - Steele St. South of I-70
20000187-000.DRT.W.3.337	Block 337 - Cook St. Bridge Over I-70
20000187-000.DRT.W.3.338	Block 338 - Cook St. South of I-70
20000187-000.DRT.W.3.339	Block 339 - Swansea Elemenatry School
20000187-000.DRT.C	Central Area
20000187-000.DRT.C.4	Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
20000187-000.DRT.C.4.401	Block 401 - 46th Ave. N.
20000187-000.DRT.C.4.402A	Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.DRT.C.4.402B	Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.DRT.C.4.403A	Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.DRT.C.4.403B	Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.DRT.C.4.404	Block 404 - 46th Ave. S.
20000187-000.DRT.C.4.405	Block 405 - BNSF Market Lead Bridge Over I-70
20000187-000.DRT.C.4.406	Block 406 - Monroe St. North of I-70
20000187-000.DRT.C.4.407	Block 407 - Monroe St. Bridge Over I-70
20000187-000.DRT.C.4.408	Block 408 - Monroe St. South of I-70
20000187-000.DRT.C.4.409A	Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)
20000187-000.DRT.C.4.409B	Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)
20000187-000.DRT.C.4.411	Block 411 - Colorado Blvd. North of I-70
20000187-000.DRT.C.4.413	Block 413 - Colorado Blvd. to WB I-70 On-Ramp
20000187-000.DRT.C.4.414	Block 414 - WB I-70 to Colorado Blvd. Off-Ramp
20000187-000.DRT.C.4.415	Block 415 - EB I-70 to Colorado Blvd. Off-Ramp
20000187-000.DRT.C.4.416	Block 416 - Colorado Blvd. to EB I-70 On-Ramp
20000187-000.DRT.C.4.417	Block 417 - Colorado Blvd. South of I-70
20000187-000.DRT.C.4.419	Block 419 - Stapleton Dr. N.
20000187-000.DRT.C.4.420	Block 420 - Stapleton Dr. S.
20000187-000.DRT.C.4.421	Block 421 - Dahlia St.
20000187-000.DRT.C.4.422	Block 422 - WB I-70 Bridge Over Dahlia
20000187-000.DRT.C.4.423	Block 423 - EB I-70 Bridge Over Dahlia
20000187-000.DRT.C.4.426	Block 426 - Local Road - Colorado to Dahlia
20000187-000.DRT.C.4.427	Block 427 - Garfield St.
20000187-000.DRT.C.5	Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)
20000187-000.DRT.C.5.501	Block 501 - Stapleton Dr. N.
20000187-000.DRT.C.5.501A	Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.
20000187-000.DRT.C.5.501B	Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.
20000187-000.DRT.C.5.501C	Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge
20000187-000.DRT.C.5.502A	Block 502A - WB I-70 - STA 2105+00 to Holly St. CL
20000187-000.DRT.C.5.502B	Block 502B - WB I-70 - Holly St. CL to Monaco St. CL
20000187-000.DRT.C.5.502C	Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.DRT.C.5.502D	Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.DRT.C.5.503A	Block 503A - EB I-70 - STA 2105+00 to Holly St. CL
20000187-000.DRT.C.5.503B	Block 503B - EB I-70 - Holly St. CL to Monaco St. CL
20000187-000.DRT.C.5.503C	Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.DRT.C.5.503D	Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.DRT.C.5.504A	Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.
20000187-000.DRT.C.5.504B	Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.
20000187-000.DRT.C.5.504C	Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn
20000187-000.DRT.C.5.505	Block 505 - Holly St.
20000187-000.DRT.C.5.506	Block 506 - WB I-70 Bridge Over Holly
20000187-000.DRT.C.5.507	Block 507 - EB I-70 Bridge Over Holly
20000187-000.DRT.C.5.510	Block 510 - Monaco St.
20000187-000.DRT.C.5.511	Block 511 - WB I-70 Bridge Over Monaco
20000187-000.DRT.C.5.512	Block 512 - EB I-70 Bridge Over Monaco
20000187-000.DRT.C.5.515	Block 515 - WB I-70 Bridge Over DRIR
20000187-000.DRT.C.5.516	Block 516 - EB I-70 Bridge Over DRIR
20000187-000.DRT.C.5.517	Block 517 - WB I-70 Bridge Over Quebec
20000187-000.DRT.C.5.518	Block 518 - EB I-70 Bridge Over Quebec
20000187-000.DRT.C.5.519	Block 519 - Quebec St.
20000187-000.DRT.C.5.521	Block 521 - Quebec St. to WB I-70 On-Ramp
20000187-000.DRT.C.5.522	Block 522 - WB I-70 to Quebec St. Off-Ramp
20000187-000.DRT.C.5.523	Block 523 - EB I-70 to Quebec St. Off-Ramp

WBS Code	WBS Name
20000187-000.DRT.C.5.524	Block 524 - Quebec St. to EB I-70 On-Ramp
20000187-000.DRT.C.5.528	Block 528 - WB I-70 to Holly Off-Ramp
20000187-000.DRT.C.5.529	Block 529 - EB I-70 to Holly Off-Ramp
20000187-000.DRT.C.5.530	Block 530 - Holly to EB I-70 On-Ramp
20000187-000.DRT.C.5.531	Block 531 - Holly to WB I-70 On-Ramp
20000187-000.DRT.C.5.532	Block 532 - Stapleton N. Bridge Over DRIR
20000187-000.DRT.C.5.533	Block 533 - Stapleton S. Bridge Over DRIR
20000187-000.DRT.E	East Area
20000187-000.DRT.E.6	Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)
20000187-000.DRT.E.6.602A	Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.DRT.E.6.602B	Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.DRT.E.6.602C	Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.DRT.E.6.602D	Block 602D - WB I-70 - STA 2334+00 to 2353+00
20000187-000.DRT.E.6.602E	Block 602E - WB I-70 - STA 2353+00 to 2391+00
20000187-000.DRT.E.6.602F	Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.DRT.E.6.603A	Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.DRT.E.6.603B	Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.DRT.E.6.603C	Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.DRT.E.6.603D	Block 603D - EB I-70 - STA 2334+00 to 2353+00
20000187-000.DRT.E.6.603E	Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)
20000187-000.DRT.E.6.603F	Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.DRT.E.6.605	Block 605 - I-270 Bridge Over I-70
20000187-000.DRT.E.6.606	Block 606 - EB I-270 to Central Park Blvd. Off-Ramp
20000187-000.DRT.E.6.607	Block 607 - EB I-270 to EB I-70 On-Ramp
20000187-000.DRT.E.6.608	Block 608 - WB I-70 to WB I-270 On-Ramp
20000187-000.DRT.E.6.609	Block 609 - WB I-70 to Central Park Blvd. Off-Ramp
20000187-000.DRT.E.6.610	Block 610 - Central Park Blvd. to WB I-70 On-Ramp
20000187-000.DRT.E.6.611	Block 611 - EB I-70 to Central Park Blvd. Off-Ramp
20000187-000.DRT.E.6.612	Block 612 - Central Park Blvd. to EB I-70 On-Ramp
20000187-000.DRT.E.6.613	Block 613 - WB I-70 to Havana St. Off-Ramp
20000187-000.DRT.E.6.614	Block 614 - Havana St. to WB I-70 On-Ramp
20000187-000.DRT.E.6.615	Block 615 - EB I-70 to Havana St. Off-Ramp
20000187-000.DRT.E.6.616	Block 616 - Havana St. to EB I-70 On-Ramp
20000187-000.DRT.E.6.617	Block 617 - Havana St. Under I-70
20000187-000.DRT.E.6.618	Block 618 - WB I-70 Bridge Over Peoria St.
20000187-000.DRT.E.6.619	Block 619 - EB I-70 Bridge Over Peoria St.
20000187-000.DRT.E.6.620	Block 620 - EB I-70 to Peoria St. Off-Ramp
20000187-000.DRT.E.6.621	Block 621 - Peoria St. to EB I-70 On-Ramp
20000187-000.DRT.E.6.622	Block 622 - Peoria St. to WB I-70 On-Ramp
20000187-000.DRT.E.6.623	Block 623 - WB I-70 to Peoria St. Off-Ramp
20000187-000.DRT.E.6.624	Block 624 - Peoria St. Under I-70
20000187-000.DRT.E.6.625	Block 625 - EB I-70 Ramp to SB I-225
20000187-000.DRT.E.7	Sub-Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)
20000187-000.DRT.E.7.702	Block 702 - WB I-70
20000187-000.DRT.E.7.703	Block 703 - EB I-70
20000187-000.DRN	Drainage
20000187-000.DRN.W	West Area
20000187-000.DRN.W.1	Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)
20000187-000.DRN.W.1.102	Block 102 - WB I-70
20000187-000.DRN.W.1.103	Block 103 - EB I-70
20000187-000.DRN.W.2	Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)
20000187-000.DRN.W.2.201	Block 201 - 46th Ave. N.
20000187-000.DRN.W.2.202	Block 202 - WB I-70
20000187-000.DRN.W.2.203	Block 203 - EB I-70
20000187-000.DRN.W.2.204	Block 204 - 46th Ave. S.
20000187-000.DRN.W.2.205	Block 205 - WB I-70 Bridge Over Brighton Blvd.
20000187-000.DRN.W.2.206	Block 206 - EB I-70 Bridge Over Brighton Blvd.
20000187-000.DRN.W.2.207	Block 207 - Brighton Blvd.
20000187-000.DRN.W.2.209	Block 209 - Brighton Blvd. to WB I-70 On-Ramp
20000187-000.DRN.W.2.210	Block 210 - WB I-70 to Brighton Blvd. Off-Ramp
20000187-000.DRN.W.2.213	Block 213 - EB I-70 to Brighton Blvd. Off-Ramp
20000187-000.DRN.W.2.214	Block 214 - Brighton Blvd. to EB I-70 On-Ramp
20000187-000.DRN.W.2.217	Block 217 - E. 47th Ave.
20000187-000.DRN.W.2.218	Block 218 - UPRR Bridge Over I-70
20000187-000.DRN.W.2.219	Block 219 - Local Road North of 46th Ave
20000187-000.DRN.W.2.220	Block 220 - Drainage Pump Station
20000187-000.DRN.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)

WBS Code	WBS Name
20000187-000.DRN.W.3.301A	Block 301A - 46th Ave. N. - York St. to Steele/Vasquez
20000187-000.DRN.W.3.301B	Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF
20000187-000.DRN.W.3.302A	Block 302A - WB I-70 - York St. to Steele/Vasquez
20000187-000.DRN.W.3.302B	Block 302B - WB I-70 - Steele/Vasquez to BNSF
20000187-000.DRN.W.3.303	Block 303 - EB I-70
20000187-000.DRN.W.3.304	Block 304 - 46th Ave. S.
20000187-000.DRN.W.3.305	Block 305 - York St. North of I-70
20000187-000.DRN.W.3.306	Block 306 - York St. Bridge Over I-70
20000187-000.DRN.W.3.308	Block 308 - York St. South of I-70
20000187-000.DRN.W.3.309	Block 309 - Josephine St. North of I-70
20000187-000.DRN.W.3.310	Block 310 - Josephine St. Bridge Over I-70
20000187-000.DRN.W.3.311	Block 311 - Josephine St. South of I-70
20000187-000.DRN.W.3.312	Block 312 - Columbine St. North of I-70
20000187-000.DRN.W.3.313	Block 313 - Columbine St. Bridge Over I-70
20000187-000.DRN.W.3.315	Block 315 - Columbine St. South of I-70
20000187-000.DRN.W.3.316	Block 316 - Cover over WB I-70
20000187-000.DRN.W.3.317	Block 317 - Cover over EB I-70
20000187-000.DRN.W.3.318	Block 318 - Clayton St. North of I-70
20000187-000.DRN.W.3.319	Block 319 - Clayton St. Bridge Over I-70
20000187-000.DRN.W.3.321	Block 321 - Clayton St. South of I-70
20000187-000.DRN.W.3.322	Block 322 - Fillmore St. North of I-70
20000187-000.DRN.W.3.323	Block 323 - Fillmore St. Bridge Over I-70
20000187-000.DRN.W.3.324	Block 324 - Fillmore St. South of I-70
20000187-000.DRN.W.3.325	Block 325 - Milwaukee St. North of I-70
20000187-000.DRN.W.3.326	Block 326 - Milwaukee St. South of I-70
20000187-000.DRN.W.3.327	Block 327 - Steele/Vasquez Bridge Over I-70
20000187-000.DRN.W.3.329	Block 329 - Vasquez Blvd. North of I-70
20000187-000.DRN.W.3.331	Block 331 - Vasquez Blvd. to WB I-70 On-Ramp
20000187-000.DRN.W.3.333	Block 333 - EB I-70 to Steele St. Off-Ramp
20000187-000.DRN.W.3.335	Block 335 - Steele St. South of I-70
20000187-000.DRN.W.3.337	Block 337 - Cook St. Bridge Over I-70
20000187-000.DRN.W.3.338	Block 338 - Cook St. South of I-70
20000187-000.DRN.W.3.339	Block 339 - Swansea Elementary School
20000187-000.DRN.C	Central Area
20000187-000.DRN.C.4	Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
20000187-000.DRN.C.4.401	Block 401 - 46th Ave. N.
20000187-000.DRN.C.4.402A	Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.DRN.C.4.402B	Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.DRN.C.4.403A	Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.DRN.C.4.403B	Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.DRN.C.4.404	Block 404 - 46th Ave. S.
20000187-000.DRN.C.4.405	Block 405 - BNSF Market Lead Bridge Over I-70
20000187-000.DRN.C.4.406	Block 406 - Monroe St. North of I-70
20000187-000.DRN.C.4.407	Block 407 - Monroe St. Bridge Over I-70
20000187-000.DRN.C.4.408	Block 408 - Monroe St. South of I-70
20000187-000.DRN.C.4.409A	Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)
20000187-000.DRN.C.4.409B	Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)
20000187-000.DRN.C.4.411	Block 411 - Colorado Blvd. North of I-70
20000187-000.DRN.C.4.413	Block 413 - Colorado Blvd. to WB I-70 On-Ramp
20000187-000.DRN.C.4.414	Block 414 - WB I-70 to Colorado Blvd. Off-Ramp
20000187-000.DRN.C.4.415	Block 415 - EB I-70 to Colorado Blvd. Off-Ramp
20000187-000.DRN.C.4.416	Block 416 - Colorado Blvd. to EB I-70 On-Ramp
20000187-000.DRN.C.4.417	Block 417 - Colorado Blvd. South of I-70
20000187-000.DRN.C.4.419	Block 419 - Stapleton Dr. N.
20000187-000.DRN.C.4.420	Block 420 - Stapleton Dr. S.
20000187-000.DRN.C.4.421	Block 421 - Dahlia St.
20000187-000.DRN.C.4.422	Block 422 - WB I-70 Bridge Over Dahlia
20000187-000.DRN.C.4.423	Block 423 - EB I-70 Bridge Over Dahlia
20000187-000.DRN.C.4.426	Block 426 - Local Road - Colorado to Dahlia
20000187-000.DRN.C.4.427	Block 427 - Garfield St.
20000187-000.DRN.C.5	Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)
20000187-000.DRN.C.5.501A	Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.
20000187-000.DRN.C.5.501B	Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.
20000187-000.DRN.C.5.501C	Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge
20000187-000.DRN.C.5.502A	Block 502A - WB I-70 - STA 2105+00 to Holly St. CL
20000187-000.DRN.C.5.502B	Block 502B - WB I-70 - Holly St. CL to Monaco St. CL
20000187-000.DRN.C.5.502C	Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)

WBS Code	WBS Name
20000187-000.DRN.C.5.502D	Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.DRN.C.5.503A	Block 503A - EB I-70 - STA 2105+00 to Holly St. CL
20000187-000.DRN.C.5.503B	Block 503B - EB I-70 - Holly St. CL to Monaco St. CL
20000187-000.DRN.C.5.503C	Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.DRN.C.5.503D	Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.DRN.C.5.504A	Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.
20000187-000.DRN.C.5.504B	Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.
20000187-000.DRN.C.5.504C	Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn
20000187-000.DRN.C.5.505	Block 505 - Holly St.
20000187-000.DRN.C.5.506	Block 506 - WB I-70 Bridge Over Holly
20000187-000.DRN.C.5.507	Block 507 - EB I-70 Bridge Over Holly
20000187-000.DRN.C.5.510	Block 510 - Monaco St.
20000187-000.DRN.C.5.511	Block 511 - WB I-70 Bridge Over Monaco
20000187-000.DRN.C.5.512	Block 512 - EB I-70 Bridge Over Monaco
20000187-000.DRN.C.5.515	Block 515 - WB I-70 Bridge Over DRIR
20000187-000.DRN.C.5.516	Block 516 - EB I-70 Bridge Over DRIR
20000187-000.DRN.C.5.517	Block 517 - WB I-70 Bridge Over Quebec
20000187-000.DRN.C.5.518	Block 518 - EB I-70 Bridge Over Quebec
20000187-000.DRN.C.5.519	Block 519 - Quebec St.
20000187-000.DRN.C.5.521	Block 521 - Quebec St. to WB I-70 On-Ramp
20000187-000.DRN.C.5.522	Block 522 - WB I-70 to Quebec St. Off-Ramp
20000187-000.DRN.C.5.523	Block 523 - EB I-70 to Quebec St. Off-Ramp
20000187-000.DRN.C.5.524	Block 524 - Quebec St. to EB I-70 On-Ramp
20000187-000.DRN.C.5.528	Block 528 - WB I-70 to Holly Off-Ramp
20000187-000.DRN.C.5.529	Block 529 - EB I-70 to Holly Off-Ramp
20000187-000.DRN.C.5.530	Block 530 - Holly to EB I-70 On-Ramp
20000187-000.DRN.C.5.531	Block 531 - Holly to WB I-70 On-Ramp
20000187-000.DRN.C.5.532	Block 532 - Stapleton N. Bridge Over DRIR
20000187-000.DRN.C.5.533	Block 533 - Stapleton S. Bridge Over DRIR
20000187-000.DRN.E	East Area
20000187-000.DRN.E.6	Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)
20000187-000.DRN.E.6.602A	Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.DRN.E.6.602B	Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.DRN.E.6.602C	Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.DRN.E.6.602D	Block 602D - WB I-70 - STA 2334+00 to 2353+00
20000187-000.DRN.E.6.602E	Block 602E - WB I-70 - STA 2353+00 to 2391+00
20000187-000.DRN.E.6.602F	Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.DRN.E.6.603A	Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.DRN.E.6.603B	Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.DRN.E.6.603C	Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.DRN.E.6.603D	Block 603D - EB I-70 - STA 2334+00 to 2353+00
20000187-000.DRN.E.6.603E	Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)
20000187-000.DRN.E.6.603F	Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.DRN.E.6.605	Block 605 - I-270 Bridge Over I-70
20000187-000.DRN.E.6.606	Block 606 - EB I-270 to Central Park Blvd. Off-Ramp
20000187-000.DRN.E.6.607	Block 607 - EB I-270 to EB I-70 On-Ramp
20000187-000.DRN.E.6.608	Block 608 - WB I-70 to WB I-270 On-Ramp
20000187-000.DRN.E.6.609	Block 609 - WB I-70 to Central Park Blvd. Off-Ramp
20000187-000.DRN.E.6.610	Block 610 - Central Park Blvd. to WB I-70 On-Ramp
20000187-000.DRN.E.6.611	Block 611 - EB I-70 to Central Park Blvd. Off-Ramp
20000187-000.DRN.E.6.612	Block 612 - Central Park Blvd. to EB I-70 On-Ramp
20000187-000.DRN.E.6.613	Block 613 - WB I-70 to Havana St. Off-Ramp
20000187-000.DRN.E.6.614	Block 614 - Havana St. to WB I-70 On-Ramp
20000187-000.DRN.E.6.615	Block 615 - EB I-70 to Havana St. Off-Ramp
20000187-000.DRN.E.6.616	Block 616 - Havana St. to EB I-70 On-Ramp
20000187-000.DRN.E.6.617	Block 617 - Havana St. Under I-70
20000187-000.DRN.E.6.618	Block 618 - WB I-70 Bridge Over Peoria St.
20000187-000.DRN.E.6.619	Block 619 - EB I-70 Bridge Over Peoria St.
20000187-000.DRN.E.6.620	Block 620 - EB I-70 to Peoria St. Off-Ramp
20000187-000.DRN.E.6.621	Block 621 - Peoria St. to EB I-70 On-Ramp
20000187-000.DRN.E.6.622	Block 622 - Peoria St. to WB I-70 On-Ramp
20000187-000.DRN.E.6.623	Block 623 - WB I-70 to Peoria St. Off-Ramp
20000187-000.DRN.E.6.624	Block 624 - Peoria St. Under I-70
20000187-000.DRN.E.6.625	Block 625 - EB I-70 Ramp to SB I-225
20000187-000.DRN.E.7	Sub-Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)
20000187-000.DRN.E.7.702	Block 702 - WB I-70
20000187-000.DRN.E.7.703	Block 703 - EB I-70

WBS Code	WBS Name
20000187-000.UTL	Utilities
20000187-000.UTL.W	West Area
20000187-000.UTL.W.1	Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)
20000187-000.UTL.W.1.102	Block 102 - WB I-70
20000187-000.UTL.W.1.103	Block 103 - EB I-70
20000187-000.UTL.W.2	Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)
20000187-000.UTL.W.2.201	Block 201 - 46th Ave. N.
20000187-000.UTL.W.2.202	Block 202 - WB I-70
20000187-000.UTL.W.2.203	Block 203 - EB I-70
20000187-000.UTL.W.2.204	Block 204 - 46th Ave. S.
20000187-000.UTL.W.2.205	Block 205 - WB I-70 Bridge Over Brighton Blvd.
20000187-000.UTL.W.2.206	Block 206 - EB I-70 Bridge Over Brighton Blvd.
20000187-000.UTL.W.2.207	Block 207 - Brighton Blvd
20000187-000.UTL.W.2.209	Block 209 - Brighton Blvd. to WB I-70 On-Ramp
20000187-000.UTL.W.2.210	Block 210 - WB I-70 to Brighton Blvd. Off-Ramp
20000187-000.UTL.W.2.213	Block 213 - EB I-70 to Brighton Blvd. Off-Ramp
20000187-000.UTL.W.2.214	Block 214 - Brighton Blvd. to EB I-70 On-Ramp
20000187-000.UTL.W.2.217	Block 217 - E. 47th Ave.
20000187-000.UTL.W.2.218	Block 218 - UPRR Bridge Over I-70
20000187-000.UTL.W.2.219	Block 219 - Local Road North of 46th Ave
20000187-000.UTL.W.2.220	Block 220 - On-Site Outfall
20000187-000.UTL.W.2.221	Block 221 - Off-Site Outfall
20000187-000.UTL.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
20000187-000.UTL.W.3.301A	Block 301A - 46th Ave. N. - York St. to Steele/Vasquez
20000187-000.UTL.W.3.301B	Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF
20000187-000.UTL.W.3.302A	Block 302A - WB I-70 - York St. to Steele/Vasquez
20000187-000.UTL.W.3.302B	Block 302B - WB I-70 - Steele/Vasquez to BNSF
20000187-000.UTL.W.3.303	Block 303 - EB I-70
20000187-000.UTL.W.3.304	Block 304 - 46th Ave. S.
20000187-000.UTL.W.3.305	Block 305 - York St. North of I-70
20000187-000.UTL.W.3.306	Block 306 - SB York St. Bridge Over I-70
20000187-000.UTL.W.3.308	Block 308 - York St. South of I-70
20000187-000.UTL.W.3.309	Block 309 - Josephine St. North of I-70
20000187-000.UTL.W.3.310	Block 310 - Josephine St. Bridge Over I-70
20000187-000.UTL.W.3.311	Block 311 - Josephine St. South of I-70
20000187-000.UTL.W.3.312	Block 312 - Columbine St. North of I-70
20000187-000.UTL.W.3.313	Block 313 - Columbine St. Bridge Over I-70
20000187-000.UTL.W.3.315	Block 315 - Columbine St. South of I-70
20000187-000.UTL.W.3.316	Block 316 - Cover over WB I-70
20000187-000.UTL.W.3.317	Block 317 - Cover over EB I-70
20000187-000.UTL.W.3.318	Block 318 - Clayton St. North of I-70
20000187-000.UTL.W.3.319	Block 319 - Clayton St. Bridge Over I-70
20000187-000.UTL.W.3.321	Block 321 - Clayton St. South of I-70
20000187-000.UTL.W.3.322	Block 322 - Fillmore St. North of I-70
20000187-000.UTL.W.3.323	Block 323 - Fillmore St. Bridge Over I-70
20000187-000.UTL.W.3.324	Block 324 - Fillmore St. South of I-70
20000187-000.UTL.W.3.325	Block 325 - Milwaukee St. North of I-70
20000187-000.UTL.W.3.326	Block 326 - Milwaukee St. South of I-70
20000187-000.UTL.W.3.327	Block 327 - Steele/Vasquez Bridge Over I-70
20000187-000.UTL.W.3.329	Block 329 - Vasquez Blvd. North of I-70
20000187-000.UTL.W.3.331	Block 331 - Vasquez Blvd. to WB I-70 On-Ramp
20000187-000.UTL.W.3.333	Block 333 - EB I-70 to Steele St. Off-Ramp
20000187-000.UTL.W.3.335	Block 335 - Steele St. South of I-70
20000187-000.UTL.W.3.337	Block 337 - Cook St. Bridge Over I-70
20000187-000.UTL.W.3.338	Block 338 - Cook St. South of I-70
20000187-000.UTL.W.3.339	Block 339 - Swansea Elementary School
20000187-000.UTL.C	Central Area
20000187-000.UTL.C.4	Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
20000187-000.UTL.C.4.401	Block 401 - 46th Ave. N.
20000187-000.UTL.C.4.402A	Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.UTL.C.4.402B	Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.UTL.C.4.403A	Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.UTL.C.4.403B	Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.UTL.C.4.404	Block 404 - 46th Ave. S.
20000187-000.UTL.C.4.405	Block 405 - BNSF Market Lead Bridge Over I-70
20000187-000.UTL.C.4.406	Block 406 - Monroe St. North of I-70
20000187-000.UTL.C.4.407	Block 407 - Monroe St. Bridge Over I-70

WBS Code	WBS Name
20000187-000.UTL.C.4.408	Block 408 - Monroe St. South of I-70
20000187-000.UTL.C.4.409	Block 409 - Colorado Blvd. Bridge Over I-70
20000187-000.UTL.C.4.409A	Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)
20000187-000.UTL.C.4.409B	Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)
20000187-000.UTL.C.4.411	Block 411 - Colorado Blvd. North of I-70
20000187-000.UTL.C.4.413	Block 413 - Colorado Blvd. to WB I-70 On-Ramp
20000187-000.UTL.C.4.414	Block 414 - WB I-70 to Colorado Blvd. Off-Ramp
20000187-000.UTL.C.4.415	Block 415 - EB I-70 to Colorado Blvd. Off-Ramp
20000187-000.UTL.C.4.416	Block 416 - Colorado Blvd. to EB I-70 On-Ramp
20000187-000.UTL.C.4.417	Block 417 - Colorado Blvd. South of I-70
20000187-000.UTL.C.4.419	Block 419 - Stapleton Dr. N.
20000187-000.UTL.C.4.420	Block 420 - Stapleton Dr. S.
20000187-000.UTL.C.4.421	Block 421 - Dahlia St.
20000187-000.UTL.C.4.422	Block 422 - WB I-70 Bridge Over Dahlia
20000187-000.UTL.C.4.423	Block 423 - EB I-70 Bridge Over Dahlia
20000187-000.UTL.C.4.426	Block 426 - Local Road - Colorado to Dahlia
20000187-000.UTL.C.4.427	Block 427 - Garfield St.
20000187-000.UTL.C.5	Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)
20000187-000.UTL.C.5.501A	Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.
20000187-000.UTL.C.5.501B	Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.
20000187-000.UTL.C.5.501C	Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge
20000187-000.UTL.C.5.502A	Block 502A - WB I-70 - STA 2105+00 to Holly St. CL
20000187-000.UTL.C.5.502B	Block 502B - WB I-70 - Holly St. CL to Monaco St. CL
20000187-000.UTL.C.5.502C	Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.UTL.C.5.502D	Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.UTL.C.5.503A	Block 503A - EB I-70 - STA 2105+00 to Holly St. CL
20000187-000.UTL.C.5.503B	Block 503B - EB I-70 - Holly St. CL to Monaco St. CL
20000187-000.UTL.C.5.503C	Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.UTL.C.5.503D	Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.UTL.C.5.504A	Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.
20000187-000.UTL.C.5.504B	Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.
20000187-000.UTL.C.5.504C	Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn
20000187-000.UTL.C.5.505	Block 505 - Holly St.
20000187-000.UTL.C.5.506	Block 506 - WB I-70 Bridge Over Holly
20000187-000.UTL.C.5.507	Block 507 - EB I-70 Bridge Over Holly
20000187-000.UTL.C.5.510	Block 510 - Monaco St.
20000187-000.UTL.C.5.511	Block 511 - WB I-70 Bridge Over Monaco
20000187-000.UTL.C.5.512	Block 512 - EB I-70 Bridge Over Monaco
20000187-000.UTL.C.5.515	Block 515 - WB I-70 Bridge Over DRIR
20000187-000.UTL.C.5.516	Block 516 - EB I-70 Bridge Over DRIR
20000187-000.UTL.C.5.517	Block 517 - WB I-70 Bridge Over Quebec
20000187-000.UTL.C.5.518	Block 518 - EB I-70 Bridge Over Quebec
20000187-000.UTL.C.5.519	Block 519 - Quebec St.
20000187-000.UTL.C.5.521	Block 521 - Quebec St. to WB I-70 On-Ramp
20000187-000.UTL.C.5.522	Block 522 - WB I-70 to Quebec St. Off-Ramp
20000187-000.UTL.C.5.523	Block 523 - EB I-70 to Quebec St. Off-Ramp
20000187-000.UTL.C.5.524	Block 524 - Quebec St. to EB I-70 On-Ramp
20000187-000.UTL.C.5.528	Block 528 - WB I-70 to Holly Off-Ramp
20000187-000.UTL.C.5.529	Block 529 - EB I-70 to Holly Off-Ramp
20000187-000.UTL.C.5.530	Block 530 - Holly to EB I-70 On-Ramp
20000187-000.UTL.C.5.531	Block 531 - Holly to WB I-70 On-Ramp
20000187-000.UTL.C.5.532	Block 532 - Stapleton N. Bridge Over DRIR
20000187-000.UTL.C.5.533	Block 533 - Stapleton S. Bridge Over DRIR
20000187-000.UTL.E	East Area
20000187-000.UTL.E.6	Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)
20000187-000.UTL.E.6.602A	Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.UTL.E.6.602B	Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.UTL.E.6.602C	Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.UTL.E.6.602D	Block 602D - WB I-70 - STA 2334+00 to 2353+00
20000187-000.UTL.E.6.602E	Block 602E - WB I-70 - STA 2353+00 to 2391+00
20000187-000.UTL.E.6.602F	Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.UTL.E.6.603A	Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.UTL.E.6.603B	Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.UTL.E.6.603C	Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.UTL.E.6.603D	Block 603D - EB I-70 - STA 2334+00 to 2353+00
20000187-000.UTL.E.6.603E	Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)
20000187-000.UTL.E.6.603F	Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.

WBS Code	WBS Name
20000187-000.UTL.E.6.605	Block 605 - I-270 Bridge Over I-70
20000187-000.UTL.E.6.606	Block 606 - EB I-270 to Central Park Blvd. Off-Ramp
20000187-000.UTL.E.6.607	Block 607 - EB I-270 to EB I-70 On-Ramp
20000187-000.UTL.E.6.608	Block 608 - WB I-70 to WB I-270 On-Ramp
20000187-000.UTL.E.6.609	Block 609 - WB I-70 to Central Park Blvd. Off-Ramp
20000187-000.UTL.E.6.610	Block 610 - Central Park Blvd. to WB I-70 On-Ramp
20000187-000.UTL.E.6.611	Block 611 - EB I-70 to Central Park Blvd. Off-Ramp
20000187-000.UTL.E.6.612	Block 612 - Central Park Blvd. to EB I-70 On-Ramp
20000187-000.UTL.E.6.613	Block 613 - WB I-70 to Havana St. Off-Ramp
20000187-000.UTL.E.6.614	Block 614 - Havana St. to WB I-70 On-Ramp
20000187-000.UTL.E.6.615	Block 615 - EB I-70 to Havana St. Off-Ramp
20000187-000.UTL.E.6.616	Block 616 - Havana St. to EB I-70 On-Ramp
20000187-000.UTL.E.6.617	Block 617 - Havana St. Under I-70
20000187-000.UTL.E.6.618	Block 618 - WB I-70 Bridge Over Peoria St.
20000187-000.UTL.E.6.619	Block 619 - EB I-70 Bridge Over Peoria St.
20000187-000.UTL.E.6.620	Block 620 - EB I-70 to Peoria St. Off-Ramp
20000187-000.UTL.E.6.621	Block 621 - Peoria St. to EB I-70 On-Ramp
20000187-000.UTL.E.6.622	Block 622 - Peoria St. to WB I-70 On-Ramp
20000187-000.UTL.E.6.623	Block 623 - WB I-70 to Peoria St. Off-Ramp
20000187-000.UTL.E.6.624	Block 624 - Peoria St. Under I-70
20000187-000.UTL.E.6.625	Block 625 - EB I-70 Ramp to SB I-225
20000187-000.UTL.UX	Utilities Execute Work Order
20000187-000.UTL.UX.1	Wet Utilities - Execute Work Order
20000187-000.UTL.UX.2	Dry Utilities - Execute Work Order
20000187-000.UTL.UX.3	Protect in Place
20000187-000.UTL.UD	Utility Design
20000187-000.UTL.UD.1	Wet Utilities - Design
20000187-000.UTL.UD.2	Dry Utilities - Design
20000187-000.UTL.UD.3	Protect in Place
20000187-000.UTL.UP	Utilities Procurement
20000187-000.UTL.UP.1	Wet Utilities - Procure
20000187-000.UTL.UP.2	Dry Utilities - Procure
20000187-000.UTL.UP.3	Protect in Place
20000187-000.UTL.UC	Utilities Construction
20000187-000.UTL.UC.1	Wet Utilities - Construct
20000187-000.UTL.UC.2	Dry Utilities - Construct
20000187-000.UTL.UC.3	Protect in Place
20000187-000.STR	Structures
20000187-000.STR.W	West Area
20000187-000.STR.W.1	Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)
20000187-000.STR.W.1.102	Block 102 - WB I-70
20000187-000.STR.W.1.103	Block 103 - EB I-70
20000187-000.STR.W.2	Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)
20000187-000.STR.W.2.201	Block 201 - 46th Ave. N.
20000187-000.STR.W.2.202	Block 202 - WB I-70
20000187-000.STR.W.2.203	Block 203 - EB I-70
20000187-000.STR.W.2.204	Block 204 - 46th Ave. S.
20000187-000.STR.W.2.205	Block 205 - WB I-70 Bridge Over Brighton Blvd.
20000187-000.STR.W.2.206	Block 206 - EB I-70 Bridge Over Brighton Blvd.
20000187-000.STR.W.2.207	Block 207 - Brighton Blvd.
20000187-000.STR.W.2.209	Block 209 - Brighton Blvd. to WB I-70 On-Ramp
20000187-000.STR.W.2.210	Block 210 - WB I-70 to Brighton Blvd. Off-Ramp
20000187-000.STR.W.2.213	Block 213 - EB I-70 to Brighton Blvd. Off-Ramp
20000187-000.STR.W.2.214	Block 214 - Brighton Blvd. to EB I-70 On-Ramp
20000187-000.STR.W.2.217	Block 217 - E. 47th Ave.
20000187-000.STR.W.2.218	Block 218 - UPRR Bridge Over I-70
20000187-000.STR.W.2.218.1	UPRR Phase 1
20000187-000.STR.W.2.218.2	UPRR Phase 2
20000187-000.STR.W.2.218.3	UPRR Phase 3
20000187-000.STR.W.2.218.4	UPRR Phase 4
20000187-000.STR.W.2.218.5	UPRR Phase 5
20000187-000.STR.W.2.218.6	UPRR Phase 6 - Service Road Bridge
20000187-000.STR.W.2.219	Block 219 - Local Road North of 46th Ave
20000187-000.STR.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
20000187-000.STR.W.3.301A	Block 301A - 46th Ave. N. - York St. to Steele/Vasquez
20000187-000.STR.W.3.301B	Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF
20000187-000.STR.W.3.302A	Block 302A - WB I-70 - York St. to Steele/Vasquez

WBS Code	WBS Name
20000187-000.STR.W.3.302B	Block 302B - WB I-70 - Steele/Vasquez to BNSF
20000187-000.STR.W.3.303	Block 303 - EB I-70
20000187-000.STR.W.3.304	Block 304 - 46th Ave. S.
20000187-000.STR.W.3.305	Block 305 - York St. North of I-70
20000187-000.STR.W.3.306	Block 306 - York St. Bridge Over I-70
20000187-000.STR.W.3.308	Block 308 - York St. South of I-70
20000187-000.STR.W.3.309	Block 309 - Josephine St. North of I-70
20000187-000.STR.W.3.310	Block 310 - Josephine St. Bridge Over I-70
20000187-000.STR.W.3.311	Block 311 - Josephine St. South of I-70
20000187-000.STR.W.3.312	Block 312 - Columbine St. North of I-70
20000187-000.STR.W.3.313	Block 313 - Columbine St. Bridge Over I-70
20000187-000.STR.W.3.315	Block 315 - Columbine St. South of I-70
20000187-000.STR.W.3.316	Block 316 - Cover over WB I-70
20000187-000.STR.W.3.317	Block 317 - Cover over EB I-70
20000187-000.STR.W.3.318	Block 318 - Clayton St. North of I-70
20000187-000.STR.W.3.319	Block 319 - Clayton St. Bridge Over I-70
20000187-000.STR.W.3.321	Block 321 - Clayton St. South of I-70
20000187-000.STR.W.3.322	Block 322 - Fillmore St. North of I-70
20000187-000.STR.W.3.323	Block 323 - Fillmore St. Bridge Over I-70
20000187-000.STR.W.3.324	Block 324 - Fillmore St. South of I-70
20000187-000.STR.W.3.325	Block 325 - Milwaukee St. North of I-70
20000187-000.STR.W.3.326	Block 326 - Milwaukee St. South of I-70
20000187-000.STR.W.3.327	Block 327 - Steele/Vasquez Bridge Over I-70
20000187-000.STR.W.3.329	Block 329 - Vasquez Blvd. North of I-70
20000187-000.STR.W.3.331	Block 331 - Vasquez Blvd. to WB I-70 On-Ramp
20000187-000.STR.W.3.333	Block 333 - EB I-70 to Steele St. Off-Ramp
20000187-000.STR.W.3.335	Block 335 - Steele St. South of I-70
20000187-000.STR.W.3.337	Block 337 - Cook St. Bridge Over I-70
20000187-000.STR.W.3.338	Block 338 - Cook St. South of I-70
20000187-000.STR.W.3.339	Block 339 - Swansea Elementary School
20000187-000.STR.C	Central Area
20000187-000.STR.C.4	Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
20000187-000.STR.C.4.401	Block 401 - 46th Ave. N.
20000187-000.STR.C.4.402A	Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.STR.C.4.402B	Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.STR.C.4.403A	Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.STR.C.4.403B	Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.STR.C.4.404	Block 404 - 46th Ave. S.
20000187-000.STR.C.4.405	Block 405 - BNSF Market Lead Bridge Over I-70
20000187-000.STR.C.4.406	Block 406 - Monroe St. North of I-70
20000187-000.STR.C.4.407	Block 407 - Monroe St. Bridge Over I-70
20000187-000.STR.C.4.408	Block 408 - Monroe St. South of I-70
20000187-000.STR.C.4.409A	Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)
20000187-000.STR.C.4.409B	Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)
20000187-000.STR.C.4.411	Block 411 - Colorado Blvd. North of I-70
20000187-000.STR.C.4.413	Block 413 - Colorado Blvd. to WB I-70 On-Ramp
20000187-000.STR.C.4.414	Block 414 - WB I-70 to Colorado Blvd. Off-Ramp
20000187-000.STR.C.4.415	Block 415 - EB I-70 to Colorado Blvd. Off-Ramp
20000187-000.STR.C.4.416	Block 416 - Colorado Blvd. to EB I-70 On-Ramp
20000187-000.STR.C.4.417	Block 417 - Colorado Blvd. South of I-70
20000187-000.STR.C.4.419	Block 419 - Stapleton Dr. N.
20000187-000.STR.C.4.420	Block 420 - Stapleton Dr. S.
20000187-000.STR.C.4.421	Block 421 - Dahlia St.
20000187-000.STR.C.4.422	Block 422 - WB I-70 Bridge Over Dahlia
20000187-000.STR.C.4.423	Block 423 - EB I-70 Bridge Over Dahlia
20000187-000.STR.C.4.426	Block 426 - Local Road - Colorado to Dahlia
20000187-000.STR.C.4.427	Block 427 - Garfield St.
20000187-000.STR.C.5	Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)
20000187-000.STR.C.5.501A	Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.
20000187-000.STR.C.5.501B	Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.
20000187-000.STR.C.5.501C	Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge
20000187-000.STR.C.5.502A	Block 502A - WB I-70 - STA 2105+00 to Holly St. CL
20000187-000.STR.C.5.502B	Block 502B - WB I-70 - Holly St. CL to Monaco St. CL
20000187-000.STR.C.5.502C	Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.STR.C.5.502D	Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.STR.C.5.503A	Block 503A - EB I-70 - STA 2105+00 to Holly St. CL
20000187-000.STR.C.5.503B	Block 503B - EB I-70 - Holly St. CL to Monaco St. CL

WBS Code	WBS Name
20000187-000.STR.C.5.503C	Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.STR.C.5.503D	Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.STR.C.5.504A	Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.
20000187-000.STR.C.5.504B	Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.
20000187-000.STR.C.5.504C	Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn
20000187-000.STR.C.5.505	Block 505 - Holly St.
20000187-000.STR.C.5.506	Block 506 - WB I-70 Bridge Over Holly
20000187-000.STR.C.5.507	Block 507 - EB I-70 Bridge Over Holly
20000187-000.STR.C.5.510	Block 510 - Monaco St.
20000187-000.STR.C.5.511	Block 511 - WB I-70 Bridge Over Monaco
20000187-000.STR.C.5.512	Block 512 - EB I-70 Bridge Over Monaco
20000187-000.STR.C.5.515	Block 515 - WB I-70 Bridge Over DRIR
20000187-000.STR.C.5.516	Block 516 - EB I-70 Bridge Over DRIR
20000187-000.STR.C.5.517	Block 517 - WB I-70 Bridge Over Quebec
20000187-000.STR.C.5.518	Block 518 - EB I-70 Bridge Over Quebec
20000187-000.STR.C.5.519	Block 519 - Quebec St.
20000187-000.STR.C.5.521	Block 521 - Quebec St. to WB I-70 On-Ramp
20000187-000.STR.C.5.522	Block 522 - WB I-70 to Quebec St. Off-Ramp
20000187-000.STR.C.5.523	Block 523 - EB I-70 to Quebec St. Off-Ramp
20000187-000.STR.C.5.524	Block 524 - Quebec St. to EB I-70 On-Ramp
20000187-000.STR.C.5.528	Block 528 - WB I-70 to Holly Off-Ramp
20000187-000.STR.C.5.529	Block 529 - EB I-70 to Holly Off-Ramp
20000187-000.STR.C.5.530	Block 530 - Holly to EB I-70 On-Ramp
20000187-000.STR.C.5.531	Block 531 - Holly to WB I-70 On-Ramp
20000187-000.STR.C.5.532	Block 532 - Stapleton N. Bridge Over DRIR
20000187-000.STR.C.5.533	Block 533 - Stapleton S. Bridge Over DRIR
20000187-000.STR.E	East Area
20000187-000.STR.E.6	Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)
20000187-000.STR.E.6.602A	Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.STR.E.6.602B	Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.STR.E.6.602C	Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.STR.E.6.602D	Block 602D - WB I-70 - STA 2334+00 to 2353+00
20000187-000.STR.E.6.602E	Block 602E - WB I-70 - STA 2353+00 to 2391+00
20000187-000.STR.E.6.602F	Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.STR.E.6.603A	Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.STR.E.6.603B	Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.STR.E.6.603C	Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.STR.E.6.603D	Block 603D - EB I-70 - STA 2334+00 to 2353+00
20000187-000.STR.E.6.603E	Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)
20000187-000.STR.E.6.603F	Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.STR.E.6.605	Block 605 - I-270 Bridge Over I-70
20000187-000.STR.E.6.606	Block 606 - EB I-270 to Central Park Blvd. Off-Ramp
20000187-000.STR.E.6.607	Block 607 - EB I-270 to EB I-70 On-Ramp
20000187-000.STR.E.6.608	Block 608 - WB I-70 to WB I-270 On-Ramp
20000187-000.STR.E.6.609	Block 609 - WB I-70 to Central Park Blvd. Off-Ramp
20000187-000.STR.E.6.610	Block 610 - Central Park Blvd. to WB I-70 On-Ramp
20000187-000.STR.E.6.611	Block 611 - EB I-70 to Central Park Blvd. Off-Ramp
20000187-000.STR.E.6.612	Block 612 - Central Park Blvd. to EB I-70 On-Ramp
20000187-000.STR.E.6.613	Block 613 - WB I-70 to Havana St. Off-Ramp
20000187-000.STR.E.6.614	Block 614 - Havana St. to WB I-70 On-Ramp
20000187-000.STR.E.6.615	Block 615 - EB I-70 to Havana St. Off-Ramp
20000187-000.STR.E.6.616	Block 616 - Havana St. to EB I-70 On-Ramp
20000187-000.STR.E.6.617	Block 617 - Havana St. Under I-70
20000187-000.STR.E.6.618	Block 618 - WB I-70 Bridge Over Peoria St.
20000187-000.STR.E.6.619	Block 619 - EB I-70 Bridge Over Peoria St.
20000187-000.STR.E.6.620	Block 620 - EB I-70 to Peoria St. Off-Ramp
20000187-000.STR.E.6.621	Block 621 - Peoria St. to EB I-70 On-Ramp
20000187-000.STR.E.6.622	Block 622 - Peoria St. to WB I-70 On-Ramp
20000187-000.STR.E.6.623	Block 623 - WB I-70 to Peoria St. Off-Ramp
20000187-000.STR.E.6.624	Block 624 - Peoria St. Under I-70
20000187-000.STR.E.6.625	Block 625 - EB I-70 Ramp to SB I-225
20000187-000.STR.E.7	Sub-Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)
20000187-000.STR.E.7.702	Block 702 - WB I-70
20000187-000.STR.E.7.703	Block 703 - EB I-70
20000187-000.RR	Railroads
20000187-000.RR.W	West Area
20000187-000.RR.W.2	Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)

WBS Code	WBS Name
20000187-000.RR.W.2.218	Block 218 - UPRR Bridge Over I-70
20000187-000.RR.W.2.218.1	UPRR Phase 1
20000187-000.RR.W.2.218.2	UPRR Phase 2
20000187-000.RR.W.2.218.3	UPRR Phase 3
20000187-000.RR.W.2.218.4	UPRR Phase 4
20000187-000.RR.W.2.218.5	UPRR Phase 5
20000187-000.RR.W.2.218.6	UPRR Phase 6 - Service Road Bridge
20000187-000.RR.C	Central Area
20000187-000.RR.C.4	Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
20000187-000.RR.C.4.405	Block 405 - BNSF Market Lead Bridge Over I-70
20000187-000.RR.C.5	Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)
20000187-000.RR.C.5.515	Block 515 - WB I-70 Bridge Over DRIR
20000187-000.RR.C.5.516	Block 516 - EB I-70 Bridge Over DRIR
20000187-000.RR.E	East Area
20000187-000.ROW	Right-of-Way
20000187-000.ROW.W	West Area
20000187-000.ROW.W.1	Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)
20000187-000.ROW.W.1.102	Block 102 - WB I-70
20000187-000.ROW.W.1.103	Block 103 - EB I-70
20000187-000.ROW.W.2	Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)
20000187-000.ROW.W.2.201	Block 201 - 46th Ave. N.
20000187-000.ROW.W.2.202	Block 202 - WB I-70
20000187-000.ROW.W.2.203	Block 203 - EB I-70
20000187-000.ROW.W.2.204	Block 204 - 46th Ave. S.
20000187-000.ROW.W.2.205	Block 205 - WB I-70 Bridge Over Brighton Blvd.
20000187-000.ROW.W.2.206	Block 206 - EB I-70 Bridge Over Brighton Blvd.
20000187-000.ROW.W.2.207	Block 207 - Brighton Blvd.
20000187-000.ROW.W.2.209	Block 209 - Brighton Blvd. to WB I-70 On-Ramp
20000187-000.ROW.W.2.210	Block 210 - WB I-70 to Brighton Blvd. Off-Ramp
20000187-000.ROW.W.2.213	Block 213 - EB I-70 to Brighton Blvd. Off-Ramp
20000187-000.ROW.W.2.214	Block 214 - Brighton Blvd. to EB I-70 On-Ramp
20000187-000.ROW.W.2.217	Block 217 - E. 47th Ave.
20000187-000.ROW.W.2.218	Block 218 - UPRR Bridge Over I-70
20000187-000.ROW.W.2.219	Block 219 - Local Road North of 46th Ave
20000187-000.ROW.W.2.220	Block 220 - On-Site Outfall
20000187-000.ROW.W.2.221	Block 221 - Off-Site Outfall
20000187-000.ROW.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
20000187-000.ROW.W.3.301A	Block 301A - 46th Ave. N. - York St. to Steele/Vasquez
20000187-000.ROW.W.3.301B	Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF
20000187-000.ROW.W.3.302A	Block 302A - WB I-70 - York St. to Steele/Vasquez
20000187-000.ROW.W.3.302B	Block 302B - WB I-70 - Steele/Vasquez to BNSF
20000187-000.ROW.W.3.303	Block 303 - EB I-70
20000187-000.ROW.W.3.304	Block 304 - 46th Ave. S.
20000187-000.ROW.W.3.305	Block 305 - York St. North of I-70
20000187-000.ROW.W.3.306	Block 306 - York St. Bridge Over I-70
20000187-000.ROW.W.3.308	Block 308 - York St. South of I-70
20000187-000.ROW.W.3.309	Block 309 - Josephine St. North of I-70
20000187-000.ROW.W.3.310	Block 310 - Josephine St. Bridge Over I-70
20000187-000.ROW.W.3.311	Block 311 - Josephine St. South of I-70
20000187-000.ROW.W.3.312	Block 312 - Columbine St. North of I-70
20000187-000.ROW.W.3.313	Block 313 - Columbine St. Bridge Over I-70
20000187-000.ROW.W.3.315	Block 315 - Columbine St. South of I-70
20000187-000.ROW.W.3.316	Block 316 - Cover over WB I-70
20000187-000.ROW.W.3.317	Block 317 - Cover over EB I-70
20000187-000.ROW.W.3.318	Block 318 - Clayton St. North of I-70
20000187-000.ROW.W.3.319	Block 319 - Clayton St. Bridge Over I-70
20000187-000.ROW.W.3.321	Block 321 - Clayton St. South of I-70
20000187-000.ROW.W.3.322	Block 322 - Fillmore St. North of I-70
20000187-000.ROW.W.3.323	Block 323 - Fillmore St. Bridge Over I-70
20000187-000.ROW.W.3.324	Block 324 - Fillmore St. South of I-70
20000187-000.ROW.W.3.325	Block 325 - Milwaukee St. North of I-70
20000187-000.ROW.W.3.326	Block 326 - Milwaukee St. South of I-70
20000187-000.ROW.W.3.327	Block 327 - Steele/Vasquez Bridge Over I-70
20000187-000.ROW.W.3.329	Block 329 - Vasquez Blvd. North of I-70
20000187-000.ROW.W.3.331	Block 331 - Vasquez Blvd. to WB I-70 On-Ramp
20000187-000.ROW.W.3.333	Block 333 - EB I-70 to Steele St. Off-Ramp
20000187-000.ROW.W.3.335	Block 335 - Steele St. South of I-70

WBS Code	WBS Name
20000187-000.ROW.W.3.337	Block 337 - Cook St. Bridge Over I-70
20000187-000.ROW.W.3.338	Block 338 - Cook St. South of I-70
20000187-000.ROW.W.3.339	Block 339 - Swansea Elementary School
20000187-000.ROW.C	Central Area
20000187-000.ROW.C.4	Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
20000187-000.ROW.C.4.402A	Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.ROW.C.4.401	Block 401 - 46th Ave. N.
20000187-000.ROW.C.4.402B	Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.ROW.C.4.403A	Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.ROW.C.4.403B	Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.ROW.C.4.404	Block 404 - 46th Ave. S.
20000187-000.ROW.C.4.405	Block 405 - BNSF Market Lead Bridge Over I-70
20000187-000.ROW.C.4.406	Block 406 - Monroe St. North of I-70
20000187-000.ROW.C.4.407	Block 407 - Monroe St. Bridge Over I-70
20000187-000.ROW.C.4.408	Block 408 - Monroe St. South of I-70
20000187-000.ROW.C.4.409A	Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)
20000187-000.ROW.C.4.409B	Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)
20000187-000.ROW.C.4.411	Block 411 - Colorado Blvd. North of I-70
20000187-000.ROW.C.4.413	Block 413 - Colorado Blvd. to WB I-70 On-Ramp
20000187-000.ROW.C.4.414	Block 414 - WB I-70 to Colorado Blvd. Off-Ramp
20000187-000.ROW.C.4.415	Block 415 - EB I-70 to Colorado Blvd. Off-Ramp
20000187-000.ROW.C.4.416	Block 416 - Colorado Blvd. to EB I-70 On-Ramp
20000187-000.ROW.C.4.417	Block 417 - Colorado Blvd. South of I-70
20000187-000.ROW.C.4.419	Block 419 - Stapleton Dr. N.
20000187-000.ROW.C.4.420	Block 420 - Stapleton Dr. S.
20000187-000.ROW.C.4.421	Block 421 - Dahlia St.
20000187-000.ROW.C.4.422	Block 422 - WB I-70 Bridge Over Dahlia
20000187-000.ROW.C.4.423	Block 423 - EB I-70 Bridge Over Dahlia
20000187-000.ROW.C.4.426	Block 426 - Local Road - Colorado to Dahlia
20000187-000.ROW.C.4.427	Block 427 - Garfield St.
20000187-000.ROW.C.5	Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)
20000187-000.ROW.C.5.501A	Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.
20000187-000.ROW.C.5.501B	Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.
20000187-000.ROW.C.5.501C	Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge
20000187-000.ROW.C.5.502A	Block 502A - WB I-70 - STA 2105+00 to Holly St. CL
20000187-000.ROW.C.5.502B	Block 502B - WB I-70 - Holly St. CL to Monaco St. CL
20000187-000.ROW.C.5.502C	Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.ROW.C.5.502D	Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.ROW.C.5.503A	Block 503A - EB I-70 - STA 2105+00 to Holly St. CL
20000187-000.ROW.C.5.503B	Block 503B - EB I-70 - Holly St. CL to Monaco St. CL
20000187-000.ROW.C.5.503C	Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.ROW.C.5.503D	Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.ROW.C.5.504A	Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.
20000187-000.ROW.C.5.504B	Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.
20000187-000.ROW.C.5.504C	Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn
20000187-000.ROW.C.5.505	Block 505 - Holly St.
20000187-000.ROW.C.5.506	Block 506 - WB I-70 Bridge Over Holly
20000187-000.ROW.C.5.507	Block 507 - EB I-70 Bridge Over Holly
20000187-000.ROW.C.5.510	Block 510 - Monaco St.
20000187-000.ROW.C.5.511	Block 511 - WB I-70 Bridge Over Monaco
20000187-000.ROW.C.5.512	Block 512 - EB I-70 Bridge Over Monaco
20000187-000.ROW.C.5.515	Block 515 - WB I-70 Bridge Over DRIR
20000187-000.ROW.C.5.516	Block 516 - EB I-70 Bridge Over DRIR
20000187-000.ROW.C.5.517	Block 517 - WB I-70 Bridge Over Quebec
20000187-000.ROW.C.5.518	Block 518 - EB I-70 Bridge Over Quebec
20000187-000.ROW.C.5.519	Block 519 - Quebec St.
20000187-000.ROW.C.5.521	Block 521 - Quebec St. to WB I-70 On-Ramp
20000187-000.ROW.C.5.522	Block 522 - WB I-70 to Quebec St. Off-Ramp
20000187-000.ROW.C.5.523	Block 523 - EB I-70 to Quebec St. Off-Ramp
20000187-000.ROW.C.5.524	Block 524 - Quebec St. to EB I-70 On-Ramp
20000187-000.ROW.C.5.528	Block 528 - WB I-70 to Holly Off-Ramp
20000187-000.ROW.C.5.529	Block 529 - EB I-70 to Holly Off-Ramp
20000187-000.ROW.C.5.530	Block 530 - Holly to EB I-70 On-Ramp
20000187-000.ROW.C.5.531	Block 531 - Holly to WB I-70 On-Ramp
20000187-000.ROW.C.5.532	Block 532 - Stapleton N. Bridge Over DRIR
20000187-000.ROW.C.5.533	Block 533 - Stapleton S. Bridge Over DRIR
20000187-000.ROW.E	East Area

WBS Code	WBS Name
20000187-000.ROW.E.6	Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)
20000187-000.ROW.E.6.602A	Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.ROW.E.6.602B	Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.ROW.E.6.602C	Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.ROW.E.6.602D	Block 602D - WB I-70 - STA 2334+00 to 2353+00
20000187-000.ROW.E.6.602E	Block 602E - WB I-70 - STA 2353+00 to 2391+00
20000187-000.ROW.E.6.602F	Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.ROW.E.6.603A	Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.ROW.E.6.603B	Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.ROW.E.6.603C	Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.ROW.E.6.603D	Block 603D - EB I-70 - STA 2334+00 to 2353+00
20000187-000.ROW.E.6.603E	Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)
20000187-000.ROW.E.6.603F	Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.ROW.E.6.605	Block 605 - I-270 Bridge Over I-70
20000187-000.ROW.E.6.606	Block 606 - EB I-270 to Central Park Blvd. Off-Ramp
20000187-000.ROW.E.6.607	Block 607 - EB I-270 to EB I-70 On-Ramp
20000187-000.ROW.E.6.608	Block 608 - WB I-70 to WB I-270 On-Ramp
20000187-000.ROW.E.6.609	Block 609 - WB I-70 to Central Park Blvd. Off-Ramp
20000187-000.ROW.E.6.610	Block 610 - Central Park Blvd. to WB I-70 On-Ramp
20000187-000.ROW.E.6.611	Block 611 - EB I-70 to Central Park Blvd. Off-Ramp
20000187-000.ROW.E.6.612	Block 612 - Central Park Blvd. to EB I-70 On-Ramp
20000187-000.ROW.E.6.613	Block 613 - WB I-70 to Havana St. Off-Ramp
20000187-000.ROW.E.6.614	Block 614 - Havana St. to WB I-70 On-Ramp
20000187-000.ROW.E.6.615	Block 615 - EB I-70 to Havana St. Off-Ramp
20000187-000.ROW.E.6.616	Block 616 - Havana St. to EB I-70 On-Ramp
20000187-000.ROW.E.6.617	Block 617 - Havana St. Under I-70
20000187-000.ROW.E.6.618	Block 618 - WB I-70 Bridge Over Peoria St.
20000187-000.ROW.E.6.619	Block 619 - EB I-70 Bridge Over Peoria St.
20000187-000.ROW.E.6.620	Block 620 - EB I-70 to Peoria St. Off-Ramp
20000187-000.ROW.E.6.621	Block 621 - Peoria St. to EB I-70 On-Ramp
20000187-000.ROW.E.6.622	Block 622 - Peoria St. to WB I-70 On-Ramp
20000187-000.ROW.E.6.623	Block 623 - WB I-70 to Peoria St. Off-Ramp
20000187-000.ROW.E.6.624	Block 624 - Peoria St. Under I-70
20000187-000.ROW.E.6.625	Block 625 - EB I-70 Ramp to SB I-225
20000187-000.ROW.E.7	Sub-Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)
20000187-000.ROW.E.7.702	Block 702 - WB I-70
20000187-000.ROW.E.7.703	Block 703 - EB I-70
20000187-000.ROW.PRO	Procure Right-of-Way
20000187-000.ROW.PREP	Prepare Right-of-Way
20000187-000.AES	Aesthetics
20000187-000.AES.W	West Area
20000187-000.AES.C	Central Area
20000187-000.AES.E	East Area
20000187-000.FLS	Fire & Life Safety
20000187-000.FLS.W	West Area
20000187-000.FLS.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
20000187-000.FLS.W.3.316	Block 316 - Cover over WB I-70
20000187-000.FLS.W.3.317	Block 317 - Cover over EB I-70
20000187-000.FLS.C	Central Area
20000187-000.FLS.E	East Area
20000187-000.DEK	Deck Cover Park Plans
20000187-000.DEK.W	West Area
20000187-000.DEK.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
20000187-000.DEK.W.3.316	Block 316 - Cover over WB I-70
20000187-000.DEK.W.3.317	Block 317 - Cover over EB I-70
20000187-000.DEK.C	Central Area
20000187-000.DEK.E	East Area
20000187-000.MOT	Maintenance of Traffic
20000187-000.MOT.W	West Area
20000187-000.MOT.W.1	Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)
20000187-000.MOT.W.1.102	Block 102 - WB I-70
20000187-000.MOT.W.1.103	Block 103 - EB I-70
20000187-000.MOT.W.2	Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)
20000187-000.MOT.W.2.201	Block 201 - 46th Ave. N.
20000187-000.MOT.W.2.202	Block 202 - WB I-70
20000187-000.MOT.W.2.203	Block 203 - EB I-70
20000187-000.MOT.W.2.204	Block 204 - 46th Ave. S.

WBS Code	WBS Name
20000187-000.MOT.W.2.205	Block 205 - WB I-70 Bridge Over Brighton Blvd.
20000187-000.MOT.W.2.206	Block 206 - EB I-70 Bridge Over Brighton Blvd.
20000187-000.MOT.W.2.207	Block 207 - Brighton Blvd.
20000187-000.MOT.W.2.209	Block 209 - Brighton Blvd. to WB I-70 On-Ramp
20000187-000.MOT.W.2.210	Block 210 - WB I-70 to Brighton Blvd. Off-Ramp
20000187-000.MOT.W.2.213	Block 213 - EB I-70 to Brighton Blvd. Off-Ramp
20000187-000.MOT.W.2.214	Block 214 - Brighton Blvd. to EB I-70 On-Ramp
20000187-000.MOT.W.2.217	Block 217 - E. 47th Ave.
20000187-000.MOT.W.2.218	Block 218 - UPRR Bridge Over I-70
20000187-000.MOT.W.2.219	Block 219 - Local Road North of 46th Ave
20000187-000.MOT.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
20000187-000.MOT.W.3.301A	Block 301A - 46th Ave. N. - York St. to Steele/Vasquez
20000187-000.MOT.W.3.301B	Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF
20000187-000.MOT.W.3.302A	Block 302A - WB I-70 - York St. to Steele/Vasquez
20000187-000.MOT.W.3.302B	Block 302B - WB I-70 - Steele/Vasquez to BNSF
20000187-000.MOT.W.3.303	Block 303 - EB I-70
20000187-000.MOT.W.3.304	Block 304 - 46th Ave. S.
20000187-000.MOT.W.3.305	Block 305 - York St. North of I-70
20000187-000.MOT.W.3.306	Block 306 - York St. Bridge Over I-70
20000187-000.MOT.W.3.308	Block 308 - York St. South of I-70
20000187-000.MOT.W.3.309	Block 309 - Josephine St. North of I-70
20000187-000.MOT.W.3.310	Block 310 - Josephine St. Bridge Over I-70
20000187-000.MOT.W.3.311	Block 311 - Josephine St. South of I-70
20000187-000.MOT.W.3.312	Block 312 - Columbine St. North of I-70
20000187-000.MOT.W.3.313	Block 313 - Columbine St. Bridge Over I-70
20000187-000.MOT.W.3.315	Block 315 - Columbine St. South of I-70
20000187-000.MOT.W.3.316	Block 316 - Cover over WB I-70
20000187-000.MOT.W.3.317	Block 317 - Cover over EB I-70
20000187-000.MOT.W.3.318	Block 318 - Clayton St. North of I-70
20000187-000.MOT.W.3.319	Block 319 - Clayton St. Bridge Over I-70
20000187-000.MOT.W.3.321	Block 321 - Clayton St. South of I-70
20000187-000.MOT.W.3.322	Block 322 - Fillmore St. North of I-70
20000187-000.MOT.W.3.323	Block 323 - Fillmore St. Bridge Over I-70
20000187-000.MOT.W.3.324	Block 324 - Fillmore St. South of I-70
20000187-000.MOT.W.3.325	Block 325 - Milwaukee St. North of I-70
20000187-000.MOT.W.3.326	Block 326 - Milwaukee St. South of I-70
20000187-000.MOT.W.3.327	Block 327 - Steele/Vasquez Bridge Over I-70
20000187-000.MOT.W.3.329	Block 329 - Vasquez Blvd. North of I-70
20000187-000.MOT.W.3.331	Block 331 - Vasquez Blvd. to WB I-70 On-Ramp
20000187-000.MOT.W.3.333	Block 333 - EB I-70 to Steele St. Off-Ramp
20000187-000.MOT.W.3.335	Block 335 - Steele St. South of I-70
20000187-000.MOT.W.3.337	Block 337 - Cook St. Bridge Over I-70
20000187-000.MOT.W.3.338	Block 338 - Cook St. South of I-70
20000187-000.MOT.W.3.339	Block 339 - Swansea Elementary School
20000187-000.MOT.C	Central Area
20000187-000.MOT.C.4	Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
20000187-000.MOT.C.4.401	Block 401 - 46th Ave. N.
20000187-000.MOT.C.4.402A	Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.MOT.C.4.402B	Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.MOT.C.4.403A	Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.MOT.C.4.403B	Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.MOT.C.4.404	Block 404 - 46th Ave. S.
20000187-000.MOT.C.4.405	Block 405 - BNSF Market Lead Bridge Over I-70
20000187-000.MOT.C.4.406	Block 406 - Monroe St. North of I-70
20000187-000.MOT.C.4.407	Block 407 - Monroe St. Bridge Over I-70
20000187-000.MOT.C.4.408	Block 408 - Monroe St. South of I-70
20000187-000.MOT.C.4.409A	Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)
20000187-000.MOT.C.4.409B	Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)
20000187-000.MOT.C.4.411	Block 411 - Colorado Blvd. North of I-70
20000187-000.MOT.C.4.413	Block 413 - Colorado Blvd. to WB I-70 On-Ramp
20000187-000.MOT.C.4.414	Block 414 - WB I-70 to Colorado Blvd. Off-Ramp
20000187-000.MOT.C.4.415	Block 415 - EB I-70 to Colorado Blvd. Off-Ramp
20000187-000.MOT.C.4.416	Block 416 - Colorado Blvd. to EB I-70 On-Ramp
20000187-000.MOT.C.4.417	Block 417 - Colorado Blvd. South of I-70
20000187-000.MOT.C.4.419	Block 419 - Stapleton Dr. N.
20000187-000.MOT.C.4.420	Block 420 - Stapleton Dr. S.
20000187-000.MOT.C.4.421	Block 421 - Dahlia St.

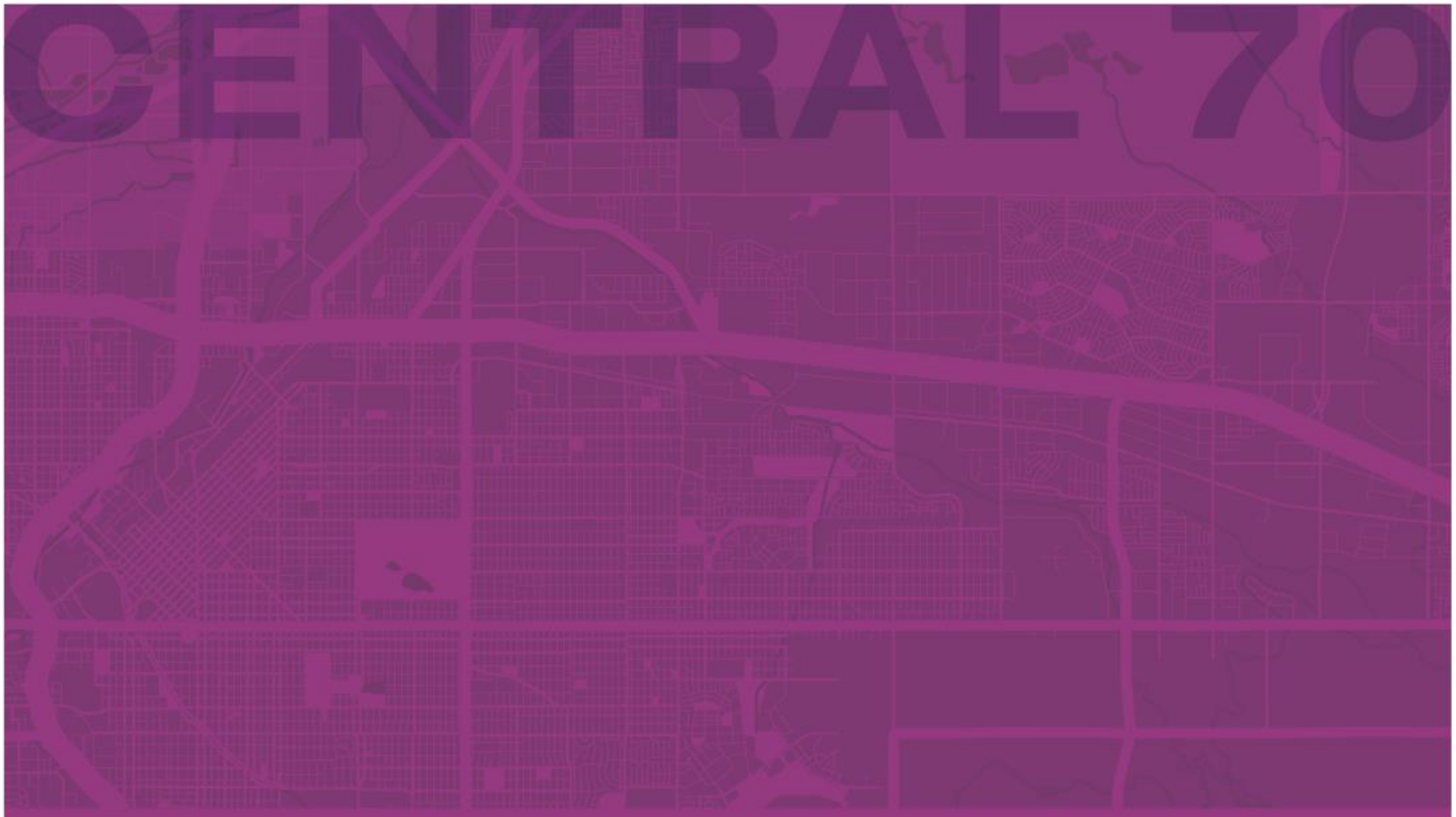
WBS Code	WBS Name
20000187-000.MOT.C.4.422	Block 422 - WB I-70 Bridge Over Dahlia
20000187-000.MOT.C.4.423	Block 423 - EB I-70 Bridge Over Dahlia
20000187-000.MOT.C.4.426	Block 426 - Local Road - Colorado to Dahlia
20000187-000.MOT.C.4.427	Block 427 - Garfield St.
20000187-000.MOT.C.5	Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)
20000187-000.MOT.C.5.501A	Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.
20000187-000.MOT.C.5.501B	Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.
20000187-000.MOT.C.5.501C	Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge
20000187-000.MOT.C.5.502A	Block 502A - WB I-70 - STA 2105+00 to Holly St. CL
20000187-000.MOT.C.5.502B	Block 502B - WB I-70 - Holly St. CL to Monaco St. CL
20000187-000.MOT.C.5.502C	Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.MOT.C.5.502D	Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.MOT.C.5.503A	Block 503A - EB I-70 - STA 2105+00 to Holly St. CL
20000187-000.MOT.C.5.503B	Block 503B - EB I-70 - Holly St. CL to Monaco St. CL
20000187-000.MOT.C.5.503C	Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.MOT.C.5.503D	Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.MOT.C.5.504A	Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.
20000187-000.MOT.C.5.504B	Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.
20000187-000.MOT.C.5.504C	Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn
20000187-000.MOT.C.5.505	Block 505 - Holly St.
20000187-000.MOT.C.5.506	Block 506 - WB I-70 Bridge Over Holly
20000187-000.MOT.C.5.507	Block 507 - EB I-70 Bridge Over Holly
20000187-000.MOT.C.5.510	Block 510 - Monaco St.
20000187-000.MOT.C.5.511	Block 511 - WB I-70 Bridge Over Monaco
20000187-000.MOT.C.5.512	Block 512 - EB I-70 Bridge Over Monaco
20000187-000.MOT.C.5.515	Block 515 - WB I-70 Bridge Over DRIR
20000187-000.MOT.C.5.516	Block 516 - EB I-70 Bridge Over DRIR
20000187-000.MOT.C.5.517	Block 517 - WB I-70 Bridge Over Quebec
20000187-000.MOT.C.5.518	Block 518 - EB I-70 Bridge Over Quebec
20000187-000.MOT.C.5.519	Block 519 - Quebec St.
20000187-000.MOT.C.5.521	Block 521 - Quebec St. to WB I-70 On-Ramp
20000187-000.MOT.C.5.522	Block 522 - WB I-70 to Quebec St. Off-Ramp
20000187-000.MOT.C.5.523	Block 523 - EB I-70 to Quebec St. Off-Ramp
20000187-000.MOT.C.5.524	Block 524 - Quebec St. to EB I-70 On-Ramp
20000187-000.MOT.C.5.528	Block 528 - WB I-70 to Holly Off-Ramp
20000187-000.MOT.C.5.529	Block 529 - EB I-70 to Holly Off-Ramp
20000187-000.MOT.C.5.530	Block 530 - Holly to EB I-70 On-Ramp
20000187-000.MOT.C.5.531	Block 531 - Holly to WB I-70 On-Ramp
20000187-000.MOT.C.5.532	Block 532 - Stapleton N. Bridge Over DRIR
20000187-000.MOT.C.5.533	Block 533 - Stapleton S. Bridge Over DRIR
20000187-000.MOT.E	East Area
20000187-000.MOT.E.6	Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)
20000187-000.MOT.E.6.602A	Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.MOT.E.6.602B	Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.MOT.E.6.602C	Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.MOT.E.6.602D	Block 602D - WB I-70 - STA 2334+00 to 2353+00
20000187-000.MOT.E.6.602E	Block 602E - WB I-70 - STA 2353+00 to 2391+00
20000187-000.MOT.E.6.602F	Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.MOT.E.6.603A	Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.MOT.E.6.603B	Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.MOT.E.6.603C	Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.MOT.E.6.603D	Block 603D - EB I-70 - STA 2334+00 to 2353+00
20000187-000.MOT.E.6.603E	Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)
20000187-000.MOT.E.6.603F	Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.MOT.E.6.605	Block 605 - I-270 Bridge Over I-70
20000187-000.MOT.E.6.606	Block 606 - EB I-270 to Central Park Blvd. Off-Ramp
20000187-000.MOT.E.6.607	Block 607 - EB I-270 to EB I-70 On-Ramp
20000187-000.MOT.E.6.608	Block 608 - WB I-70 to WB I-270 On-Ramp
20000187-000.MOT.E.6.609	Block 609 - WB I-70 to Central Park Blvd. Off-Ramp
20000187-000.MOT.E.6.610	Block 610 - Central Park Blvd. to WB I-70 On-Ramp
20000187-000.MOT.E.6.611	Block 611 - EB I-70 to Central Park Blvd. Off-Ramp
20000187-000.MOT.E.6.612	Block 612 - Central Park Blvd. to EB I-70 On-Ramp
20000187-000.MOT.E.6.613	Block 613 - WB I-70 to Havana St. Off-Ramp
20000187-000.MOT.E.6.614	Block 614 - Havana St. to WB I-70 On-Ramp
20000187-000.MOT.E.6.615	Block 615 - EB I-70 to Havana St. Off-Ramp
20000187-000.MOT.E.6.616	Block 616 - Havana St. to EB I-70 On-Ramp
20000187-000.MOT.E.6.617	Block 617 - Havana St. Under I-70

WBS Code	WBS Name
20000187-000.MOT.E.6.618	Block 618 - WB I-70 Bridge Over Peoria St.
20000187-000.MOT.E.6.619	Block 619 - EB I-70 Bridge Over Peoria St.
20000187-000.MOT.E.6.620	Block 620 - EB I-70 to Peoria St. Off-Ramp
20000187-000.MOT.E.6.621	Block 621 - Peoria St. to EB I-70 On-Ramp
20000187-000.MOT.E.6.622	Block 622 - Peoria St. to WB I-70 On-Ramp
20000187-000.MOT.E.6.623	Block 623 - WB I-70 to Peoria St. Off-Ramp
20000187-000.MOT.E.6.624	Block 624 - Peoria St. Under I-70
20000187-000.MOT.E.6.625	Block 625 - EB I-70 Ramp to SB I-225
20000187-000.MOT.E.7	Sub-Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)
20000187-000.MOT.E.7.702	Block 702 - WB I-70
20000187-000.MOT.E.7.703	Block 703 - EB I-70
20000187-000.MOT.TEMP	Temporary Work
20000187-000.MOT.TEMP.P1	Temporary Work - Phase 1
20000187-000.MOT.TEMP.P1.S1	Temporary Work - Phase 1 - Stage 1
20000187-000.MOT.TEMP.P1.S2	Temporary Work - Phase 1 - Stage 2
20000187-000.MOT.TEMP.P1.S3	Temporary Work - Phase 1 - Stage 3
20000187-000.MOT.TEMP.P2	Temporary Work - Phase 2
20000187-000.MOT.TEMP.P2.S1	Temporary Work - Phase 2 - Stage 1
20000187-000.MOT.TEMP.P2.S2	Temporary Work - Phase 2 - Stage 2
20000187-000.MOT.TEMP.P2.S3	Temporary Work - Phase 2 - Stage 3
20000187-000.MOT.TEMP.P3	Temporary Work - Phase 3
20000187-000.MOT.TEMP.P3.S1	Temporary Work - Phase 3 - Stage 1
20000187-000.MOT.TEMP.P3.S2	Temporary Work - Phase 3 - Stage 2
20000187-000.MOT.TEMP.P3.S3	Temporary Work - Phase 3 - Stage 3
20000187-000.MOT.TEMP.P4	Temporary Work - Phase 4
20000187-000.MOT.TEMP.P4.S1	Temporary Work - Phase 4 - Stage 1
20000187-000.MOT.TEMP.P4.S2	Temporary Work - Phase 4 - Stage 2
20000187-000.MOT.TEMP.P4.S3	Temporary Work - Phase 4 - Stage 3
20000187-000.RD	Roadway
20000187-000.RD.W	West Area
20000187-000.RD.W.1	Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)
20000187-000.RD.W.1.102	Block 102 - WB I-70
20000187-000.RD.W.1.103	Block 103 - EB I-70
20000187-000.RD.W.2	Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)
20000187-000.RD.W.2.201	Block 201 - 46th Ave. N.
20000187-000.RD.W.2.202	Block 202 - WB I-70
20000187-000.RD.W.2.203	Block 203 - EB I-70
20000187-000.RD.W.2.204	Block 204 - 46th Ave. S.
20000187-000.RD.W.2.205	Block 205 - WB I-70 Bridge Over Brighton Blvd.
20000187-000.RD.W.2.206	Block 206 - EB I-70 Bridge Over Brighton Blvd.
20000187-000.RD.W.2.207	Block 207 - Brighton Blvd.
20000187-000.RD.W.2.209	Block 209 - Brighton Blvd. to WB I-70 On-Ramp
20000187-000.RD.W.2.210	Block 210 - WB I-70 to Brighton Blvd. Off-Ramp
20000187-000.RD.W.2.213	Block 213 - EB I-70 to Brighton Blvd. Off-Ramp
20000187-000.RD.W.2.214	Block 214 - Brighton Blvd. to EB I-70 On-Ramp
20000187-000.RD.W.2.217	Block 217 - E. 47th Ave.
20000187-000.RD.W.2.218	Block 218 - UPRR Bridge Over I-70
20000187-000.RD.W.2.219	Block 219 - Local Road North of 46th Ave
20000187-000.RD.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
20000187-000.RD.W.3.301A	Block 301A - 46th Ave. N. - York St. to Steele/Vasquez
20000187-000.RD.W.3.301B	Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF
20000187-000.RD.W.3.302A	Block 302A - WB I-70 - York St. to Steele/Vasquez
20000187-000.RD.W.3.302B	Block 302B - WB I-70 - Steele/Vasquez to BNSF
20000187-000.RD.W.3.303	Block 303 - EB I-70
20000187-000.RD.W.3.304	Block 304 - 46th Ave. S.
20000187-000.RD.W.3.305	Block 305 - York St. North of I-70
20000187-000.RD.W.3.306	Block 306 - SB York St. Bridge Over I-70
20000187-000.RD.W.3.308	Block 308 - York St. South of I-70
20000187-000.RD.W.3.309	Block 309 - Josephine St. North of I-70
20000187-000.RD.W.3.310	Block 310 - Josephine St. Bridge Over I-70
20000187-000.RD.W.3.311	Block 311 - Josephine St. South of I-70
20000187-000.RD.W.3.312	Block 312 - Columbine St. North of I-70
20000187-000.RD.W.3.313	Block 313 - Columbine St. Bridge Over I-70
20000187-000.RD.W.3.315	Block 315 - Columbine St. South of I-70
20000187-000.RD.W.3.316	Block 316 - Cover over WB I-70
20000187-000.RD.W.3.317	Block 317 - Cover over EB I-70
20000187-000.RD.W.3.318	Block 318 - Clayton St. North of I-70

WBS Code	WBS Name
20000187-000.RD.W.3.319	Block 319 - Clayton St. Bridge Over I-70
20000187-000.RD.W.3.321	Block 321 - Clayton St. South of I-70
20000187-000.RD.W.3.322	Block 322 - Fillmore St. North of I-70
20000187-000.RD.W.3.323	Block 323 - Fillmore St. Bridge Over I-70
20000187-000.RD.W.3.324	Block 324 - Fillmore St. South of I-70
20000187-000.RD.W.3.325	Block 325 - Milwaukee St. North of I-70
20000187-000.RD.W.3.326	Block 326 - Milwaukee St. South of I-70
20000187-000.RD.W.3.327	Block 327 - Steele/Vasquez Bridge Over I-70
20000187-000.RD.W.3.329	Block 329 - Vasquez Blvd. North of I-70
20000187-000.RD.W.3.331	Block 331 - Vasquez Blvd. to WB I-70 On-Ramp
20000187-000.RD.W.3.333	Block 333 - EB I-70 to Steele St. Off-Ramp
20000187-000.RD.W.3.335	Block 335 - Steele St. South of I-70
20000187-000.RD.W.3.337	Block 337 - Cook St. Bridge Over I-70
20000187-000.RD.W.3.338	Block 338 - Cook St. South of I-70
20000187-000.RD.W.3.339	Block 339 - Swansea Elementary School
20000187-000.RD.C	Central Area
20000187-000.RD.C.4	Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
20000187-000.RD.C.4.401	Block 401 - 46th Ave. N.
20000187-000.RD.C.4.402A	Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.RD.C.4.402B	Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.RD.C.4.403A	Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL
20000187-000.RD.C.4.403B	Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)
20000187-000.RD.C.4.404	Block 404 - 46th Ave. S.
20000187-000.RD.C.4.405	Block 405 - BNSF Market Lead Bridge Over I-70
20000187-000.RD.C.4.406	Block 406 - Monroe St. North of I-70
20000187-000.RD.C.4.407	Block 407 - Monroe St. Bridge Over I-70
20000187-000.RD.C.4.408	Block 408 - Monroe St. South of I-70
20000187-000.RD.C.4.409A	Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)
20000187-000.RD.C.4.409B	Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)
20000187-000.RD.C.4.411	Block 411 - Colorado Blvd. North of I-70
20000187-000.RD.C.4.413	Block 413 - Colorado Blvd. to WB I-70 On-Ramp
20000187-000.RD.C.4.414	Block 414 - WB I-70 to Colorado Blvd. Off-Ramp
20000187-000.RD.C.4.415	Block 415 - EB I-70 to Colorado Blvd. Off-Ramp
20000187-000.RD.C.4.416	Block 416 - Colorado Blvd. to EB I-70 On-Ramp
20000187-000.RD.C.4.417	Block 417 - Colorado Blvd. South of I-70
20000187-000.RD.C.4.419	Block 419 - Stapleton Dr. N.
20000187-000.RD.C.4.420	Block 420 - Stapleton Dr. S.
20000187-000.RD.C.4.421	Block 421 - Dahlia St.
20000187-000.RD.C.4.422	Block 422 - WB I-70 Bridge Over Dahlia
20000187-000.RD.C.4.423	Block 423 - EB I-70 Bridge Over Dahlia
20000187-000.RD.C.4.426	Block 426 - Local Road - Colorado to Dahlia
20000187-000.RD.C.4.427	Block 427 - Garfield St.
20000187-000.RD.C.5	Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)
20000187-000.RD.C.5.501A	Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.
20000187-000.RD.C.5.501B	Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.
20000187-000.RD.C.5.501C	Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge
20000187-000.RD.C.5.502A	Block 502A - WB I-70 - STA 2105+00 to Holly St. CL
20000187-000.RD.C.5.502B	Block 502B - WB I-70 - Holly St. CL to Monaco St. CL
20000187-000.RD.C.5.502C	Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.RD.C.5.502D	Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.RD.C.5.503A	Block 503A - EB I-70 - STA 2105+00 to Holly St. CL
20000187-000.RD.C.5.503B	Block 503B - EB I-70 - Holly St. CL to Monaco St. CL
20000187-000.RD.C.5.503C	Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
20000187-000.RD.C.5.503D	Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.RD.C.5.504A	Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.
20000187-000.RD.C.5.504B	Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.
20000187-000.RD.C.5.504C	Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn
20000187-000.RD.C.5.505	Block 505 - Holly St.
20000187-000.RD.C.5.506	Block 506 - WB I-70 Bridge Over Holly
20000187-000.RD.C.5.507	Block 507 - EB I-70 Bridge Over Holly
20000187-000.RD.C.5.510	Block 510 - Monaco St.
20000187-000.RD.C.5.511	Block 511 - WB I-70 Bridge Over Monaco
20000187-000.RD.C.5.512	Block 512 - EB I-70 Bridge Over Monaco
20000187-000.RD.C.5.515	Block 515 - WB I-70 Bridge Over DRIR
20000187-000.RD.C.5.516	Block 516 - EB I-70 Bridge Over DRIR
20000187-000.RD.C.5.517	Block 517 - WB I-70 Bridge Over Quebec
20000187-000.RD.C.5.518	Block 518 - EB I-70 Bridge Over Quebec

WBS Code	WBS Name
20000187-000.RD.C.5.519	Block 519 - Quebec St.
20000187-000.RD.C.5.521	Block 521 - Quebec St. to WB I-70 On-Ramp
20000187-000.RD.C.5.522	Block 522 - WB I-70 to Quebec St. Off-Ramp
20000187-000.RD.C.5.523	Block 523 - EB I-70 to Quebec St. Off-Ramp
20000187-000.RD.C.5.524	Block 524 - Quebec St. to EB I-70 On-Ramp
20000187-000.RD.C.5.528	Block 528 - WB I-70 to Holly Off-Ramp
20000187-000.RD.C.5.529	Block 529 - EB I-70 to Holly Off-Ramp
20000187-000.RD.C.5.530	Block 530 - Holly to EB I-70 On-Ramp
20000187-000.RD.C.5.531	Block 531 - Holly to WB I-70 On-Ramp
20000187-000.RD.C.5.532	Block 532 - Stapleton N. Bridge Over DRIR
20000187-000.RD.C.5.533	Block 533 - Stapleton S. Bridge Over DRIR
20000187-000.RD.E	East Area
20000187-000.RD.E.6	Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)
20000187-000.RD.E.6.602A	Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.RD.E.6.602B	Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.RD.E.6.602C	Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.RD.E.6.602D	Block 602D - WB I-70 - STA 2334+00 to 2353+00
20000187-000.RD.E.6.602E	Block 602E - WB I-70 - STA 2353+00 to 2391+00
20000187-000.RD.E.6.602F	Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.RD.E.6.603A	Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.RD.E.6.603B	Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.RD.E.6.603C	Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.RD.E.6.603D	Block 603D - EB I-70 - STA 2334+00 to 2353+00
20000187-000.RD.E.6.603E	Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)
20000187-000.RD.E.6.603F	Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.RD.E.6.605	Block 605 - I-270 Bridge Over I-70
20000187-000.RD.E.6.606	Block 606 - EB I-270 to Central Park Blvd. Off-Ramp
20000187-000.RD.E.6.607	Block 607 - EB I-270 to EB I-70 On-Ramp
20000187-000.RD.E.6.608	Block 608 - WB I-70 to WB I-270 On-Ramp
20000187-000.RD.E.6.609	Block 609 - WB I-70 to Central Park Blvd. Off-Ramp
20000187-000.RD.E.6.610	Block 610 - Central Park Blvd. to WB I-70 On-Ramp
20000187-000.RD.E.6.611	Block 611 - EB I-70 to Central Park Blvd. Off-Ramp
20000187-000.RD.E.6.612	Block 612 - Central Park Blvd. to EB I-70 On-Ramp
20000187-000.RD.E.6.613	Block 613 - WB I-70 to Havana St. Off-Ramp
20000187-000.RD.E.6.614	Block 614 - Havana St. to WB I-70 On-Ramp
20000187-000.RD.E.6.615	Block 615 - EB I-70 to Havana St. Off-Ramp
20000187-000.RD.E.6.616	Block 616 - Havana St. to EB I-70 On-Ramp
20000187-000.RD.E.6.617	Block 617 - Havana St. Under I-70
20000187-000.RD.E.6.618	Block 618 - WB I-70 Bridge Over Peoria St.
20000187-000.RD.E.6.619	Block 619 - EB I-70 Bridge Over Peoria St.
20000187-000.RD.E.6.620	Block 620 - EB I-70 to Peoria St. Off-Ramp
20000187-000.RD.E.6.621	Block 621 - Peoria St. to EB I-70 On-Ramp
20000187-000.RD.E.6.622	Block 622 - Peoria St. to WB I-70 On-Ramp
20000187-000.RD.E.6.623	Block 623 - WB I-70 to Peoria St. Off-Ramp
20000187-000.RD.E.6.624	Block 624 - Peoria St. Under I-70
20000187-000.RD.E.6.625	Block 625 - EB I-70 Ramp to SB I-225
20000187-000.RD.E.7	Sub-Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)
20000187-000.RD.E.7.702	Block 702 - WB I-70
20000187-000.RD.E.7.703	Block 703 - EB I-70
20000187-000.ITS	ITS
20000187-000.ITS.W	West Area
20000187-000.ITS.W.0	Sub-Area 0 - Pecos St. to West of I-25
20000187-000.ITS.W.0.003	Block 003 - EB I-70
20000187-000.ITS.W.1	Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)
20000187-000.ITS.W.1.103	Block 103 - EB I-70
20000187-000.ITS.W.2	Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)
20000187-000.ITS.W.2.204	Block 204 - 46th Ave. S.
20000187-000.ITS.W.2.207	Block 207 - Brighton Blvd.
20000187-000.ITS.W.2.218	Block 218 - UPRR Bridge Over I-70
20000187-000.ITS.W.3	Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
20000187-000.ITS.W.3.304	Block 304 - 46th Ave. S.
20000187-000.ITS.W.3.306	Block 306 - York St. Bridge Over I-70
20000187-000.ITS.C	Central Area
20000187-000.ITS.C.4	Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
20000187-000.ITS.C.4.404	Block 404 - 46th Ave. S.
20000187-000.ITS.C.4.420	Block 420 - Stapleton Dr. S.
20000187-000.ITS.C.5	Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)

WBS Code	WBS Name
20000187-000.ITS.C.5.503D	Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
20000187-000.ITS.C.5.504A	Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.
20000187-000.ITS.C.5.504B	Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.
20000187-000.ITS.C.5.504C	Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn
20000187-000.ITS.E	East Area
20000187-000.ITS.E.6	Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)
20000187-000.ITS.E.6.603A	Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
20000187-000.ITS.E.6.603B	Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)
20000187-000.ITS.E.6.603C	Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
20000187-000.ITS.E.6.603D	Block 603D - EB I-70 - STA 2334+00 to 2353+00
20000187-000.ITS.E.6.603E	Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)
20000187-000.ITS.E.6.603F	Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.
20000187-000.ITS.E.7	Sub-Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)
20000187-000.ITS.E.7.703	Block 703 - EB I-70
20000187-000.ETC	ETC
20000187-000.WAR	Warranty



ATTACHMENT 6

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Resource Plan

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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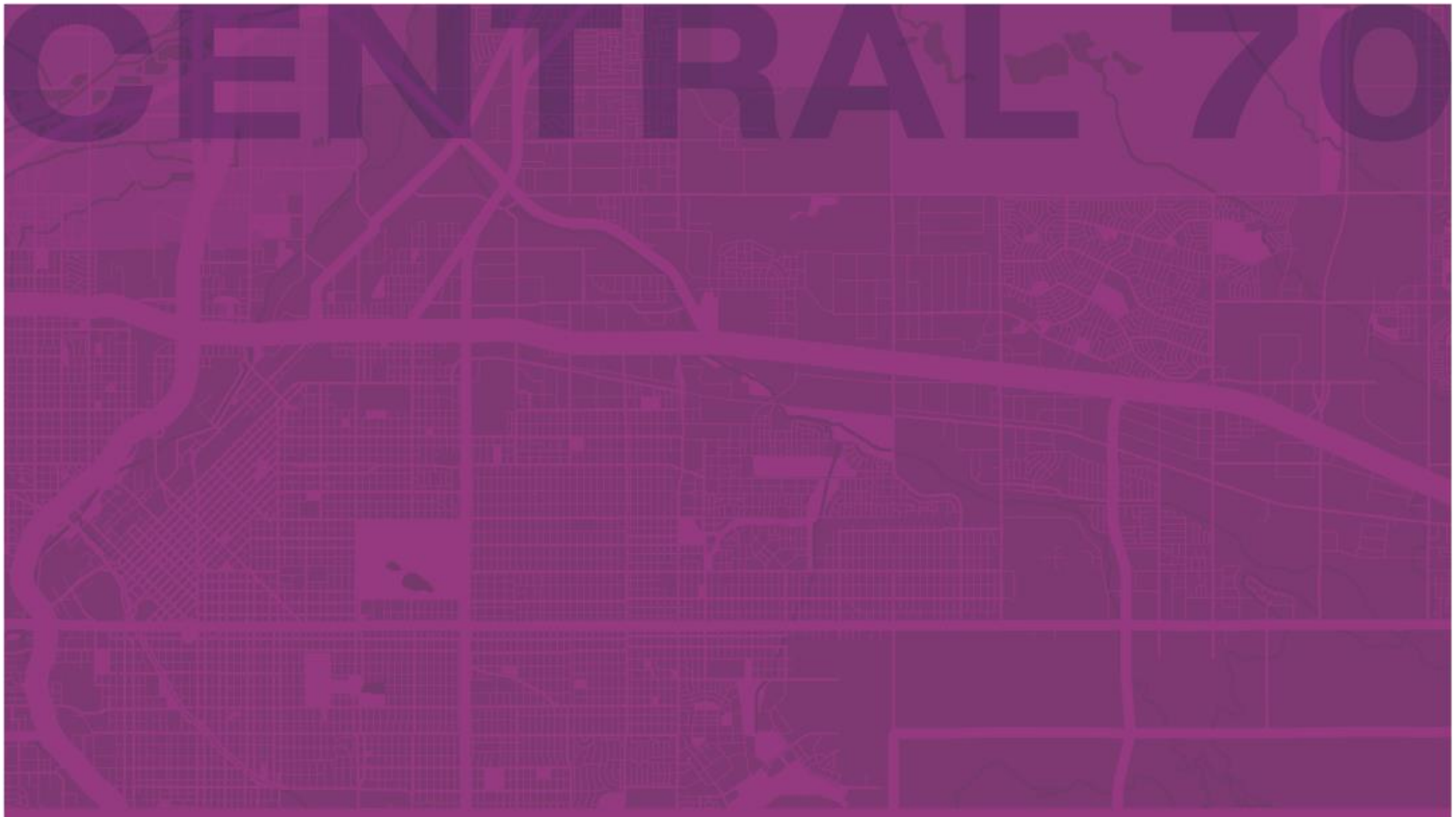
Resource Plan

Resource ID	Resource Name	Resource Type	Unit of Measure	Assigned to Current Project
Central 70	**C70 - MH Resources**	**Labor**	**-**	**No**
C70 - DMH	C70 - Direct Manhours	Labor	-	No
C70 - GRD MH	C70 - Grading Manhours	Labor	-	Yes
C70 - DRN MH	C70 - Drainage Manhours	Labor	-	Yes
C70 - UTL MH	C70 - Wet Utility Manhours	Labor	-	Yes
C70 - FLT MH	C70 - Flatwork Manhours	Labor	-	Yes
C70 - PAV MH	C70 - Paving Manhours	Labor	-	Yes
C70 - PCCP MH	C70 - Concrete Paving Manhours SUB	Labor	-	No
C70 - PILE MH	C70 - Piling Manhours	Labor	-	Yes
C70 - WAL MH	C70 - Wall Manhours	Labor	-	Yes
C70 - STR MH	C70 - Structures Manhours	Labor	-	Yes
C70 - TRK MH	C70 - Track Manhours	Labor	-	Yes
C70 - MSE MH	C70 - MSE Wall MHs	Labor	-	No
C70 - DEMO MH	C70 - Demo Manhours	Labor	-	Yes
C70 - GRDR MH	C70 - Girder Manhours	Labor	-	Yes
C70 - MOT MH	C70 - MOT Manhours	Labor	-	Yes
C70 - ENV MH	C70 - Environmental Manhours	Labor	-	Yes
C70 - BASE MH	C70 - Base Manhours	Labor	-	Yes
C70 - ROW MH	C70 - ROW Manhours	Labor	-	Yes
C70 - FIN MH	C70 - Finishing Manhours	Labor	-	Yes
C70 - STAFF	**C70 - Staff Manhours**	**Nonlabor**	**-**	**Yes**
C70 - ITS	C70 - ITS Crew (SUB)	Nonlabor	-	Yes
C70 - CREWS	C70 - Crew Resources	Nonlabor	-	No
C70 - DRILL	C70 - Drill Rig	Nonlabor	-	Yes
C70 - GRD CRW	C70 - Grading Crew	Nonlabor	-	Yes
C70 - ML EXC	C70 - Mainline Exc	Nonlabor	-	Yes
C70 - DRN CRW	C70 - Drainage Crew	Nonlabor	-	Yes
C70 - UTL CRW	C70 - Wet Utility Crew	Nonlabor	-	Yes
C70 - FLT CRW	C70 - Flatwork Crew	Nonlabor	-	Yes
C70 - HMA CRW	C70 - HMA Paving Crew	Nonlabor	-	Yes
C70 - PCCP CRW	C70 - Concrete Paving Crew SUB	Nonlabor	-	No
C70 - PILE CRW	C70 - Piling Crew SUB	Nonlabor	-	Yes

C70 - ENV CRW	C70 - Environmental Crew	Nonlabor	-	Yes
C70 - WAL CRW	C70 - Wall Crew	Nonlabor	-	Yes
C70 - STR CRW	C70 - Structures Crew	Nonlabor	-	Yes
C70 - TRK CRW	C70 - Track Crew	Nonlabor	-	Yes
C70 - MSE CRW	C70 - MSE Wall Crew	Nonlabor	-	No
C70 - DEMO CRW	C70 - Demo Crew	Nonlabor	-	Yes
C70 - VIA DEMO	C70 - Viaduct Demo	Nonlabor	-	Yes
C70 - BR Demo	C70 - Bridge Demo	Nonlabor	-	Yes
C70 - GRDR CRW	C70 - Girder Crew	Nonlabor	-	Yes
C70 - MOT CRW	C70 - MOT Crew	Nonlabor	-	Yes
C70 - BASE CRW	C70 - Base Crew	Nonlabor	-	Yes
C70 - ROW CRW	C70 - ROW Crew	Nonlabor	-	Yes
C70 - ELIT CRW	C70 - Electrical Lighting Crew SUB	Nonlabor	-	No
C70 - EITS CRW	C70 - Electrical ITS Crew SUB	Nonlabor	-	No
C70 - ESIG CRW	C70 - Electrical Signaling Crew SUB	Nonlabor	-	No
C70 - FIN CRW	C70 - Finishing Crew	Nonlabor	-	Yes
C70 - MATER	**C70 - Material Resources**	**Material**	**-**	**No**
C70 - EXC	CY - Excavation QTY's	Material	Cubic yards	No
C70 - CONC	CY - Concrete QTY's	Material	Cubic yards	No
C70 - HMA	TNS - Asphalt QTY's	Material	Tons	No
C70 - BASE	TNS - Base QTY's	Material	Tons	No
C70 - WALLS	SF - Walls QTY's	Material	SF	No
C70 - MH	EA - Manholes	Material	EA	No
C70 - INLET	EA - Inlets	Material	EA	No
C70 - PIPE	LF - Pipe	Material	Linear Ft	No
C70 - REV	**C70 - Revenue**	**Nonlabor**	**-**	**No**



ATTACHMENT 7

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Activity Codes & Values

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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Area Activity Code

Code Value	Description
P1M	Phase 1 Milestones
P2M	Phase 2 Milestones
P3M	Phase 3 Milestones
P4M	Phase 4 Milestones
P1T	Phase 1 Temp Work
P2T	Phase 2 Temp Work
P3T	Phase 3 Temp Work
P4T	Phase 4 Temp Work
0	Area 0 - Pecos St. to West of I-25
1	Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)
2	Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)
3	Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)
4	Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)
5	Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)
6	Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)
7	Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)
UD	Utilities Design
UC	Utilities Construction
UP	Utilities Procurement
UX	Utilities Execute Work Order
ROWPRO	Right of Way Procurement
ROWPREP	Right of Way Preparation

Milestone Segment Activity Code

Code Value	Description
1	Milestone Segment 1
2	Milestone Segment 2
3	Milestone Segment 3
4	Milestone Segment 4

Block Activity Code

Code Value	Description
3	Block 003 - EB I-70 - Pecos St. to West of I-25
102	Block 102 - WB I-70
103	Block 103 - EB I-70
201	Block 201 - 46th Ave. N.
202	Block 202 - WB I-70
203	Block 203 - EB I-70
204	Block 204 - 46th Ave. S.
205	Block 205 - WB I-70 Bridge over Brighton Blvd.
206	Block 206 - EB I-70 Bridge over Brighton Blvd.
207	Block 207 - Brighton Blvd.
209	Block 209 - Brighton Blvd. to WB I-70 On-Ramp
210	Block 210 - WB I-70 to Brighton Blvd. Off-Ramp
213	Block 213 - EB I-70 to Brighton Blvd. Off-Ramp
214	Block 214 - Brighton Blvd. to EB I-70 On-Ramp
217	Block 217 - E. 47th Ave.
218	Block 218 - UPRR Bridge Over I-70
219	Block 219 - Local Road North of 46th Ave.
220	Block 220 - Drainage Pump Station
301	Block 301 - 46th Ave. N.
301A	Block 301A - 46th Ave. N. - York St. to Steele/Vasquez
301B	Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF
302	Block 302 - WB I-70
302A	Block 302A - WB I-70 - York St. to Steele/Vasquez
302B	Block 302B - WB I-70 - Steele/Vasquez to BNSF
303	Block 303 - EB I-70
304	Block 304 - 46th Ave. S.
305	Block 305 - York St. North of I-70
306	Block 306 - York St. Bridge Over I-70
308	Block 308 - York St. South of I-70
309	Block 309 - Josephine St. North of I-70

Code Value	Description
310	Block 310 - Josephine St. Bridge Over I-70
311	Block 311 - Josephine St. South of I-70
312	Block 312 - Columbine St. North of I-70
313	Block 313 - Columbine St. Bridge Over I-70
315	Block 315 - Columbine St. South of I-70
316	Block 316 - Cover over WB I-70
317	Block 317 - Cover over EB I-70
318	Block 318 - Clayton St. North of I-70
319	Block 319 - Clayton St. Bridge Over I-70
321	Block 321 - Clayton St. South of I-70
322	Block 322 - Fillmore St. North of I-70
323	Block 323 - Fillmore St. Bridge over I-70
324	Block 324 - Fillmore St. South of I-70
325	Block 325 - Milwaukee St. North of I-70
326	Block 326 - Milwaukee St. South of I-70
327	Block 327 - Steele/Vasquez Bridge Over I-70
329	Block 329 - Vasquez Blvd. North of I-70
331	Block 331 - Vasquez Blvd. to WB I-70 On-Ramp
333	Block 333 - EB I-70 to Steele St. Off-Ramp
335	Block 335 - Steele St. South of I-70
337	Block 337 - Cook St. Bridge over I-70
338	Block 338 - Cook St. South of I-70
339	Block 339 - Swansea Elementary School
401	Block 401 - 46th Ave. N./Monroe St. North of I-70/East 46th Ave.
402	Block 402 - WB I-70
402A	Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL
402B	Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St.
403	Block 403 - EB I-70
403A	Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL
403B	Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St.
404	Block 404 - 46th Ave. S.

Code Value	Description
405	Block 405 - BNSF Market Lead Bridge over I-70
407	Block 407 - Monroe St. Bridge over I-70
408	Block 408 - Monroe St. South of I-70
409	Block 409 - Colorado Blvd. Bridge over I-70
409A	Block 409A - Colorado Blvd. Bridge over I-70 - Southbound (West Half)
409B	Block 409B - Colorado Blvd. Bridge over I-70 - Northbound (East Half)
411	Block 411 - Colorado Blvd. North of I-70
413	Block 413 - Colorado Blvd. to WB I-70 On-Ramp
414	Block 414 - WB I-70 to Colorado Blvd. Off-Ramp
415	Block 415 - EB I-70 to Colorado Blvd. Off-Ramp
416	Block 416 - Colorado Blvd. to EB I-70 On-Ramp
417	Block 417 - Colorado Blvd. South of I-70
419	Block 419 - Stapleton Dr. N.
420	Block 420 - Stapleton Dr. S.
421	Block 421 - Dahlia St.
422	Block 422 - WB I-70 Bridge over Dahlia St.
423	Block 423 - EB I-70 Bridge over Dahlia St.
426	Block 426 - Local Road - Colorado to Dahlia
427	Block 427 - Garfield St.
501	Block 501 - Stapleton Dr. N.
501A	Block 501A - Stapleton Dr. N. - STA 2105+00 to Holly St. CL
501B	Block 501B - Stapleton Dr. N. - Holly St. CL to Monaco St. CL
501C	Block 501C - Stapleton Dr. N. - Monaco St. CL to DRIR BRidge
502	Block 502 - WB I-70
502A	Block 502A - WB I-70 - STA 2105+00 to Holly St. CL
502B	Block 502A - WB I-70 - Holly St. CL to Monaco St. CL
502C	Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
502D	Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
503	Block 503 - EB I-70
503A	Block 503A - EB I-70 - STA 2105+00 to Holly St. CL
503B	Block 503A - EB I-70 - Holly St. CL to Monaco St. CL

Code Value	Description
503C	Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)
503D	Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge
504A	Block 504A - Stapleton Dr. S. - STA 2105+00 to Holly St. CL
504B	Block 504B - Stapleton Dr. S. - Holly St. CL to Monaco St. CL
504C	Block 504C - Stapleton Dr. S. - Monaco St. CL to Airlawn
505	Block 505 - Holly St.
506	Block 506 - WB I-70 Bridge over Holly
507	Block 507 - EB I-70 Bridge over Holly
510	Block 510 - Monaco St.
511	Block 511 - WB I-70 Bridge over Monaco
512	Block 512 - EB I-70 Bridge over Monaco
515	Block 515 - WB I-70 Bridge over DRIR
516	Block 516 - EB I-70 Bridge over DRIR
517	Block 517 - WB I-70 Bridge over Quebec
518	Block 518 - EB I-70 Bridge over Quebec
519	Block 519 - Quebec St.
521	Block 521 - Quebec St. to WB I-70 On-Ramp
522	Block 522 - WB I-70 to Quebec St. Off-Ramp
523	Block 523 - EB I-70 to Quebec St. Off-Ramp
524	Block 524 - Quebec St. to EB I-70 On-Ramp
528	Block 528 - WB I-70 to Holly Off-Ramp
529	Block 529 - EB I-70 to Holly Off-Ramp
530	Block 530 - Holly to EB I-70 On-Ramp
531	Block 531 - Holly to WB I-70 On-Ramp
532	Block 532 - Stapleton N. Bridge Over DRIR
533	Block 533 - Stapleton S. Bridge Over DRIR
602	Block 602 - WB I-70
602A	Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
602B	Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl. Ramps)
602C	Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
602D	Block 602D - WB I-70 - STA 2334+00 to 2353+00

Code Value	Description
602E	Block 602E - WB -70 - STA 2353+00 to 2391+00
602F	Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.
603	Block 603 - EB I-70
603A	Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)
603B	Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl. Ramps)
603C	Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)
603D	Block 603D - EB I-70 - STA 2334+00 to 2353+00
603E	Block 603E - EB -70 - STA 2353+00 to 2391+00
603F	Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.
605	Block 605 - I-270 Bridge over I-70
606	Block 606 - EB I-270 to Central Park Blvd. Off-Ramp
607	Block 607 - EB I-270 to to EB I-70 On-Ramp
608	Block 608 - WB I-70 to WB I-270 On-Ramp
609	Block 609 - WB I-70 to Central Park Blvd. Off-Ramp
610	Block 610 - Central Park Blvd. to WB I-70 On-Ramp
611	Block 611 - EB I-70 to Central Park Blvd. Off-Ramp
612	Block 612 - Central Park Blvd. to EB I-70 On-Ramp
613	Block 613 - WB I-70 to Havana St. Off-Ramp
614	Block 614 - Havana St. to WB I-70 On-Ramp
615	Block 615 - EB I-70 to Havana St. Off-Ramp
616	Block 616 - Havana St. to EB I-70 On-Ramp
617	Block 617 - Havana St. Under I-70
618	Block 618 - WB I-70 Bridge over Peoria St.
619	Block 619 - EB I-70 Bridge over Peoria St.
620	Block 620 - EB I-70 to Peoria St. Off-Ramp
621	Block 621 - Peoria St. to EB I-70 On-Ramp
622	Block 622 - Peoria St. to WB I-70 On-Ramp
623	Block 623 - WB I-70 to Peoria St. Off-Ramp
624	Block 624 - Peoria St. Under I-70
625	Block 625 - EB I-70 Ramp to SB I-225
702	Block 702 - WB I-70

Code Value	Description
703	Block 703 - EB I-70
RELO	Relocate
PIP	Protect in Place
NC	No Conflict
ABN	Abandon
PIP	Protect in Place
NC	No Conflict
ABN	Abandon

MOT Phase Activity Code

Code Value	Description
DUC	Dry Utility Construction (By Others)
WUC	Wet Utility Construction
A-P1	Segment A - Phase 1
A-P1.S1	Segment A - Phase 1 - Stage 1
A-P1.S2	Segment A - Phase 1 - Stage 2
A-P1.S3	Segment A - Phase 1 - Stage 3
A-P1.UPRR1	UPRR Phase 1
A-P1.UPRR2	UPRR Phase 2
A-P1.UPRR3	UPRR Phase 3
A-P1.UPRR4	UPRR Phase 4
A-P1.UPRR5	UPRR Phase 5
A-P1.UPRR6	UPRR Phase 6
A-P2	Segment A - Phase 2
A-P2.S1	Segment A - Phase 2 - Stage 1
A-P2.S2	Segment A - Phase 2 - Stage 2
A-P2.S3	Segment A - Phase 2 - Stage 3
A-P3	Segment A - Phase 3
A-P3.S1	Segment A - Phase 3 - Stage 1
A-P3.S2	Segment A - Phase 3 - Stage 2
A-P3.S3	Segment A - Phase 3 - Stage 3

Code Value	Description
A-P4	Segment A - Phase 4
A-P4.S1	Segment A - Phase 4 - Stage 1
A-P4.S2	Segment A - Phase 4 - Stage 2
A-P4.S3	Segment A - Phase 4 - Stage 3
B-P1	Segment B - Phase 1
B-P1.S1	Segment B - Phase 1 - Stage 1
B-P1.S2	Segment B - Phase 1 - Stage 2
B-P1.S3	Segment B - Phase 1 - Stage 3
B-P2	Segment B - Phase 2
B-P2.S1	Segment B - Phase 2 - Stage 1
B-P2.S2	Segment B - Phase 2 - Stage 2
B-P2.S3	Segment B - Phase 2 - Stage 3
B-P3	Segment B - Phase 3
B-P3.S1	Segment B - Phase 3 - Stage 1
B-P3.S2	Segment B - Phase 3 - Stage 2
B-P3.S3	Segment B - Phase 3 - Stage 3
B-P4	Segment B - Phase 4
B-P4.S1	Segment B - Phase 4 - Stage 1
B-P4.S2	Segment B - Phase 4 - Stage 2
B-P4.S3	Segment B - Phase 4 - Stage 3

Utility Owner Activity Code

Code Value	Description
XCEL	Xcel Energy
ATT	AT&T
CNLK	CenturyLink
CCD	City and County of Denver
COA	City of Aurora
COMC	Comcast
DWWMD	Denver Waste Water Management Division
MCI	MCI

DWD	Denver Water
LEVEL 3	Level 3
METRO	Metro
NuStar	NuStar Energy
PH66	Phillips 66
SPNT	Sprint
Zayo	Zayo

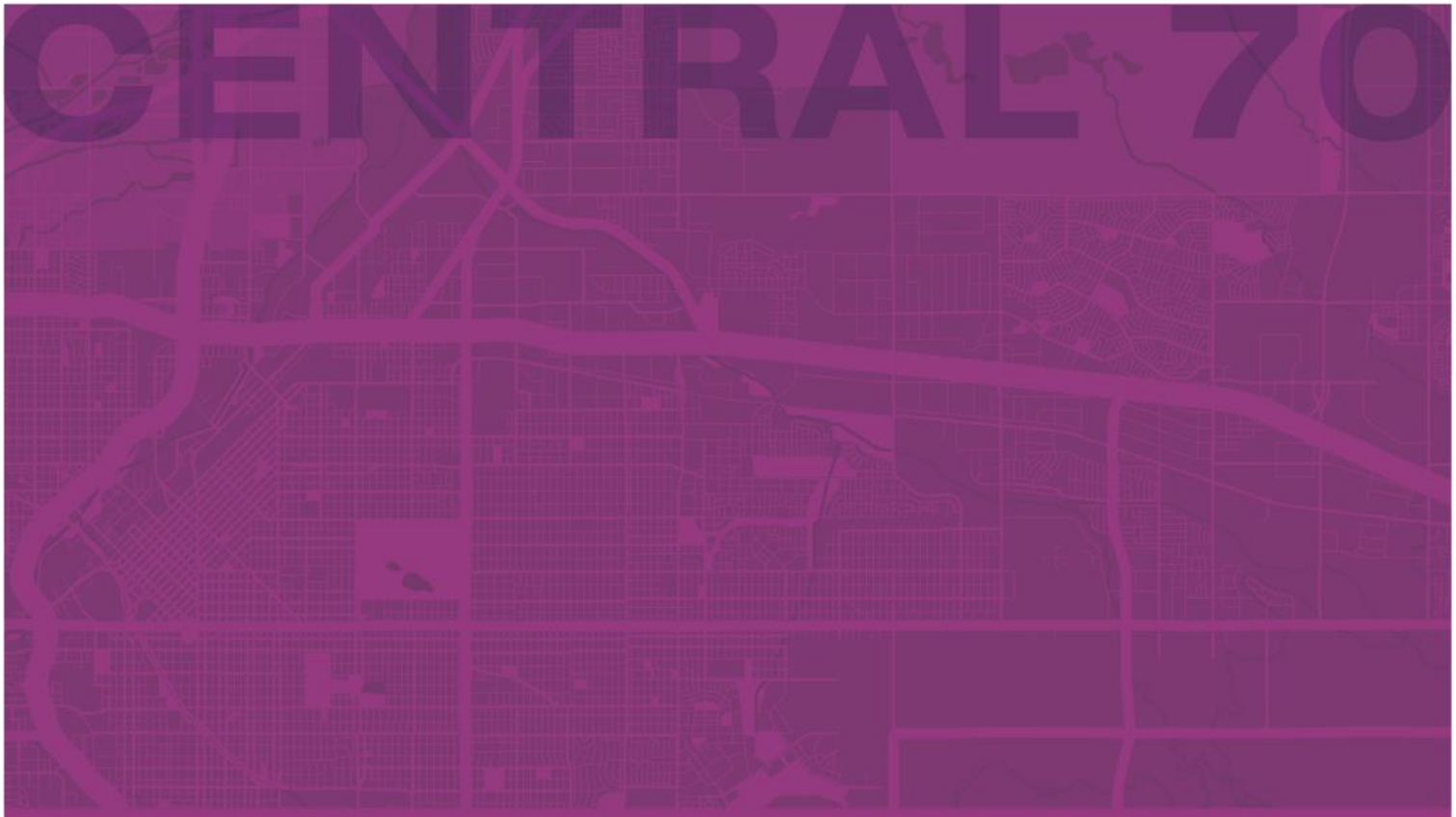
Utility Type Activity Code

Code Value	Description
C	Communication
E	Electric
ET	Electrical Transmission
F	Fiber
G	Gas
GT	Gas Transmission
O	Oil Transmission
S	Sanitary Sewer
SS	Storm Sewer
W	Water
WC	Water Conduit

RFP WBS Activity Code

Code Value	Description
MOB	Mobilization
CWM	Construction Work Management
QMP	Quality Management Plan
CMO	Changes/Construction Modification Orders
DBE	DBE/ESB Plan
WDP	Workforce Development Plan
SC	Strategic Communications
DSN	Design
ENV	Environmental Management

DRT	Earthwork
DRN	Drainage
UTL	Utilities
STR	Structures
RR	Railroads
ROW	Right-of-Way
AES	Aesthetics
FLS	Fire & Life Safety
DEK	Deck Cover Park Plans
MOT	Maintenance of Traffic
RD	Roadway
ITS	ITS
ETC	ETC
WAR	Warranty
RMV	Removals/Demolition



ATTACHMENT 8

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Permit Matrix

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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Permit	Agency	Application Date	Approval Date Expected	Approval Date Actual	Expiration Date	Renewal Needed?
Air Pollutant Emission Notice (APEN)	CDPHE and APCD					
Asbestos Abatement Permit	CDPHE, APCD					
Black Tailed Prairie Dog Removal Permit	CPW and City of Aurora					
BNSF Right of Entry Permit	BNSF					
Building Permits (Cover structures)	CCD					
CDOT Municipal Separate Storm Sewer (MS4) NPDES Permit	CDOT					
Clean Water Act Section 402 Construction Dewatering Permit	CDPHE (WQCD)					
Clean Water Act Section 404 Permit	USACE					
Colorado Discharge Permit System (CDPS) Stormwater Construction Permit (SCP)	CDPHE WQCD					
Conditional Letter of Map Revision (CLOMR)	FEMA					
Construction Activities Stromwater Discharge Permit (CASDP)	CCD - Wastewater Management					
Construction Dewatering Permit	CDPHE WQCD					
Construction Noise Permit	All applicable governmental authorities					
Cover FLS Systems	AHJ, CDOT					
Demolition Permits	CPHE					
Denver Water Relocations	Denver Water					
Dewatering Systems Well Report	Colorado Division of Water Resources					
DRIR Right of Entry Permit	DRIR					
Easements or Occupancy permits (Permit Area or Developer Risk Permit Areas)	Varies					
Encumbrance Permit (Fencing)	CCD					
Environmental Re-Evaluation	FHWA, CDOT					
Fugitive Dust Permit	CDPHE, APCD					
Historic Structures Demolition Permit	City and County of Denver Landmark Preservation Commission					
Individual Permit	CDPHE WQCD					
Letter of Map Revision	FEMA					
Municipal Colorado Discharge Permit System- Stormwater Construction Permit (Safeway Pond)	CCD					
Municipal Separate Storm Sewer System (MS4) Discharge Permit (CDOT MS4 discharge requirements and Permanent Water Quality)	CDPHE WQCD					
Municipal Separate Storm Sewer System (MS4) Discharge Permit (outside CDOT ROW)	All applicable governmental authorities					
Nest Take Permit	USACE					
Notice of Intent to Construct Dewatering Wells	Colorado Division of Water Resources					
Notification as Resource Conservation and Recovery Act (RCRA) Generator (If Required)	CDPHE Hazardous Materials and Waste Management Division					
Permitted Professional Paleontologist	Office of the State Archaeologist					
Pertinent Utility Permits	Utility Owners					
Public Works and Utilities Permits	CCD					
PUC - I-70 restriping over BNSF and RTD near Washington Street (DOT#057-080F)	Public Utlty Commission					
PUC - ITS Conduits over BNSF and RTC near Washington Street	Public Utlty Commission					
PUC - BNSF Market Lead (BNSF Crossing, DOT# 057-038G) I-70 Sta. 2064+60 (includes separate "crossings" for I-70, 46th Avenue North and 46th Avenue South	Public Utlty Commission					
PUC - Brighton Boulevard widening at Pepsi Lead (DOT# 804-379K) Brighton Sta. 503+75, right	Public Utlty Commission					
PUC - UPRR Crossing (DOT# 804-269C & 804-266G) I-70 Sta. 2020+ (includes separate "crossings" for I-70, 46th Avenue North and 46th Avenue South and Off-Site outfall crossing of UPRR)	Public Utlty Commission					
PUC - Sanitary Sewer Crossing at UPRR	Public Utlty Commission					
PUC - York Street Grade Crossing (DOT# 804-422R) York Street Sta. 516+60	Public Utlty Commission					
PUC - I-70 restriping over UPRR Arsenal Lead near Havana Street (DOT# 804-689G)	Public Utlty Commission					
PUC - I-70 over DRIR (DOT# 594-877N) I-70 Sta. 2175+00	Public Utlty Commission					
Remediation Activities Discharging to Groundwater	CDPHE WQCD					
Remediation Activities Discharging to Surface Water Permits	CDPHE WQCD					
Revocable Street Occupancy Permits for Construction	CCD					
Revocable Street Occupancy Permits for Soil Borings	CCD					
Revocable Street Occupancy Permits for SUE	CCD					
Revocable Street Occupancy Permits for Survey	CCD					
RTD Rail Permit (if required)	RTD					
Salt Storage Permit (If Required)	CDPHE					
SB40 Certification/Approval	CPW					

DRAFT

Permit	Agency	Application Date	Approval Date Expected	Approval Date Actual	Expiration Date	Renewal Needed?
Sewer Taps	Denver Wastewater Management Division					
Sewer use and Drainage Permit (SUDP)	CCD					
Special Use Permit	CDOT					
Stationary Source Air Quality Permit	CDPHE, APCD					
Stormwater Quality Discharge Permit for Construction Activities	City of Aurora					
Street closure permit	CCD					
Substitute Water Supply Plan	Colorado Division of Water Resources					
Subterranean Groundwater Permit	CDPHE WQCD					
Temporary Noise Variance	All applicable governmental authorities					
Tree Removal Permit	CCD Forestry					
UPRR Right of Entry Permit	UPRR					
Utility Access Permits	Utility Owner					
Well Abandonment Report (GWS-09)	State of Colorado, Office of State Engineer					
Well Construction and Test Reports	Colorado Division of Water Resources					

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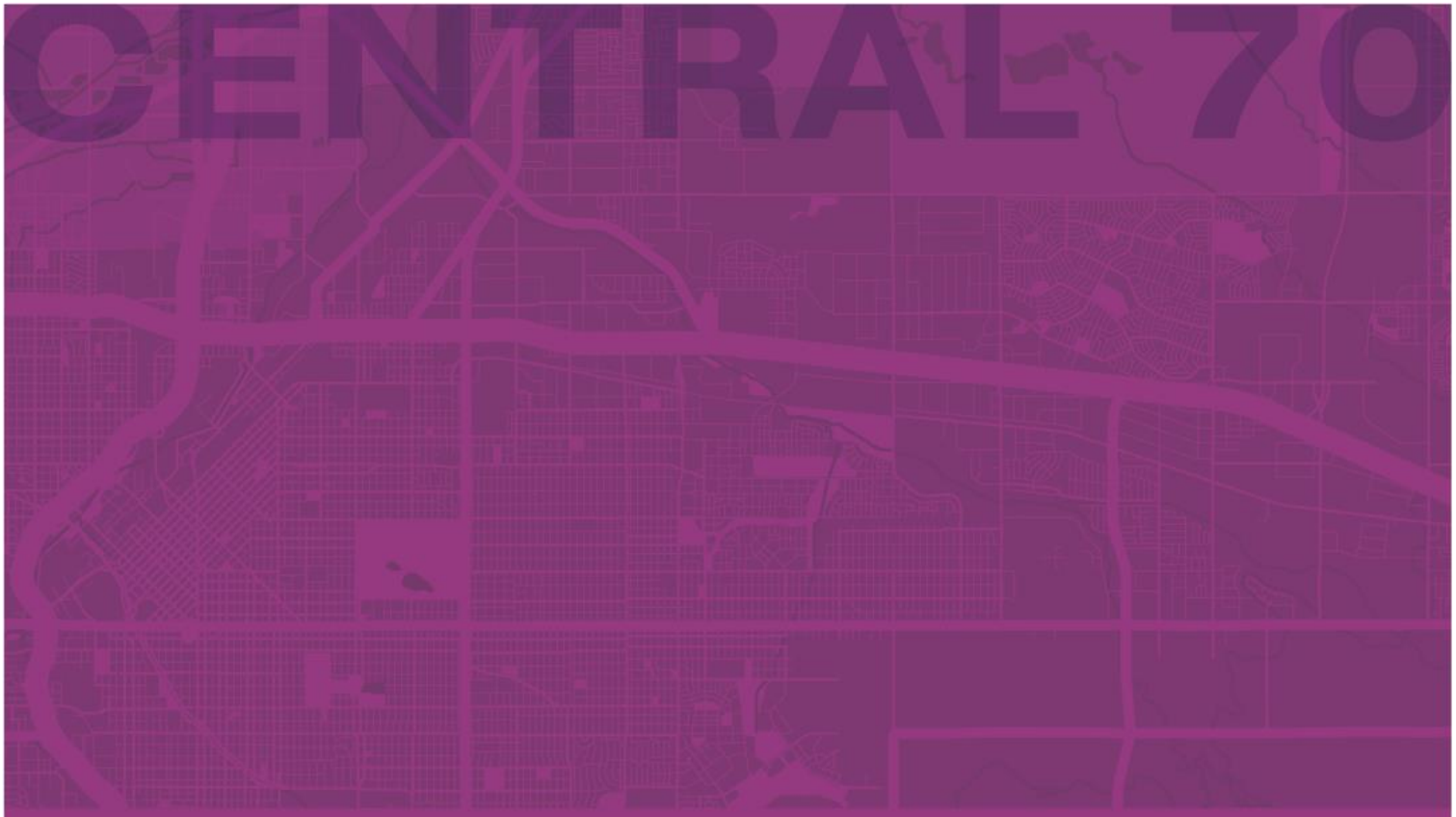

ATTACHMENT 9

Relates to Part 1, Volume 2

Kiewit meridiam PARTNERS

Proposal Schedule

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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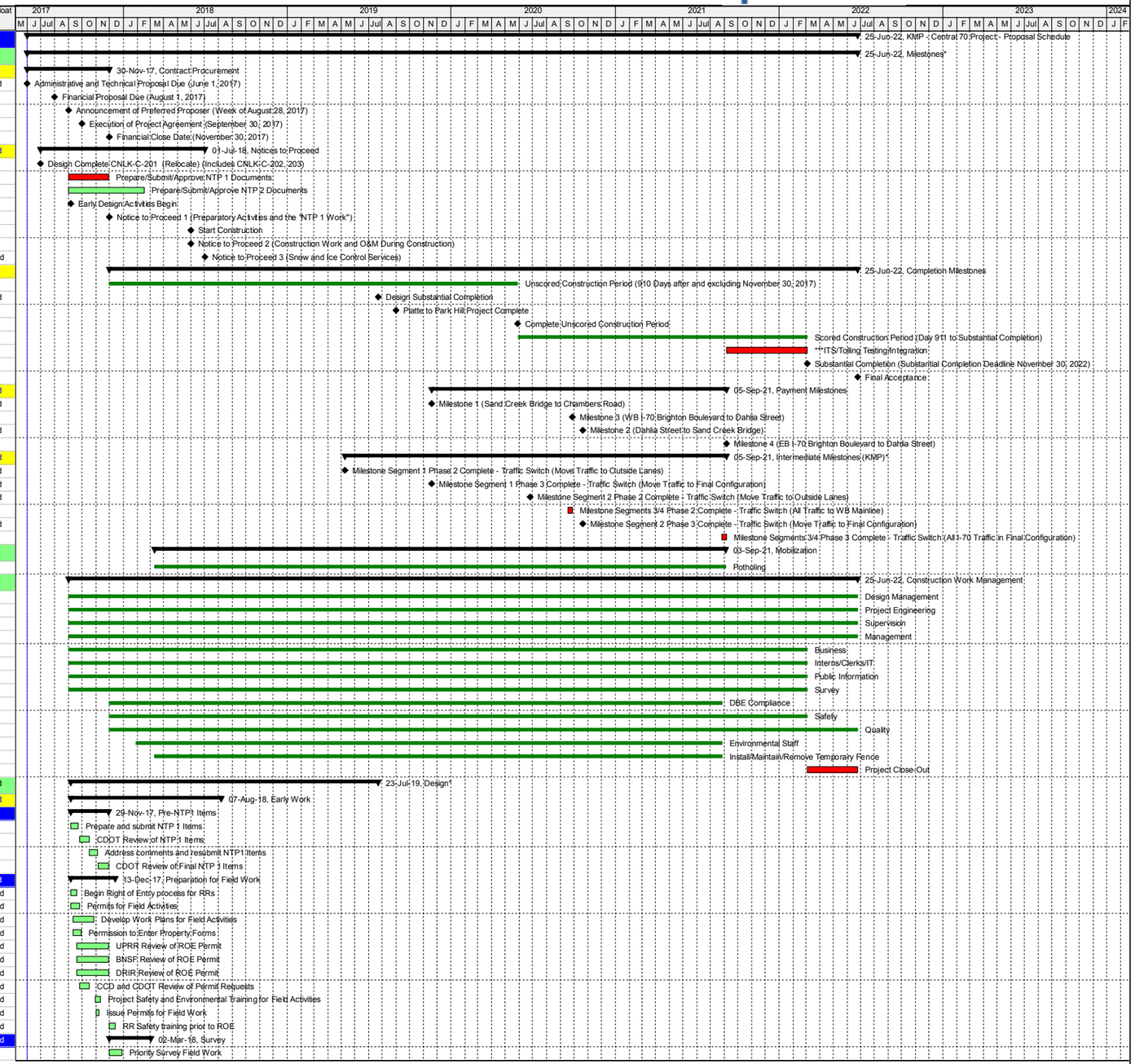
Kiewit-Meridiam Partners

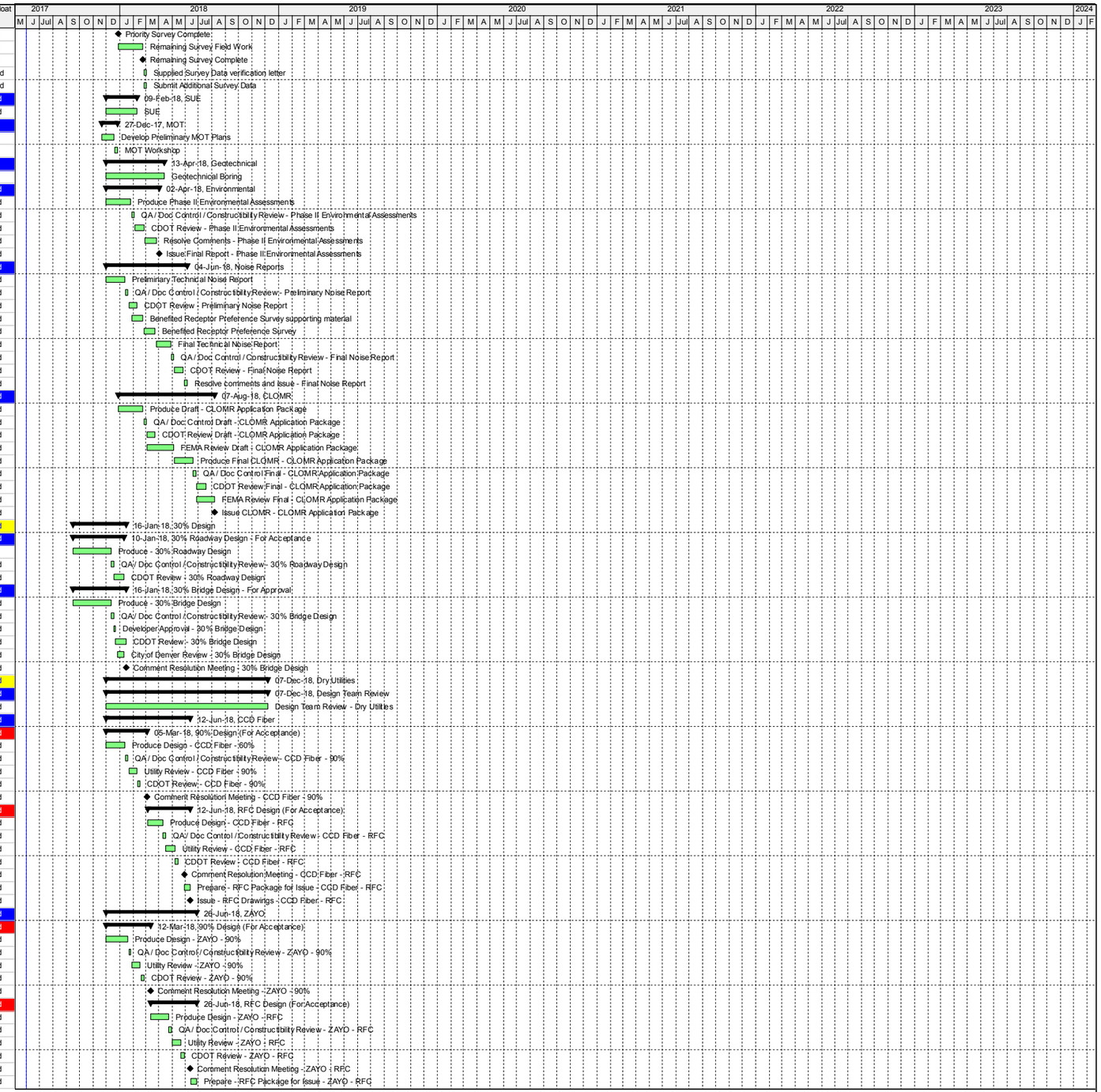
Central 70 Project - Proposal Schedule

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
KMP - Central 70 Project - Proposal Schedule		1188d	01-Jun-17	25-Jun-22	0d
Milestones*		1188d	01-Jun-17	25-Jun-22	0d
Contract Procurement		182d	01-Jun-17	30-Nov-17	20d
AGR.CWM.PRO.005	Administrative and Technical Proposal Due (June 1, 2017)	0d	01-Jun-17*		104d
AGR.CWM.PRO.010	Financial Proposal Due (August 1, 2017)	0d	01-Aug-17*		43d
AGR.CWM.PRO.015	Announcement of Preferred Proposer (Week of August 28, 2017)	0d	01-Sep-17*		12d
AGR.CWM.PRO.020	Execution of Project Agreement (September 30, 2017)	0d	30-Sep-17*		81d
AGR.CWM.PRO.025	Financial Close Date (November 30, 2017)	0d	30-Nov-17*		20d
Notices to Proceed		230d	30-Jun-17	01-Jul-18	864d
UTL.UD.CNLK-C-201	Design Complete CNLK-C-201 (Relocate) (Includes CNLK-C-202, 203)	0d		30-Jun-17*	0d
AGR.CWM.PRO.030	Prepare/Submit/Approve NTP 1 Documents	61d	01-Sep-17	29-Nov-17	14d
AGR.CWM.PRO.035	Prepare/Submit/Approve NTP 2 Documents	116d	01-Sep-17	16-Feb-18	82d
AGR.CWM.ED.005	Early Design Activities Begin	0d	05-Sep-17*		8d
AGR.CWM.NTP.001	Notice to Proceed 1 (Preparatory Activities and the "NTP 1 Work")	0d	30-Nov-17*		20d
AGR.CWM.NTP.SC	Start Construction	0d	01-Jun-18*		13d
AGR.CWM.NTP.002	Notice to Proceed 2 (Construction Work and O&M During Construction)	0d	01-Jun-18*		13d
AGR.CWM.NTP.003	Notice to Proceed 3 (Snow and Ice Control Services)	0d	01-Jul-18*		1343d
Completion Milestones		1069d	01-Dec-17	25-Jun-22	0d
AGR.CWM.MS.030	Unscored Construction Period (910 Days after and excluding November 30, 2017)	910d	01-Dec-17	28-May-20	0d
AGR.CWM.MS.040	Design Substantial Completion	0d		23-Jul-19	617d
AGR.CWM.MS.010	Platte to Park Hill Project Complete	0d		01-Sep-19*	0d
AGR.CWM.MS.035	Complete Unscored Construction Period	0d		28-May-20*	0d
AGR.CWM.MS.015	Scored Construction Period (Day 911 to Substantial Completion)	645d	29-May-20	04-Mar-22	0d
CON.ITS.JW.005	***ITS/Tolling Testing/Integration	180d	06-Sep-21	04-Mar-22	0d
AGR.CWM.MS.020	Substantial Completion (Substantial Completion Deadline November 30, 2022)	0d		04-Mar-22*	0d
AGR.CWM.MS.025	Final Acceptance	0d		25-Jun-22	0d
Payment Milestones		657d	18-Nov-19	05-Sep-21	180d
AGR.CWM.PMT.001	Milestone 1 (Sand Creek Bridge to Chambers Road)	0d		18-Nov-19	837d
AGR.CWM.PMT.003	Milestone 3 (WB I-70 Brighton Boulevard to Dahlia Street)	0d		26-Sep-20	1d
AGR.CWM.PMT.002	Milestone 2 (Dahlia Street to Sand Creek Bridge)	0d		20-Oct-20	500d
AGR.CWM.PMT.004	Milestone 4 (EB I-70 Brighton Boulevard to Dahlia Street)	0d		05-Sep-21	0d
Intermediate Milestones (KMP)*		850d	09-May-19	05-Sep-21	180d
CON.CWM.MS.005	Milestone Segment 1 Phase 2 Complete - Traffic Switch (Move Traffic to Outside Lanes)	0d		09-May-19	746d
CON.CWM.MS.015	Milestone Segment 1 Phase 3 Complete - Traffic Switch (Move Traffic to Final Configuration)	0d		18-Nov-19	837d
CON.CWM.MS.010	Milestone Segment 2 Phase 2 Complete - Traffic Switch (Move Traffic to Outside Lanes)	0d		24-Jun-20	320d
CON.CWM.MS.030	Milestone Segments 3/4 Phase 2 Complete - Traffic Switch (All Traffic to WB Mainline)	10d	17-Sep-20	26-Sep-20	1d
CON.CWM.MS.020	Milestone Segment 2 Phase 3 Complete - Traffic Switch (Move Traffic to Final Configuration)	0d		20-Oct-20	500d
CON.CWM.MS.025	Milestone Segments 3/4 Phase 3 Complete - Traffic Switch (All I-70 Traffic in Final Configuration)	10d	27-Aug-21	05-Sep-21	0d
Mobilization		825d	12-Mar-18	03-Sep-21	0d
CON.POT.JW.005	Potholing	825d	12-Mar-18	03-Sep-21	0d
Construction Work Management		1127d	01-Sep-17	25-Jun-22	0d
CON.CWM.MGT.020	Design Management	1217d	01-Sep-17	24-Jun-22	0d
CON.CWM.MGT.005	Project Engineering	1217d	01-Sep-17	24-Jun-22	0d
CON.CWM.MGT.030	Supervision	1217d	01-Sep-17	24-Jun-22	0d
CON.CWM.MGT.035	Management	1217d	01-Sep-17	24-Jun-22	0d
CON.CWM.MGT.040	Business	1138d	01-Sep-17	04-Mar-22	0d
CON.CWM.MGT.045	Interns/Clerks/IT	1138d	01-Sep-17	04-Mar-22	0d
CON.CWM.MGT.010	Public Information	1138d	01-Sep-17	04-Mar-22	0d
CON.CWM.MGT.015	Survey	1138d	01-Sep-17	04-Mar-22	0d
CON.CWM.MGT.050	DBE Compliance	947d	30-Nov-17	26-Aug-21	0d
CON.CWM.MGT.055	Safety	1077d	30-Nov-17	04-Mar-22	0d
CON.CWM.MGT.065	Quality	1156d	30-Nov-17	24-Jun-22	0d
CON.CWM.MGT.060	Environmental Staff	907d	29-Jan-18	26-Aug-21	0d
CON.MOB.JW.050	Install/Maintain/Remove Temporary Fence	819d	12-Mar-18	26-Aug-21	0d
CON.CWM.MGT.025	Project Close-Out	113d	05-Mar-22	25-Jun-22	0d
Design*		436d	05-Sep-17	23-Jul-19	617d
Early Work		214d	05-Sep-17	07-Aug-18	839d
Pre-NTP1 Items		56d	05-Sep-17	29-Nov-17	13d
DSN.EW.PNTP.005	Prepare and submit NTP 1 Items	14d	05-Sep-17	22-Sep-17	17d
DSN.EW.PNTP.010	CDOT Review of NTP 1 Items	15d	25-Sep-17	16-Oct-17	16d
DSN.EW.PNTP.015	Address comments and resubmit NTP1 Items	14d	17-Oct-17	03-Nov-17	16d
DSN.EW.PNTP.020	CDOT Review of Final NTP 1 Items	15d	06-Nov-17	29-Nov-17	15d
Preparation for Field Work		65d	05-Sep-17	13-Dec-17	988d
DSN.EW.PREP.015	Begin Right of Entry process for RRs	10d	05-Sep-17	18-Sep-17	1067d
DSN.EW.PREP.040	Permits for Field Activities	15d	05-Sep-17	25-Sep-17	1081d
DSN.EW.PREP.005	Develop Work Plans for Field Activities	35d	11-Sep-17	27-Oct-17	1078d
DSN.EW.PREP.055	Permission to Enter Property Forms	15d	11-Sep-17	29-Sep-17	1032d
DSN.EW.PREP.020	UPRR Review of ROE Permit	50d	19-Sep-17	29-Nov-17	1067d
DSN.EW.PREP.025	BNSF Review of ROE Permit	50d	19-Sep-17	29-Nov-17	1067d
DSN.EW.PREP.030	DRIR Review of ROE Permit	50d	19-Sep-17	29-Nov-17	1067d
DSN.EW.PREP.045	CCD and CDOT Review of Permit Requests	15d	26-Sep-17	17-Oct-17	1058d
DSN.EW.PREP.010	Project Safety and Environmental Training for Field Activities	10d	30-Oct-17	10-Nov-17	1078d
DSN.EW.PREP.050	Issue Permits for Field Work	5d	01-Nov-17	07-Nov-17	1081d
DSN.EW.PREP.035	RR Safety training prior to ROE	10d	30-Nov-17	13-Dec-17	1067d
Survey		65d	30-Nov-17	02-Mar-18	1012d
DSN.EW.SUR.005	Priority Survey Field Work	20d	30-Nov-17	28-Dec-17	32d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

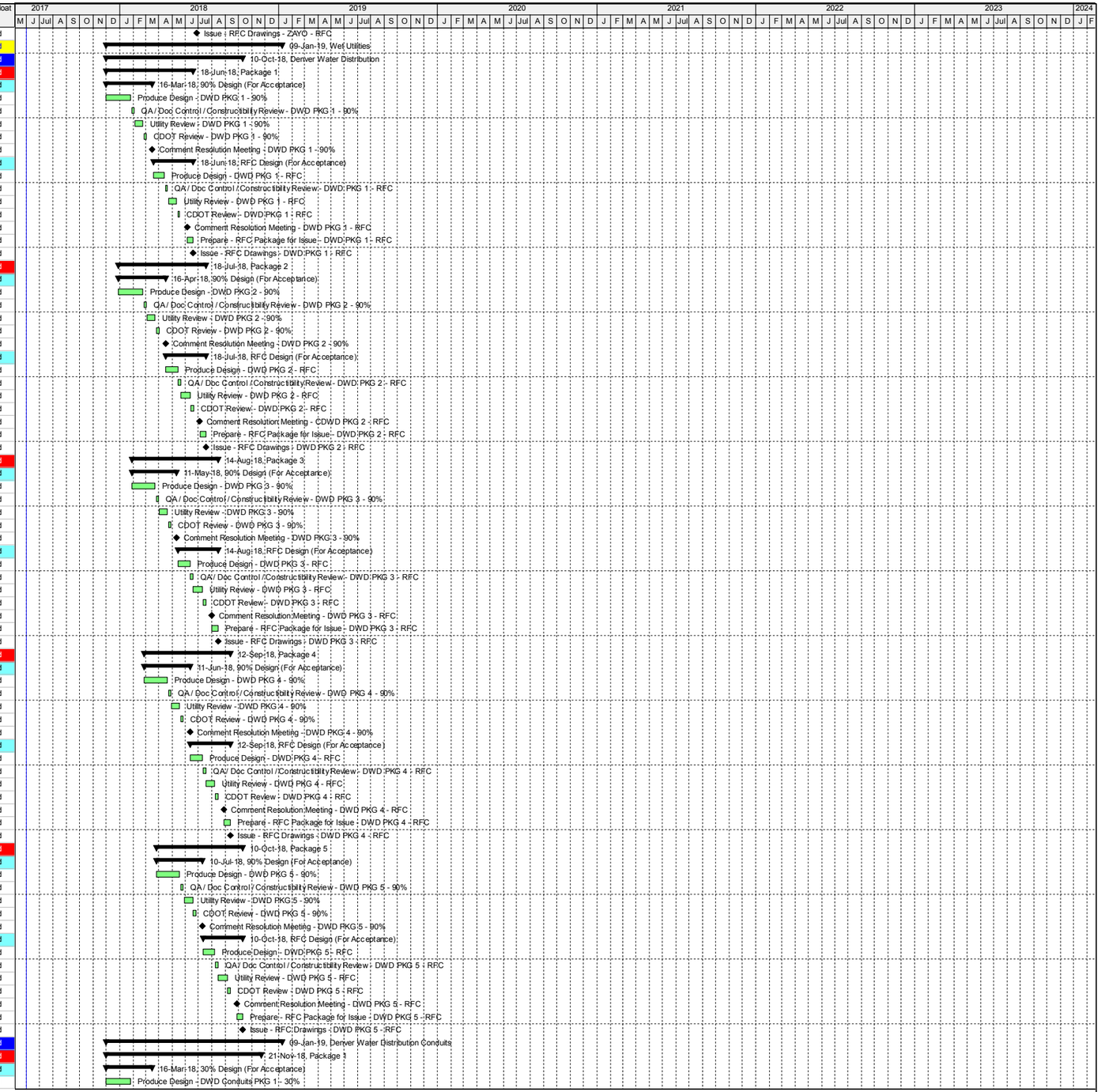
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
DSN.EW.SUR.010	Priority Survey Complete	0d		28-Dec-17	32d
DSN.EW.SUR.025	Remaining Survey Field Work	40d	29-Dec-17	23-Feb-18	98d
DSN.EW.SUR.030	Remaining Survey Complete	0d		23-Feb-18	98d
DSN.EW.SUR.015	Supplied Survey Data verification letter	5d	26-Feb-18	02-Mar-18	1012d
DSN.EW.SUR.020	Submit Additional Survey Data	5d	26-Feb-18	02-Mar-18	1012d
SUE		50d	30-Nov-17	09-Feb-18	115d
DSN.EW.SUE.005	SUE	50d	30-Nov-17	09-Feb-18	115d
MOT		25d	20-Nov-17	27-Dec-17	58d
DSN.EW.MOT.005	Develop Preliminary MOT Plans	20d	20-Nov-17	19-Dec-17	58d
DSN.EW.MOT.010	MOT Workshop	5d	20-Dec-17	27-Dec-17	58d
Geotechnical		95d	30-Nov-17	13-Apr-18	32d
DSN.EW.GEO.005	Geotechnical Boring	95d	30-Nov-17	13-Apr-18	32d
Environmental		74d	30-Nov-17	02-Apr-18	923d
DSN.EW.ENV.005	Produce Phase II Environmental Assessments	40d	30-Nov-17	26-Jan-18	991d
DSN.EW.ENV.010	QA / Doc Control / Constructibility Review - Phase II Environmental Assessments	5d	29-Jan-18	02-Feb-18	991d
DSN.EW.ENV.015	CDOT Review - Phase II Environmental Assessments	15d	05-Feb-18	26-Feb-18	971d
DSN.EW.ENV.020	Resolve Comments - Phase II Environmental Assessments	20d	27-Feb-18	26-Mar-18	991d
DSN.EW.ENV.025	Issue Final Report - Phase II Environmental Assessments	0d		02-Apr-18	991d
Noise Reports		115d	30-Nov-17	04-Jun-18	882d
DSN.EW.NS.005	Preliminary Technical Noise Report	30d	30-Nov-17	12-Jan-18	946d
DSN.EW.NS.010	QA / Doc Control / Constructibility Review - Preliminary Noise Report	5d	15-Jan-18	19-Jan-18	946d
DSN.EW.NS.015	CDOT Review - Preliminary Noise Report	15d	22-Jan-18	09-Feb-18	926d
DSN.EW.NS.020	Benefited Receptor Preference Survey supporting material	20d	29-Jan-18	23-Feb-18	946d
DSN.EW.NS.025	Benefited Receptor Preference Survey	20d	26-Feb-18	23-Mar-18	946d
DSN.EW.NS.030	Final Technical Noise Report	25d	26-Mar-18	27-Apr-18	946d
DSN.EW.NS.035	QA / Doc Control / Constructibility Review - Final Noise Report	5d	30-Apr-18	04-May-18	946d
DSN.EW.NS.040	CDOT Review - Final Noise Report	15d	07-May-18	25-May-18	927d
DSN.EW.NS.045	Resolve comments and issue - Final Noise Report	5d	29-May-18	04-Jun-18	947d
CLOMR		143d	29-Dec-17	07-Aug-18	839d
DSN.EW.CLOMR.005	Produce Draft - CLOMR Application Package	40d	29-Dec-17	23-Feb-18	902d
DSN.EW.CLOMR.010	QA / Doc Control Draft - CLOMR Application Package	5d	26-Feb-18	02-Mar-18	902d
DSN.EW.CLOMR.015	CDOT Review Draft - CLOMR Application Package	15d	05-Mar-18	23-Mar-18	912d
DSN.EW.CLOMR.020	FEMA Review Draft - CLOMR Application Package	45d	05-Mar-18	04-May-18	902d
DSN.EW.CLOMR.025	Produce Final CLOMR - CLOMR Applicaton Package	30d	07-May-18	18-Jun-18	902d
DSN.EW.CLOMR.030	QA / Doc Control Final - CLOMR Application Package	5d	19-Jun-18	25-Jun-18	902d
DSN.EW.CLOMR.035	CDOT Review Final - CLOMR Application Package	15d	26-Jun-18	17-Jul-18	897d
DSN.EW.CLOMR.040	FEMA Review Final - CLOMR Application Package	30d	26-Jun-18	07-Aug-18	902d
DSN.EW.CLOMR.045	Issue CLOMR - CLOMR Application Package	0d		07-Aug-18	902d
30% Design		74d	15-Sep-17	16-Jan-18	210d
30% Roadway Design - For Acceptance		70d	15-Sep-17	10-Jan-18	120d
DSN.30.ACC.005	Produce - 30% Roadway Design	60d	15-Sep-17	11-Dec-17	69d
DSN.30.ACC.010	QA / Doc Control / Constructibility Review - 30% Roadway Design	5d	12-Dec-17	18-Dec-17	130d
DSN.30.ACC.015	CDOT Review - 30% Roadway Design	15d	19-Dec-17	10-Jan-18	127d
30% Bridge Design - For Approval		74d	15-Sep-17	16-Jan-18	210d
DSN.30.100.020	Produce - 30% Bridge Design	60d	15-Sep-17	11-Dec-17	224d
DSN.30.100.025	QA / Doc Control / Constructibility Review - 30% Bridge Design	5d	12-Dec-17	18-Dec-17	224d
DSN.30.100.035	Developer Approval - 30% Bridge Design	3d	19-Dec-17	21-Dec-17	224d
DSN.30.100.030	CDOT Review - 30% Bridge Design	15d	22-Dec-17	16-Jan-18	220d
DSN.30.100.040	City of Denver Review - 30% Bridge Design	10d	27-Dec-17	10-Jan-18	228d
DSN.30.100.045	Comment Resolution Meeting - 30% Bridge Design	0d		16-Jan-18	224d
Dry Utilities		239d	30-Nov-17	07-Dec-18	758d
Design Team Review		260d	30-Nov-17	07-Dec-18	817d
DSN.DRY.DTR.005	Design Team Review - Dry Utilities	260d	30-Nov-17	07-Dec-18	817d
CCD Fiber		120d	30-Nov-17	12-Jun-18	103d
90% Design (For Acceptance)		56d	30-Nov-17	05-Mar-18	100d
DSN.CCD.90.005	Produce Design - CCD Fiber - 60%	30d	30-Nov-17	12-Jan-18	108d
DSN.CCD.90.010	QA / Doc Control / Constructibility Review - CCD Fiber - 90%	5d	15-Jan-18	19-Jan-18	108d
DSN.CCD.90.015	Utility Review - CCD Fiber - 90%	15d	22-Jan-18	09-Feb-18	108d
DSN.CCD.90.020	CDOT Review - CCD Fiber - 90%	5d	12-Feb-18	16-Feb-18	106d
DSN.CCD.90.025	Comment Resolution Meeting - CCD Fiber - 90%	0d		05-Mar-18	107d
RFC Design (For Acceptance)		64d	06-Mar-18	12-Jun-18	103d
DSN.CCD.RFC.005	Produce Design - CCD Fiber - RFC	25d	06-Mar-18	09-Apr-18	107d
DSN.CCD.RFC.010	QA / Doc Control / Constructibility Review - CCD Fiber - RFC	5d	10-Apr-18	16-Apr-18	107d
DSN.CCD.RFC.015	Utility Review - CCD Fiber - RFC	15d	17-Apr-18	07-May-18	107d
DSN.CCD.RFC.020	CDOT Review - CCD Fiber - RFC	5d	08-May-18	14-May-18	106d
DSN.CCD.RFC.025	Comment Resolution Meeting - CCD Fiber - RFC	0d		29-May-18	107d
DSN.CCD.RFC.030	Prepare - RFC Package for Issue - CCD Fiber - RFC	10d	30-May-18	12-Jun-18	107d
DSN.CCD.RFC.035	Issue - RFC Drawings - CCD Fiber - RFC	0d		12-Jun-18	107d
ZAYO		130d	30-Nov-17	26-Jun-18	113d
90% Design (For Acceptance)		61d	30-Nov-17	12-Mar-18	109d
DSN.ZAYO.90.005	Produce Design - ZAYO - 90%	35d	30-Nov-17	19-Jan-18	118d
DSN.ZAYO.90.010	QA / Doc Control / Constructibility Review - ZAYO - 90%	5d	22-Jan-18	26-Jan-18	118d
DSN.ZAYO.90.015	Utility Review - ZAYO - 90%	15d	29-Jan-18	16-Feb-18	118d
DSN.ZAYO.90.020	CDOT Review - ZAYO - 90%	5d	20-Feb-18	26-Feb-18	116d
DSN.ZAYO.90.025	Comment Resolution Meeting - ZAYO - 90%	0d		12-Mar-18	117d
RFC Design (For Acceptance)		69d	13-Mar-18	26-Jun-18	113d
DSN.ZAYO.RFC.005	Produce Design - ZAYO - RFC	30d	13-Mar-18	23-Apr-18	117d
DSN.ZAYO.RFC.010	QA / Doc Control / Constructibility Review - ZAYO - RFC	5d	24-Apr-18	30-Apr-18	117d
DSN.ZAYO.RFC.015	Utility Review - ZAYO - RFC	15d	01-May-18	21-May-18	117d
DSN.ZAYO.RFC.020	CDOT Review - ZAYO - RFC	5d	22-May-18	29-May-18	116d
DSN.ZAYO.RFC.025	Comment Resolution Meeting - ZAYO - RFC	0d		12-Jun-18	118d
DSN.ZAYO.RFC.030	Prepare - RFC Package for Issue - ZAYO - RFC	10d	13-Jun-18	26-Jun-18	118d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
DSN.ZAYO.RFC.035	Issue - RFC Drawings - ZAYO - RFC	0d		26-Jun-18	118d
Wet Utilities		**254d**	**30-Nov-17**	**09-Jan-19**	**733d**
Denver Water Distribution		**202d**	**30-Nov-17**	**10-Oct-18**	**267d**
Package 1		**124d**	**30-Nov-17**	**18-Jun-18**	**117d**
90% Design (For Acceptance)		**65d**	**30-Nov-17**	**16-Mar-18**	**113d**
DSN.DWD.1.90.005	Produce Design - DWD PKG 1 - 90%	40d	30-Nov-17	26-Jan-18	121d
DSN.DWD.1.90.010	QA / Doc Control / Constructibility Review - DWD PKG 1 - 90%	5d	29-Jan-18	02-Feb-18	121d
DSN.DWD.1.90.015	Utility Review - DWD PKG 1 - 90%	15d	05-Feb-18	23-Feb-18	121d
DSN.DWD.1.90.020	CDOT Review - DWD PKG 1 - 90%	5d	26-Feb-18	02-Mar-18	120d
DSN.DWD.1.90.025	Comment Resolution Meeting - DWD PKG 1 - 90%	0d		16-Mar-18	121d
RFC Design (For Acceptance)		**59d**	**19-Mar-18**	**18-Jun-18**	**117d**
DSN.DWD.1.RFC.005	Produce Design - DWD PKG 1 - RFC	20d	19-Mar-18	13-Apr-18	121d
DSN.DWD.1.RFC.010	QA / Doc Control / Constructibility Review - DWD PKG 1 - RFC	5d	16-Apr-18	20-Apr-18	121d
DSN.DWD.1.RFC.015	Utility Review - DWD PKG 1 - RFC	15d	23-Apr-18	11-May-18	121d
DSN.DWD.1.RFC.020	CDOT Review - DWD PKG 1 - RFC	5d	14-May-18	18-May-18	120d
DSN.DWD.1.RFC.025	Comment Resolution Meeting - DWD PKG 1 - RFC	0d		04-Jun-18	122d
DSN.DWD.1.RFC.030	Prepare - RFC Package for Issue - DWD PKG 1 - RFC	10d	05-Jun-18	18-Jun-18	122d
DSN.DWD.1.RFC.035	Issue - RFC Drawings - DWD PKG 1 - RFC	0d		18-Jun-18	122d
Package 2		**130d**	**29-Dec-17**	**18-Jul-18**	**288d**
90% Design (For Acceptance)		**68d**	**29-Dec-17**	**16-Apr-18**	**138d**
DSN.DWD.2.90.040	Produce Design - DWD PKG 2 - 90%	40d	29-Dec-17	23-Feb-18	136d
DSN.DWD.2.90.045	QA / Doc Control / Constructibility Review - DWD PKG 2 - 90%	5d	26-Feb-18	02-Mar-18	145d
DSN.DWD.2.90.050	Utility Review - DWD PKG 2 - 90%	15d	05-Mar-18	23-Mar-18	145d
DSN.DWD.2.90.055	CDOT Review - DWD PKG 2 - 90%	5d	26-Mar-18	02-Apr-18	144d
DSN.DWD.2.90.060	Comment Resolution Meeting - DWD PKG 2 - 90%	0d		16-Apr-18	145d
RFC Design (For Acceptance)		**62d**	**17-Apr-18**	**18-Jul-18**	**288d**
DSN.DWD.2.RFC.005	Produce Design - DWD PKG 2 - RFC	20d	17-Apr-18	14-May-18	145d
DSN.DWD.2.RFC.010	QA / Doc Control / Constructibility Review - DWD PKG 2 - RFC	5d	15-May-18	21-May-18	145d
DSN.DWD.2.RFC.015	Utility Review - DWD PKG 2 - RFC	15d	22-May-18	12-Jun-18	145d
DSN.DWD.2.RFC.020	CDOT Review - DWD PKG 2 - RFC	5d	13-Jun-18	19-Jun-18	303d
DSN.DWD.2.RFC.025	Comment Resolution Meeting - CDWD PKG 2 - RFC	0d		03-Jul-18	310d
DSN.DWD.2.RFC.030	Prepare - RFC Package for Issue - DWD PKG 2 - RFC	10d	05-Jul-18	18-Jul-18	310d
DSN.DWD.2.RFC.035	Issue - RFC Drawings - DWD PKG 2 - RFC	0d		18-Jul-18	310d
Package 3		**130d**	**29-Jan-18**	**14-Aug-18**	**290d**
90% Design (For Acceptance)		**69d**	**29-Jan-18**	**11-May-18**	**135d**
DSN.DWD.3.90.005	Produce Design - DWD PKG 3 - 90%	40d	29-Jan-18	23-Mar-18	136d
DSN.DWD.3.90.010	QA / Doc Control / Constructibility Review - DWD PKG 3 - 90%	5d	26-Mar-18	30-Mar-18	140d
DSN.DWD.3.90.015	Utility Review - DWD PKG 3 - 90%	15d	02-Apr-18	20-Apr-18	140d
DSN.DWD.3.90.020	CDOT Review - DWD PKG 3 - 90%	5d	23-Apr-18	27-Apr-18	139d
DSN.DWD.3.90.025	Comment Resolution Meeting - DWD PKG 3 - 90%	0d		11-May-18	141d
RFC Design (For Acceptance)		**61d**	**14-May-18**	**14-Aug-18**	**290d**
DSN.DWD.3.RFC.005	Produce Design - DWD PKG 3 - RFC	20d	14-May-18	11-Jun-18	141d
DSN.DWD.3.RFC.010	QA / Doc Control / Constructibility Review - DWD PKG 3 - RFC	5d	12-Jun-18	18-Jun-18	141d
DSN.DWD.3.RFC.015	Utility Review - DWD PKG 3 - RFC	15d	19-Jun-18	10-Jul-18	141d
DSN.DWD.3.RFC.020	CDOT Review - DWD PKG 3 - RFC	5d	11-Jul-18	17-Jul-18	303d
DSN.DWD.3.RFC.025	Comment Resolution Meeting - DWD PKG 3 - RFC	0d		31-Jul-18	311d
DSN.DWD.3.RFC.030	Prepare - RFC Package for Issue - DWD PKG 3 - RFC	10d	01-Aug-18	14-Aug-18	311d
DSN.DWD.3.RFC.035	Issue - RFC Drawings - DWD PKG 3 - RFC	0d		14-Aug-18	311d
Package 4		**132d**	**26-Feb-18**	**12-Sep-18**	**123d**
90% Design (For Acceptance)		**69d**	**26-Feb-18**	**11-Jun-18**	**129d**
DSN.DWD.4.90.005	Produce Design - DWD PKG 4 - 90%	40d	26-Feb-18	20-Apr-18	136d
DSN.DWD.4.90.010	QA / Doc Control / Constructibility Review - DWD PKG 4 - 90%	5d	23-Apr-18	27-Apr-18	136d
DSN.DWD.4.90.015	Utility Review - DWD PKG 4 - 90%	15d	30-Apr-18	18-May-18	136d
DSN.DWD.4.90.020	CDOT Review - DWD PKG 4 - 90%	5d	21-May-18	25-May-18	134d
DSN.DWD.4.90.025	Comment Resolution Meeting - DWD PKG 4 - 90%	0d		11-Jun-18	136d
RFC Design (For Acceptance)		**63d**	**12-Jun-18**	**12-Sep-18**	**123d**
DSN.DWD.4.RFC.040	Produce Design - DWD PKG 4 - RFC	20d	12-Jun-18	10-Jul-18	136d
DSN.DWD.4.RFC.045	QA / Doc Control / Constructibility Review - DWD PKG 4 - RFC	5d	11-Jul-18	17-Jul-18	136d
DSN.DWD.4.RFC.050	Utility Review - DWD PKG 4 - RFC	15d	18-Jul-18	07-Aug-18	136d
DSN.DWD.4.RFC.055	CDOT Review - DWD PKG 4 - RFC	5d	08-Aug-18	14-Aug-18	130d
DSN.DWD.4.RFC.060	Comment Resolution Meeting - DWD PKG 4 - RFC	0d		28-Aug-18	136d
DSN.DWD.4.RFC.065	Prepare - RFC Package for Issue - DWD PKG 4 - RFC	10d	29-Aug-18	12-Sep-18	136d
DSN.DWD.4.RFC.070	Issue - RFC Drawings - DWD PKG 4 - RFC	0d		12-Sep-18	136d
Package 5		**133d**	**26-Mar-18**	**10-Oct-18**	**267d**
90% Design (For Acceptance)		**70d**	**26-Mar-18**	**10-Jul-18**	**268d**
DSN.DWD.5.90.005	Produce Design - DWD PKG 5 - 90%	40d	26-Mar-18	18-May-18	289d
DSN.DWD.5.90.010	QA / Doc Control / Constructibility Review - DWD PKG 5 - 90%	5d	21-May-18	25-May-18	289d
DSN.DWD.5.90.015	Utility Review - DWD PKG 5 - 90%	15d	29-May-18	18-Jun-18	289d
DSN.DWD.5.90.020	CDOT Review - DWD PKG 5 - 90%	5d	19-Jun-18	25-Jun-18	282d
DSN.DWD.5.90.025	Comment Resolution Meeting - DWD PKG 5 - 90%	0d		10-Jul-18	289d
RFC Design (For Acceptance)		**63d**	**11-Jul-18**	**10-Oct-18**	**267d**
DSN.DWD.5.RFC.005	Produce Design - DWD PKG 5 - RFC	20d	11-Jul-18	07-Aug-18	289d
DSN.DWD.5.RFC.010	QA / Doc Control / Constructibility Review - DWD PKG 5 - RFC	5d	08-Aug-18	14-Aug-18	289d
DSN.DWD.5.RFC.015	Utility Review - DWD PKG 5 - RFC	15d	15-Aug-18	05-Sep-18	289d
DSN.DWD.5.RFC.020	CDOT Review - DWD PKG 5 - RFC	5d	06-Sep-18	12-Sep-18	281d
DSN.DWD.5.RFC.025	Comment Resolution Meeting - DWD PKG 5 - RFC	0d		26-Sep-18	290d
DSN.DWD.5.RFC.030	Prepare - RFC Package for Issue - DWD PKG 5 - RFC	10d	27-Sep-18	10-Oct-18	290d
DSN.DWD.5.RFC.035	Issue - RFC Drawings - DWD PKG 5 - RFC	0d		10-Oct-18	290d
Denver Water Distribution Conduits		**254d**	**30-Nov-17**	**09-Jan-19**	**406d**
Package 1		**230d**	**30-Nov-17**	**21-Nov-18**	**229d**
30% Design (For Acceptance)		**65d**	**30-Nov-17**	**16-Mar-18**	**139d**
DSN.DWDC.1.30.005	Produce Design - DWD Conduits PKG 1 - 30%	40d	30-Nov-17	26-Jan-18	36d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
DSN.DWDC.1.30.010	QA / Doc Control / Constructibility Review - DWD Conduits PKG 1 - 30%	5d	29-Jan-18	02-Feb-18	146d
DSN.DWDC.1.30.015	Utility Review - DWD Conduits PKG 1 - 30%	15d	05-Feb-18	23-Feb-18	146d
DSN.DWDC.1.30.020	CDOT Review - DWD Conduits PKG 1 - 30%	5d	26-Feb-18	02-Mar-18	145d
DSN.DWDC.1.30.025	Comment Resolution Meeting - DWD Conduits PKG 1 - 30%	0d		16-Mar-18	147d
60% Design (For Acceptance)		69d	29-Jan-18	11-May-18	103d
DSN.DWDC.1.60.005	Produce Design - DWD Conduits PKG 1 - 60%	40d	29-Jan-18	23-Mar-18	36d
DSN.DWDC.1.60.010	QA / Doc Control / Constructibility Review - DWD Conduits PKG 1 - 60%	5d	26-Mar-18	30-Mar-18	106d
DSN.DWDC.1.60.015	Utility Review - DWD Conduits PKG 1 - 60%	15d	02-Apr-18	20-Apr-18	106d
DSN.DWDC.1.60.020	CDOT Review - DWD Conduits PKG 1 - 60%	5d	23-Apr-18	27-Apr-18	106d
DSN.DWDC.1.60.025	Comment Resolution Meeting - DWD Conduits PKG 1 - 60%	0d		11-May-18	107d
90% Design (For Acceptance)		70d	26-Mar-18	10-Jul-18	65d
DSN.DWDC.1.90.005	Produce Design - DWD Conduits PKG 1 - 90%	40d	26-Mar-18	18-May-18	36d
DSN.DWDC.1.90.010	QA / Doc Control / Constructibility Review - DWD Conduits PKG 1 - 90%	5d	21-May-18	25-May-18	36d
DSN.DWDC.1.90.015	Utility Review - DWD Conduits PKG 1 - 90%	15d	29-May-18	18-Jun-18	36d
DSN.DWDC.1.90.020	CDOT Review - DWD Conduits PKG 1 - 90%	5d	19-Jun-18	25-Jun-18	66d
DSN.DWDC.1.90.025	Comment Resolution Meeting - DWD Conduits PKG 1 - 90%	0d		10-Jul-18	67d
RFC Design (For Acceptance)		63d	22-Aug-18	21-Nov-18	229d
DSN.DWDC.1.RFC.005	Produce Design - DWD Conduits PKG 1 - RFC	20d	22-Aug-18	19-Sep-18	37d
DSN.DWDC.1.RFC.010	QA / Doc Control / Constructibility Review - DWD Conduits PKG 1 - RFC	5d	20-Sep-18	26-Sep-18	37d
DSN.DWDC.1.RFC.015	Utility Review - DWD Conduits PKG 1 - RFC	15d	27-Sep-18	17-Oct-18	37d
DSN.DWDC.1.RFC.020	CDOT Review - DWD Conduits PKG 1 - RFC	5d	18-Oct-18	24-Oct-18	241d
DSN.DWDC.1.RFC.025	Comment Resolution Meeting - DWD Conduits PKG 1 - RFC	0d		07-Nov-18	248d
DSN.DWDC.1.RFC.030	Prepare - RFC Package for Issue - DWD Conduits PKG 1 - RFC	10d	08-Nov-18	21-Nov-18	248d
DSN.DWDC.1.RFC.035	Issue - RFC Drawings - DWD Conduits PKG 1 - RFC	0d		21-Nov-18	248d
Package 2		245d	30-Nov-17	17-Dec-18	31d
30% Design (For Acceptance)		65d	30-Nov-17	16-Mar-18	152d
DSN.DWDC.2.30.005	Produce Design - DWD Conduits PKG 2 - 30%	40d	30-Nov-17	26-Jan-18	51d
DSN.DWDC.2.30.010	QA / Doc Control / Constructibility Review - DWD Conduits PKG 2 - 30%	5d	29-Jan-18	02-Feb-18	162d
DSN.DWDC.2.30.015	Utility Review - DWD Conduits PKG 2 - 30%	15d	05-Feb-18	23-Feb-18	162d
DSN.DWDC.2.30.020	CDOT Review - DWD Conduits PKG 2 - 30%	5d	26-Feb-18	02-Mar-18	160d
DSN.DWDC.2.30.025	Comment Resolution Meeting - DWD Conduits PKG 2 - 30%	0d		16-Mar-18	162d
60% Design (For Acceptance)		69d	29-Jan-18	11-May-18	116d
DSN.DWDC.2.60.005	Produce Design - DWD Conduits PKG 2 - 60%	40d	29-Jan-18	23-Mar-18	51d
DSN.DWDC.2.60.010	QA / Doc Control / Constructibility Review - DWD Conduits PKG 2 - 60%	5d	26-Mar-18	30-Mar-18	122d
DSN.DWDC.2.60.015	Utility Review - DWD Conduits PKG 2 - 60%	15d	02-Apr-18	20-Apr-18	122d
DSN.DWDC.2.60.020	CDOT Review - DWD Conduits PKG 2 - 60%	5d	23-Apr-18	27-Apr-18	121d
DSN.DWDC.2.60.025	Comment Resolution Meeting - DWD Conduits PKG 2 - 60%	0d		11-May-18	122d
90% Design (For Acceptance)		84d	26-Mar-18	31-Jul-18	51d
DSN.DWDC.2.90.005	Produce Design - DWD Conduits PKG 2 - 90%	40d	26-Mar-18	18-May-18	51d
DSN.DWDC.2.90.010	QA / Doc Control / Constructibility Review - DWD Conduits PKG 2 - 90%	5d	21-May-18	25-May-18	51d
DSN.DWDC.2.90.015	Utility Review - DWD Conduits PKG 2 - 90%	15d	19-Jun-18	10-Jul-18	36d
DSN.DWDC.2.90.020	CDOT Review - DWD Conduits PKG 2 - 90%	5d	11-Jul-18	17-Jul-18	51d
DSN.DWDC.2.90.025	Comment Resolution Meeting - DWD Conduits PKG 2 - 90%	0d		31-Jul-18	52d
RFC Design (For Acceptance)		78d	22-Aug-18	17-Dec-18	31d
DSN.DWDC.2.RFC.005	Produce Design - DWD Conduits PKG 2 - RFC	20d	22-Aug-18	19-Sep-18	52d
DSN.DWDC.2.RFC.010	QA / Doc Control / Constructibility Review - DWD Conduits PKG 2 - RFC	5d	20-Sep-18	26-Sep-18	52d
DSN.DWDC.2.RFC.015	Utility Review - DWD Conduits PKG 2 - RFC	15d	18-Oct-18	07-Nov-18	37d
DSN.DWDC.2.RFC.020	CDOT Review - DWD Conduits PKG 2 - RFC	5d	08-Nov-18	15-Nov-18	36d
DSN.DWDC.2.RFC.025	Comment Resolution Meeting - DWD Conduits PKG 2 - RFC	0d		03-Dec-18	39d
DSN.DWDC.2.RFC.030	Prepare - RFC Package for Issue - DWD Conduits PKG 2 - RFC	10d	04-Dec-18	17-Dec-18	39d
DSN.DWDC.2.RFC.035	Issue - RFC Drawings - DWD Conduits PKG 2 - RFC	0d		17-Dec-18	39d
Package 3		254d	30-Nov-17	09-Jan-19	406d
30% Design (For Acceptance)		65d	30-Nov-17	16-Mar-18	533d
DSN.DWDC.3.30.030	Produce Design - DWD Conduits PKG 3 - 30%	40d	30-Nov-17	26-Jan-18	66d
DSN.DWDC.3.30.035	QA / Doc Control / Constructibility Review - DWD Conduits PKG 3 - 30%	5d	29-Jan-18	02-Feb-18	574d
DSN.DWDC.3.30.040	Utility Review - DWD Conduits PKG 3 - 30%	15d	05-Feb-18	23-Feb-18	574d
DSN.DWDC.3.30.045	CDOT Review - DWD Conduits PKG 3 - 30%	5d	26-Feb-18	02-Mar-18	561d
DSN.DWDC.3.30.050	Comment Resolution Meeting - DWD Conduits PKG 3 - 30%	0d		16-Mar-18	574d
60% Design (For Acceptance)		69d	29-Jan-18	11-May-18	497d
DSN.DWDC.3.60.030	Produce Design - DWD Conduits PKG 3 - 60%	40d	29-Jan-18	23-Mar-18	66d
DSN.DWDC.3.60.035	QA / Doc Control / Constructibility Review - DWD Conduits PKG 3 - 60% (for Acceptanc	5d	26-Mar-18	30-Mar-18	534d
DSN.DWDC.3.60.040	Utility Review - DWD Conduits PKG 3 - 60%	15d	02-Apr-18	20-Apr-18	534d
DSN.DWDC.3.60.045	CDOT Review - DWD Conduits PKG 3 - 60%	5d	23-Apr-18	27-Apr-18	522d
DSN.DWDC.3.60.050	Comment Resolution Meeting - DWD Conduits PKG 3 - 60%	0d		11-May-18	534d
90% Design (For Acceptance)		98d	26-Mar-18	21-Aug-18	37d
DSN.DWDC.3.90.005	Produce Design - DWD Conduits PKG 3 - 90%	40d	26-Mar-18	18-May-18	66d
DSN.DWDC.3.90.010	QA / Doc Control / Constructibility Review - DWD Conduits PKG 3 - 90% (for Acceptanc	5d	21-May-18	25-May-18	66d
DSN.DWDC.3.90.015	Utility Review -\DWD Conduits PKG 3 - 90%	15d	11-Jul-18	31-Jul-18	36d
DSN.DWDC.3.90.020	CDOT Review - DWD Conduits PKG 3 - 90%	5d	01-Aug-18	07-Aug-18	36d
DSN.DWDC.3.90.025	Comment Resolution Meeting - DWD Conduits PKG 3 - 90%	0d		21-Aug-18	37d
RFC Design (For Acceptance)		87d	22-Aug-18	09-Jan-19	406d
DSN.DWDC.3.RFC.005	Produce Design - DWD Conduits PKG 3 - RFC	20d	22-Aug-18	19-Sep-18	464d
DSN.DWDC.3.RFC.010	QA / Doc Control / Constructibility Review - DWD Conduits PKG 3 - RFC	5d	20-Sep-18	26-Sep-18	464d
DSN.DWDC.3.RFC.015	Utility Review - DWD Conduits PKG 3 - RFC	15d	08-Nov-18	30-Nov-18	434d
DSN.DWDC.3.RFC.020	CDOT Review - DWD Conduits PKG 3 - RFC	5d	03-Dec-18	07-Dec-18	424d
DSN.DWDC.3.RFC.025	Comment Resolution Meeting - DWD Conduits PKG 3 - RFC	0d		21-Dec-18	434d
DSN.DWDC.3.RFC.030	Prepare - RFC Package for Issue - DWD Conduits PKG 3 - RFC	10d	26-Dec-18	09-Jan-19	434d
DSN.DWDC.3.RFC.035	Issue - RFC Drawings - DWD Conduits PKG 3 - RFC	0d		09-Jan-19	434d
Denver Wastewater Management Division		192d	30-Nov-17	26-Sep-18	338d
Package 1		162d	30-Nov-17	14-Aug-18	63d
90% Design (For Acceptance)		101d	30-Nov-17	11-May-18	61d
DSN.DWWMD.1.90.005	Produce Design - DWWMD PKG 1 - 90%	80d	30-Nov-17	23-Mar-18	65d

Remaining Work | Remaining Level of Effort | Summary
Critical Remaining Work | Milestone

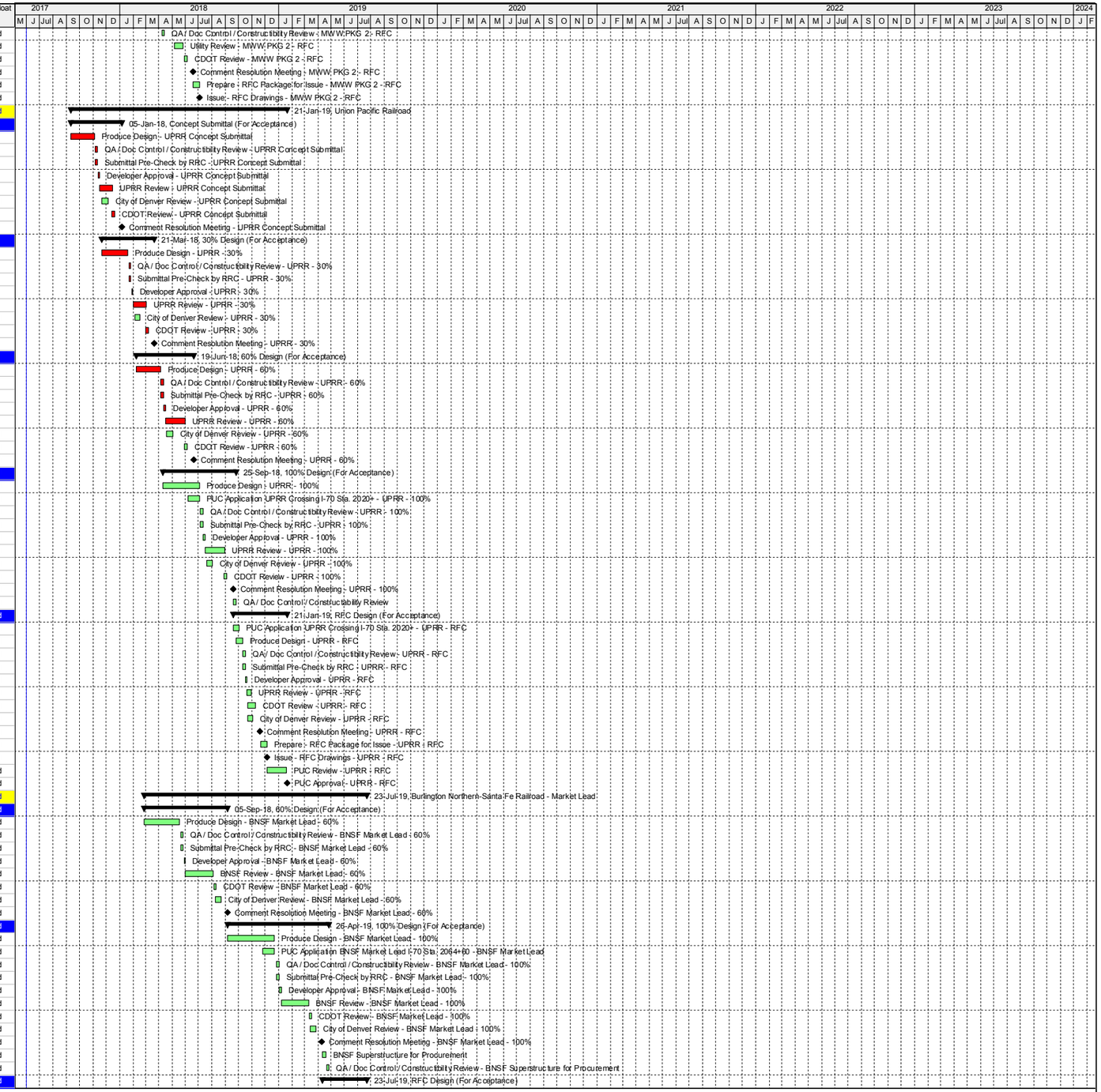
Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
DSN.DWWMD.1.90.010	QA / Doc Control / Constructibility Review - DWWMD PKG 1 - 90%	5d	26-Mar-18	30-Mar-18	65d
DSN.DWWMD.1.90.015	Utility Review - DWWMD PKG 1 - 90%	15d	02-Apr-18	20-Apr-18	65d
DSN.DWWMD.1.90.020	CDOT Review - DWWMD PKG 1 - 90%	5d	23-Apr-18	27-Apr-18	65d
DSN.DWWMD.1.90.025	Comment Resolution Meeting - DWWMD PKG 1 - 90%	0d		11-May-18	65d
RFC Design (For Acceptance)		61d	14-May-18	14-Aug-18	63d
DSN.DWWMD.1.RFC.005	Produce Design - DWWMD PKG 1 - RFC	20d	14-May-18	11-Jun-18	65d
DSN.DWWMD.1.RFC.010	QA / Doc Control / Constructibility Review - DWWMD PKG 1 - RFC	5d	12-Jun-18	18-Jun-18	65d
DSN.DWWMD.1.RFC.015	Utility Review - DWWMD PKG 1 - RFC	15d	19-Jun-18	10-Jul-18	65d
DSN.DWWMD.1.RFC.020	CDOT Review - DWWMD PKG 1 - RFC	5d	11-Jul-18	17-Jul-18	64d
DSN.DWWMD.1.RFC.025	Comment Resolution Meeting - DWWMD PKG 1 - RFC	0d		31-Jul-18	65d
DSN.DWWMD.1.RFC.030	Prepare - RFC Package for Issue - DWWMD PKG 1 - RFC	10d	01-Aug-18	14-Aug-18	65d
DSN.DWWMD.1.RFC.035	Issue - RFC Drawings - DWWMD PKG 1 - RFC	0d		14-Aug-18	65d
Package 2		130d	29-Dec-17	18-Jul-18	77d
90% Design (For Acceptance)		68d	29-Dec-17	16-Apr-18	65d
DSN.DWWMD.2.90.005	Produce Design - DWWMD PKG 2 - 90%	40d	29-Dec-17	23-Feb-18	70d
DSN.DWWMD.2.90.010	QA / Doc Control / Constructibility Review - DWWMD PKG 2 - 90%	5d	26-Feb-18	02-Mar-18	70d
DSN.DWWMD.2.90.015	Utility Review - DWWMD PKG 2 - 90%	15d	05-Mar-18	23-Mar-18	70d
DSN.DWWMD.2.90.020	CDOT Review - DWWMD PKG 2 - 90%	5d	26-Mar-18	02-Apr-18	69d
DSN.DWWMD.2.90.025	Comment Resolution Meeting - DWWMD PKG 2 - 90%	0d		16-Apr-18	69d
RFC Design (For Acceptance)		62d	17-Apr-18	18-Jul-18	77d
DSN.DWWMD.2.RFC.005	Produce Design - DWWMD PKG 2 - RFC	20d	17-Apr-18	14-May-18	69d
DSN.DWWMD.2.RFC.010	QA / Doc Control / Constructibility Review - DWWMD PKG 2 - RFC	5d	15-May-18	21-May-18	69d
DSN.DWWMD.2.RFC.015	Utility Review - DWWMD PKG 2 - RFC	15d	22-May-18	12-Jun-18	69d
DSN.DWWMD.2.RFC.020	CDOT Review - DWWMD PKG 2 - RFC	5d	13-Jun-18	19-Jun-18	80d
DSN.DWWMD.2.RFC.025	Comment Resolution Meeting - DWWMD PKG 2 - RFC	0d		03-Jul-18	81d
DSN.DWWMD.2.RFC.030	Prepare - RFC Package for Issue - DWWMD PKG 2 - RFC	10d	05-Jul-18	18-Jul-18	81d
DSN.DWWMD.2.RFC.035	Issue - RFC Drawings - DWWMD PKG 2 - RFC	0d		18-Jul-18	81d
Package 3		145d	29-Jan-18	05-Sep-18	353d
90% Design (For Acceptance)		83d	29-Jan-18	04-Jun-18	336d
DSN.DWWMD.3.90.005	Produce Design - DWWMD PKG 3 - 90%	40d	29-Jan-18	23-Mar-18	367d
DSN.DWWMD.3.90.010	QA / Doc Control / Constructibility Review - DWWMD PKG 3 - 90%	5d	26-Mar-18	30-Mar-18	372d
DSN.DWWMD.3.90.015	Utility Review - DWWMD PKG 3 - 90%	15d	23-Apr-18	11-May-18	357d
DSN.DWWMD.3.90.020	CDOT Review - DWWMD PKG 3 - 90%	5d	14-May-18	18-May-18	352d
DSN.DWWMD.3.90.025	Comment Resolution Meeting - DWWMD PKG 3 - 90%	0d		04-Jun-18	360d
RFC Design (For Acceptance)		62d	05-Jun-18	05-Sep-18	353d
DSN.DWWMD.3.RFC.005	Produce Design - DWWMD PKG 3 - RFC	20d	05-Jun-18	02-Jul-18	360d
DSN.DWWMD.3.RFC.010	QA / Doc Control / Constructibility Review - DWWMD PKG 3 - RFC	5d	03-Jul-18	10-Jul-18	360d
DSN.DWWMD.3.RFC.015	Utility Review - DWWMD PKG 3 - RFC	15d	11-Jul-18	31-Jul-18	360d
DSN.DWWMD.3.RFC.020	CDOT Review - DWWMD PKG 3 - RFC	5d	01-Aug-18	07-Aug-18	371d
DSN.DWWMD.3.RFC.025	Comment Resolution Meeting - DWWMD PKG 3 - RFC	0d		21-Aug-18	382d
DSN.DWWMD.3.RFC.030	Prepare - RFC Package for Issue - DWWMD PKG 3 - RFC	10d	22-Aug-18	05-Sep-18	382d
DSN.DWWMD.3.RFC.035	Issue - RFC Drawings - DWWMD PKG 3 - RFC	0d		05-Sep-18	382d
Package 4		142d	26-Feb-18	26-Sep-18	332d
90% Design (For Acceptance)		79d	26-Feb-18	25-Jun-18	336d
DSN.DWWMD.4.90.005	Produce Design - DWWMD PKG 4 - 90%	40d	26-Feb-18	20-Apr-18	367d
DSN.DWWMD.4.90.010	QA / Doc Control / Constructibility Review - DWWMD PKG 4 - 90%	5d	23-Apr-18	27-Apr-18	367d
DSN.DWWMD.4.90.015	Utility Review - DWWMD PKG 4 - 90%	15d	14-May-18	04-Jun-18	357d
DSN.DWWMD.4.90.020	CDOT Review - DWWMD PKG 4 - 90%	5d	05-Jun-18	11-Jun-18	349d
DSN.DWWMD.4.90.025	Comment Resolution Meeting - DWWMD PKG 4 - 90%	0d		25-Jun-18	360d
RFC Design (For Acceptance)		63d	26-Jun-18	26-Sep-18	332d
DSN.DWWMD.4.RFC.005	Produce Design - DWWMD PKG 4 - RFC	20d	26-Jun-18	24-Jul-18	360d
DSN.DWWMD.4.RFC.010	QA / Doc Control / Constructibility Review - DWWMD PKG 4 - RFC	5d	25-Jul-18	31-Jul-18	360d
DSN.DWWMD.4.RFC.015	Utility Review - DWWMD PKG 4 - RFC	15d	01-Aug-18	21-Aug-18	360d
DSN.DWWMD.4.RFC.020	CDOT Review - DWWMD PKG 4 - RFC	5d	22-Aug-18	28-Aug-18	350d
DSN.DWWMD.4.RFC.025	Comment Resolution Meeting - DWWMD PKG 4 - RFC	0d		12-Sep-18	361d
DSN.DWWMD.4.RFC.030	Prepare - RFC Package for Issue - DWWMD PKG 4 - RFC	10d	13-Sep-18	26-Sep-18	361d
DSN.DWWMD.4.RFC.035	Issue - RFC Drawings - DWWMD PKG 4 - RFC	0d		26-Sep-18	361d
Metro Wastewater		134d	30-Nov-17	02-Jul-18	853d
Package 1		119d	30-Nov-17	11-Jun-18	868d
90% Design (For Acceptance)		56d	30-Nov-17	05-Mar-18	372d
DSN.MWW.1.90.005	Produce Design - MWW PKG 1 - 90%	30d	30-Nov-17	12-Jan-18	386d
DSN.MWW.1.90.010	QA / Doc Control / Constructibility Review - MWW PKG 1 - 90%	5d	15-Jan-18	19-Jan-18	386d
DSN.MWW.1.90.015	Utility Review - MWW PKG 1 - 90%	15d	22-Jan-18	09-Feb-18	386d
DSN.MWW.1.90.020	CDOT Review - MWW PKG 1 - 90%	5d	12-Feb-18	16-Feb-18	392d
DSN.MWW.1.90.025	Comment Resolution Meeting - MWW PKG 1 - 90%	0d		05-Mar-18	400d
RFC Design (For Acceptance)		50d	26-Mar-18	11-Jun-18	868d
DSN.MWW.1.RFC.005	Produce Design - MWW PKG 1 - RFC	10d	26-Mar-18	06-Apr-18	386d
DSN.MWW.1.RFC.010	QA / Doc Control / Constructibility Review - MWW PKG 1 - RFC	5d	09-Apr-18	13-Apr-18	386d
DSN.MWW.1.RFC.015	Utility Review - MWW PKG 1 - RFC	15d	16-Apr-18	04-May-18	386d
DSN.MWW.1.RFC.020	CDOT Review - MWW PKG 1 - RFC	5d	07-May-18	11-May-18	913d
DSN.MWW.1.RFC.025	Comment Resolution Meeting - MWW PKG 1 - RFC	0d		25-May-18	932d
DSN.MWW.1.RFC.030	Prepare - RFC Package for Issue - MWW PKG 1 - RFC	10d	29-May-18	11-Jun-18	932d
DSN.MWW.1.RFC.035	Issue - RFC Drawings - MWW PKG 1 - RFC	0d		11-Jun-18	932d
Package 2		134d	30-Nov-17	02-Jul-18	355d
90% Design (For Acceptance)		69d	30-Nov-17	23-Mar-18	359d
DSN.MWW.2.90.005	Produce Design - MWW PKG 2 - 90%	20d	30-Nov-17	28-Dec-17	411d
DSN.MWW.2.90.010	QA / Doc Control / Constructibility Review - MWW PKG 2 - 90%	5d	29-Dec-17	05-Jan-18	411d
DSN.MWW.2.90.015	Utility Review - MWW PKG 2 - 90%	15d	12-Feb-18	02-Mar-18	386d
DSN.MWW.2.90.020	CDOT Review - MWW PKG 2 - 90%	5d	05-Mar-18	09-Mar-18	378d
DSN.MWW.2.90.025	Comment Resolution Meeting - MWW PKG 2 - 90%	0d		23-Mar-18	386d
RFC Design (For Acceptance)		65d	26-Mar-18	02-Jul-18	355d
DSN.MWW.2.RFC.005	Produce Design - MWW PKG 2 - RFC	10d	26-Mar-18	06-Apr-18	401d

Remaining Work | Remaining Level of Effort | Summary
Critical Remaining Work | Milestone

Kiewit meridiam PARTNERS

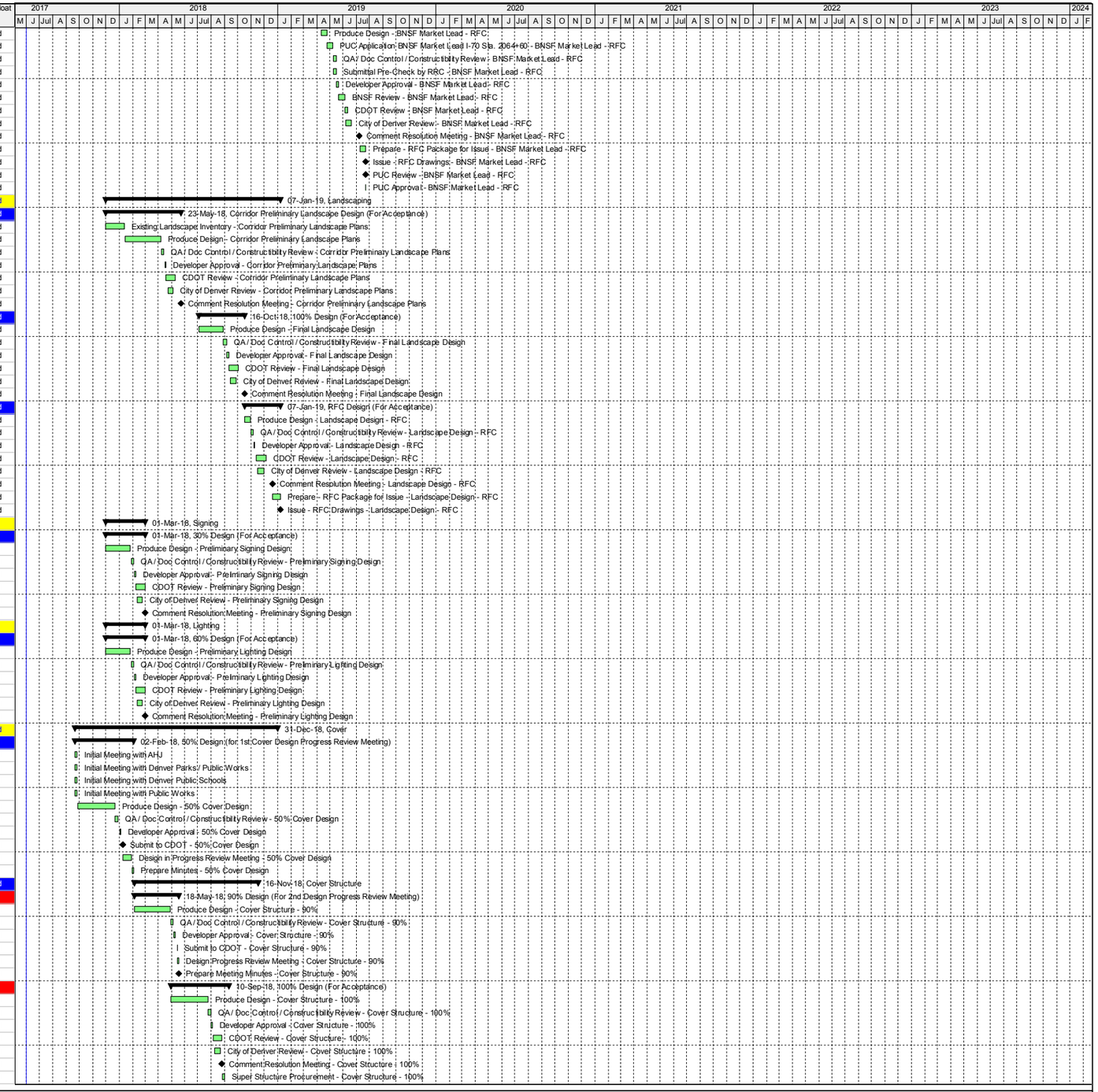
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
DSN.MWW.2.RFC.010	QA / Doc Control / Constructibility Review - MWW PKG 2 - RFC	5d	09-Apr-18	13-Apr-18	401d
DSN.MWW.2.RFC.015	Utility Review - MWW PKG 2 - RFC	15d	07-May-18	25-May-18	386d
DSN.MWW.2.RFC.020	CDOT Review - MWW PKG 2 - RFC	5d	29-May-18	04-Jun-18	377d
DSN.MWW.2.RFC.025	Comment Resolution Meeting - MWW PKG 2 - RFC	0d		18-Jun-18	386d
DSN.MWW.2.RFC.030	Prepare - RFC Package for Issue - MWW PKG 2 - RFC	10d	19-Jun-18	02-Jul-18	386d
DSN.MWW.2.RFC.035	Issue - RFC Drawings - MWW PKG 2 - RFC	0d		02-Jul-18	386d
Union Pacific Railroad		**312d**	**11-Sep-17**	**21-Jan-19**	**636d**
Concept Submittal (For Acceptance)		**71d**	**11-Sep-17**	**05-Jan-18**	**4d**
DSN.UPRR.CON.005	Produce Design - UPRR Concept Submittal	40d	11-Sep-17	03-Nov-17	5d
DSN.UPRR.CON.010	QA / Doc Control / Constructibility Review - UPRR Concept Submittal	5d	06-Nov-17	10-Nov-17	5d
DSN.UPRR.CON.015	Submittal Pre-Check by RRC - UPRR Concept Submittal	5d	06-Nov-17	10-Nov-17	5d
DSN.UPRR.CON.020	Developer Approval - UPRR Concept Submittal	3d	13-Nov-17	15-Nov-17	5d
DSN.UPRR.CON.025	UPRR Review - UPRR Concept Submittal	30d	16-Nov-17	15-Dec-17	7d
DSN.UPRR.CON.035	City of Denver Review - UPRR Concept Submittal	10d	20-Nov-17	05-Dec-17	15d
DSN.UPRR.CON.030	CDOT Review - UPRR Concept Submittal	5d	14-Dec-17	20-Dec-17	4d
DSN.UPRR.CON.040	Comment Resolution Meeting - UPRR Concept Submittal	0d		05-Jan-18	4d
30% Design (For Acceptance)		**71d**	**21-Nov-17**	**21-Mar-18**	**3d**
DSN.UPRR.30.005	Produce Design - UPRR - 30%	40d	21-Nov-17	19-Jan-18	4d
DSN.UPRR.30.010	QA / Doc Control / Constructibility Review - UPRR - 30%	5d	22-Jan-18	26-Jan-18	4d
DSN.UPRR.30.015	Submittal Pre-Check by RRC - UPRR - 30%	5d	22-Jan-18	26-Jan-18	4d
DSN.UPRR.30.020	Developer Approval - UPRR - 30%	3d	29-Jan-18	31-Jan-18	4d
DSN.UPRR.30.025	UPRR Review - UPRR - 30%	30d	01-Feb-18	02-Mar-18	6d
DSN.UPRR.30.035	City of Denver Review - UPRR - 30%	10d	05-Feb-18	16-Feb-18	17d
DSN.UPRR.30.030	CDOT Review - UPRR - 30%	5d	01-Mar-18	07-Mar-18	4d
DSN.UPRR.30.040	Comment Resolution Meeting - UPRR - 30%	0d		21-Mar-18	4d
60% Design (For Acceptance)		**86d**	**08-Feb-18**	**19-Jun-18**	**11d**
DSN.UPRR.60.005	Produce Design - UPRR - 60%	40d	08-Feb-18	04-Apr-18	4d
DSN.UPRR.60.010	QA / Doc Control / Constructibility Review - UPRR - 60%	5d	05-Apr-18	11-Apr-18	4d
DSN.UPRR.60.015	Submittal Pre-Check by RRC - UPRR - 60%	5d	05-Apr-18	11-Apr-18	4d
DSN.UPRR.60.020	Developer Approval - UPRR - 60%	3d	12-Apr-18	16-Apr-18	4d
DSN.UPRR.60.025	UPRR Review - UPRR - 60%	45d	17-Apr-18	31-May-18	4d
DSN.UPRR.60.035	City of Denver Review - UPRR - 60%	10d	19-Apr-18	02-May-18	34d
DSN.UPRR.60.030	CDOT Review - UPRR - 60%	5d	30-May-18	05-Jun-18	11d
DSN.UPRR.60.040	Comment Resolution Meeting - UPRR - 60%	0d		19-Jun-18	11d
100% Design (For Acceptance)		**112d**	**10-Apr-18**	**25-Sep-18**	**11d**
DSN.UPRR.100.005	Produce Design - UPRR - 100%	60d	10-Apr-18	03-Jul-18	11d
DSN.UPRR.100.010	PUC Application UPRR Crossing I-70 Sta. 2020+ - UPRR - 100%	20d	06-Jun-18	03-Jul-18	11d
DSN.UPRR.100.015	QA / Doc Control / Constructibility Review - UPRR - 100%	5d	05-Jul-18	11-Jul-18	11d
DSN.UPRR.100.020	Submittal Pre-Check by RRC - UPRR - 100%	5d	05-Jul-18	11-Jul-18	11d
DSN.UPRR.100.025	Developer Approval - UPRR - 100%	3d	12-Jul-18	16-Jul-18	11d
DSN.UPRR.100.030	UPRR Review - UPRR - 100%	45d	17-Jul-18	30-Aug-18	15d
DSN.UPRR.100.040	City of Denver Review - UPRR - 100%	10d	19-Jul-18	01-Aug-18	34d
DSN.UPRR.100.035	CDOT Review - UPRR - 100%	5d	28-Aug-18	04-Sep-18	11d
DSN.UPRR.100.045	Comment Resolution Meeting - UPRR - 100%	0d		18-Sep-18	11d
DSN.UPRR.100.055	QA / Doc Control / Constructability Review	5d	19-Sep-18	25-Sep-18	11d
RFC Design (For Acceptance)		**74d**	**19-Sep-18**	**21-Jan-19**	**636d**
DSN.UPRR.RFC.010	PUC Application UPRR Crossing I-70 Sta. 2020+ - UPRR - RFC	10d	19-Sep-18	02-Oct-18	16d
DSN.UPRR.RFC.005	Produce Design - UPRR - RFC	10d	26-Sep-18	09-Oct-18	11d
DSN.UPRR.RFC.015	QA / Doc Control / Constructibility Review - UPRR - RFC	5d	10-Oct-18	16-Oct-18	11d
DSN.UPRR.RFC.020	Submittal Pre-Check by RRC - UPRR - RFC	5d	10-Oct-18	16-Oct-18	11d
DSN.UPRR.RFC.025	Developer Approval - UPRR - RFC	3d	17-Oct-18	19-Oct-18	11d
DSN.UPRR.RFC.030	UPRR Review - UPRR - RFC	10d	20-Oct-18	29-Oct-18	17d
DSN.UPRR.RFC.040	CDOT Review - UPRR - RFC	15d	22-Oct-18	09-Nov-18	12d
DSN.UPRR.RFC.045	City of Denver Review - UPRR - RFC	10d	22-Oct-18	02-Nov-18	13d
DSN.UPRR.RFC.050	Comment Resolution Meeting - UPRR - RFC	0d		19-Nov-18	12d
DSN.UPRR.RFC.055	Prepare - RFC Package for Issue - UPRR - RFC	10d	20-Nov-18	05-Dec-18	12d
DSN.UPRR.RFC.060	Issue - RFC Drawings - UPRR - RFC	0d		05-Dec-18	12d
DSN.UPRR.RFC.065	PUC Review - UPRR - RFC	45d	06-Dec-18	19-Jan-19	976d
DSN.UPRR.RFC.070	PUC Approval - UPRR - RFC	0d		21-Jan-19	677d
Burlington Northern-Santa Fe Railroad - Market Lead		**330d**	**26-Feb-18**	**23-Jul-19**	**617d**
60% Design (For Acceptance)		**127d**	**26-Feb-18**	**05-Sep-18**	**593d**
DSN.BNSF.60.005	Produce Design - BNSF Market Lead - 60%	60d	26-Feb-18	18-May-18	640d
DSN.BNSF.60.010	QA / Doc Control / Constructibility Review - BNSF Market Lead - 60%	5d	21-May-18	25-May-18	640d
DSN.BNSF.60.015	Submittal Pre-Check by RRC - BNSF Market Lead - 60%	5d	21-May-18	25-May-18	640d
DSN.BNSF.60.020	Developer Approval - BNSF Market Lead - 60%	3d	29-May-18	31-May-18	640d
DSN.BNSF.60.025	BNSF Review - BNSF Market Lead - 60%	45d	01-Jun-18	03-Aug-18	640d
DSN.BNSF.60.030	CDOT Review - BNSF Market Lead - 60%	5d	06-Aug-18	10-Aug-18	624d
DSN.BNSF.60.035	City of Denver Review - BNSF Market Lead - 60%	10d	08-Aug-18	21-Aug-18	640d
DSN.BNSF.60.040	Comment Resolution Meeting - BNSF Market Lead - 60%	0d		05-Sep-18	640d
100% Design (For Acceptance)		**147d**	**06-Sep-18**	**26-Apr-19**	**673d**
DSN.BNSF.100.005	Produce Design - BNSF Market Lead - 100%	75d	06-Sep-18	21-Dec-18	640d
DSN.BNSF.100.010	PUC Application BNSF Market Lead I-70 Sta. 2064+60 - BNSF Market Lead	20d	26-Nov-18	21-Dec-18	640d
DSN.BNSF.100.015	QA / Doc Control / Constructibility Review - BNSF Market Lead - 100%	5d	26-Dec-18	02-Jan-19	640d
DSN.BNSF.100.020	Submittal Pre-Check by RRC - BNSF Market Lead - 100%	5d	26-Dec-18	02-Jan-19	640d
DSN.BNSF.100.025	Developer Approval - BNSF Market Lead - 100%	3d	03-Jan-19	07-Jan-19	640d
DSN.BNSF.100.030	BNSF Review - BNSF Market Lead - 100%	45d	08-Jan-19	11-Mar-19	640d
DSN.BNSF.100.035	CDOT Review - BNSF Market Lead - 100%	5d	12-Mar-19	18-Mar-19	629d
DSN.BNSF.100.040	City of Denver Review - BNSF Market Lead - 100%	10d	14-Mar-19	27-Mar-19	640d
DSN.BNSF.100.045	Comment Resolution Meeting - BNSF Market Lead - 100%	0d		10-Apr-19	640d
DSN.BNSF.100.050	BNSF Superstructure for Procurement	5d	11-Apr-19	19-Apr-19	673d
DSN.BNSF.100.055	QA / Doc Control / Constructibility Review - BNSF Superstructure for Procurement	5d	22-Apr-19	26-Apr-19	673d
RFC Design (For Acceptance)		**66d**	**11-Apr-19**	**23-Jul-19**	**617d**



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
DSN.BNSF.RFC.060	Produce Design - BNSF Market Lead - RFC	10d	11-Apr-19	24-Apr-19	640d
DSN.BNSF.RFC.010	PUC Application BNSF Market Lead I-70 Sta. 2064+60 - BNSF Market Lead - RFC	10d	25-Apr-19	08-May-19	640d
DSN.BNSF.RFC.015	QA / Doc Control / Constructibility Review - BNSF Market Lead - RFC	5d	09-May-19	15-May-19	640d
DSN.BNSF.RFC.020	Submittal Pre-Check by RRC - BNSF Market Lead - RFC	5d	09-May-19	15-May-19	640d
DSN.BNSF.RFC.025	Developer Approval - BNSF Market Lead - RFC	3d	16-May-19	20-May-19	640d
DSN.BNSF.RFC.030	BNSF Review - BNSF Market Lead - RFC	10d	21-May-19	04-Jun-19	640d
DSN.BNSF.RFC.035	CDOT Review - BNSF Market Lead - RFC	5d	05-Jun-19	11-Jun-19	628d
DSN.BNSF.RFC.040	City of Denver Review - BNSF Market Lead - RFC	10d	07-Jun-19	20-Jun-19	640d
DSN.BNSF.RFC.045	Comment Resolution Meeting - BNSF Market Lead - RFC	0d		08-Jul-19	640d
DSN.BNSF.RFC.050	Prepare - RFC Package for Issue - BNSF Market Lead - RFC	10d	09-Jul-19	22-Jul-19	640d
DSN.BNSF.RFC.055	Issue - RFC Drawings - BNSF Market Lead - RFC	0d		22-Jul-19	640d
DSN.BNSF.RFC.065	PUC Review - BNSF Market Lead - RFC	0d		22-Jul-19	662d
DSN.BNSF.RFC.005	PUC Approval - BNSF Market Lead - RFC	0d	23-Jul-19	23-Jul-19	662d
Landscaping		**252d**	**30-Nov-17**	**07-Jan-19**	**735d**
Corridor Preliminary Landscape Design (For Acceptance)		**108d**	**30-Nov-17**	**23-May-18**	**763d**
DSN.LS.PRE.005	Existing Landscape Inventory - Corridor Preliminary Landscape Plans	30d	30-Nov-17	12-Jan-18	816d
DSN.LS.PRE.010	Produce Design - Corridor Preliminary Landscape Plans	60d	15-Jan-18	06-Apr-18	816d
DSN.LS.PRE.015	QA / Doc Control / Constructibility Review - Corridor Preliminary Landscape Plans	5d	09-Apr-18	13-Apr-18	816d
DSN.LS.PRE.020	Developer Approval - Corridor Preliminary Landscape Plans	3d	16-Apr-18	18-Apr-18	816d
DSN.LS.PRE.030	CDOT Review - Corridor Preliminary Landscape Plans	15d	19-Apr-18	09-May-18	799d
DSN.LS.PRE.025	City of Denver Review - Corridor Preliminary Landscape Plans	10d	23-Apr-18	04-May-18	819d
DSN.LS.PRE.035	Comment Resolution Meeting - Corridor Preliminary Landscape Plans	0d		23-May-18	816d
100% Design (For Acceptance)		**72d**	**03-Jul-18**	**16-Oct-18**	**734d**
DSN.LS.100.005	Produce Design - Final Landscape Design	40d	03-Jul-18	28-Aug-18	789d
DSN.LS.100.010	QA / Doc Control / Constructibility Review - Final Landscape Design	5d	29-Aug-18	05-Sep-18	789d
DSN.LS.100.015	Developer Approval - Final Landscape Design	3d	06-Sep-18	10-Sep-18	789d
DSN.LS.100.025	CDOT Review - Final Landscape Design	15d	11-Sep-18	01-Oct-18	771d
DSN.LS.100.020	City of Denver Review - Final Landscape Design	10d	13-Sep-18	26-Sep-18	793d
DSN.LS.100.030	Comment Resolution Meeting - Final Landscape Design	0d		16-Oct-18	789d
RFC Design (For Acceptance)		**46d**	**17-Oct-18**	**07-Jan-19**	**735d**
DSN.LS.RFC.005	Produce Design - Landscape Design - RFC	10d	17-Oct-18	30-Oct-18	789d
DSN.LS.RFC.010	QA / Doc Control / Constructibility Review - Landscape Design - RFC	5d	31-Oct-18	06-Nov-18	789d
DSN.LS.RFC.015	Developer Approval - Landscape Design - RFC	3d	07-Nov-18	09-Nov-18	789d
DSN.LS.RFC.025	CDOT Review - Landscape Design - RFC	15d	13-Nov-18	05-Dec-18	772d
DSN.LS.RFC.020	City of Denver Review - Landscape Design - RFC	10d	15-Nov-18	30-Nov-18	792d
DSN.LS.RFC.030	Comment Resolution Meeting - Landscape Design - RFC	0d		19-Dec-18	789d
DSN.LS.RFC.035	Prepare - RFC Package for Issue - Landscape Design - RFC	10d	20-Dec-18	07-Jan-19	789d
DSN.LS.RFC.040	Issue - RFC Drawings - Landscape Design - RFC	0d		07-Jan-19	789d
Signing		**54d**	**30-Nov-17**	**01-Mar-18**	**53d**
30% Design (For Acceptance)		**54d**	**30-Nov-17**	**01-Mar-18**	**53d**
DSN.SIG.30.005	Produce Design - Preliminary Signing Design	40d	30-Nov-17	26-Jan-18	59d
DSN.SIG.30.010	QA / Doc Control / Constructibility Review - Preliminary Signing Design	5d	29-Jan-18	02-Feb-18	59d
DSN.SIG.30.015	Developer Approval - Preliminary Signing Design	3d	05-Feb-18	07-Feb-18	59d
DSN.SIG.30.025	CDOT Review - Preliminary Signing Design	15d	08-Feb-18	01-Mar-18	57d
DSN.SIG.30.020	City of Denver Review - Preliminary Signing Design	10d	12-Feb-18	23-Feb-18	62d
DSN.SIG.30.030	Comment Resolution Meeting - Preliminary Signing Design	0d		01-Mar-18	58d
Lighting		**54d**	**30-Nov-17**	**01-Mar-18**	**53d**
60% Design (For Acceptance)		**54d**	**30-Nov-17**	**01-Mar-18**	**53d**
DSN.LIG.60.005	Produce Design - Preliminary Lighting Design	40d	30-Nov-17	26-Jan-18	59d
DSN.LIG.60.010	QA / Doc Control / Constructibility Review - Preliminary Lighting Design	5d	29-Jan-18	02-Feb-18	59d
DSN.LIG.60.015	Developer Approval - Preliminary Lighting Design	3d	05-Feb-18	07-Feb-18	59d
DSN.LIG.60.025	CDOT Review - Preliminary Lighting Design	15d	08-Feb-18	01-Mar-18	57d
DSN.LIG.60.020	City of Denver Review - Preliminary Lighting Design	10d	12-Feb-18	23-Feb-18	62d
DSN.LIG.60.030	Comment Resolution Meeting - Preliminary Lighting Design	0d		01-Mar-18	58d
Cover		**293d**	**20-Sep-17**	**31-Dec-18**	**749d**
50% Design (for 1st Cover Design Progress Review Meeting)		**94d**	**20-Sep-17**	**02-Feb-18**	**29d**
DSN.COV.50.005	Initial Meeting with AHJ	5d	20-Sep-17	26-Sep-17	29d
DSN.COV.50.010	Initial Meeting with Denver Parks / Public Works	5d	20-Sep-17	26-Sep-17	29d
DSN.COV.50.015	Initial Meeting with Denver Public Schools	5d	20-Sep-17	26-Sep-17	29d
DSN.COV.50.020	Initial Meeting with Public Works	5d	20-Sep-17	26-Sep-17	29d
DSN.COV.50.025	Produce Design - 50% Cover Design	60d	27-Sep-17	21-Dec-17	29d
DSN.COV.50.030	QA / Doc Control / Constructibility Review - 50% Cover Design	5d	22-Dec-17	29-Dec-17	29d
DSN.COV.50.035	Developer Approval - 50% Cover Design	3d	02-Jan-18	04-Jan-18	29d
DSN.COV.50.040	Submit to CDOT - 50% Cover Design	0d		08-Jan-18	29d
DSN.COV.50.045	Design in Progress Review Meeting - 50% Cover Design	15d	09-Jan-18	29-Jan-18	29d
DSN.COV.50.050	Prepare Minutes - 50% Cover Design	4d	30-Jan-18	02-Feb-18	29d
Cover Structure		**191d**	**05-Feb-18**	**16-Nov-18**	**219d**
90% Design (For 2nd Design Progress Review Meeting)		**69d**	**05-Feb-18**	**18-May-18**	**61d**
DSN.COV.STR.90.005	Produce Design - Cover Structure - 90%	60d	05-Feb-18	27-Apr-18	29d
DSN.COV.STR.90.010	QA / Doc Control / Constructibility Review - Cover Structure - 90%	5d	30-Apr-18	04-May-18	64d
DSN.COV.STR.90.015	Developer Approval - Cover Structure - 90%	3d	07-May-18	09-May-18	64d
DSN.COV.STR.90.020	Submit to CDOT - Cover Structure - 90%	0d	14-May-18	14-May-18	64d
DSN.COV.STR.90.025	Design Progress Review Meeting - Cover Structure - 90%	5d	14-May-18	18-May-18	64d
DSN.COV.STR.90.030	Prepare Meeting Minutes - Cover Structure - 90%	0d		18-May-18	64d
100% Design (For Acceptance)		**89d**	**30-Apr-18**	**10-Sep-18**	**27d**
DSN.COV.STR.100.005	Produce Design - Cover Structure - 100%	60d	30-Apr-18	24-Jul-18	29d
DSN.COV.STR.100.010	QA / Doc Control / Constructibility Review - Cover Structure - 100%	5d	25-Jul-18	31-Jul-18	29d
DSN.COV.STR.100.015	Developer Approval - Cover Structure - 100%	3d	01-Aug-18	03-Aug-18	29d
DSN.COV.STR.100.025	CDOT Review - Cover Structure - 100%	15d	06-Aug-18	24-Aug-18	29d
DSN.COV.STR.100.020	City of Denver Review - Cover Structure - 100%	10d	08-Aug-18	21-Aug-18	32d
DSN.COV.STR.100.030	Comment Resolution Meeting - Cover Structure - 100%	0d		24-Aug-18	29d
DSN.COV.STR.100.035	Super Structure Procurement - Cover Structure - 100%	5d	27-Aug-18	31-Aug-18	29d



Remaining Work | Remaining Level of Effort | Summary

Critical Remaining Work | Milestone

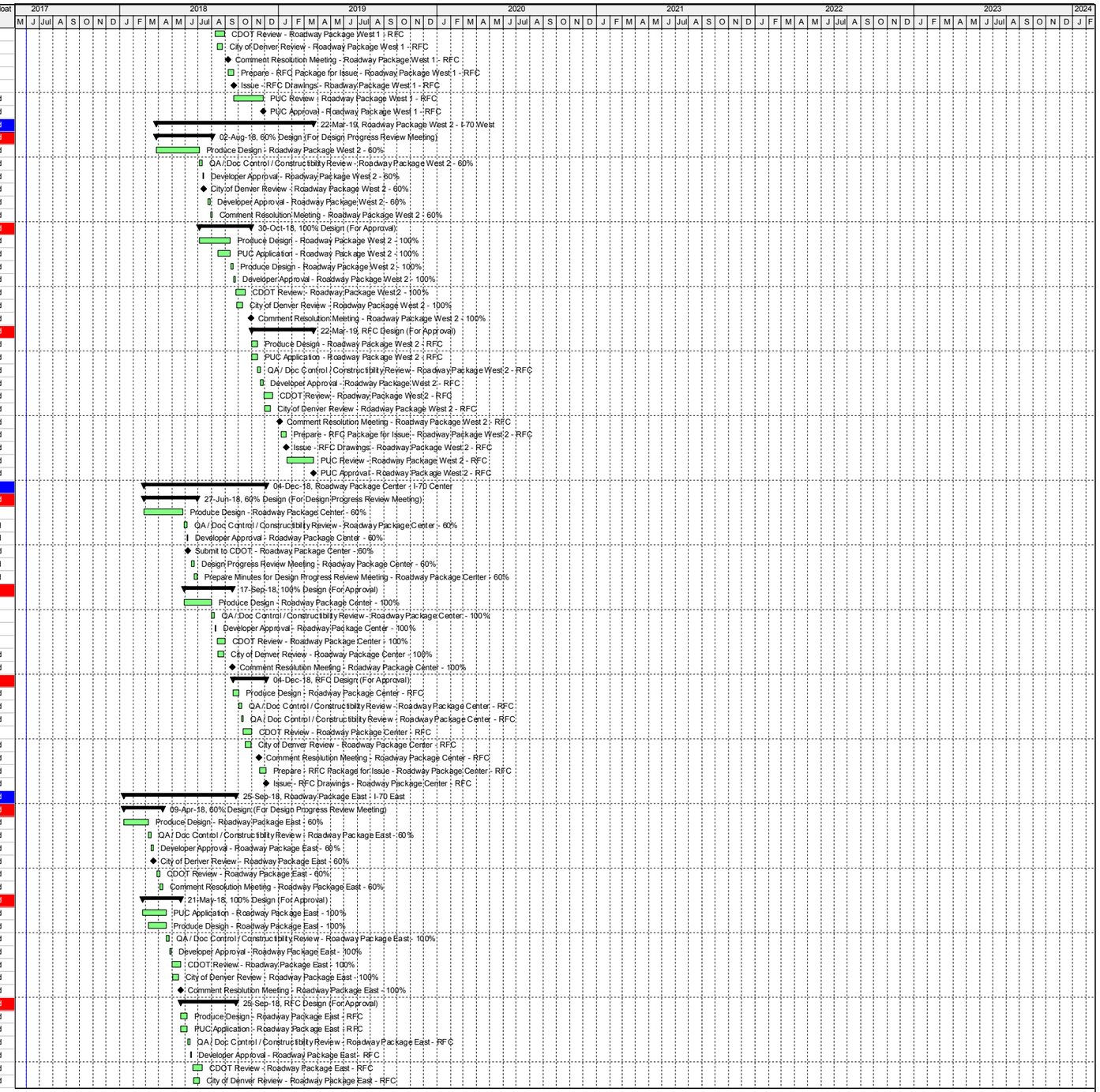
Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
DSN.COV.STR.100.040	Doc Control / QA of SS Procurement - Cover Structure - 100%	5d	04-Sep-18	10-Sep-18	29d
RFC Design (For Acceptance)		**57d**	**27-Aug-18**	**16-Nov-18**	**219d**
DSN.COV.STR.RFC.005	Produce Design - Cover Structure - RFC	10d	27-Aug-18	10-Sep-18	239d
DSN.COV.STR.RFC.010	QA / Doc Control / Constructibility Review - Cover Structure - RFC	5d	11-Sep-18	17-Sep-18	239d
DSN.COV.STR.RFC.015	Developer Approval - Cover Structure - RFC	3d	18-Sep-18	20-Sep-18	239d
DSN.COV.STR.RFC.025	CDOT Review - Cover Structure - RFC	15d	21-Sep-18	12-Oct-18	232d
DSN.COV.STR.RFC.020	City of Denver Review - Cover Structure - RFC	10d	25-Sep-18	08-Oct-18	242d
DSN.COV.STR.RFC.030	Comment Resolution Meeting - Cover Structure - RFC	0d		26-Oct-18	238d
DSN.COV.STR.RFC.035	Prepare - RFC Package for Issue - Cover Structure - RFC	15d	29-Oct-18	16-Nov-18	238d
DSN.COV.STR.RFC.040	Issue - RFC Drawings - Cover Structure - RFC	0d		16-Nov-18	238d
Cover Systems		**234d**	**22-Dec-17**	**31-Dec-18**	**749d**
90% Design (For 2nd Design Progress Review Meeting)		**138d**	**22-Dec-17**	**30-Jul-18**	**845d**
DSN.COV.SYS.90.005	Produce Design - Cover Systems - 90%	110d	22-Dec-17	29-May-18	312d
DSN.COV.SYS.90.010	QA / Doc Control / Constructibility Review - Cover Systems - 90%	5d	30-May-18	05-Jun-18	338d
DSN.COV.SYS.90.015	Developer Approval - Cover Systems - 90%	3d	06-Jun-18	08-Jun-18	338d
DSN.COV.SYS.90.020	Submit to CDOT - Cover Systems - 90%	0d	11-Jun-18	11-Jun-18	338d
DSN.COV.SYS.90.025	Design Progress Review Meeting - Cover Systems - 90%	5d	11-Jun-18	15-Jun-18	331d
DSN.COV.SYS.90.030	Prepare Minutes - Cover Systems - 90%	0d		29-Jun-18	339d
DSN.COV.SYS.90.035	Systems Procurement - Cover Systems - 90%	15d	02-Jul-18	23-Jul-18	908d
DSN.COV.SYS.90.040	Doc Control / QA - Cover Systems - 90%	5d	24-Jul-18	30-Jul-18	908d
100% Design (For Acceptance)		**91d**	**30-May-18**	**10-Oct-18**	**280d**
DSN.COV.SYS.100.005	Produce Design - Cover Systems - 100%	60d	30-May-18	22-Aug-18	312d
DSN.COV.SYS.100.010	QA / Doc Control / Constructibility Review - Cover Systems - 100%	5d	23-Aug-18	29-Aug-18	312d
DSN.COV.SYS.100.015	Developer Approval - Cover Systems - 100%	3d	30-Aug-18	04-Sep-18	312d
DSN.COV.SYS.100.020	CDOT Review - Cover Systems - 100%	15d	05-Sep-18	25-Sep-18	301d
DSN.COV.SYS.100.025	Comment Resolution Meeting - Cover Systems - 100%	0d		10-Oct-18	309d
RFC Design (For Acceptance)		**46d**	**11-Oct-18**	**31-Dec-18**	**288d**
DSN.COV.SYS.RFC.005	Produce Design - Cover Systems - RFC	10d	11-Oct-18	24-Oct-18	309d
DSN.COV.SYS.RFC.010	QA / Doc Control / Constructibility Review - Cover Systems - RFC	5d	25-Oct-18	31-Oct-18	309d
DSN.COV.SYS.RFC.015	Developer Approval - Cover Systems - RFC	3d	01-Nov-18	05-Nov-18	309d
DSN.COV.SYS.RFC.020	CDOT Review - Cover Systems - RFC	15d	06-Nov-18	29-Nov-18	300d
DSN.COV.SYS.RFC.025	Comment Resolution Meeting - Cover Systems - RFC	0d		13-Dec-18	309d
DSN.COV.SYS.RFC.030	Prepare - RFC Package for Issue - Cover Systems - RFC	10d	14-Dec-18	31-Dec-18	309d
DSN.COV.SYS.RFC.035	Issue - RFC Drawings - Cover Systems - RFC	0d		31-Dec-18	309d
Cover Park		**224d**	**14-Nov-17**	**01-Nov-18**	**607d**
90% Design (For 2nd Design Progress Review Meeting)		**72d**	**14-Nov-17**	**15-Mar-18**	**640d**
DSN.COV.PRK.90.005	Produce Design - Cover Park - 90%	65d	14-Nov-17	16-Feb-18	655d
DSN.COV.PRK.90.010	QA / Doc Control / Constructibility Review - Cover Park - 90%	5d	19-Feb-18	23-Feb-18	686d
DSN.COV.PRK.90.015	Developer Approval - Cover Park - 90%	3d	26-Feb-18	28-Feb-18	686d
DSN.COV.PRK.90.020	Submit to CDOT - Cover Park - 90%	0d	05-Mar-18	05-Mar-18	686d
DSN.COV.PRK.90.025	Design Progress Review Meeting - Cover Park - 90%	5d	05-Mar-18	09-Mar-18	686d
DSN.COV.PRK.90.030	Prepare Minutes - Cover Park - 90%	4d	12-Mar-18	15-Mar-18	671d
100% Design (For Acceptance)		**94d**	**19-Feb-18**	**10-Jul-18**	**607d**
DSN.COV.PRK.100.005	Produce Design - Cover Park - 100%	60d	19-Feb-18	11-May-18	655d
DSN.COV.PRK.100.010	QA / Doc Control / Constructibility Review - Cover Park - 100%	5d	14-May-18	18-May-18	655d
DSN.COV.PRK.100.015	Developer Approval - Cover Park - 100%	3d	21-May-18	23-May-18	655d
DSN.COV.PRK.100.020	City of Denver Review - Cover Park - 100%	10d	29-May-18	11-Jun-18	666d
DSN.COV.PRK.100.025	City of Denver Parks Review - Cover Park - 100%	15d	29-May-18	18-Jun-18	655d
DSN.COV.PRK.100.030	CDOT Review - Cover Park - 100%	15d	05-Jun-18	25-Jun-18	640d
DSN.COV.PRK.100.035	Comment Resolution Meeting - Cover Park - 100%	0d		10-Jul-18	656d
RFC Design (For Acceptance)		**77d**	**11-Jul-18**	**01-Nov-18**	**607d**
DSN.COV.PRK.RFC.005	Produce Design - Cover Park - RFC	30d	11-Jul-18	21-Aug-18	656d
DSN.COV.PRK.RFC.010	QA / Doc Control / Constructibility Review - Cover Park - RFC	5d	22-Aug-18	28-Aug-18	656d
DSN.COV.PRK.RFC.015	Developer Approval - Cover Park - RFC	3d	29-Aug-18	31-Aug-18	656d
DSN.COV.PRK.RFC.020	City of Denver Review - Cover Park - RFC	10d	06-Sep-18	19-Sep-18	666d
DSN.COV.PRK.RFC.025	City of Denver Parks Review - Cover Park - RFC	15d	06-Sep-18	26-Sep-18	656d
DSN.COV.PRK.RFC.030	CDOT Review - Cover Park - RFC	15d	13-Sep-18	03-Oct-18	639d
DSN.COV.PRK.RFC.035	Comment Resolution Meeting - Cover Park - RFC	0d		18-Oct-18	655d
DSN.COV.PRK.RFC.040	Prepare - RFC Package for Issue - Cover Park - RFC	10d	19-Oct-18	01-Nov-18	655d
DSN.COV.PRK.RFC.045	Issue - RFC Drawings - Cover Park - RFC	0d		01-Nov-18	655d
Roadway		**287d**	**29-Dec-17**	**22-Mar-19**	**695d**
Roadway Package West 1 - I-70 West		**216d**	**29-Dec-17**	**26-Nov-18**	**766d**
60% Design (For Design Progress Review Meeting)		**73d**	**29-Dec-17**	**24-Apr-18**	**67d**
DSN.RD.W1.60.005	Produce Design - Roadway Package West 1 - 60%	60d	29-Dec-17	23-Mar-18	57d
DSN.RD.W1.60.010	QA / Doc Control / Constructibility Review - Roadway Package West 1 - 60%	5d	26-Mar-18	30-Mar-18	70d
DSN.RD.W1.60.015	Developer Approval - Roadway Package West 1 - 60%	3d	02-Apr-18	04-Apr-18	70d
DSN.RD.W1.60.020	Submit to CDOT - Roadway Package West 1 - 60%	0d		04-Apr-18	70d
DSN.RD.W1.60.025	Design Progress Review Meeting - Roadway Package West 1 - 60%	5d	12-Apr-18	18-Apr-18	70d
DSN.RD.W1.60.030	Comment Resolution Meeting - Roadway Package West 1 - 60%	4d	19-Apr-18	24-Apr-18	70d
100% Design (For Approval)		**73d**	**26-Mar-18**	**13-Jul-18**	**55d**
DSN.RD.W1.100.005	Produce Design - Roadway Package West 1 - 100%	45d	26-Mar-18	25-May-18	57d
DSN.RD.W1.100.010	PUC Application - Roadway Package West 1 - 100%	20d	30-Apr-18	25-May-18	57d
DSN.RD.W1.100.015	QA / Doc Control / Constructibility Review - Roadway Package West 1 - 100%	5d	29-May-18	04-Jun-18	57d
DSN.RD.W1.100.020	Developer Approval - Roadway Package West 1 - 100%	3d	05-Jun-18	07-Jun-18	57d
DSN.RD.W1.100.030	CDOT Review - Roadway Package West 1 - 100%	15d	08-Jun-18	28-Jun-18	57d
DSN.RD.W1.100.025	City of Denver Review - Roadway Package West 1 - 100%	10d	12-Jun-18	25-Jun-18	60d
DSN.RD.W1.100.035	Comment Resolution Meeting - Roadway Package West 1 - 100%	0d		13-Jul-18	57d
RFC Design (For Approval)		**89d**	**16-Jul-18**	**26-Nov-18**	**766d**
DSN.RD.W1.RFC.005	Produce Design - Roadway Package West 1 - RFC	10d	16-Jul-18	27-Jul-18	57d
DSN.RD.W1.RFC.010	PUC Application - Roadway Package West 1 - RFC	10d	16-Jul-18	27-Jul-18	57d
DSN.RD.W1.RFC.015	QA / Doc Control / Constructibility Review - Roadway Package West 1 - RFC	5d	30-Jul-18	03-Aug-18	57d
DSN.RD.W1.RFC.020	Developer Approval - Roadway Package West 1 - RFC	3d	06-Aug-18	08-Aug-18	57d

Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Kiewit meridiam PARTNERS

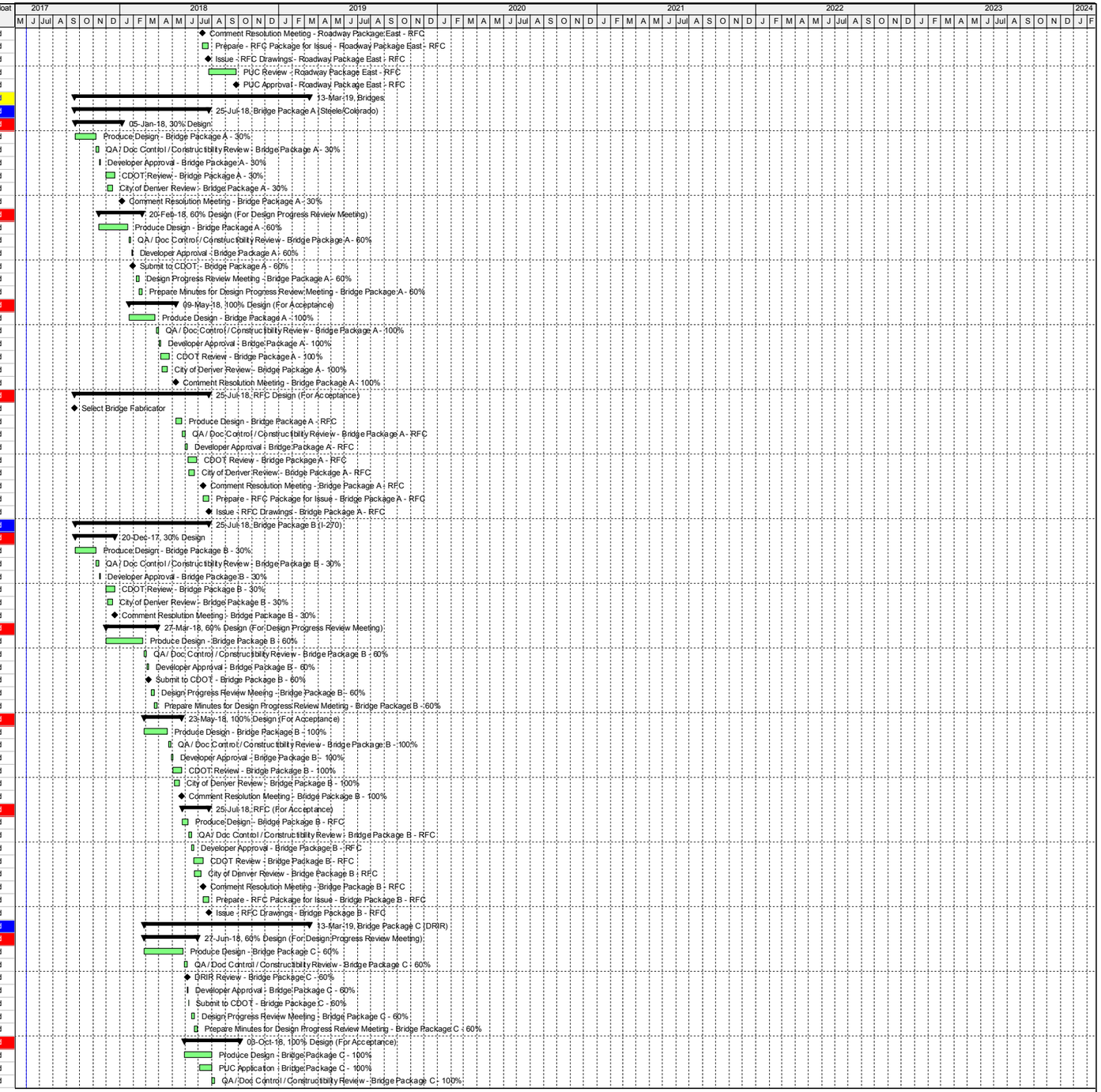
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
DSN.RD.W1.RFC.030	CDOT Review - Roadway Package West 1 - RFC	15d	09-Aug-18	29-Aug-18	56d
DSN.RD.W1.RFC.025	City of Denver Review - Roadway Package West 1 - RFC	10d	13-Aug-18	24-Aug-18	61d
DSN.RD.W1.RFC.035	Comment Resolution Meeting - Roadway Package West 1 - RFC	0d		06-Sep-18	58d
DSN.RD.W1.RFC.040	Prepare - RFC Package for Issue - Roadway Package West 1 - RFC	10d	07-Sep-18	20-Sep-18	58d
DSN.RD.W1.RFC.045	Issue - RFC Drawings - Roadway Package West 1 - RFC	0d		20-Sep-18	58d
DSN.RD.W1.RFC.050	PUC Review - Roadway Package West 1 - RFC	45d	21-Sep-18	26-Nov-18	826d
DSN.RD.W1.RFC.055	PUC Approval - Roadway Package West 1 - RFC	0d		26-Nov-18	826d
Roadway Package West 2 - I-70 West		**233d**	**26-Mar-18**	**22-Mar-19**	**695d**
60% Design (For Design Progress Review Meeting)		**92d**	**26-Mar-18**	**02-Aug-18**	**133d**
DSN.RD.W2.60.005	Produce Design - Roadway Package West 2 - 60%	70d	26-Mar-18	02-Jul-18	115d
DSN.RD.W2.60.010	QA / Doc Control / Constructibility Review - Roadway Package West 2 - 60%	5d	03-Jul-18	10-Jul-18	133d
DSN.RD.W2.60.015	Developer Approval - Roadway Package West 2 - 60%	3d	11-Jul-18	13-Jul-18	133d
DSN.RD.W2.60.020	City of Denver Review - Roadway Package West 2 - 60%	0d		13-Jul-18	133d
DSN.RD.W2.60.025	Developer Approval - Roadway Package West 2 - 60%	5d	23-Jul-18	27-Jul-18	133d
DSN.RD.W2.60.030	Comment Resolution Meeting - Roadway Package West 2 - 60%	4d	30-Jul-18	02-Aug-18	133d
100% Design (For Approval)		**80d**	**03-Jul-18**	**30-Oct-18**	**103d**
DSN.RD.W2.100.005	Produce Design - Roadway Package West 2 - 100%	50d	03-Jul-18	12-Sep-18	115d
DSN.RD.W2.100.010	PUC Application - Roadway Package West 2 - 100%	20d	15-Aug-18	12-Sep-18	115d
DSN.RD.W2.100.015	Produce Design - Roadway Package West 2 - 100%	5d	13-Sep-18	19-Sep-18	115d
DSN.RD.W2.100.020	Developer Approval - Roadway Package West 2 - 100%	3d	20-Sep-18	24-Sep-18	115d
DSN.RD.W2.100.030	CDOT Review - Roadway Package West 2 - 100%	15d	25-Sep-18	16-Oct-18	109d
DSN.RD.W2.100.025	City of Denver Review - Roadway Package West 2 - 100%	10d	27-Sep-18	10-Oct-18	119d
DSN.RD.W2.100.035	Comment Resolution Meeting - Roadway Package West 2 - 100%	0d		30-Oct-18	115d
RFC Design (For Approval)		**88d**	**31-Oct-18**	**22-Mar-19**	**695d**
DSN.RD.W2.RFC.005	Produce Design - Roadway Package West 2 - RFC	10d	31-Oct-18	13-Nov-18	115d
DSN.RD.W2.RFC.010	PUC Application - Roadway Package West 2 - RFC	10d	31-Oct-18	13-Nov-18	115d
DSN.RD.W2.RFC.015	QA / Doc Control / Constructibility Review - Roadway Package West 2 - RFC	5d	14-Nov-18	20-Nov-18	115d
DSN.RD.W2.RFC.020	Developer Approval - Roadway Package West 2 - RFC	3d	21-Nov-18	27-Nov-18	115d
DSN.RD.W2.RFC.030	CDOT Review - Roadway Package West 2 - RFC	15d	28-Nov-18	18-Dec-18	110d
DSN.RD.W2.RFC.025	City of Denver Review - Roadway Package West 2 - RFC	10d	30-Nov-18	13-Dec-18	118d
DSN.RD.W2.RFC.035	Comment Resolution Meeting - Roadway Package West 2 - RFC	0d		04-Jan-19	115d
DSN.RD.W2.RFC.040	Prepare - RFC Package for Issue - Roadway Package West 2 - RFC	10d	07-Jan-19	18-Jan-19	115d
DSN.RD.W2.RFC.045	Issue - RFC Drawings - Roadway Package West 2 - RFC	0d		18-Jan-19	115d
DSN.RD.W2.RFC.050	PUC Review - Roadway Package West 2 - RFC	45d	21-Jan-19	22-Mar-19	745d
DSN.RD.W2.RFC.055	PUC Approval - Roadway Package West 2 - RFC	0d		22-Mar-19	745d
Roadway Package Center - I-70 Center		**186d**	**26-Feb-18**	**04-Dec-18**	**89d**
60% Design (For Design Progress Review Meeting)		**81d**	**26-Feb-18**	**27-Jun-18**	**106d**
DSN.RD.C.60.005	Produce Design - Roadway Package Center - 60%	65d	26-Feb-18	25-May-18	98d
DSN.RD.C.60.010	QA / Doc Control / Constructibility Review - Roadway Package Center - 60%	5d	29-May-18	04-Jun-18	111d
DSN.RD.C.60.015	Developer Approval - Roadway Package Center - 60%	3d	05-Jun-18	07-Jun-18	111d
DSN.RD.C.60.020	Submit to CDOT - Roadway Package Center - 60%	0d		07-Jun-18	109d
DSN.RD.C.60.025	Design Progress Review Meeting - Roadway Package Center - 60%	5d	15-Jun-18	21-Jun-18	111d
DSN.RD.C.60.030	Prepare Minutes for Design Progress Review Meeting - Roadway Package Center - 60%	4d	22-Jun-18	27-Jun-18	111d
100% Design (For Approval)		**75d**	**29-May-18**	**17-Sep-18**	**90d**
DSN.RD.C.100.005	Produce Design - Roadway Package Center - 100%	45d	29-May-18	31-Jul-18	98d
DSN.RD.C.100.010	QA / Doc Control / Constructibility Review - Roadway Package Center - 100%	5d	01-Aug-18	07-Aug-18	98d
DSN.RD.C.100.015	Developer Approval - Roadway Package Center - 100%	3d	08-Aug-18	10-Aug-18	98d
DSN.RD.C.100.025	CDOT Review - Roadway Package Center - 100%	15d	13-Aug-18	31-Aug-18	96d
DSN.RD.C.100.020	City of Denver Review - Roadway Package Center - 100%	10d	15-Aug-18	28-Aug-18	104d
DSN.RD.C.100.030	Comment Resolution Meeting - Roadway Package Center - 100%	0d		17-Sep-18	101d
RFC Design (For Approval)		**51d**	**18-Sep-18**	**04-Dec-18**	**89d**
DSN.RD.C.RFC.005	Produce Design - Roadway Package Center - RFC	10d	18-Sep-18	01-Oct-18	101d
DSN.RD.C.RFC.010	QA / Doc Control / Constructibility Review - Roadway Package Center - RFC	5d	02-Oct-18	08-Oct-18	101d
DSN.RD.C.RFC.015	QA / Doc Control / Constructibility Review - Roadway Package Center - RFC	3d	09-Oct-18	11-Oct-18	101d
DSN.RD.C.RFC.025	CDOT Review - Roadway Package Center - RFC	15d	12-Oct-18	01-Nov-18	96d
DSN.RD.C.RFC.020	City of Denver Review - Roadway Package Center - RFC	10d	16-Oct-18	29-Oct-18	105d
DSN.RD.C.RFC.030	Comment Resolution Meeting - Roadway Package Center - RFC	0d		16-Nov-18	101d
DSN.RD.C.RFC.035	Prepare - RFC Package for Issue - Roadway Package Center - RFC	10d	19-Nov-18	04-Dec-18	101d
DSN.RD.C.RFC.040	Issue - RFC Drawings - Roadway Package Center - RFC	0d		04-Dec-18	101d
Roadway Package East - I-70 East		**169d**	**11-Jan-18**	**25-Sep-18**	**806d**
60% Design (For Design Progress Review Meeting)		**57d**	**11-Jan-18**	**09-Apr-18**	**533d**
DSN.RD.E.60.005	Produce Design - Roadway Package East - 60%	40d	11-Jan-18	07-Mar-18	565d
DSN.RD.E.60.010	QA / Doc Control / Constructibility Review - Roadway Package East - 60%	5d	08-Mar-18	14-Mar-18	573d
DSN.RD.E.60.015	Developer Approval - Roadway Package East - 60%	3d	15-Mar-18	19-Mar-18	573d
DSN.RD.E.60.020	City of Denver Review - Roadway Package East - 60%	0d		19-Mar-18	573d
DSN.RD.E.60.025	CDOT Review - Roadway Package East - 60%	5d	27-Mar-18	03-Apr-18	560d
DSN.RD.E.60.030	Comment Resolution Meeting - Roadway Package East - 60%	4d	04-Apr-18	09-Apr-18	572d
100% Design (For Approval)		**58d**	**22-Feb-18**	**21-May-18**	**527d**
DSN.RD.E.100.010	PUC Application - Roadway Package East - 100%	40d	22-Feb-18	18-Apr-18	565d
DSN.RD.E.100.005	Produce Design - Roadway Package East - 100%	30d	08-Mar-18	18-Apr-18	565d
DSN.RD.E.100.015	QA / Doc Control / Constructibility Review - Roadway Package East - 100%	5d	19-Apr-18	25-Apr-18	565d
DSN.RD.E.100.020	Developer Approval - Roadway Package East - 100%	3d	26-Apr-18	30-Apr-18	565d
DSN.RD.E.100.030	CDOT Review - Roadway Package East - 100%	15d	01-May-18	21-May-18	553d
DSN.RD.E.100.025	City of Denver Review - Roadway Package East - 100%	10d	03-May-18	16-May-18	568d
DSN.RD.E.100.035	Comment Resolution Meeting - Roadway Package East - 100%	0d		21-May-18	565d
RFC Design (For Approval)		**85d**	**22-May-18**	**25-Sep-18**	**806d**
DSN.RD.E.RFC.005	Produce Design - Roadway Package East - RFC	10d	22-May-18	05-Jun-18	565d
DSN.RD.E.RFC.010	PUC Application - Roadway Package East - RFC	10d	22-May-18	05-Jun-18	565d
DSN.RD.E.RFC.015	QA / Doc Control / Constructibility Review - Roadway Package East - RFC	5d	06-Jun-18	12-Jun-18	565d
DSN.RD.E.RFC.020	Developer Approval - Roadway Package East - RFC	3d	13-Jun-18	15-Jun-18	565d
DSN.RD.E.RFC.030	CDOT Review - Roadway Package East - RFC	15d	18-Jun-18	09-Jul-18	553d
DSN.RD.E.RFC.025	City of Denver Review - Roadway Package East - RFC	10d	20-Jun-18	03-Jul-18	568d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

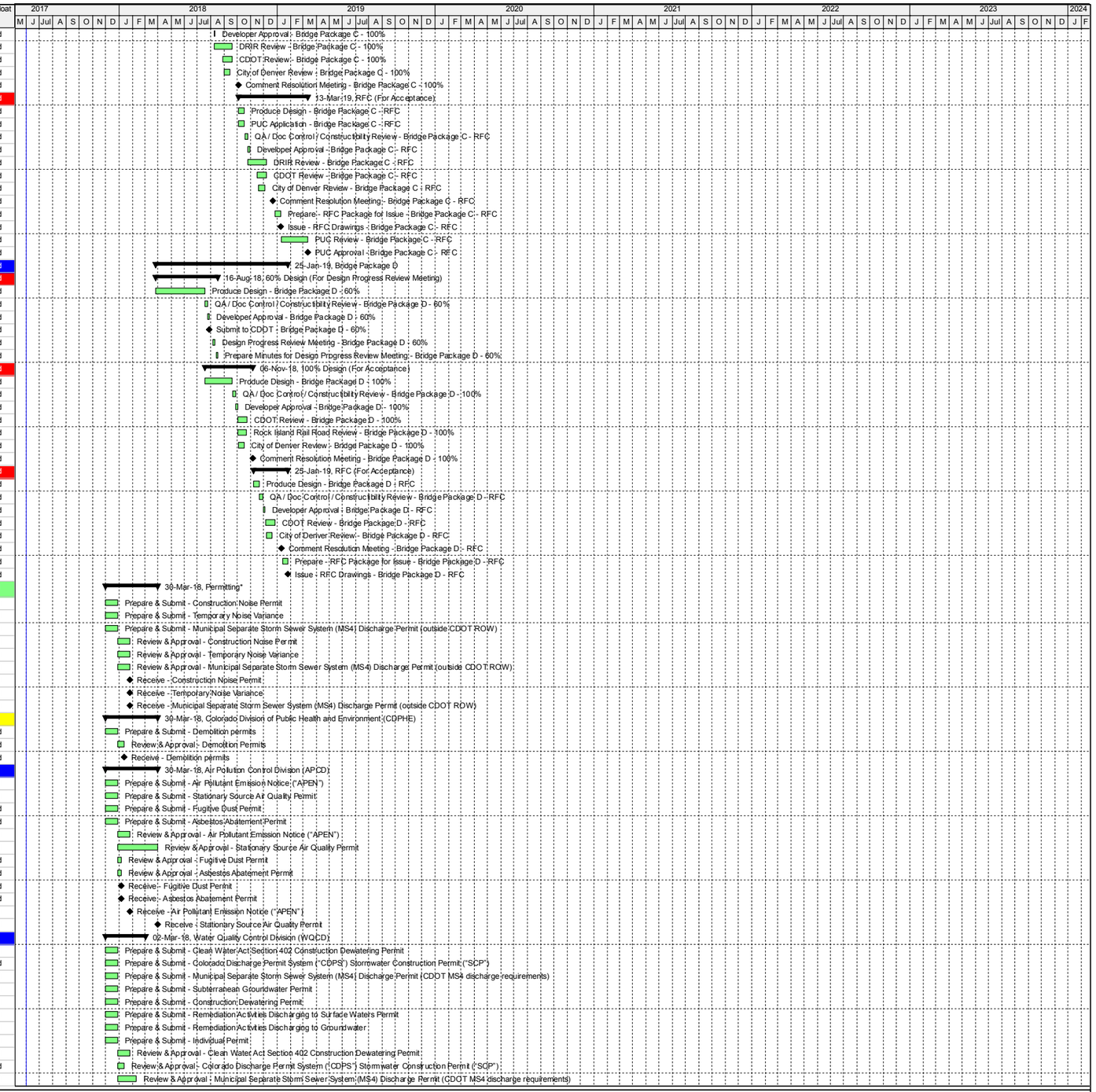
Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
DSN.RD.E.RFC.035	Comment Resolution Meeting - Roadway Package East - RFC	0d		09-Jul-18	565d
DSN.RD.E.RFC.040	Prepare - RFC Package for Issue - Roadway Package East - RFC	10d	10-Jul-18	23-Jul-18	565d
DSN.RD.E.RFC.045	Issue - RFC Drawings - Roadway Package East - RFC	0d		23-Jul-18	565d
DSN.RD.E.RFC.050	PUC Review - Roadway Package East - RFC	45d	24-Jul-18	25-Sep-18	868d
DSN.RD.E.RFC.055	PUC Approval - Roadway Package East - RFC	0d		25-Sep-18	868d
Bridges		**341d**	**19-Sep-17**	**13-Mar-19**	**701d**
Bridge Package A (Steele/Colorado)		**194d**	**19-Sep-17**	**25-Jul-18**	**848d**
30% Design		**64d**	**20-Sep-17**	**05-Jan-18**	**226d**
DSN.BR.A.30.005	Produce Design - Bridge Package A - 30%	35d	20-Sep-17	07-Nov-17	245d
DSN.BR.A.30.010	QA / Doc Control / Constructibility Review - Bridge Package A - 30%	5d	08-Nov-17	14-Nov-17	246d
DSN.BR.A.30.015	Developer Approval - Bridge Package A - 30%	3d	15-Nov-17	17-Nov-17	246d
DSN.BR.A.30.025	CDOT Review - Bridge Package A - 30%	15d	30-Nov-17	20-Dec-17	236d
DSN.BR.A.30.020	City of Denver Review - Bridge Package A - 30%	10d	04-Dec-17	15-Dec-17	244d
DSN.BR.A.30.030	Comment Resolution Meeting - Bridge Package A - 30%	0d		05-Jan-18	241d
60% Design (For Design Progress Review Meeting)		**55d**	**14-Nov-17**	**20-Feb-18**	**474d**
DSN.BR.A.60.005	Produce Design - Bridge Package A - 60%	45d	14-Nov-17	19-Jan-18	241d
DSN.BR.A.60.010	QA / Doc Control / Constructibility Review - Bridge Package A - 60%	5d	22-Jan-18	26-Jan-18	511d
DSN.BR.A.60.015	Developer Approval - Bridge Package A - 60%	3d	29-Jan-18	31-Jan-18	511d
DSN.BR.A.60.020	Submit to CDOT - Bridge Package A - 60%	0d		31-Jan-18	511d
DSN.BR.A.60.025	Design Progress Review Meeting - Bridge Package A - 60%	5d	08-Feb-18	14-Feb-18	498d
DSN.BR.A.60.030	Prepare Minutes for Design Progress Review Meeting - Bridge Package A - 60%	4d	15-Feb-18	20-Feb-18	511d
100% Design (For Acceptance)		**71d**	**22-Jan-18**	**09-May-18**	**455d**
DSN.BR.A.100.005	Produce Design - Bridge Package A - 100%	45d	22-Jan-18	23-Mar-18	488d
DSN.BR.A.100.010	QA / Doc Control / Constructibility Review - Bridge Package A - 100%	5d	26-Mar-18	30-Mar-18	488d
DSN.BR.A.100.015	Developer Approval - Bridge Package A - 100%	3d	02-Apr-18	04-Apr-18	488d
DSN.BR.A.100.025	CDOT Review - Bridge Package A - 100%	15d	05-Apr-18	25-Apr-18	477d
DSN.BR.A.100.020	City of Denver Review - Bridge Package A - 100%	10d	09-Apr-18	20-Apr-18	492d
DSN.BR.A.100.030	Comment Resolution Meeting - Bridge Package A - 100%	0d		09-May-18	489d
RFC Design (For Acceptance)		**194d**	**19-Sep-17**	**25-Jul-18**	**848d**
DSN.BR.A.RFC.045	Select Bridge Fabricator	0d		19-Sep-17	600d
DSN.BR.A.RFC.005	Produce Design - Bridge Package A - RFC	10d	10-May-18	23-May-18	910d
DSN.BR.A.RFC.010	QA / Doc Control / Constructibility Review - Bridge Package A - RFC	5d	24-May-18	31-May-18	910d
DSN.BR.A.RFC.015	Developer Approval - Bridge Package A - RFC	3d	01-Jun-18	05-Jun-18	910d
DSN.BR.A.RFC.025	CDOT Review - Bridge Package A - RFC	15d	06-Jun-18	26-Jun-18	892d
DSN.BR.A.RFC.020	City of Denver Review - Bridge Package A - RFC	10d	08-Jun-18	21-Jun-18	914d
DSN.BR.A.RFC.030	Comment Resolution Meeting - Bridge Package A - RFC	0d		11-Jul-18	911d
DSN.BR.A.RFC.035	Prepare - RFC Package for Issue - Bridge Package A - RFC	10d	12-Jul-18	25-Jul-18	911d
DSN.BR.A.RFC.040	Issue - RFC Drawings - Bridge Package A - RFC	0d		25-Jul-18	911d
Bridge Package B (I-270)		**194d**	**20-Sep-17**	**25-Jul-18**	**848d**
30% Design		**58d**	**20-Sep-17**	**20-Dec-17**	**573d**
DSN.BR.B.30.005	Produce Design - Bridge Package B - 30%	35d	20-Sep-17	07-Nov-17	600d
DSN.BR.B.30.010	QA / Doc Control / Constructibility Review - Bridge Package B - 30%	5d	08-Nov-17	14-Nov-17	627d
DSN.BR.B.30.015	Developer Approval - Bridge Package B - 30%	3d	15-Nov-17	17-Nov-17	627d
DSN.BR.B.30.025	CDOT Review - Bridge Package B - 30%	15d	30-Nov-17	20-Dec-17	606d
DSN.BR.B.30.020	City of Denver Review - Bridge Package B - 30%	10d	04-Dec-17	15-Dec-17	624d
DSN.BR.B.30.030	Comment Resolution Meeting - Bridge Package B - 30%	0d		20-Dec-17	621d
60% Design (For Design Progress Review Meeting)		**70d**	**30-Nov-17**	**27-Mar-18**	**563d**
DSN.BR.B.60.005	Produce Design - Bridge Package B - 60%	60d	30-Nov-17	23-Feb-18	586d
DSN.BR.B.60.010	QA / Doc Control / Constructibility Review - Bridge Package B - 60%	5d	26-Feb-18	02-Mar-18	604d
DSN.BR.B.60.015	Developer Approval - Bridge Package B - 60%	3d	05-Mar-18	07-Mar-18	604d
DSN.BR.B.60.020	Submit to CDOT - Bridge Package B - 60%	0d		07-Mar-18	604d
DSN.BR.B.60.025	Design Progress Review Meeing - Bridge Package B - 60%	5d	15-Mar-18	21-Mar-18	591d
DSN.BR.B.60.030	Prepare Minutes for Design Progress Review Meeting - Bridge Package B - 60%	4d	22-Mar-18	27-Mar-18	604d
100% Design (For Acceptance)		**63d**	**26-Feb-18**	**23-May-18**	**586d**
DSN.BR.B.100.005	Produce Design - Bridge Package B - 100%	40d	26-Feb-18	20-Apr-18	586d
DSN.BR.B.100.010	QA / Doc Control / Constructibility Review - Bridge Package B - 100%	5d	23-Apr-18	27-Apr-18	586d
DSN.BR.B.100.015	Developer Approval - Bridge Package B - 100%	3d	30-Apr-18	02-May-18	586d
DSN.BR.B.100.025	CDOT Review - Bridge Package B - 100%	15d	03-May-18	23-May-18	586d
DSN.BR.B.100.020	City of Denver Review - Bridge Package B - 100%	10d	07-May-18	18-May-18	589d
DSN.BR.B.100.030	Comment Resolution Meeting - Bridge Package B - 100%	0d		23-May-18	586d
RFC (For Acceptance)		**41d**	**24-May-18**	**25-Jul-18**	**848d**
DSN.BR.B.RFC.005	Produce Design - Bridge Package B - RFC	10d	24-May-18	07-Jun-18	911d
DSN.BR.B.RFC.010	QA / Doc Control / Constructibility Review - Bridge Package B - RFC	5d	08-Jun-18	14-Jun-18	911d
DSN.BR.B.RFC.015	Developer Approval - Bridge Package B - RFC	3d	15-Jun-18	19-Jun-18	911d
DSN.BR.B.RFC.025	CDOT Review - Bridge Package B - RFC	15d	20-Jun-18	11-Jul-18	892d
DSN.BR.B.RFC.020	City of Denver Review - Bridge Package B - RFC	10d	22-Jun-18	06-Jul-18	914d
DSN.BR.B.RFC.030	Comment Resolution Meeting - Bridge Package B - RFC	0d		11-Jul-18	911d
DSN.BR.B.RFC.035	Prepare - RFC Package for Issue - Bridge Package B - RFC	10d	12-Jul-18	25-Jul-18	911d
DSN.BR.B.RFC.040	Issue - RFC Drawings - Bridge Package B - RFC	0d		25-Jul-18	911d
Bridge Package C (DRIR)		**246d**	**26-Feb-18**	**13-Mar-19**	**701d**
60% Design (For Design Progress Review Meeting)		**81d**	**26-Feb-18**	**27-Jun-18**	**485d**
DSN.BR.C.60.005	Produce Design - Bridge Package C - 60%	65d	26-Feb-18	25-May-18	507d
DSN.BR.C.60.010	QA / Doc Control / Constructibility Review - Bridge Package C - 60%	5d	29-May-18	04-Jun-18	520d
DSN.BR.C.60.020	DRIR Review - Bridge Package C - 60%	0d		04-Jun-18	523d
DSN.BR.C.60.015	Developer Approval - Bridge Package C - 60%	3d	05-Jun-18	07-Jun-18	520d
DSN.BR.C.60.025	Submit to CDOT - Bridge Package C - 60%	0d	08-Jun-18	08-Jun-18	508d
DSN.BR.C.60.030	Design Progress Review Meeting - Bridge Package C - 60%	5d	15-Jun-18	21-Jun-18	520d
DSN.BR.C.60.035	Prepare Minutes for Design Progress Review Meeting - Bridge Package C - 60%	4d	22-Jun-18	27-Jun-18	520d
100% Design (For Acceptance)		**87d**	**29-May-18**	**03-Oct-18**	**471d**
DSN.BR.C.100.005	Produce Design - Bridge Package C - 100%	45d	29-May-18	31-Jul-18	507d
DSN.BR.C.100.010	PUC Application - Bridge Package C - 100%	20d	03-Jul-18	31-Jul-18	507d
DSN.BR.C.100.015	QA / Doc Control / Constructibility Review - Bridge Package C - 100%	5d	01-Aug-18	07-Aug-18	507d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
DSN.BR.C.100.020	Developer Approval - Bridge Package C - 100%	3d	08-Aug-18	10-Aug-18	519d
DSN.BR.C.100.022	DRIR Review - Bridge Package C - 100%	30d	08-Aug-18	19-Sep-18	507d
DSN.BR.C.100.030	CDOT Review - Bridge Package C - 100%	15d	29-Aug-18	19-Sep-18	495d
DSN.BR.C.100.025	City of Denver Review - Bridge Package C - 100%	10d	31-Aug-18	14-Sep-18	510d
DSN.BR.C.100.035	Comment Resolution Meeting - Bridge Package C - 100%	0d		03-Oct-18	507d
RFC (For Acceptance)		**99d**	**04-Oct-18**	**13-Mar-19**	**701d**
DSN.BR.C.RFC.005	Produce Design - Bridge Package C - RFC	10d	04-Oct-18	17-Oct-18	507d
DSN.BR.C.RFC.010	PUC Application - Bridge Package C - RFC	10d	04-Oct-18	17-Oct-18	507d
DSN.BR.C.RFC.015	QA / Doc Control / Constructibility Review - Bridge Package C - RFC	5d	18-Oct-18	24-Oct-18	507d
DSN.BR.C.RFC.020	Developer Approval - Bridge Package C - RFC	3d	25-Oct-18	29-Oct-18	519d
DSN.BR.C.RFC.022	DRIR Review - Bridge Package C - RFC	30d	25-Oct-18	07-Dec-18	507d
DSN.BR.C.RFC.030	CDOT Review - Bridge Package C - RFC	15d	15-Nov-18	07-Dec-18	495d
DSN.BR.C.RFC.025	City of Denver Review - Bridge Package C - RFC	10d	19-Nov-18	04-Dec-18	510d
DSN.BR.C.RFC.035	Comment Resolution Meeting - Bridge Package C - RFC	0d		21-Dec-18	507d
DSN.BR.C.RFC.040	Prepare - RFC Package for Issue - Bridge Package C - RFC	10d	26-Dec-18	09-Jan-19	507d
DSN.BR.C.RFC.045	Issue - RFC Drawings - Bridge Package C - RFC	0d		09-Jan-19	507d
DSN.BR.C.RFC.050	PUC Review - Bridge Package C - RFC	45d	10-Jan-19	13-Mar-19	752d
DSN.BR.C.RFC.055	PUC Approval - Bridge Package C - RFC	0d		13-Mar-19	752d
Bridge Package D		**195d**	**26-Mar-18**	**25-Jan-19**	**165d**
60% Design (For Design Progress Review Meeting)		**95d**	**26-Mar-18**	**16-Aug-18**	**174d**
DSN.BR.D.60.005	Produce Design - Bridge Package D - 60%	80d	26-Mar-18	17-Jul-18	176d
DSN.BR.D.60.010	QA / Doc Control / Constructibility Review - Bridge Package D - 60%	5d	18-Jul-18	24-Jul-18	189d
DSN.BR.D.60.015	Developer Approval - Bridge Package D - 60%	3d	25-Jul-18	27-Jul-18	189d
DSN.BR.D.60.020	Submit to CDOT - Bridge Package D - 60%	0d		27-Jul-18	182d
DSN.BR.D.60.025	Design Progress Review Meeting - Bridge Package D - 60%	5d	06-Aug-18	10-Aug-18	189d
DSN.BR.D.60.030	Prepare Minutes for Design Progress Review Meeting - Bridge Package D - 60%	4d	13-Aug-18	16-Aug-18	189d
100% Design (For Acceptance)		**75d**	**18-Jul-18**	**06-Nov-18**	**160d**
DSN.BR.D.100.005	Produce Design - Bridge Package D - 100%	45d	18-Jul-18	19-Sep-18	176d
DSN.BR.D.100.010	QA / Doc Control / Constructibility Review - Bridge Package D - 100%	5d	20-Sep-18	26-Sep-18	176d
DSN.BR.D.100.015	Developer Approval - Bridge Package D - 100%	3d	27-Sep-18	01-Oct-18	176d
DSN.BR.D.100.025	CDOT Review - Bridge Package D - 100%	15d	02-Oct-18	23-Oct-18	169d
DSN.BR.D.100.030	Rock Island Rail Road Review - Bridge Package D - 100%	15d	02-Oct-18	22-Oct-18	176d
DSN.BR.D.100.020	City of Denver Review - Bridge Package D - 100%	10d	04-Oct-18	17-Oct-18	179d
DSN.BR.D.100.035	Comment Resolution Meeting - Bridge Package D - 100%	0d		06-Nov-18	175d
RFC (For Acceptance)		**45d**	**07-Nov-18**	**25-Jan-19**	**165d**
DSN.BR.D.RFC.005	Produce Design - Bridge Package D - RFC	10d	07-Nov-18	20-Nov-18	175d
DSN.BR.D.RFC.010	QA / Doc Control / Constructibility Review - Bridge Package D - RFC	5d	21-Nov-18	29-Nov-18	175d
DSN.BR.D.RFC.015	Developer Approval - Bridge Package D - RFC	3d	30-Nov-18	04-Dec-18	175d
DSN.BR.D.RFC.025	CDOT Review - Bridge Package D - RFC	15d	05-Dec-18	27-Dec-18	170d
DSN.BR.D.RFC.020	City of Denver Review - Bridge Package D - RFC	10d	07-Dec-18	20-Dec-18	178d
DSN.BR.D.RFC.035	Comment Resolution Meeting - Bridge Package D - RFC	0d		11-Jan-19	175d
DSN.BR.D.RFC.040	Prepare - RFC Package for Issue - Bridge Package D - RFC	10d	14-Jan-19	25-Jan-19	175d
DSN.BR.D.RFC.045	Issue - RFC Drawings - Bridge Package D - RFC	0d		25-Jan-19	175d
Permitting*		**73d**	**30-Nov-17**	**30-Mar-18**	**48d**
PMT.PS.AHJ.005	Prepare & Submit - Construction Noise Permit	20d	30-Nov-17	28-Dec-17	97d
PMT.PS.AHJ.010	Prepare & Submit - Temporary Noise Variance	20d	30-Nov-17	28-Dec-17	97d
PMT.PS.AHJ.015	Prepare & Submit - Municipal Separate Storm Sewer System (MS4) Discharge Permit (outside CDOT ROW)	20d	30-Nov-17	28-Dec-17	97d
PMT.RA.AHJ.005	Review & Approval - Construction Noise Permit	20d	29-Dec-17	26-Jan-18	97d
PMT.RA.AHJ.010	Review & Approval - Temporary Noise Variance	20d	29-Dec-17	26-Jan-18	97d
PMT.RA.AHJ.015	Review & Approval - Municipal Separate Storm Sewer System (MS4) Discharge Permit (outside CDOT ROW)	20d	29-Dec-17	26-Jan-18	97d
PMT.RCV.AHJ.005	Receive - Construction Noise Permit	0d		26-Jan-18	97d
PMT.RCV.AHJ.010	Receive - Temporary Noise Variance	0d		26-Jan-18	97d
PMT.RCV.AHJ.015	Receive - Municipal Separate Storm Sewer System (MS4) Discharge Permit (outside CDOT ROW)	0d		26-Jan-18	97d
Colorado Division of Public Health and Environment (CDPHE)		**85d**	**30-Nov-17**	**30-Mar-18**	**52d**
PMT.PS.CDPHE.025	Prepare & Submit - Demolition permits	20d	30-Nov-17	28-Dec-17	107d
PMT.RA.CDPHE.025	Review & Approval - Demolition Permits	10d	29-Dec-17	12-Jan-18	107d
PMT.RCV.CDPHE.025	Receive - Demolition permits	0d		12-Jan-18	107d
Air Pollution Control Division (APCD)		**85d**	**30-Nov-17**	**30-Mar-18**	**52d**
PMT.PS.CDPHE.005	Prepare & Submit - Air Pollutant Emission Notice ("APEN")	20d	30-Nov-17	28-Dec-17	97d
PMT.PS.CDPHE.010	Prepare & Submit - Stationary Source Air Quality Permit	20d	30-Nov-17	28-Dec-17	52d
PMT.PS.CDPHE.015	Prepare & Submit - Fugitive Dust Permit	20d	30-Nov-17	28-Dec-17	112d
PMT.PS.CDPHE.020	Prepare & Submit - Asbestos Abatement Permit	20d	30-Nov-17	28-Dec-17	112d
PMT.RA.CDPHE.005	Review & Approval - Air Pollutant Emission Notice ("APEN")	20d	29-Dec-17	26-Jan-18	97d
PMT.RA.CDPHE.010	Review & Approval - Stationary Source Air Quality Permit	65d	29-Dec-17	30-Mar-18	52d
PMT.RA.CDPHE.015	Review & Approval - Fugitive Dust Permit	5d	29-Dec-17	05-Jan-18	112d
PMT.RA.CDPHE.020	Review & Approval - Asbestos Abatement Permit	5d	29-Dec-17	05-Jan-18	112d
PMT.RCV.CDPHE.015	Receive - Fugitive Dust Permit	0d		05-Jan-18	112d
PMT.RCV.CDPHE.020	Receive - Asbestos Abatement Permit	0d		05-Jan-18	112d
PMT.RCV.CDPHE.005	Receive - Air Pollutant Emission Notice ("APEN")	0d		26-Jan-18	97d
PMT.RCV.CDPHE.010	Receive - Stationary Source Air Quality Permit	0d		30-Mar-18	52d
Water Quality Control Division (WQCD)		**65d**	**30-Nov-17**	**02-Mar-18**	**72d**
PMT.PS.CDPHE.030	Prepare & Submit - Clean Water Act Section 402 Construction Dewatering Permit	20d	30-Nov-17	28-Dec-17	97d
PMT.PS.CDPHE.035	Prepare & Submit - Colorado Discharge Permit System ("CDPS") Stormwater Construction Permit ("SCP")	20d	30-Nov-17	28-Dec-17	107d
PMT.PS.CDPHE.040	Prepare & Submit - Municipal Separate Storm Sewer System (MS4) Discharge Permit (CDOT MS4 discharge requirement	20d	30-Nov-17	28-Dec-17	87d
PMT.PS.CDPHE.045	Prepare & Submit - Subterranean Groundwater Permit	20d	30-Nov-17	28-Dec-17	97d
PMT.PS.CDPHE.050	Prepare & Submit - Construction Dewatering Permit	20d	30-Nov-17	28-Dec-17	72d
PMT.PS.CDPHE.055	Prepare & Submit - Remediation Activities Discharging to Surface Waters Permit	20d	30-Nov-17	28-Dec-17	72d
PMT.PS.CDPHE.060	Prepare & Submit - Remediation Activities Discharging to Groundwater	20d	30-Nov-17	28-Dec-17	72d
PMT.PS.CDPHE.065	Prepare & Submit - Individual Permit	20d	30-Nov-17	28-Dec-17	97d
PMT.RA.CDPHE.030	Review & Approval - Clean Water Act Section 402 Construction Dewatering Permit	20d	29-Dec-17	26-Jan-18	97d
PMT.RA.CDPHE.035	Review & Approval - Colorado Discharge Permit System ("CDPS") Stormwater Construction Permit ("SCP")	10d	29-Dec-17	12-Jan-18	107d
PMT.RA.CDPHE.040	Review & Approval - Municipal Separate Storm Sewer System (MS4) Discharge Permit (CDOT MS4 discharge requiremer	30d	29-Dec-17	09-Feb-18	87d

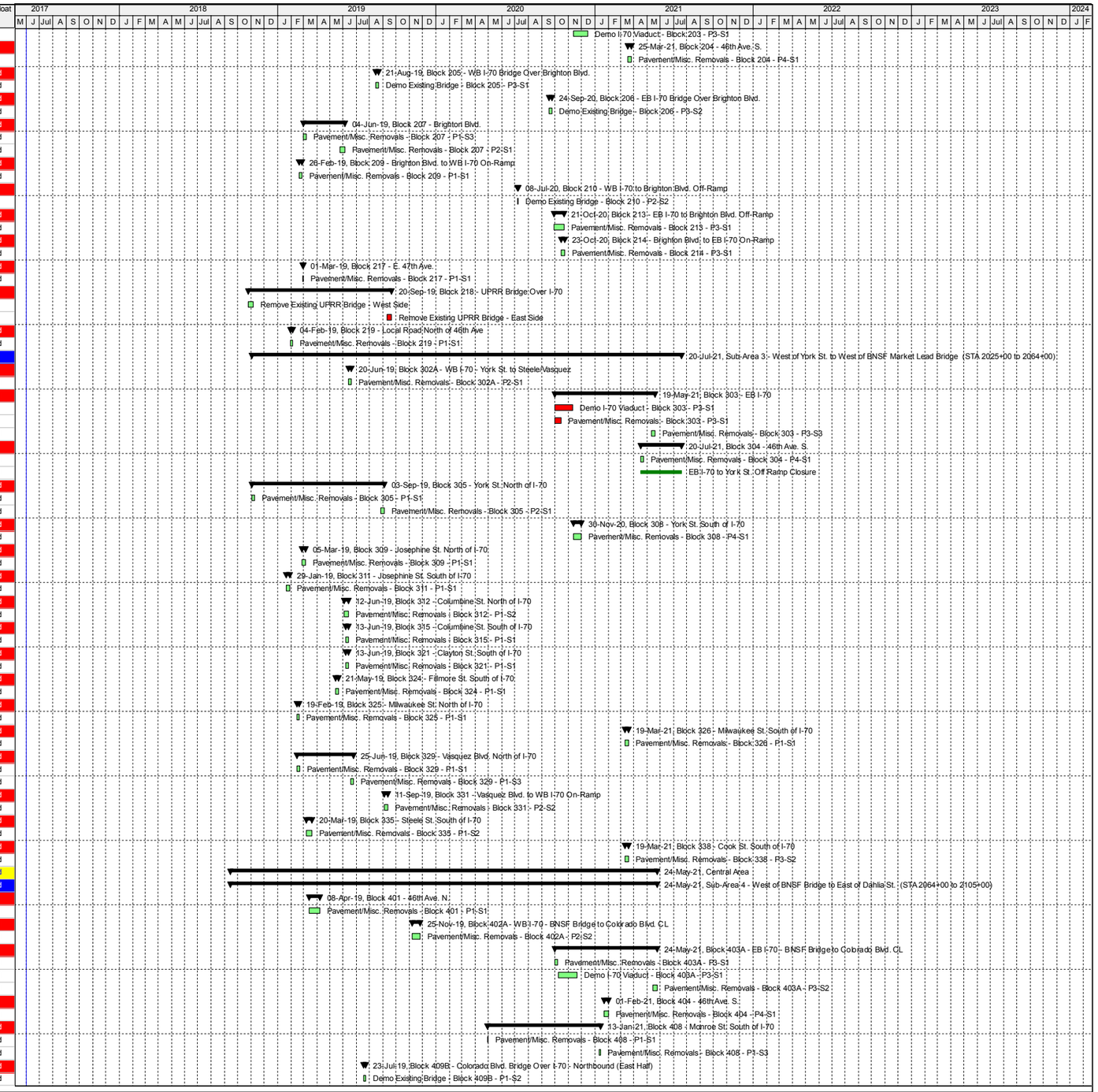


Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
PMT.RA.CDPHE.045	Review & Approval - Subterranean Groundwater Permit	20d	29-Dec-17	26-Jan-18	97d
PMT.RA.CDPHE.050	Review & Approval - Construction Dewatering Permit	45d	29-Dec-17	02-Mar-18	72d
PMT.RA.CDPHE.055	Review & Approval - Remediation Activities Discharging to Surface Waters Permit	45d	29-Dec-17	02-Mar-18	72d
PMT.RA.CDPHE.060	Review & Approval - Remediation Activities Discharging to Groundwater	45d	29-Dec-17	02-Mar-18	72d
PMT.RA.CDPHE.065	Review & Approval - Individual Permit	20d	29-Dec-17	26-Jan-18	97d
PMT.RCV.CDPHE.035	Receive - Colorado Discharge Permit System ("CDPS") Stormwater Construction Permit ("SCP")	0d		12-Jan-18	107d
PMT.RCV.CDPHE.030	Receive - Clean Water Act Section 402 Construction Dewatering Permit	0d		26-Jan-18	97d
PMT.RCV.CDPHE.045	Receive - Subterranean Groundwater Permit	0d		26-Jan-18	97d
PMT.RCV.CDPHE.065	Receive - Individual Permit	0d		26-Jan-18	97d
PMT.RCV.CDPHE.040	Receive - Municipal Separate Storm Sewer System (MS4) Discharge Permit (CDOT MS4 discharge requirements)	0d		09-Feb-18	87d
PMT.RCV.CDPHE.050	Receive - Construction Dewatering Permit	0d		02-Mar-18	72d
PMT.RCV.CDPHE.055	Receive - Remediation Activities Discharging to Surface Waters Permit	0d		02-Mar-18	72d
PMT.RCV.CDPHE.060	Receive - Remediation Activities Discharging to Groundwater	0d		02-Mar-18	72d
Hazardous Materials and Waste Management Division (HMWMD)		20d	30-Nov-17	29-Dec-17	117d
PMT.PS.CDPHE.070	Prepare & Submit - Notification as Resource Conservation and Recovery Act ("RCRA") Generator	20d	30-Nov-17	28-Dec-17	117d
PMT.RA.CDPHE.070	Review & Approval - Notification as Resource Conservation and Recovery Act ("RCRA") Generator	0d	29-Dec-17	29-Dec-17	117d
PMT.RCV.CDPHE.070	Receive - Notification as Resource Conservation and Recovery Act ("RCRA") Generator	0d		29-Dec-17	117d
City and County of Denver (CCD)		70d	30-Nov-17	09-Mar-18	67d
PMT.PS.CCD.015	Prepare & Submit - Sewer Use and Drainage Permit ("SUDP")	20d	30-Nov-17	28-Dec-17	116d
PMT.RA.CCD.015	Review & Approval - Sewer Use and Drainage Permit ("SUDP")	1d	29-Dec-17	29-Dec-17	116d
PMT.RCV.CCD.015	Receive - Sewer Use and Drainage Permit ("SUDP")	0d		29-Dec-17	116d
Landmark Preservation Commission		70d	30-Nov-17	09-Mar-18	67d
PMT.PS.CCD.005	Prepare & Submit - Historic Structures Demolition Permit	20d	30-Nov-17	28-Dec-17	67d
PMT.RA.CCD.005	Review & Approval - Historic Structures Demolition Permit	50d	29-Dec-17	09-Mar-18	67d
PMT.RCV.CCD.005	Receive - Historic Structures Demolition Permit	0d		09-Mar-18	67d
Wastewater Management		30d	30-Nov-17	12-Jan-18	107d
PMT.PS.CCD.010	Prepare & Submit - Construction Activities Stormwater Discharge Permit ("CASDP")	20d	30-Nov-17	28-Dec-17	107d
PMT.RA.CCD.010	Review & Approval - Construction Activities Stormwater Discharge Permit ("CASDP")	10d	29-Dec-17	12-Jan-18	107d
PMT.RCV.CCD.010	Receive - Construction Activities Stormwater Discharge Permit ("CASDP")	0d		12-Jan-18	107d
Colorado Division of Water Resources (DWR)		40d	30-Nov-17	26-Jan-18	97d
PMT.PS.DWR.005	Prepare & Submit - Substitute Water Supply Plan	20d	30-Nov-17	28-Dec-17	97d
PMT.PS.DWR.010	Prepare & Submit - Notice of Intent to Construct Dewatering Wells	20d	30-Nov-17	28-Dec-17	97d
PMT.PS.DWR.015	Prepare & Submit - Well Construction and Test Reports	20d	30-Nov-17	28-Dec-17	97d
PMT.PS.DWR.020	Prepare & Submit - Dewatering Systems Well Report	20d	30-Nov-17	28-Dec-17	97d
PMT.RA.DWR.005	Review & Approval - Substitute Water Supply Plan	20d	29-Dec-17	26-Jan-18	97d
PMT.RA.DWR.010	Review & Approval - Notice of Intent to Construct Dewatering Wells	20d	29-Dec-17	26-Jan-18	97d
PMT.RA.DWR.015	Review & Approval - Well Construction and Test Reports	20d	29-Dec-17	26-Jan-18	97d
PMT.RA.DWR.020	Review & Approval - Dewatering Systems Well Report	20d	29-Dec-17	26-Jan-18	97d
PMT.RCV.DWR.005	Receive - Substitute Water Supply Plan	0d		26-Jan-18	97d
PMT.RCV.DWR.010	Receive - Notice of Intent to Construct Dewatering Wells	0d		26-Jan-18	97d
PMT.RCV.DWR.015	Receive - Well Construction and Test Reports	0d		26-Jan-18	97d
PMT.RCV.DWR.020	Receive - Dewatering Systems Well Report	0d		26-Jan-18	97d
City of Aurora		40d	30-Nov-17	26-Jan-18	97d
PMT.PS.COA.005	Prepare & Submit - Stormwater Quality Discharge Permit for Construction Activities	20d	30-Nov-17	28-Dec-17	97d
PMT.RA.COA.005	Review & Approval - Stormwater Quality Discharge Permit for Construction Activities	20d	29-Dec-17	26-Jan-18	97d
PMT.RCV.COA.005	Receive - Stormwater Quality Discharge Permit for Construction Activities	0d		26-Jan-18	97d
State of Colorado, Office of State Engineer		40d	30-Nov-17	26-Jan-18	97d
PMT.PS.OSE.005	Prepare & Submit - Well Abandonment Report (GWS-09)	20d	30-Nov-17	28-Dec-17	97d
PMT.RA.OSE.005	Review & Approval - Well Abandonment Report (GWS-09)	20d	29-Dec-17	26-Jan-18	97d
PMT.RCV.OSE.005	Receive - Well Abandonment Report (GWS-09)	0d		26-Jan-18	97d
Colorado Parks and Wildlife (CPW)		51d	30-Nov-17	26-Feb-18	70d
PMT.PS.CPW.005	Prepare & Submit - Black Tailed Prairie Dog Removal Permit	20d	30-Nov-17	28-Dec-17	97d
PMT.PS.CPW.010	Prepare & Submit - SB40 Certification/Approval	20d	30-Nov-17	28-Dec-17	75d
PMT.RA.CPW.005	Review & Approval - Black Tailed Prairie Dog Removal Permit	20d	29-Dec-17	26-Jan-18	97d
PMT.RA.CPW.010	Review & Approval - SB40 Certification/Approval	60d	29-Dec-17	26-Feb-18	107d
PMT.RCV.CPW.005	Receive - Black Tailed Prairie Dog Removal Permit	0d		26-Jan-18	97d
PMT.RCV.CPW.010	Receive - SB40 Certification/Approval	0d		26-Feb-18	76d
United States Fish and Wildlife Service (USFWS)		40d	30-Nov-17	26-Jan-18	97d
PMT.PS.USFWS.005	Prepare & Submit - Nest Take Permit	20d	30-Nov-17	28-Dec-17	97d
PMT.RA.USFWS.005	Review & Approval - Nest Take Permit	20d	29-Dec-17	26-Jan-18	97d
PMT.RCV.USFWS.005	Receive - Nest Take Permit	0d		26-Jan-18	97d
United States Army Corps of Engineers (USACE)		71d	30-Nov-17	28-Mar-18	50d
PMT.PS.USACE.005	Prepare & Submit - Clean Water Act Section 404 Permit	20d	30-Nov-17	28-Dec-17	54d
PMT.RA.USACE.005	Review & Approval - Clean Water Act Section 404 Permit	90d	29-Dec-17	28-Mar-18	77d
PMT.RCV.USACE.005	Receive - Clean Water Act Section 404 Permit	0d		28-Mar-18	54d
Colorado Department of Transportation (CDOT)		40d	30-Nov-17	26-Jan-18	97d
PMT.PS.CDOT.005	Prepare & Submit - Special Use Permit	20d	30-Nov-17	28-Dec-17	97d
PMT.RA.CDOT.005	Review & Approval - Special Use Permit	20d	29-Dec-17	26-Jan-18	97d
PMT.RCV.CDOT.005	Receive - Special Use Permit	0d		26-Jan-18	97d
Environmental Management		952d	19-Feb-18	04-Mar-22	0d
CON.ENV.JW.050	Install/Maintain/Remove Erosion Control	952d	19-Feb-18	04-Mar-22	0d
Removals/Demolition*		669d	14-Sep-18	20-Jul-21	75d
West Area		658d	01-Oct-18	20-Jul-21	73d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		580d	01-Oct-18	25-Mar-21	147d
Block 201 - 46th Ave. N.		120d	01-Oct-18	10-Apr-19	592d
CON.RMV.201.105	Pavement/Misc. Removals - Block 201 - P1-S1	3d	01-Oct-18	03-Oct-18	49d
CON.RMV.201.110	Pavement/Misc. Removals - Block 201 - P2-S2	3d	08-Apr-19	10-Apr-19	592d
Block 202 - WB I-70		6d	16-Oct-19	24-Oct-19	83d
CON.RMV.202.085	Pavement/Misc. Removals - Block 202 - P2-S1	6d	16-Oct-19	24-Oct-19	83d
Block 203 - EB I-70		42d	12-Oct-20	15-Dec-20	6d
CON.RMV.203.075	Pavement/Misc. Removals - Block 203 - P3-S1	6d	12-Oct-20	20-Oct-20	22d

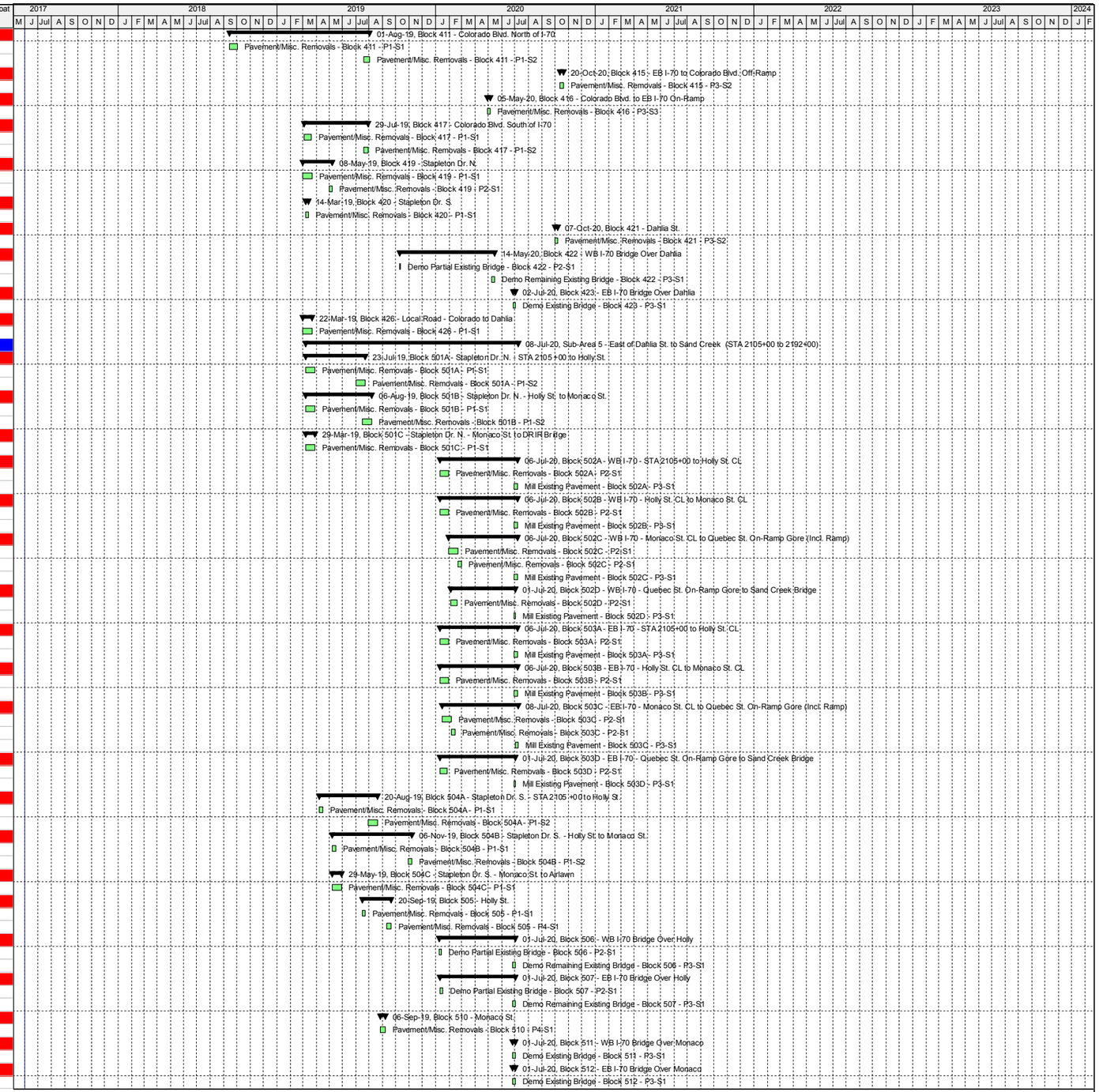
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.RMV.203.080	Demo I-70 Viaduct - Block 203 - P3-S1	20d	12-Nov-20	15-Dec-20	6d
Block 204 - 46th Ave. S.		6d	18-Mar-21	25-Mar-21	40d
CON.RMV.204.100	Pavement/Misc. Removals - Block 204 - P4-S1	6d	18-Mar-21	25-Mar-21	40d
Block 205 - WB I-70 Bridge Over Brighton Blvd.		5d	15-Aug-19	21-Aug-19	148d
CON.RMV.205.025	Demo Existing Bridge - Block 205 - P3-S1	5d	15-Aug-19	21-Aug-19	148d
Block 206 - EB I-70 Bridge Over Brighton Blvd.		5d	17-Sep-20	24-Sep-20	126d
CON.RMV.206.025	Demo Existing Bridge - Block 206 - P3-S2	5d	17-Sep-20	24-Sep-20	126d
Block 207 - Brighton Blvd.		61d	01-Mar-19	04-Jun-19	126d
CON.RMV.207.105	Pavement/Misc. Removals - Block 207 - P1-S3	6d	01-Mar-19	08-Mar-19	127d
CON.RMV.207.110	Pavement/Misc. Removals - Block 207 - P2-S1	6d	24-May-19	04-Jun-19	126d
Block 209 - Brighton Blvd. to WB I-70 On-Ramp		6d	19-Feb-19	26-Feb-19	198d
CON.RMV.209.050	Pavement/Misc. Removals - Block 209 - P1-S1	6d	19-Feb-19	26-Feb-19	198d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		2d	07-Jul-20	08-Jul-20	4d
CON.RMV.210.060	Demo Existing Bridge - Block 210 - P2-S2	2d	07-Jul-20	08-Jul-20	4d
Block 213 - EB I-70 to Brighton Blvd. Off-Ramp		15d	29-Sep-20	21-Oct-20	158d
CON.RMV.213.050	Pavement/Misc. Removals - Block 213 - P3-S1	15d	29-Sep-20	21-Oct-20	158d
Block 214 - Brighton Blvd. to EB I-70 On-Ramp		6d	15-Oct-20	23-Oct-20	152d
CON.RMV.214.050	Pavement/Misc. Removals - Block 214 - P3-S1	6d	15-Oct-20	23-Oct-20	152d
Block 217 - E. 47th Ave.		3d	27-Feb-19	01-Mar-19	586d
CON.RMV.217.065	Pavement/Misc. Removals - Block 217 - P1-S1	3d	27-Feb-19	01-Mar-19	586d
Block 218 - UPRR Bridge Over I-70		258d	25-Oct-18	20-Sep-19	2d
CON.RMV.218.080	Remove Existing UPRR Bridge - West Side	10d	25-Oct-18	05-Nov-18	9d
CON.RMV.218.105	Remove Existing UPRR Bridge - East Side	10d	10-Sep-19	20-Sep-19	2d
Block 219 - Local Road North of 46th Ave		3d	31-Jan-19	04-Feb-19	618d
CON.RMV.219.060	Pavement/Misc. Removals - Block 219 - P1-S1	3d	31-Jan-19	04-Feb-19	618d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		636d	02-Nov-18	20-Jul-21	73d
Block 302A - WB I-70 - York St. to Steele/Vasquez		6d	13-Jun-19	20-Jun-19	13d
CON.RMV.302A.095	Pavement/Misc. Removals - Block 302A - P2-S1	6d	13-Jun-19	20-Jun-19	13d
Block 303 - EB I-70		148d	30-Sep-20	19-May-21	31d
CON.RMV.303.105	Demo I-70 Viaduct - Block 303 - P3-S1	30d	30-Sep-20	11-Nov-20	0d
CON.RMV.303.095	Pavement/Misc. Removals - Block 303 - P3-S1	12d	30-Sep-20	15-Oct-20	0d
CON.RMV.303.100	Pavement/Misc. Removals - Block 303 - P3-S3	6d	11-May-21	19-May-21	31d
Block 304 - 46th Ave. S.		64d	16-Apr-21	20-Jul-21	27d
CON.RMV.304.070	Pavement/Misc. Removals - Block 304 - P4-S1	6d	16-Apr-21	23-Apr-21	27d
CON.MOT.304.040	EB I-70 to York St. Off Ramp Closure	96d	16-Apr-21	20-Jul-21	37d
Block 305 - York St. North of I-70		192d	02-Nov-18	03-Sep-19	503d
CON.RMV.305.110	Pavement/Misc. Removals - Block 305 - P1-S1	6d	02-Nov-18	09-Nov-18	659d
CON.RMV.305.105	Pavement/Misc. Removals - Block 305 - P2-S1	6d	26-Aug-19	03-Sep-19	503d
Block 308 - York St. South of I-70		9d	13-Nov-20	30-Nov-20	213d
CON.RMV.308.065	Pavement/Misc. Removals - Block 308 - P4-S1	9d	13-Nov-20	30-Nov-20	213d
Block 309 - Josephine St. North of I-70		6d	26-Feb-19	05-Mar-19	631d
CON.RMV.309.060	Pavement/Misc. Removals - Block 309 - P1-S1	6d	26-Feb-19	05-Mar-19	631d
Block 311 - Josephine St. South of I-70		6d	21-Jan-19	29-Jan-19	652d
CON.RMV.311.060	Pavement/Misc. Removals - Block 311 - P1-S1	6d	21-Jan-19	29-Jan-19	652d
Block 312 - Columbine St. North of I-70		6d	04-Jun-19	12-Jun-19	502d
CON.RMV.312.055	Pavement/Misc. Removals - Block 312 - P1-S2	6d	04-Jun-19	12-Jun-19	502d
Block 315 - Columbine St. South of I-70		6d	06-Jun-19	13-Jun-19	570d
CON.RMV.315.060	Pavement/Misc. Removals - Block 315 - P1-S1	6d	06-Jun-19	13-Jun-19	570d
Block 321 - Clayton St. South of I-70		6d	06-Jun-19	13-Jun-19	568d
CON.RMV.321.060	Pavement/Misc. Removals - Block 321 - P1-S1	6d	06-Jun-19	13-Jun-19	568d
Block 324 - Fillmore St. South of I-70		6d	14-May-19	21-May-19	584d
CON.RMV.324.060	Pavement/Misc. Removals - Block 324 - P1-S1	6d	14-May-19	21-May-19	584d
Block 325 - Milwaukee St. North of I-70		3d	15-Feb-19	19-Feb-19	637d
CON.RMV.325.055	Pavement/Misc. Removals - Block 325 - P1-S1	3d	15-Feb-19	19-Feb-19	637d
Block 326 - Milwaukee St. South of I-70		6d	12-Mar-21	19-Mar-21	136d
CON.RMV.326.060	Pavement/Misc. Removals - Block 326 - P1-S1	6d	12-Mar-21	19-Mar-21	136d
Block 329 - Vasquez Blvd. North of I-70		87d	14-Feb-19	25-Jun-19	517d
CON.RMV.329.110	Pavement/Misc. Removals - Block 329 - P1-S1	6d	14-Feb-19	21-Feb-19	533d
CON.RMV.329.115	Pavement/Misc. Removals - Block 329 - P1-S3	6d	18-Jun-19	25-Jun-19	517d
Block 331 - Vasquez Blvd. to WB I-70 On-Ramp		6d	04-Sep-19	11-Sep-19	131d
CON.RMV.331.065	Pavement/Misc. Removals - Block 331 - P2-S2	6d	04-Sep-19	11-Sep-19	131d
Block 335 - Steele St. South of I-70		9d	08-Mar-19	20-Mar-19	517d
CON.RMV.335.060	Pavement/Misc. Removals - Block 335 - P1-S2	9d	08-Mar-19	20-Mar-19	517d
Block 338 - Cook St. South of I-70		6d	12-Mar-21	19-Mar-21	153d
CON.RMV.338.060	Pavement/Misc. Removals - Block 338 - P3-S2	6d	12-Mar-21	19-Mar-21	153d
Central Area		631d	14-Sep-18	24-May-21	113d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		631d	14-Sep-18	24-May-21	113d
Block 401 - 46th Ave. N.		15d	15-Mar-19	08-Apr-19	21d
CON.RMV.401.065	Pavement/Misc. Removals - Block 401 - P1-S1	15d	15-Mar-19	08-Apr-19	21d
Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL		12d	07-Nov-19	25-Nov-19	51d
CON.RMV.402A.055	Pavement/Misc. Removals - Block 402A - P2-S2	12d	07-Nov-19	25-Nov-19	51d
Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL		151d	30-Sep-20	24-May-21	38d
CON.RMV.403A.095	Pavement/Misc. Removals - Block 403A - P3-S1	6d	30-Sep-20	07-Oct-20	60d
CON.RMV.403A.105	Demo I-70 Viaduct - Block 403A - P3-S1	30d	08-Oct-20	20-Nov-20	60d
CON.RMV.403A.100	Pavement/Misc. Removals - Block 403A - P3-S2	6d	14-May-21	24-May-21	38d
Block 404 - 46th Ave. S.		6d	22-Jan-21	01-Feb-21	93d
CON.RMV.404.065	Pavement/Misc. Removals - Block 404 - P4-S1	6d	22-Jan-21	01-Feb-21	93d
Block 408 - Monroe St. South of I-70		165d	28-Apr-20	13-Jan-21	201d
CON.RMV.408.105	Pavement/Misc. Removals - Block 408 - P1-S1	3d	28-Apr-20	30-Apr-20	244d
CON.RMV.408.110	Pavement/Misc. Removals - Block 408 - P1-S3	3d	11-Jan-21	13-Jan-21	201d
Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)		5d	17-Jul-19	23-Jul-19	496d
CON.RMV.409B.015	Demo Existing Bridge - Block 409B - P1-S2	5d	17-Jul-19	23-Jul-19	496d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

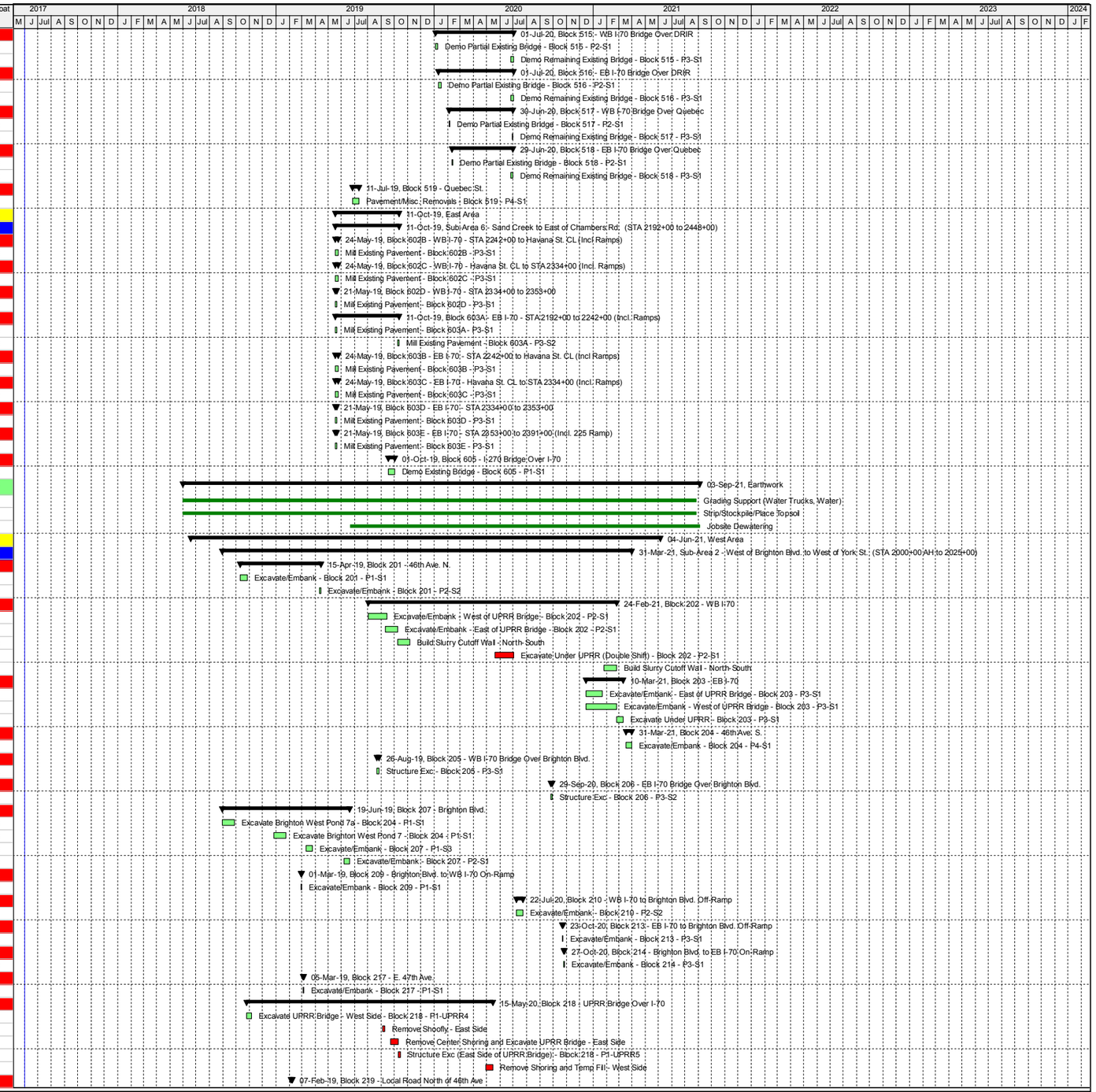
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Block 411 - Colorado Blvd. North of I-70		**204d**	**14-Sep-18**	**01-Aug-19**	**498d**
CON.RMV.411.105	Pavement/Misc. Removals - Block 411 - P1-S1	12d	14-Sep-18	01-Oct-18	353d
CON.RMV.411.110	Pavement/Misc. Removals - Block 411 - P1-S2	9d	19-Jul-19	01-Aug-19	498d
Block 415 - EB I-70 to Colorado Blvd. Off-Ramp		**6d**	**12-Oct-20**	**20-Oct-20**	**118d**
CON.RMV.415.055	Pavement/Misc. Removals - Block 415 - P3-S2	6d	12-Oct-20	20-Oct-20	118d
Block 416 - Colorado Blvd. to EB I-70 On-Ramp		**6d**	**28-Apr-20**	**05-May-20**	**252d**
CON.RMV.416.055	Pavement/Misc. Removals - Block 416 - P3-S3	6d	28-Apr-20	05-May-20	252d
Block 417 - Colorado Blvd. South of I-70		**95d**	**05-Mar-19**	**29-Jul-19**	**506d**
CON.RMV.417.105	Pavement/Misc. Removals - Block 417 - P1-S1	12d	05-Mar-19	20-Mar-19	259d
CON.RMV.417.110	Pavement/Misc. Removals - Block 417 - P1-S2	6d	19-Jul-19	29-Jul-19	506d
Block 419 - Stapleton Dr. N.		**45d**	**01-Mar-19**	**08-May-19**	**39d**
CON.RMV.419.125	Pavement/Misc. Removals - Block 419 - P1-S1	15d	01-Mar-19	22-Mar-19	39d
CON.RMV.419.130	Pavement/Misc. Removals - Block 419 - P2-S1	6d	01-May-19	08-May-19	39d
Block 420 - Stapleton Dr. S.		**6d**	**07-Mar-19**	**14-Mar-19**	**565d**
CON.RMV.420.060	Pavement/Misc. Removals - Block 420 - P1-S1	6d	07-Mar-19	14-Mar-19	565d
Block 421 - Dahlia St.		**6d**	**30-Sep-20**	**07-Oct-20**	**247d**
CON.RMV.421.060	Pavement/Misc. Removals - Block 421 - P3-S2	6d	30-Sep-20	07-Oct-20	247d
Block 422 - WB I-70 Bridge Over Dahlia		**141d**	**10-Oct-19**	**14-May-20**	**14d**
CON.RMV.422.035	Demo Partial Existing Bridge - Block 422 - P2-S1	2d	10-Oct-19	11-Oct-19	74d
CON.RMV.422.040	Demo Remaining Existing Bridge - Block 422 - P3-S1	5d	08-May-20	14-May-20	14d
Block 423 - EB I-70 Bridge Over Dahlia		**5d**	**26-Jun-20**	**02-Jul-20**	**206d**
CON.RMV.423.035	Demo Existing Bridge - Block 423 - P3-S1	5d	26-Jun-20	02-Jul-20	206d
Block 426 - Local Road - Colorado to Dahlia		**15d**	**01-Mar-19**	**22-Mar-19**	**580d**
CON.RMV.426.065	Pavement/Misc. Removals - Block 426 - P1-S1	15d	01-Mar-19	22-Mar-19	580d
Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)		**317d**	**07-Mar-19**	**08-Jul-20**	**309d**
Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.		**90d**	**07-Mar-19**	**23-Jul-19**	**235d**
CON.RMV.501A.100	Pavement/Misc. Removals - Block 501A - P1-S1	15d	07-Mar-19	29-Mar-19	212d
CON.RMV.501A.105	Pavement/Misc. Removals - Block 501A - P1-S2	15d	01-Jul-19	23-Jul-19	235d
Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.		**99d**	**07-Mar-19**	**06-Aug-19**	**203d**
CON.RMV.501B.095	Pavement/Misc. Removals - Block 501B - P1-S1	15d	07-Mar-19	29-Mar-19	203d
CON.RMV.501B.100	Pavement/Misc. Removals - Block 501B - P1-S2	15d	16-Jul-19	06-Aug-19	203d
Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge		**15d**	**07-Mar-19**	**29-Mar-19**	**247d**
CON.RMV.501C.095	Pavement/Misc. Removals - Block 501C - P1-S1	15d	07-Mar-19	29-Mar-19	247d
Block 502A - WB I-70 - STA 2105+00 to Holly St. CL		**121d**	**10-Jan-20**	**06-Jul-20**	**302d**
CON.RMV.502A.100	Pavement/Misc. Removals - Block 502A - P2-S1	15d	10-Jan-20	30-Jan-20	245d
CON.RMV.502A.095	Mill Existing Pavement - Block 502A - P3-S1	5d	29-Jun-20	06-Jul-20	302d
Block 502B - WB I-70 - Holly St. CL to Monaco St. CL		**121d**	**10-Jan-20**	**06-Jul-20**	**302d**
CON.RMV.502B.085	Pavement/Misc. Removals - Block 502B - P2-S1	15d	10-Jan-20	30-Jan-20	219d
CON.RMV.502B.080	Mill Existing Pavement - Block 502B - P3-S1	5d	29-Jun-20	06-Jul-20	302d
Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		**106d**	**31-Jan-20**	**06-Jul-20**	**304d**
CON.RMV.502C.085	Pavement/Misc. Removals - Block 502C - P2-S1	15d	31-Jan-20	20-Feb-20	206d
CON.RMV.502C.090	Pavement/Misc. Removals - Block 502C - P2-S1	6d	21-Feb-20	28-Feb-20	206d
CON.RMV.502C.080	Mill Existing Pavement - Block 502C - P3-S1	5d	29-Jun-20	06-Jul-20	304d
Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		**102d**	**04-Feb-20**	**01-Jul-20**	**313d**
CON.RMV.502D.085	Pavement/Misc. Removals - Block 502D - P2-S1	12d	04-Feb-20	19-Feb-20	219d
CON.RMV.502D.080	Mill Existing Pavement - Block 502D - P3-S1	3d	29-Jun-20	01-Jul-20	313d
Block 503A - EB I-70 - STA 2105+00 to Holly St. CL		**121d**	**10-Jan-20**	**06-Jul-20**	**308d**
CON.RMV.503A.090	Pavement/Misc. Removals - Block 503A - P2-S1	15d	10-Jan-20	30-Jan-20	243d
CON.RMV.503A.085	Mill Existing Pavement - Block 503A - P3-S1	5d	29-Jun-20	06-Jul-20	308d
Block 503B - EB I-70 - Holly St. CL to Monaco St. CL		**121d**	**10-Jan-20**	**06-Jul-20**	**302d**
CON.RMV.503B.080	Pavement/Misc. Removals - Block 503B - P2-S1	15d	10-Jan-20	30-Jan-20	228d
CON.RMV.503B.075	Mill Existing Pavement - Block 503B - P3-S1	5d	29-Jun-20	06-Jul-20	302d
Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		**119d**	**16-Jan-20**	**08-Jul-20**	**280d**
CON.RMV.503C.080	Pavement/Misc. Removals - Block 503C - P2-S1	15d	16-Jan-20	05-Feb-20	232d
CON.RMV.503C.085	Pavement/Misc. Removals - Block 503C - P2-S1	6d	06-Feb-20	13-Feb-20	270d
CON.RMV.503C.075	Mill Existing Pavement - Block 503C - P3-S1	5d	01-Jul-20	08-Jul-20	280d
Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		**119d**	**10-Jan-20**	**01-Jul-20**	**313d**
CON.RMV.503D.085	Pavement/Misc. Removals - Block 503D - P2-S1	12d	10-Jan-20	27-Jan-20	222d
CON.RMV.503D.080	Mill Existing Pavement - Block 503D - P3-S1	3d	29-Jun-20	01-Jul-20	313d
Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.		**88d**	**08-Apr-19**	**20-Aug-19**	**238d**
CON.RMV.504A.105	Pavement/Misc. Removals - Block 504A - P1-S1	6d	08-Apr-19	16-Apr-19	238d
CON.RMV.504A.110	Pavement/Misc. Removals - Block 504A - P1-S2	15d	30-Jul-19	20-Aug-19	238d
Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.		**121d**	**08-May-19**	**06-Nov-19**	**230d**
CON.RMV.504B.095	Pavement/Misc. Removals - Block 504B - P1-S1	6d	08-May-19	15-May-19	266d
CON.RMV.504B.100	Pavement/Misc. Removals - Block 504B - P1-S2	6d	30-Oct-19	06-Nov-19	230d
Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn		**15d**	**08-May-19**	**29-May-19**	**252d**
CON.RMV.504C.090	Pavement/Misc. Removals - Block 504C - P1-S1	15d	08-May-19	29-May-19	252d
Block 505 - Holly St.		**46d**	**16-Jul-19**	**20-Sep-19**	**487d**
CON.RMV.505.105	Pavement/Misc. Removals - Block 505 - P1-S1	6d	16-Jul-19	23-Jul-19	487d
CON.RMV.505.110	Pavement/Misc. Removals - Block 505 - P4-S1	9d	10-Sep-19	20-Sep-19	487d
Block 506 - WB I-70 Bridge Over Holly		**121d**	**08-Jan-20**	**01-Jul-20**	**284d**
CON.RMV.506.025	Demo Partial Existing Bridge - Block 506 - P2-S1	5d	08-Jan-20	14-Jan-20	244d
CON.RMV.506.030	Demo Remaining Existing Bridge - Block 506 - P3-S1	5d	25-Jun-20	01-Jul-20	284d
Block 507 - EB I-70 Bridge Over Holly		**119d**	**10-Jan-20**	**01-Jul-20**	**284d**
CON.RMV.507.025	Demo Partial Existing Bridge - Block 507 - P2-S1	5d	10-Jan-20	16-Jan-20	247d
CON.RMV.507.030	Demo Remaining Existing Bridge - Block 507 - P3-S1	5d	25-Jun-20	01-Jul-20	284d
Block 510 - Monaco St.		**9d**	**26-Aug-19**	**06-Sep-19**	**490d**
CON.RMV.510.060	Pavement/Misc. Removals - Block 510 - P4-S1	9d	26-Aug-19	06-Sep-19	490d
Block 511 - WB I-70 Bridge Over Monaco		**5d**	**25-Jun-20**	**01-Jul-20**	**282d**
CON.RMV.511.025	Demo Existing Bridge - Block 511 - P3-S1	5d	25-Jun-20	01-Jul-20	282d
Block 512 - EB I-70 Bridge Over Monaco		**5d**	**25-Jun-20**	**01-Jul-20**	**282d**
CON.RMV.512.025	Demo Existing Bridge - Block 512 - P3-S1	5d	25-Jun-20	01-Jul-20	282d



Remaining Work | Remaining Level of Effort | Summary
Critical Remaining Work | Milestone

Kiewit meridiam PARTNERS

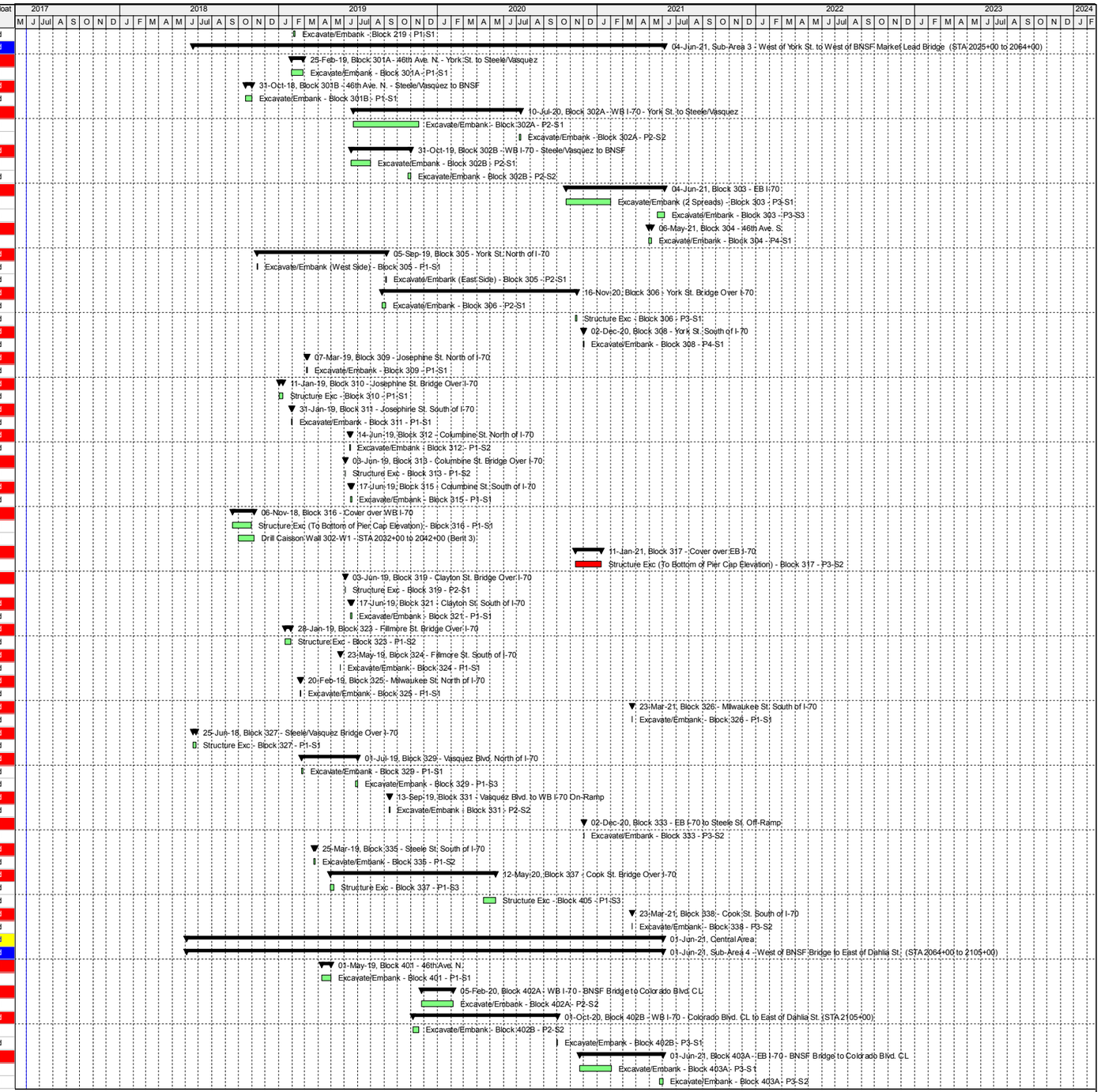
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Block 515 - WB I-70 Bridge Over DRIR		124d	03-Jan-20	01-Jul-20	279d
CON.RMV.515.025	Demo Partial Existing Bridge - Block 515 - P2-S1	5d	03-Jan-20	09-Jan-20	245d
CON.RMV.515.030	Demo Remaining Existing Bridge - Block 515 - P3-S1	5d	25-Jun-20	01-Jul-20	279d
Block 516 - EB I-70 Bridge Over DRIR		119d	10-Jan-20	01-Jul-20	265d
CON.RMV.516.025	Demo Partial Existing Bridge - Block 516 - P2-S1	5d	10-Jan-20	16-Jan-20	248d
CON.RMV.516.030	Demo Remaining Existing Bridge - Block 516 - P3-S1	5d	25-Jun-20	01-Jul-20	265d
Block 517 - WB I-70 Bridge Over Quebec		101d	04-Feb-20	30-Jun-20	285d
CON.RMV.517.015	Demo Partial Existing Bridge - Block 517 - P2-S1	2d	04-Feb-20	05-Feb-20	227d
CON.RMV.517.020	Demo Remaining Existing Bridge - Block 517 - P3-S1	2d	29-Jun-20	30-Jun-20	285d
Block 518 - EB I-70 Bridge Over Quebec		95d	11-Feb-20	29-Jun-20	286d
CON.RMV.518.015	Demo Partial Existing Bridge - Block 518 - P2-S1	2d	11-Feb-20	12-Feb-20	222d
CON.RMV.518.020	Demo Remaining Existing Bridge - Block 518 - P3-S1	3d	25-Jun-20	29-Jun-20	286d
Block 519 - Quebec St.		9d	27-Jun-19	11-Jul-19	495d
CON.RMV.519.060	Pavement/Misc. Removals - Block 519 - P4-S1	9d	27-Jun-19	11-Jul-19	495d
East Area		97d	17-May-19	11-Oct-19	480d
Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)		97d	17-May-19	11-Oct-19	480d
Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		6d	17-May-19	24-May-19	566d
CON.RMV.602B.070	Mill Existing Pavement - Block 602B - P3-S1	6d	17-May-19	24-May-19	566d
Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		6d	17-May-19	24-May-19	566d
CON.RMV.602C.065	Mill Existing Pavement - Block 602C - P3-S1	6d	17-May-19	24-May-19	566d
Block 602D - WB I-70 - STA 2334+00 to 2353+00		3d	17-May-19	21-May-19	574d
CON.RMV.602D.070	Mill Existing Pavement - Block 602D - P3-S1	3d	17-May-19	21-May-19	574d
Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		97d	17-May-19	11-Oct-19	472d
CON.RMV.603A.095	Mill Existing Pavement - Block 603A- P3-S1	3d	17-May-19	21-May-19	515d
CON.RMV.603A.100	Mill Existing Pavement - Block 603A - P3-S2	3d	09-Oct-19	11-Oct-19	472d
Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		6d	17-May-19	24-May-19	525d
CON.RMV.603B.075	Mill Existing Pavement - Block 603B - P3-S1	6d	17-May-19	24-May-19	525d
Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		6d	17-May-19	24-May-19	543d
CON.RMV.603C.070	Mill Existing Pavement - Block 603C - P3-S1	6d	17-May-19	24-May-19	543d
Block 603D - EB I-70 - STA 2334+00 to 2353+00		3d	17-May-19	21-May-19	552d
CON.RMV.603D.080	Mill Existing Pavement - Block 603D - P3-S1	3d	17-May-19	21-May-19	552d
Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)		3d	17-May-19	21-May-19	561d
CON.RMV.603E.060	Mill Existing Pavement - Block 603E - P3-S1	3d	17-May-19	21-May-19	561d
Block 605 - I-270 Bridge Over I-70		10d	17-Sep-19	01-Oct-19	472d
CON.RMV.605.035	Demo Existing Bridge - Block 605 - P1-S1	10d	17-Sep-19	01-Oct-19	472d
Earthwork		772d	01-Jun-18	03-Sep-21	112d
CON.DRT.JW.010	Grading Support (Water Trucks, Water)	766d	01-Jun-18	26-Aug-21	0d
CON.DRT.JW.015	Strip/Stockpile/Place Topsoil	766d	01-Jun-18	26-Aug-21	0d
CON.DRT.JW.005	Jobsite Dewatering	525d	21-Jun-19	03-Sep-21	0d
West Area		697d	19-Jun-18	04-Jun-21	155d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		605d	30-Aug-18	31-Mar-21	145d
Block 201 - 46th Ave. N.		114d	11-Oct-18	15-Apr-19	592d
CON.DRT.201.025	Excavate/Embank - Block 201 - P1-S1	10d	11-Oct-18	26-Oct-18	49d
CON.DRT.201.030	Excavate/Embank - Block 201 - P2-S2	2d	11-Apr-19	15-Apr-19	592d
Block 202 - WB I-70		367d	01-Aug-19	24-Feb-21	8d
CON.DRT.202.045	Excavate/Embank - West of UPRR Bridge - Block 202 - P2-S1	30d	01-Aug-19	13-Sep-19	99d
CON.DRT.202.040	Excavate/Embank - East of UPRR Bridge - Block 202 - P2-S1	20d	10-Sep-19	08-Oct-19	84d
CON.DRT.202.050	Build Slurry Cutoff Wall - North-South	20d	09-Oct-19	05-Nov-19	157d
CON.DRT.202.035	Excavate Under UPRR (Double Shift) - Block 202 - P2-S1	30d	19-May-20	02-Jul-20	1d
CON.DRT.202.50	Build Slurry Cutoff Wall - North-South	20d	26-Jan-21	24-Feb-21	8d
Block 203 - EB I-70		50d	16-Dec-20	10-Mar-21	78d
CON.DRT.203.035	Excavate/Embank - East of UPRR Bridge - Block 203 - P3-S1	20d	16-Dec-20	22-Jan-21	6d
CON.DRT.203.040	Excavate/Embank - West of UPRR Bridge - Block 203 - P3-S1	40d	16-Dec-20	24-Feb-21	74d
CON.DRT.203.030	Excavate Under UPRR - Block 203 - P3-S1	10d	25-Feb-21	10-Mar-21	78d
Block 204 - 46th Ave. S.		10d	18-Mar-21	31-Mar-21	6d
CON.DRT.204.050	Excavate/Embank - Block 204 - P4-S1	10d	18-Mar-21	31-Mar-21	6d
Block 205 - WB I-70 Bridge Over Brighton Blvd.		3d	22-Aug-19	26-Aug-19	148d
CON.DRT.205.050	Structure Exc - Block 205 - P3-S1	3d	22-Aug-19	26-Aug-19	148d
Block 206 - EB I-70 Bridge Over Brighton Blvd.		3d	25-Sep-20	29-Sep-20	126d
CON.DRT.206.050	Structure Exc - Block 206 - P3-S2	3d	25-Sep-20	29-Sep-20	126d
Block 207 - Brighton Blvd.		186d	30-Aug-18	19-Jun-19	345d
CON.DRT.204.115	Excavate Brighton West Pond 7a - Block 204 - P1-S1	20d	30-Aug-18	27-Sep-18	247d
CON.DRT.204.120	Excavate Brighton West Pond 7 - Block 204 - P1-S1	20d	26-Dec-18	23-Jan-19	470d
CON.DRT.207.030	Excavate/Embank - Block 207 - P1-S3	10d	11-Mar-19	25-Mar-19	127d
CON.DRT.207.035	Excavate/Embank - Block 207 - P2-S1	10d	06-Jun-19	19-Jun-19	126d
Block 209 - Brighton Blvd. to WB I-70 On-Ramp		3d	27-Feb-19	01-Mar-19	198d
CON.DRT.209.020	Excavate/Embank - Block 209 - P1-S1	3d	27-Feb-19	01-Mar-19	198d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		10d	09-Jul-20	22-Jul-20	4d
CON.DRT.210.020	Excavate/Embank - Block 210 - P2-S2	10d	09-Jul-20	22-Jul-20	4d
Block 213 - EB I-70 to Brighton Blvd. Off-Ramp		2d	22-Oct-20	23-Oct-20	158d
CON.DRT.213.020	Excavate/Embank - Block 213 - P3-S1	2d	22-Oct-20	23-Oct-20	158d
Block 214 - Brighton Blvd. to EB I-70 On-Ramp		2d	26-Oct-20	27-Oct-20	152d
CON.DRT.214.020	Excavate/Embank - Block 214 - P3-S1	2d	26-Oct-20	27-Oct-20	152d
Block 217 - E. 47th Ave.		2d	04-Mar-19	05-Mar-19	586d
CON.DRT.217.025	Excavate/Embank - Block 217 - P1-S1	2d	04-Mar-19	05-Mar-19	586d
Block 218 - UPRR Bridge Over I-70		441d	25-Oct-18	15-May-20	2d
CON.DRT.218.015	Excavate UPRR Bridge - West Side - Block 218 - P1-UPRR4	10d	25-Oct-18	05-Nov-18	9d
CON.DRT.218.120	Remove Shoofly - East Side	5d	04-Sep-19	09-Sep-19	2d
CON.DRT.218.145	Remove Center Shoring and Excavate UPRR Bridge - East Side	15d	21-Sep-19	09-Oct-19	2d
CON.DRT.218.235	Structure Exc (East Side of UPRR Bridge) - Block 218 - P1-UPRR5	4d	10-Oct-19	15-Oct-19	2d
CON.DRT.218.110	Remove Shoring and Temp Fill - West Side	15d	29-Apr-20	15-May-20	2d
Block 219 - Local Road North of 46th Ave		3d	05-Feb-19	07-Feb-19	618d



Remaining Work | Remaining Level of Effort | Summary
Critical Remaining Work | Milestone

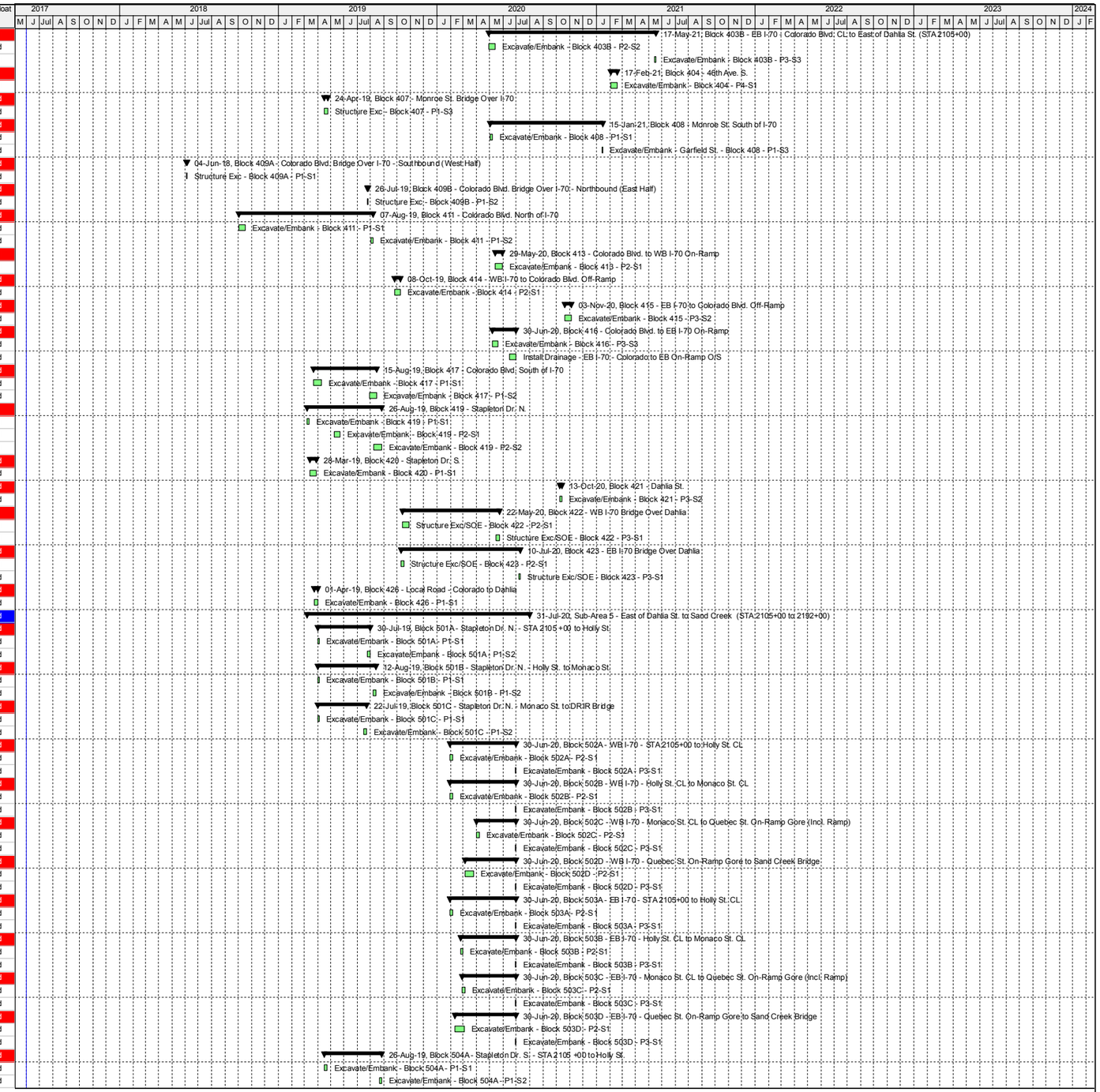
Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.DRT.219.020	Excavate/Embank - Block 219 - P1-S1	3d	05-Feb-19	07-Feb-19	618d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		697d	19-Jun-18	04-Jun-21	155d
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		18d	30-Jan-19	25-Feb-19	13d
CON.DRT.301A.020	Excavate/Embank - Block 301A - P1-S1	18d	30-Jan-19	25-Feb-19	13d
Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF		9d	17-Oct-18	31-Oct-18	115d
CON.DRT.301B.020	Excavate/Embank - Block 301B - P1-S1	9d	17-Oct-18	31-Oct-18	115d
Block 302A - WB I-70 - York St. to Steele/Vasquez		250d	21-Jun-19	10-Jul-20	13d
CON.DRT.302A.025	Excavate/Embank - Block 302A - P2-S1	100d	21-Jun-19	18-Nov-19	13d
CON.DRT.302A.030	Excavate/Embank - Block 302A - P2-S2	5d	06-Jul-20	10-Jul-20	13d
Block 302B - WB I-70 - Steele/Vasquez to BNSF		92d	17-Jun-19	31-Oct-19	166d
CON.DRT.302B.020	Excavate/Embank - Block 302B - P2-S1	30d	17-Jun-19	31-Jul-19	99d
CON.DRT.302B.025	Excavate/Embank - Block 302B - P2-S2	5d	25-Oct-19	31-Oct-19	166d
Block 303 - EB I-70		143d	22-Oct-20	04-Jun-21	31d
CON.DRT.303.025	Excavate/Embank (2 Spreads) - Block 303 - P3-S1	60d	22-Oct-20	01-Feb-21	27d
CON.DRT.303.030	Excavate/Embank - Block 303 - P3-S3	10d	20-May-21	04-Jun-21	31d
Block 304 - 46th Ave. S.		5d	30-Apr-21	06-May-21	27d
CON.DRT.304.025	Excavate/Embank - Block 304 - P4-S1	5d	30-Apr-21	06-May-21	27d
Block 305 - York St. North of I-70		188d	12-Nov-18	05-Sep-19	503d
CON.DRT.305.030	Excavate/Embank (West Side) - Block 305 - P1-S1	2d	12-Nov-18	13-Nov-18	659d
CON.DRT.305.025	Excavate/Embank (East Side) - Block 305 - P2-S1	2d	04-Sep-19	05-Sep-19	503d
Block 306 - York St. Bridge Over I-70		294d	26-Aug-19	16-Nov-20	191d
CON.DRT.306.015	Excavate/Embank - Block 306 - P2-S1	7d	26-Aug-19	04-Sep-19	413d
CON.DRT.306.085	Structure Exc - Block 306 - P3-S1	2d	13-Nov-20	16-Nov-20	191d
Block 308 - York St. South of I-70		2d	01-Dec-20	02-Dec-20	213d
CON.DRT.308.025	Excavate/Embank - Block 308 - P4-S1	2d	01-Dec-20	02-Dec-20	213d
Block 309 - Josephine St. North of I-70		2d	06-Mar-19	07-Mar-19	631d
CON.DRT.309.020	Excavate/Embank - Block 309 - P1-S1	2d	06-Mar-19	07-Mar-19	631d
Block 310 - Josephine St. Bridge Over I-70		7d	03-Jan-19	11-Jan-19	503d
CON.DRT.310.045	Structure Exc - Block 310 - P1-S1	7d	03-Jan-19	11-Jan-19	503d
Block 311 - Josephine St. South of I-70		2d	30-Jan-19	31-Jan-19	652d
CON.DRT.311.020	Excavate/Embank - Block 311 - P1-S1	2d	30-Jan-19	31-Jan-19	652d
Block 312 - Columbine St. North of I-70		2d	13-Jun-19	14-Jun-19	131d
CON.DRT.312.015	Excavate/Embank - Block 312 - P1-S2	2d	13-Jun-19	14-Jun-19	131d
Block 313 - Columbine St. Bridge Over I-70		1d	03-Jun-19	03-Jun-19	48d
CON.DRT.313.050	Structure Exc - Block 313 - P1-S2	1d	03-Jun-19	03-Jun-19	48d
Block 315 - Columbine St. South of I-70		2d	14-Jun-19	17-Jun-19	570d
CON.DRT.315.020	Excavate/Embank - Block 315 - P1-S1	2d	14-Jun-19	17-Jun-19	570d
Block 316 - Cover over WB I-70		35d	17-Sep-18	06-Nov-18	13d
CON.DRT.316.045	Structure Exc (To Bottom of Pier Cap Elevation) - Block 316 - P1-S1	30d	17-Sep-18	30-Oct-18	13d
CON.STR.316.070	Drill Caisson Wall 302-W1 - STA 2032+00 to 2042+00 (Bent 3)	25d	01-Oct-18	06-Nov-18	13d
Block 317 - Cover over EB I-70		30d	13-Nov-20	11-Jan-21	0d
CON.DRT.317.045	Structure Exc (To Bottom of Pier Cap Elevation) - Block 317 - P3-S2	30d	13-Nov-20	11-Jan-21	0d
Block 319 - Clayton St. Bridge Over I-70		1d	03-Jun-19	03-Jun-19	46d
CON.DRT.319.045	Structure Exc - Block 319 - P2-S1	1d	03-Jun-19	03-Jun-19	46d
Block 321 - Clayton St. South of I-70		2d	14-Jun-19	17-Jun-19	568d
CON.DRT.321.020	Excavate/Embank - Block 321 - P1-S1	2d	14-Jun-19	17-Jun-19	568d
Block 323 - Fillmore St. Bridge Over I-70		7d	16-Jan-19	28-Jan-19	164d
CON.DRT.323.050	Structure Exc - Block 323 - P1-S2	7d	16-Jan-19	28-Jan-19	164d
Block 324 - Fillmore St. South of I-70		2d	22-May-19	23-May-19	584d
CON.DRT.324.020	Excavate/Embank - Block 324 - P1-S1	2d	22-May-19	23-May-19	584d
Block 325 - Milwaukee St. North of I-70		1d	20-Feb-19	20-Feb-19	637d
CON.DRT.325.015	Excavate/Embank - Block 325 - P1-S1	1d	20-Feb-19	20-Feb-19	637d
Block 326 - Milwaukee St. South of I-70		2d	22-Mar-21	23-Mar-21	136d
CON.DRT.326.020	Excavate/Embank - Block 326 - P1-S1	2d	22-Mar-21	23-Mar-21	136d
Block 327 - Steele/Vasquez Bridge Over I-70		5d	19-Jun-18	25-Jun-18	445d
CON.DRT.327.050	Structure Exc - Block 327 - P1-S1	5d	19-Jun-18	25-Jun-18	445d
Block 329 - Vasquez Blvd. North of I-70		85d	22-Feb-19	01-Jul-19	517d
CON.DRT.329.030	Excavate/Embank - Block 329 - P1-S1	3d	22-Feb-19	26-Feb-19	533d
CON.DRT.329.035	Excavate/Embank - Block 329 - P1-S3	4d	26-Jun-19	01-Jul-19	517d
Block 331 - Vasquez Blvd. to WB I-70 On-Ramp		2d	12-Sep-19	13-Sep-19	427d
CON.DRT.331.025	Excavate/Embank - Block 331 - P2-S2	2d	12-Sep-19	13-Sep-19	427d
Block 333 - EB I-70 to Steele St. Off-Ramp		1d	02-Dec-20	02-Dec-20	88d
CON.DRT.333.025	Excavate/Embank - Block 333 - P3-S2	1d	02-Dec-20	02-Dec-20	88d
Block 335 - Steele St. South of I-70		2d	22-Mar-19	25-Mar-19	517d
CON.DRT.335.020	Excavate/Embank - Block 335 - P1-S2	2d	22-Mar-19	25-Mar-19	517d
Block 337 - Cook St. Bridge Over I-70		247d	30-Apr-19	12-May-20	404d
CON.DRT.337.045	Structure Exc - Block 337 - P1-S3	6d	30-Apr-19	07-May-19	516d
CON.DRT.405.050	Structure Exc - Block 405 - P1-S3	20d	15-Apr-20	12-May-20	404d
Block 338 - Cook St. South of I-70		2d	22-Mar-21	23-Mar-21	153d
CON.DRT.338.020	Excavate/Embank - Block 338 - P3-S2	2d	22-Mar-21	23-Mar-21	153d
Central Area		705d	04-Jun-18	01-Jun-21	110d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		705d	04-Jun-18	01-Jun-21	110d
Block 401 - 46th Ave. N.		15d	09-Apr-19	01-May-19	21d
CON.DRT.401.025	Excavate/Embank - Block 401 - P1-S1	15d	09-Apr-19	01-May-19	21d
Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL		40d	26-Nov-19	05-Feb-20	51d
CON.DRT.402A.020	Excavate/Embank - Block 402A - P2-S2	40d	26-Nov-19	05-Feb-20	51d
Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		215d	05-Nov-19	01-Oct-20	192d
CON.DRT.402B.020	Excavate/Embank - Block 402B - P2-S2	10d	05-Nov-19	18-Nov-19	72d
CON.DRT.402B.155	Excavate/Embank - Block 402B - P3-S1	2d	30-Sep-20	01-Oct-20	192d
Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL		120d	23-Nov-20	01-Jun-21	38d
CON.DRT.403A.025	Excavate/Embank - Block 403A - P3-S1	40d	23-Nov-20	03-Feb-21	60d
CON.DRT.403A.030	Excavate/Embank - Block 403A - P3-S2	5d	25-May-21	01-Jun-21	38d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		**248d**	**29-Apr-20**	**17-May-21**	**47d**
CON.DRT.403B.020	Excavate/Embank - Block 403B - P2-S2	10d	29-Apr-20	12-May-20	175d
CON.DRT.403B.030	Excavate/Embank - Block 403B - P3-S3	2d	14-May-21	17-May-21	47d
Block 404 - 46th Ave. S.		**10d**	**03-Feb-21**	**17-Feb-21**	**93d**
CON.DRT.404.020	Excavate/Embank - Block 404 - P4-S1	10d	03-Feb-21	17-Feb-21	93d
Block 407 - Monroe St. Bridge Over I-70		**6d**	**16-Apr-19**	**24-Apr-19**	**227d**
CON.DRT.407.045	Structure Exc - Block 407 - P1-S3	6d	16-Apr-19	24-Apr-19	227d
Block 408 - Monroe St. South of I-70		**164d**	**01-May-20**	**15-Jan-21**	**201d**
CON.DRT.408.025	Excavate/Embank - Block 408 - P1-S1	4d	01-May-20	06-May-20	244d
CON.DRT.408.030	Excavate/Embank - Garfield St. - Block 408 - P1-S3	2d	14-Jan-21	15-Jan-21	201d
Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)		**1d**	**04-Jun-18**	**04-Jun-18**	**429d**
CON.DRT.409A.045	Structure Exc - Block 409A - P1-S1	1d	04-Jun-18	04-Jun-18	429d
Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)		**2d**	**25-Jul-19**	**26-Jul-19**	**496d**
CON.DRT.409B.040	Structure Exc - Block 409B - P1-S2	2d	25-Jul-19	26-Jul-19	496d
Block 411 - Colorado Blvd. North of I-70		**196d**	**02-Oct-18**	**07-Aug-19**	**498d**
CON.DRT.411.025	Excavate/Embank - Block 411 - P1-S1	12d	02-Oct-18	17-Oct-18	353d
CON.DRT.411.030	Excavate/Embank - Block 411 - P1-S2	4d	02-Aug-19	07-Aug-19	498d
Block 413 - Colorado Blvd. to WB I-70 On-Ramp		**10d**	**14-May-20**	**29-May-20**	**55d**
CON.DRT.413.020	Excavate/Embank - Block 413 - P2-S1	10d	14-May-20	29-May-20	55d
Block 414 - WB I-70 to Colorado Blvd. Off-Ramp		**10d**	**25-Sep-19**	**08-Oct-19**	**203d**
CON.DRT.414.020	Excavate/Embank - Block 414 - P2-S1	10d	25-Sep-19	08-Oct-19	203d
Block 415 - EB I-70 to Colorado Blvd. Off-Ramp		**10d**	**21-Oct-20**	**03-Nov-20**	**118d**
CON.DRT.415.025	Excavate/Embank - Block 415 - P3-S2	10d	21-Oct-20	03-Nov-20	118d
Block 416 - Colorado Blvd. to EB I-70 On-Ramp		**36d**	**06-May-20**	**30-Jun-20**	**244d**
CON.DRT.416.025	Excavate/Embank - Block 416 - P3-S3	10d	06-May-20	20-May-20	252d
CON.DRT.416.020	Install Drainage - EB I-70 - Colorado to EB On-Ramp O/S	12d	15-Jun-20	30-Jun-20	244d
Block 417 - Colorado Blvd. South of I-70		**95d**	**22-Mar-19**	**15-Aug-19**	**506d**
CON.DRT.417.025	Excavate/Embank - Block 417 - P1-S1	12d	22-Mar-19	09-Apr-19	259d
CON.DRT.417.030	Excavate/Embank - Block 417 - P1-S2	12d	30-Jul-19	15-Aug-19	506d
Block 419 - Stapleton Dr. N.		**111d**	**08-Mar-19**	**26-Aug-19**	**39d**
CON.DRT.419.025	Excavate/Embank - Block 419 - P1-S1	3d	08-Mar-19	12-Mar-19	39d
CON.DRT.419.030	Excavate/Embank - Block 419 - P2-S1	11d	09-May-19	23-May-19	39d
CON.DRT.419.035	Excavate/Embank - Block 419 - P2-S2	11d	09-Aug-19	26-Aug-19	39d
Block 420 - Stapleton Dr. S.		**8d**	**15-Mar-19**	**28-Mar-19**	**565d**
CON.DRT.420.020	Excavate/Embank - Block 420 - P1-S1	8d	15-Mar-19	28-Mar-19	565d
Block 421 - Dahlia St.		**4d**	**08-Oct-20**	**13-Oct-20**	**247d**
CON.DRT.421.020	Excavate/Embank - Block 421 - P3-S2	4d	08-Oct-20	13-Oct-20	247d
Block 422 - WB I-70 Bridge Over Dahlia		**144d**	**14-Oct-19**	**22-May-20**	**14d**
CON.DRT.422.085	Structure Exc/SOE - Block 422 - P2-S1	10d	14-Oct-19	28-Oct-19	74d
CON.DRT.422.090	Structure Exc/SOE - Block 422 - P3-S1	5d	15-May-20	22-May-20	14d
Block 423 - EB I-70 Bridge Over Dahlia		**177d**	**10-Oct-19**	**10-Jul-20**	**206d**
CON.DRT.423.080	Structure Exc/SOE - Block 423 - P2-S1	5d	10-Oct-19	16-Oct-19	81d
CON.DRT.423.085	Structure Exc/SOE - Block 423 - P3-S1	5d	06-Jul-20	10-Jul-20	206d
Block 426 - Local Road - Colorado to Dahlia		**5d**	**25-Mar-19**	**01-Apr-19**	**580d**
CON.DRT.426.025	Excavate/Embank - Block 426 - P1-S1	5d	25-Mar-19	01-Apr-19	580d
Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)		**333d**	**07-Mar-19**	**31-Jul-20**	**288d**
Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.		**79d**	**01-Apr-19**	**30-Jul-19**	**235d**
CON.DRT.501A.025	Excavate/Embank - Block 501A - P1-S1	4d	01-Apr-19	04-Apr-19	212d
CON.DRT.501A.030	Excavate/Embank - Block 501A - P1-S2	4d	25-Jul-19	30-Jul-19	235d
Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.		**88d**	**01-Apr-19**	**12-Aug-19**	**203d**
CON.DRT.501B.020	Excavate/Embank - Block 501B - P1-S1	4d	01-Apr-19	04-Apr-19	203d
CON.DRT.501B.025	Excavate/Embank - Block 501B - P1-S2	4d	07-Aug-19	12-Aug-19	203d
Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge		**74d**	**01-Apr-19**	**22-Jul-19**	**247d**
CON.DRT.501C.020	Excavate/Embank - Block 501C - P1-S1	4d	01-Apr-19	04-Apr-19	247d
CON.DRT.501C.025	Excavate/Embank - Block 501C - P1-S2	5d	16-Jul-19	22-Jul-19	247d
Block 502A - WB I-70 - STA 2105+00 to Holly St. CL		**103d**	**31-Jan-20**	**30-Jun-20**	**289d**
CON.DRT.502A.025	Excavate/Embank - Block 502A - P2-S1	5d	31-Jan-20	06-Feb-20	245d
CON.DRT.502A.030	Excavate/Embank - Block 502A - P3-S1	2d	29-Jun-20	30-Jun-20	289d
Block 502B - WB I-70 - Holly St. CL to Monaco St. CL		**103d**	**31-Jan-20**	**30-Jun-20**	**289d**
CON.DRT.502B.015	Excavate/Embank - Block 502B - P2-S1	5d	31-Jan-20	06-Feb-20	239d
CON.DRT.502B.020	Excavate/Embank - Block 502B - P3-S1	2d	29-Jun-20	30-Jun-20	289d
Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		**61d**	**01-Apr-20**	**30-Jun-20**	**282d**
CON.DRT.502C.015	Excavate/Embank - Block 502C - P2-S1	5d	01-Apr-20	07-Apr-20	206d
CON.DRT.502C.020	Excavate/Embank - Block 502C - P3-S1	2d	29-Jun-20	30-Jun-20	282d
Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		**79d**	**05-Mar-20**	**30-Jun-20**	**298d**
CON.DRT.502D.015	Excavate/Embank - Block 502D - P2-S1	15d	05-Mar-20	25-Mar-20	219d
CON.DRT.502D.020	Excavate/Embank - Block 502D - P3-S1	2d	29-Jun-20	30-Jun-20	298d
Block 503A - EB I-70 - STA 2105+00 to Holly St. CL		**103d**	**31-Jan-20**	**30-Jun-20**	**290d**
CON.DRT.503A.020	Excavate/Embank - Block 503A - P2-S1	5d	31-Jan-20	06-Feb-20	243d
CON.DRT.503A.025	Excavate/Embank - Block 503A - P3-S1	2d	29-Jun-20	30-Jun-20	290d
Block 503B - EB I-70 - Holly St. CL to Monaco St. CL		**87d**	**24-Feb-20**	**30-Jun-20**	**279d**
CON.DRT.503B.010	Excavate/Embank - Block 503B - P2-S1	5d	24-Feb-20	28-Feb-20	228d
CON.DRT.503B.015	Excavate/Embank - Block 503B - P3-S1	2d	29-Jun-20	30-Jun-20	279d
Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		**83d**	**28-Feb-20**	**30-Jun-20**	**280d**
CON.DRT.503C.010	Excavate/Embank - Block 503C - P2-S1	5d	28-Feb-20	05-Mar-20	232d
CON.DRT.503C.015	Excavate/Embank - Block 503C - P3-S1	2d	29-Jun-20	30-Jun-20	280d
Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		**96d**	**11-Feb-20**	**30-Jun-20**	**293d**
CON.DRT.503D.010	Excavate/Embank - Block 503D - P2-S1	15d	11-Feb-20	02-Mar-20	241d
CON.DRT.503D.015	Excavate/Embank - Block 503D - P3-S1	2d	29-Jun-20	30-Jun-20	293d
Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.		**86d**	**17-Apr-19**	**26-Aug-19**	**238d**
CON.DRT.504A.025	Excavate/Embank - Block 504A - P1-S1	4d	17-Apr-19	23-Apr-19	238d
CON.DRT.504A.030	Excavate/Embank - Block 504A - P1-S2	4d	21-Aug-19	26-Aug-19	238d

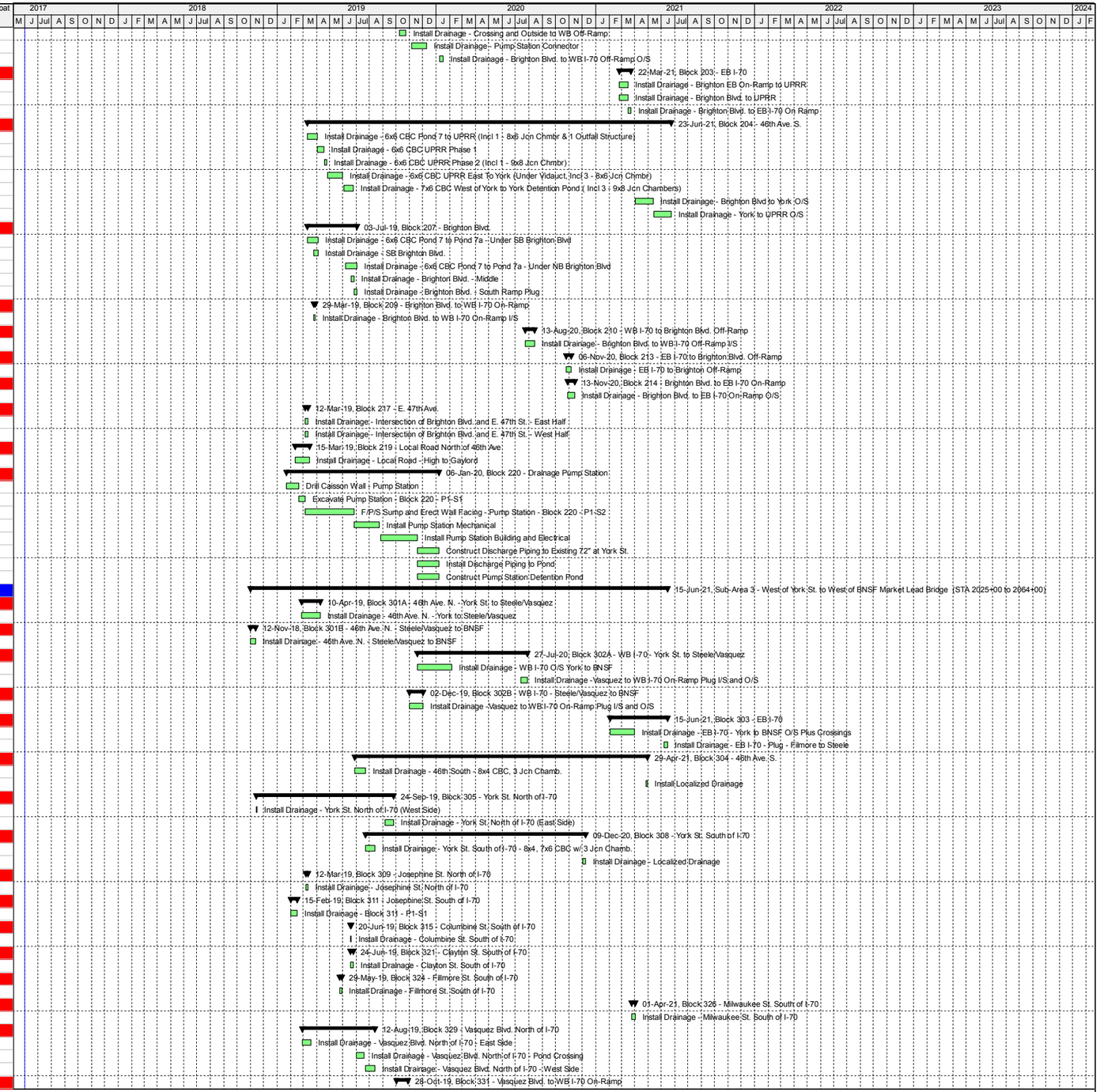


Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.		83d	12-Jul-19	12-Nov-19	230d
CON.DRT.504B.015	Excavate/Embank - Block 504B - P1-S1	4d	12-Jul-19	17-Jul-19	230d
CON.DRT.504B.020	Excavate/Embank - Block 504B - P1-S2	4d	07-Nov-19	12-Nov-19	230d
Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn		56d	30-May-19	23-Aug-19	252d
CON.DRT.504C.010	Excavate/Embank - Block 504C - P1-S1	4d	30-May-19	06-Jun-19	252d
CON.DRT.504C.015	Excavate/Embank - Block 504C - P1-S2	3d	21-Aug-19	23-Aug-19	252d
Block 505 - Holly St.		44d	25-Jul-19	27-Sep-19	487d
CON.DRT.505.025	Excavate/Embank - Block 505 - P1-S1	4d	25-Jul-19	30-Jul-19	487d
CON.DRT.505.030	Excavate/Embank - Block 505 - P4-S1	4d	24-Sep-19	27-Sep-19	487d
Block 506 - WB I-70 Bridge Over Holly		121d	15-Jan-20	09-Jul-20	284d
CON.DRT.506.075	Structure Exc/SOE - Block 506 - P2-S1	10d	15-Jan-20	28-Jan-20	244d
CON.DRT.506.080	Structure Exc/SOE - Block 506 - P3-S1	5d	02-Jul-20	09-Jul-20	284d
Block 507 - EB I-70 Bridge Over Holly		119d	17-Jan-20	09-Jul-20	284d
CON.DRT.507.075	Structure Exc/SOE - Block 507 - P2-S1	5d	17-Jan-20	23-Jan-20	247d
CON.DRT.507.080	Structure Exc/SOE - Block 507 - P3-S1	5d	02-Jul-20	09-Jul-20	284d
Block 510 - Monaco St.		4d	09-Sep-19	12-Sep-19	490d
CON.DRT.510.020	Excavate/Embank - Block 510 - P4-S1	4d	09-Sep-19	12-Sep-19	490d
Block 511 - WB I-70 Bridge Over Monaco		124d	10-Jan-20	09-Jul-20	282d
CON.DRT.511.070	Structure Exc/SOE - Block 511 - P2-S1	10d	10-Jan-20	23-Jan-20	245d
CON.DRT.511.075	Structure Exc/SOE - Block 511 - P3-S1	5d	02-Jul-20	09-Jul-20	282d
Block 512 - EB I-70 Bridge Over Monaco		108d	03-Feb-20	09-Jul-20	282d
CON.DRT.512.070	Structure Exc/SOE - Block 512 - P2-S1	10d	03-Feb-20	14-Feb-20	230d
CON.DRT.512.075	Structure Exc/SOE - Block 512 - P3-S1	5d	02-Jul-20	09-Jul-20	282d
Block 515 - WB I-70 Bridge Over DRIR		129d	10-Jan-20	16-Jul-20	279d
CON.DRT.515.075	Structure Exc/SOE - Block 515 - P2-S1	15d	10-Jan-20	30-Jan-20	245d
CON.DRT.515.080	Structure Exc/SOE - Block 515 - P3-S1	10d	02-Jul-20	16-Jul-20	279d
Block 516 - EB I-70 Bridge Over DRIR		134d	17-Jan-20	31-Jul-20	265d
CON.DRT.516.075	Structure Exc/SOE - Block 516 - P2-S1	15d	17-Jan-20	06-Feb-20	248d
CON.DRT.516.080	Structure Exc/SOE - Block 516 - P3-S1	20d	02-Jul-20	31-Jul-20	265d
Block 517 - WB I-70 Bridge Over Quebec		104d	06-Feb-20	08-Jul-20	285d
CON.DRT.517.065	Structure Exc/SOE - Block 517 - P2-S1	5d	06-Feb-20	12-Feb-20	232d
CON.DRT.517.070	Structure Exc/SOE - Block 517 - P3-S1	5d	01-Jul-20	08-Jul-20	285d
Block 518 - EB I-70 Bridge Over Quebec		98d	13-Feb-20	07-Jul-20	286d
CON.DRT.518.065	Structure Exc/SOE - Block 518 - P2-S1	10d	13-Feb-20	26-Feb-20	222d
CON.DRT.518.070	Structure Exc/SOE - Block 518 - P3-S1	5d	30-Jun-20	07-Jul-20	286d
Block 519 - Quebec St.		4d	12-Jul-19	17-Jul-19	495d
CON.DRT.519.020	Excavate/Embank - Block 519 - P4-S1	4d	12-Jul-19	17-Jul-19	495d
Block 532 - Stapleton N. Bridge Over DRIR		12d	07-Mar-19	25-Mar-19	513d
CON.DRT.532.005	Phase Line SOE	5d	07-Mar-19	13-Mar-19	513d
CON.DRT.532.035	Structure Exc - Block 532 - P1-S1	7d	14-Mar-19	25-Mar-19	513d
Block 533 - Stapleton S. Bridge Over DRIR		7d	09-Jan-20	17-Jan-20	336d
CON.DRT.533.045	Structure Exc - Block 533 - P3-S1	7d	09-Jan-20	17-Jan-20	336d
East Area		244d	04-Jun-18	18-Jun-19	639d
Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)		244d	04-Jun-18	18-Jun-19	639d
Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		10d	08-Jan-19	22-Jan-19	735d
CON.CIV.602A.050	Place Topsoil/Landscaping - Block 602A	10d	08-Jan-19	22-Jan-19	735d
Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		10d	08-Jan-19	22-Jan-19	735d
CON.CIV.602B.050	Place Topsoil/Landscaping - Block 602B	10d	08-Jan-19	22-Jan-19	735d
Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		10d	08-Jan-19	22-Jan-19	735d
CON.CIV.602C.050	Place Topsoil/Landscaping - Block 602C	10d	08-Jan-19	22-Jan-19	735d
Block 602D - WB I-70 - STA 2334+00 to 2353+00		10d	08-Jan-19	22-Jan-19	735d
CON.CIV.602D.050	Place Topsoil/Landscaping - Block 602D	10d	08-Jan-19	22-Jan-19	735d
Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.		10d	08-Jan-19	22-Jan-19	735d
CON.CIV.602F.050	Place Topsoil/Landscaping - Block 602F	10d	08-Jan-19	22-Jan-19	735d
Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		10d	08-Jan-19	22-Jan-19	735d
CON.CIV.603A.050	Place Topsoil/Landscaping - Block 603A	10d	08-Jan-19	22-Jan-19	735d
Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		10d	08-Jan-19	22-Jan-19	735d
CON.CIV.603B.050	Place Topsoil/Landscaping - Block 603B	10d	08-Jan-19	22-Jan-19	735d
Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		10d	10-May-19	23-May-19	654d
CON.CIV.603C.050	Place Topsoil/Landscaping - Block 603C	10d	10-May-19	23-May-19	654d
Block 603D - EB I-70 - STA 2334+00 to 2353+00		10d	10-May-19	23-May-19	654d
CON.CIV.603D.050	Place Topsoil/Landscaping - Block 603D	10d	10-May-19	23-May-19	654d
Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.		10d	15-Apr-19	29-Apr-19	672d
CON.CIV.603F.050	Place Topsoil/Landscaping - Block 603F	10d	15-Apr-19	29-Apr-19	672d
Block 605 - I-270 Bridge Over I-70		20d	04-Jun-18	02-Jul-18	482d
CON.DRT.605.060	Structure Exc/SOE - Block 605 - P1-S1	20d	04-Jun-18	02-Jul-18	482d
Block 606 - EB I-270 to Central Park Blvd. Off-Ramp		10d	26-Jul-18	06-Aug-18	851d
CON.DRT.606.020	Excavate/Embank - Block 606 - P2-S1	10d	26-Jul-18	06-Aug-18	851d
Block 618 - WB I-70 Bridge Over Peoria St.		197d	26-Jul-18	29-May-19	481d
CON.DRT.618.080	Structure Exc/SOE - Block 618 - P2-S1	22d	26-Jul-18	27-Aug-18	548d
CON.DRT.618.075	Structure Exc - Block 618 - P3-S1	12d	13-May-19	29-May-19	481d
Block 619 - EB I-70 Bridge Over Peoria St.		187d	28-Aug-18	18-Jun-19	481d
CON.DRT.619.075	Structure Exc - Block 619 - P2-S1	22d	28-Aug-18	27-Sep-18	551d
CON.DRT.619.080	Structure Exc - Block 619 - P3-S1	12d	30-May-19	18-Jun-19	481d
Drainage		684d	27-Jul-18	23-Jun-21	163d
West Area		622d	29-Oct-18	23-Jun-21	97d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		622d	29-Oct-18	23-Jun-21	94d
Block 201 - 46th Ave. N.		76d	29-Oct-18	01-Mar-19	592d
CON.DRN.201.015	Install Drainage - 60in - Block 201 - P1-S1	5d	29-Oct-18	02-Nov-18	49d
CON.DRN.201.020	Install Drainage - 18in - Block 201 - P1-S1	30d	16-Jan-19	01-Mar-19	592d
Block 202 - WB I-70		74d	16-Sep-19	16-Jan-20	161d
CON.DRN.202.030	Install Drainage - CL Trunk - UPRR to 2016+00	25d	16-Sep-19	22-Oct-19	123d

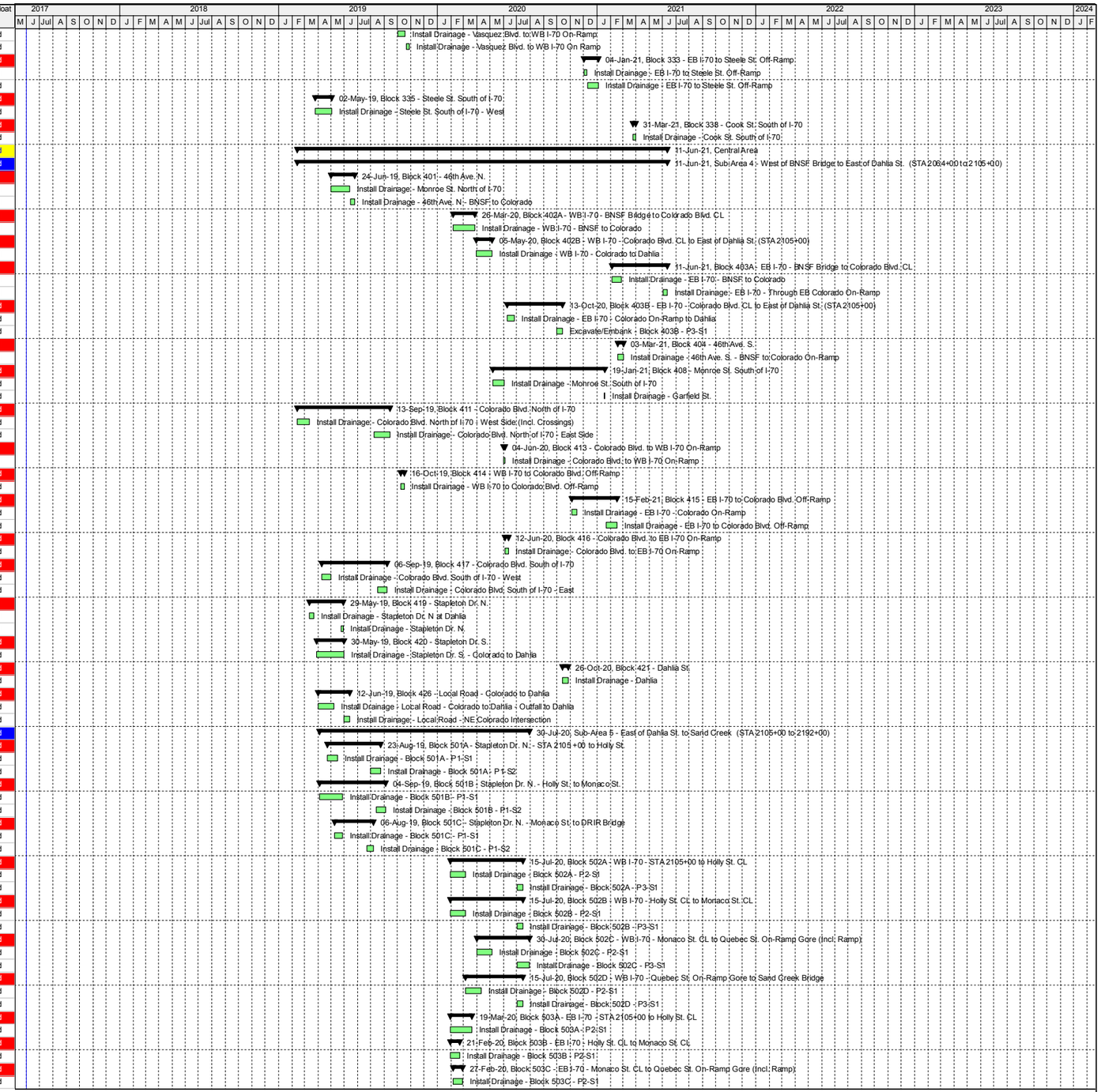
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.DRN.202.020	Install Drainage - Crossing and Outside to WB Off-Ramp	10d	09-Oct-19	23-Oct-19	84d
CON.DRN.202.015	Install Drainage - Pump Station Connector	20d	06-Nov-19	09-Dec-19	145d
CON.DRN.202.025	Install Drainage - Brighton Blvd. to WB I-70 Off-Ramp O/S	7d	08-Jan-20	16-Jan-20	161d
Block 203 - EB I-70		18d	25-Feb-21	22-Mar-21	70d
CON.DRN.203.025	Install Drainage - Brighton EB On-Ramp to UPRR	14d	25-Feb-21	16-Mar-21	74d
CON.DRN.203.020	Install Drainage - Brighton Blvd. to UPRR	13d	25-Feb-21	15-Mar-21	8d
CON.DRN.203.015	Install Drainage - Brighton Blvd. to EB I-70 On Ramp	5d	16-Mar-21	22-Mar-21	8d
Block 204 - 46th Ave. S.		541d	11-Mar-19	23-Jun-21	6d
CON.DRN.204.020	Install Drainage - 6x6 CBC Pond 7 to UPRR (Incl 1 - 8x6 Jcn Chmbr & 1 Outfall Structure)	15d	11-Mar-19	02-Apr-19	411d
CON.DRN.204.030	Install Drainage - 6x6 CBC UPRR Phase 1	10d	03-Apr-19	17-Apr-19	411d
CON.DRN.204.035	Install Drainage - 6x6 CBC UPRR Phase 2 (Incl 1 - 9x8 Jcn Chmbr)	5d	19-Apr-19	25-Apr-19	411d
CON.DRN.204.025	Install Drainage - 6x6 CBC UPRR East To York (Under Vidauct, Incl 3 - 8x6 Jcn Chmbr)	25d	26-Apr-19	31-May-19	411d
CON.DRN.204.040	Install Drainage - 7x6 CBC West of York to York Detention Pond (Incl 3 - 9x8 Jcn Chambers)	15d	04-Jun-19	25-Jun-19	411d
CON.DRN.204.045	Install Drainage - Brighton Blvd to York O/S	30d	01-Apr-21	13-May-21	6d
CON.DRN.204.015	Install Drainage - York to UPRR O/S	26d	14-May-21	23-Jun-21	6d
Block 207 - Brighton Blvd.		76d	11-Mar-19	03-Jul-19	147d
CON.DRN.207.125	Install Drainage - 6x6 CBC Pond 7 to Pond 7a - Under SB Brighton Blvd	20d	11-Mar-19	05-Apr-19	136d
CON.DRN.207.020	Install Drainage - SB Brighton Blvd.	6d	26-Mar-19	04-Apr-19	128d
CON.DRN.207.120	Install Drainage - 6x6 CBC Pond 7 to Pond 7a - Under NB Brighton Blvd	20d	06-Jun-19	03-Jul-19	159d
CON.DRN.207.015	Install Drainage - Brighton Blvd. - Middle	5d	20-Jun-19	26-Jun-19	126d
CON.DRN.207.025	Install Drainage - Brighton Blvd. - South Ramp Plug	5d	27-Jun-19	03-Jul-19	126d
Block 209 - Brighton Blvd. to WB I-70 On-Ramp		3d	26-Mar-19	29-Mar-19	198d
CON.DRN.209.015	Install Drainage - Brighton Blvd. to WB I-70 On-Ramp I/S	3d	26-Mar-19	29-Mar-19	198d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		15d	23-Jul-20	13-Aug-20	4d
CON.DRN.210.015	Install Drainage - Brighton Blvd. to WB I-70 Off-Ramp I/S	15d	23-Jul-20	13-Aug-20	4d
Block 213 - EB I-70 to Brighton Blvd. Off-Ramp		10d	26-Oct-20	06-Nov-20	158d
CON.DRN.213.015	Install Drainage - EB I-70 to Brighton Off-Ramp	10d	26-Oct-20	06-Nov-20	158d
Block 214 - Brighton Blvd. to EB I-70 On-Ramp		12d	28-Oct-20	13-Nov-20	152d
CON.DRN.214.015	Install Drainage - Brighton Blvd. to EB I-70 On-Ramp O/S	12d	28-Oct-20	13-Nov-20	152d
Block 217 - E. 47th Ave.		5d	06-Mar-19	12-Mar-19	633d
CON.DRN.217.015	Install Drainage - Intersection of Brighton Blvd. and E. 47th St. - East Half	5d	06-Mar-19	12-Mar-19	633d
CON.DRN.217.020	Install Drainage - Intersection of Brighton Blvd. and E. 47th St. - West Half	5d	06-Mar-19	12-Mar-19	586d
Block 219 - Local Road North of 46th Ave		25d	11-Feb-19	15-Mar-19	618d
CON.DRN.219.015	Install Drainage - Local Road - High to Gaylord	25d	11-Feb-19	15-Mar-19	618d
Block 220 - Drainage Pump Station		240d	23-Jan-19	06-Jan-20	186d
CON.DRN.220.005	Drill Caisson Wall - Pump Station	20d	23-Jan-19	19-Feb-19	186d
CON.DRN.220.010	Excavate Pump Station - Block 220 - P1-S1	10d	20-Feb-19	05-Mar-19	186d
CON.DRN.220.015	F/P/S Sump and Erect Wall Facing - Pump Station - Block 220 - P1-S2	80d	06-Mar-19	26-Jun-19	186d
CON.DRN.220.020	Install Pump Station Mechanical	40d	27-Jun-19	23-Aug-19	186d
CON.DRN.220.025	Install Pump Station Building and Electrical	60d	26-Aug-19	18-Nov-19	186d
CON.DRN.220.040	Construct Discharge Piping to Existing 72" at York St.	30d	19-Nov-19	06-Jan-20	186d
CON.DRN.220.030	Install Discharge Piping to Pond	30d	19-Nov-19	06-Jan-20	186d
CON.DRN.220.035	Construct Pump Station Detention Pond	30d	19-Nov-19	06-Jan-20	186d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		613d	01-Nov-18	15-Jun-21	103d
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		30d	26-Feb-19	10-Apr-19	13d
CON.DRN.301A.015	Install Drainage - 46th Ave. N. - York to Steele/Vasquez	30d	26-Feb-19	10-Apr-19	13d
Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF		8d	01-Nov-18	12-Nov-18	115d
CON.DRN.301B.015	Install Drainage - 46th Ave. N. - Steele/Vasquez to BNSF	8d	01-Nov-18	12-Nov-18	115d
Block 302A - WB I-70 - York St. to Steele/Vasquez		160d	19-Nov-19	27-Jul-20	13d
CON.DRN.302A.015	Install Drainage - WB I-70 O/S York to BNSF	45d	19-Nov-19	06-Feb-20	13d
CON.DRN.302A.020	Install Drainage -Vasquez to WB I-70 On-Ramp Plug I/S and O/S	10d	13-Jul-20	27-Jul-20	13d
Block 302B - WB I-70 - Steele/Vasquez to BNSF		19d	01-Nov-19	02-Dec-19	166d
CON.DRN.302B.015	Install Drainage -Vasquez to WB I-70 On-Ramp Plug I/S and O/S	19d	01-Nov-19	02-Dec-19	166d
Block 303 - EB I-70		90d	03-Feb-21	15-Jun-21	31d
CON.DRN.303.020	Install Drainage - EB I-70 - York to BNSF O/S Plus Crossings	40d	03-Feb-21	31-Mar-21	27d
CON.DRN.303.015	Install Drainage - EB I-70 - Plug - Filmore to Steele	7d	07-Jun-21	15-Jun-21	31d
Block 304 - 46th Ave. S.		433d	28-Jun-19	29-Apr-21	68d
CON.DRN.304.015	Install Drainage - 46th South - 8x4 CBC, 3 Jcn Chamb.	15d	28-Jun-19	22-Jul-19	486d
CON.DRN.304.020	Install Localized Drainage	4d	26-Apr-21	29-Apr-21	27d
Block 305 - York St. North of I-70		198d	14-Nov-18	24-Sep-19	503d
CON.DRN.305.020	Install Drainage - York St. North of I-70 (West Side)	2d	14-Nov-18	15-Nov-18	659d
CON.DRN.305.015	Install Drainage - York St. North of I-70 (East Side)	12d	06-Sep-19	24-Sep-19	503d
Block 308 - York St. South of I-70		329d	23-Jul-19	09-Dec-20	213d
CON.DRN.308.015	Install Drainage - York St. South of I-70 - 8x4, 7x6 CBC w/ 3 Jcn Chamb.	14d	23-Jul-19	12-Aug-19	486d
CON.DRN.308.020	Install Drainage - Localized Drainage	4d	03-Dec-20	09-Dec-20	213d
Block 309 - Josephine St. North of I-70		3d	08-Mar-19	12-Mar-19	631d
CON.DRN.309.015	Install Drainage - Josephine St. North of I-70	3d	08-Mar-19	12-Mar-19	631d
Block 311 - Josephine St. South of I-70		10d	01-Feb-19	15-Feb-19	652d
CON.DRN.311.015	Install Drainage - Block 311 - P1-S1	10d	01-Feb-19	15-Feb-19	652d
Block 315 - Columbine St. South of I-70		3d	18-Jun-19	20-Jun-19	570d
CON.DRN.315.015	Install Drainage - Columbine St. South of I-70	3d	18-Jun-19	20-Jun-19	570d
Block 321 - Clayton St. South of I-70		5d	18-Jun-19	24-Jun-19	568d
CON.DRN.321.015	Install Drainage - Clayton St. South of I-70	5d	18-Jun-19	24-Jun-19	568d
Block 324 - Fillmore St. South of I-70		3d	24-May-19	29-May-19	584d
CON.DRN.324.015	Install Drainage - Fillmore St. South of I-70	3d	24-May-19	29-May-19	584d
Block 326 - Milwaukee St. South of I-70		7d	24-Mar-21	01-Apr-21	136d
CON.DRN.326.015	Install Drainage - Milwaukee St. South of I-70	7d	24-Mar-21	01-Apr-21	136d
Block 329 - Vasquez Blvd. North of I-70		109d	27-Feb-19	12-Aug-19	517d
CON.DRN.329.015	Install Drainage - Vasquez Blvd. North of I-70 - East Side	15d	27-Feb-19	19-Mar-19	533d
CON.DRN.329.020	Install Drainage - Vasquez Blvd. North of I-70 - Pond Crossing	12d	02-Jul-19	19-Jul-19	517d
CON.DRN.329.025	Install Drainage - Vasquez Blvd. North of I-70 - West Side	15d	22-Jul-19	12-Aug-19	517d
Block 331 - Vasquez Blvd. to WB I-70 On-Ramp		18d	02-Oct-19	28-Oct-19	419d



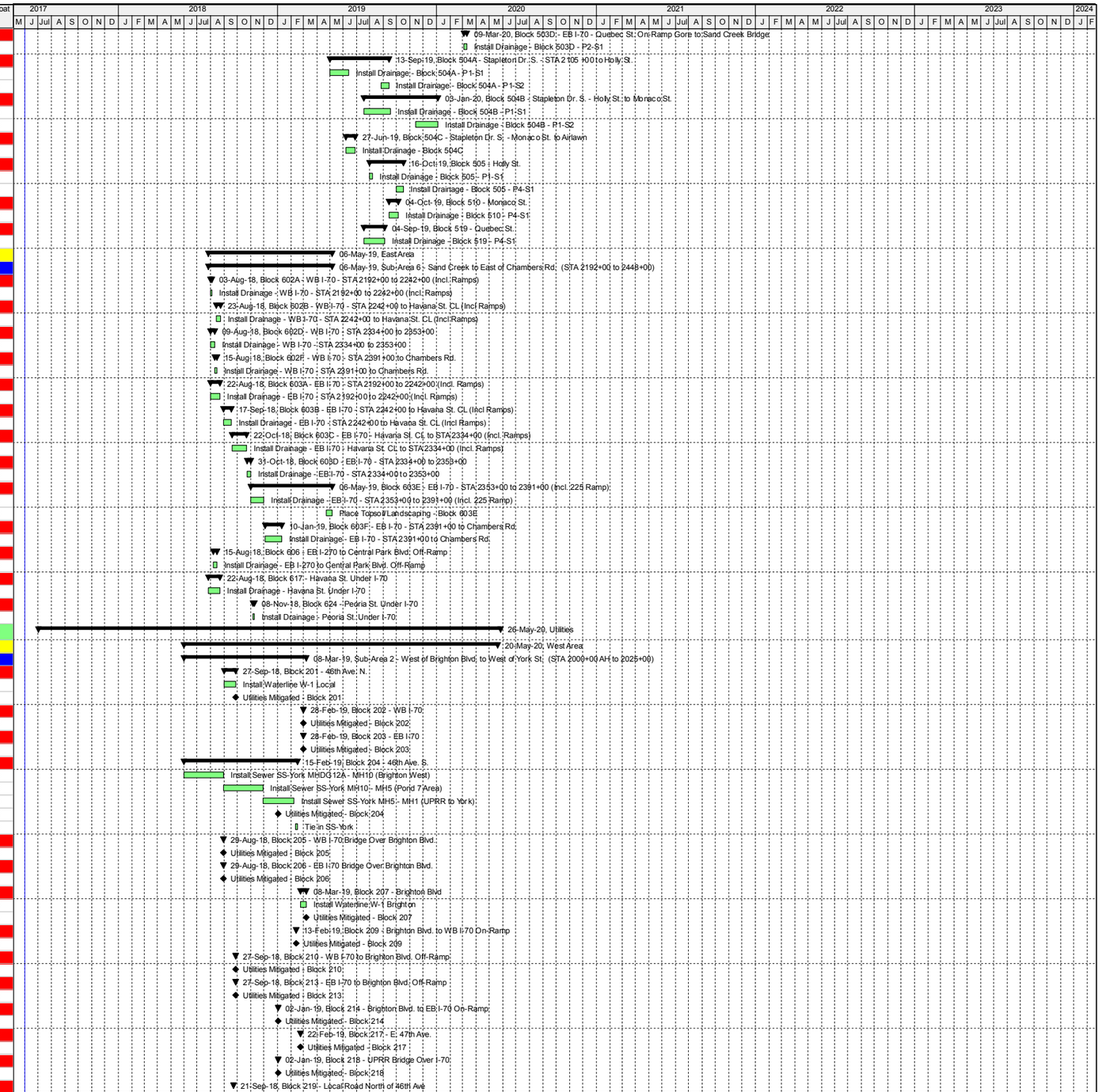
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.DRN.331.020	Install Drainage - Vasquez Blvd. to WB I-70 On-Ramp	12d	02-Oct-19	17-Oct-19	419d
CON.DRN.331.015	Install Drainage - Vasquez Blvd. to WB I-70 On Ramp	6d	21-Oct-19	28-Oct-19	419d
Block 333 - EB I-70 to Steele St. Off-Ramp		14d	03-Dec-20	04-Jan-21	106d
CON.DRN.333.015	Install Drainage - EB I-70 to Steele St. Off-Ramp	4d	03-Dec-20	09-Dec-20	88d
CON.DRN.333.020	Install Drainage - EB I-70 to Steele St. Off-Ramp	10d	10-Dec-20	04-Jan-21	106d
Block 335 - Steele St. South of I-70		25d	26-Mar-19	02-May-19	517d
CON.DRN.335.015	Install Drainage - Steele St. South of I-70 - West	25d	26-Mar-19	02-May-19	517d
Block 338 - Cook St. South of I-70		6d	24-Mar-21	31-Mar-21	153d
CON.DRN.338.015	Install Drainage - Cook St. South of I-70	6d	24-Mar-21	31-Mar-21	153d
Central Area		551d	13-Feb-19	11-Jun-21	105d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		551d	13-Feb-19	11-Jun-21	105d
Block 401 - 46th Ave. N.		35d	02-May-19	24-Jun-19	21d
CON.DRN.401.020	Install Drainage - Monroe St. North of I-70	28d	02-May-19	13-Jun-19	21d
CON.DRN.401.015	Install Drainage - 46th Ave. N - BNSF to Colorado	7d	14-Jun-19	24-Jun-19	21d
Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL		36d	06-Feb-20	26-Mar-20	51d
CON.DRN.402A.015	Install Drainage - WB I-70 - BNSF to Colorado	36d	06-Feb-20	26-Mar-20	51d
Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		27d	30-Mar-20	05-May-20	51d
CON.DRN.402B.015	Install Drainage - WB I-70 - Colorado to Dahlia	27d	30-Mar-20	05-May-20	51d
Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL		87d	04-Feb-21	11-Jun-21	38d
CON.DRN.403A.015	Install Drainage - EB I-70 - BNSF to Colorado	15d	04-Feb-21	25-Feb-21	60d
CON.DRN.403A.020	Install Drainage - EB I-70 - Through EB Colorado On-Ramp	7d	02-Jun-21	11-Jun-21	38d
Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		86d	09-Jun-20	13-Oct-20	147d
CON.DRN.403B.015	Install Drainage - EB I-70 - Colorado On-Ramp to Dahlia	12d	09-Jun-20	24-Jun-20	175d
CON.DRN.403B.025	Excavate/Embank - Block 403B - P3-S1	10d	30-Sep-20	13-Oct-20	147d
Block 404 - 46th Ave. S.		10d	18-Feb-21	03-Mar-21	93d
CON.DRN.404.015	Install Drainage - 46th Ave. S. - BNSF to Colorado On-Ramp	10d	18-Feb-21	03-Mar-21	93d
Block 408 - Monroe St. South of I-70		162d	07-May-20	19-Jan-21	201d
CON.DRN.408.020	Install Drainage - Monroe St. South of I-70	17d	07-May-20	02-Jun-20	244d
CON.DRN.408.015	Install Drainage - Garfield St.	2d	18-Jan-21	19-Jan-21	201d
Block 411 - Colorado Blvd. North of I-70		141d	13-Feb-19	13-Sep-19	498d
CON.DRN.411.020	Install Drainage - Colorado Blvd. North of I-70 - West Side (Incl. Crossings)	20d	13-Feb-19	12-Mar-19	549d
CON.DRN.411.015	Install Drainage - Colorado Blvd. North of I-70 - East Side	25d	08-Aug-19	13-Sep-19	498d
Block 413 - Colorado Blvd. to WB I-70 On-Ramp		3d	01-Jun-20	04-Jun-20	55d
CON.DRN.413.015	Install Drainage - Colorado Blvd. to WB I-70 On-Ramp	3d	01-Jun-20	04-Jun-20	55d
Block 414 - WB I-70 to Colorado Blvd. Off-Ramp		6d	09-Oct-19	16-Oct-19	203d
CON.DRN.414.015	Install Drainage - WB I-70 to Colorado Blvd. Off-Ramp	6d	09-Oct-19	16-Oct-19	203d
Block 415 - EB I-70 to Colorado Blvd. Off-Ramp		59d	04-Nov-20	15-Feb-21	118d
CON.DRN.415.015	Install Drainage - EB I-70 - Colorado On-Ramp	9d	04-Nov-20	16-Nov-20	168d
CON.DRN.415.020	Install Drainage - EB I-70 to Colorado Blvd. Off-Ramp	14d	22-Jan-21	15-Feb-21	118d
Block 416 - Colorado Blvd. to EB I-70 On-Ramp		6d	04-Jun-20	12-Jun-20	244d
CON.DRN.416.015	Install Drainage - Colorado Blvd. to EB I-70 On-Ramp	6d	04-Jun-20	12-Jun-20	244d
Block 417 - Colorado Blvd. South of I-70		98d	10-Apr-19	06-Sep-19	506d
CON.DRN.417.020	Install Drainage - Colorado Blvd. South of I-70 - West	14d	10-Apr-19	01-May-19	259d
CON.DRN.417.015	Install Drainage - Colorado Blvd. South of I-70 - East	15d	16-Aug-19	06-Sep-19	506d
Block 419 - Stapleton Dr. N.		51d	13-Mar-19	29-May-19	56d
CON.DRN.419.015	Install Drainage - Stapleton Dr. N at Dahlia	7d	13-Mar-19	22-Mar-19	39d
CON.DRN.419.020	Install Drainage - Stapleton Dr. N.	3d	24-May-19	29-May-19	56d
Block 420 - Stapleton Dr. S.		42d	29-Mar-19	30-May-19	565d
CON.DRN.420.015	Install Drainage - Stapleton Dr. S. - Colorado to Dahlia	42d	29-Mar-19	30-May-19	565d
Block 421 - Dahlia St.		8d	14-Oct-20	26-Oct-20	247d
CON.DRN.421.015	Install Drainage - Dahlia	8d	14-Oct-20	26-Oct-20	247d
Block 426 - Local Road - Colorado to Dahlia		47d	02-Apr-19	12-Jun-19	565d
CON.DRN.426.015	Install Drainage - Local Road - Colorado to Dahlia - Outfall to Dahlia	25d	02-Apr-19	08-May-19	580d
CON.DRN.426.020	Install Drainage - Local Road - NE Colorado Intersection	7d	31-May-19	12-Jun-19	565d
Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)		313d	05-Apr-19	30-Jul-20	302d
Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.		82d	23-Apr-19	23-Aug-19	235d
CON.DRN.501A.015	Install Drainage - Block 501A - P1-S1	17d	23-Apr-19	15-May-19	212d
CON.DRN.501A.020	Install Drainage - Block 501A - P1-S2	17d	31-Jul-19	23-Aug-19	235d
Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.		99d	05-Apr-19	04-Sep-19	206d
CON.DRN.501B.010	Install Drainage - Block 501B - P1-S1	35d	05-Apr-19	28-May-19	203d
CON.DRN.501B.015	Install Drainage - Block 501B - P1-S2	15d	13-Aug-19	04-Sep-19	206d
Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge		58d	09-May-19	06-Aug-19	247d
CON.DRN.501C.010	Install Drainage - Block 501C - P1-S1	13d	09-May-19	28-May-19	247d
CON.DRN.501C.015	Install Drainage - Block 501C - P1-S2	10d	23-Jul-19	06-Aug-19	247d
Block 502A - WB I-70 - STA 2105+00 to Holly St. CL		113d	31-Jan-20	15-Jul-20	289d
CON.DRN.502A.015	Install Drainage - Block 502A - P2-S1	25d	31-Jan-20	05-Mar-20	245d
CON.DRN.502A.020	Install Drainage - Block 502A - P3-S1	10d	01-Jul-20	15-Jul-20	289d
Block 502B - WB I-70 - Holly St. CL to Monaco St. CL		113d	31-Jan-20	15-Jul-20	289d
CON.DRN.502B.005	Install Drainage - Block 502B - P2-S1	25d	31-Jan-20	05-Mar-20	219d
CON.DRN.502B.010	Install Drainage - Block 502B - P3-S1	10d	01-Jul-20	15-Jul-20	289d
Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		81d	01-Apr-20	30-Jul-20	282d
CON.DRN.502C.005	Install Drainage - Block 502C - P2-S1	25d	01-Apr-20	05-May-20	206d
CON.DRN.502C.010	Install Drainage - Block 502C - P3-S1	20d	01-Jul-20	30-Jul-20	282d
Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		89d	05-Mar-20	15-Jul-20	298d
CON.DRN.502D.005	Install Drainage - Block 502D - P2-S1	25d	05-Mar-20	09-Apr-20	219d
CON.DRN.502D.010	Install Drainage - Block 502D - P3-S1	10d	01-Jul-20	15-Jul-20	298d
Block 503A - EB I-70 - STA 2105+00 to Holly St. CL		35d	31-Jan-20	19-Mar-20	243d
CON.DRN.503A.015	Install Drainage - Block 503A - P2-S1	35d	31-Jan-20	19-Mar-20	243d
Block 503B - EB I-70 - Holly St. CL to Monaco St. CL		16d	31-Jan-20	21-Feb-20	228d
CON.DRN.503B.005	Install Drainage - Block 503B - P2-S1	16d	31-Jan-20	21-Feb-20	228d
Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		16d	06-Feb-20	27-Feb-20	232d
CON.DRN.503C.005	Install Drainage - Block 503C - P2-S1	16d	06-Feb-20	27-Feb-20	232d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		5d	03-Mar-20	09-Mar-20	241d
CON.DRN.503D.005	Install Drainage - Block 503D - P2-S1	5d	03-Mar-20	09-Mar-20	241d
Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.		89d	02-May-19	13-Sep-19	238d
CON.DRN.504A.015	Install Drainage - Block 504A - P1-S1	28d	02-May-19	13-Jun-19	238d
CON.DRN.504A.020	Install Drainage - Block 504A - P1-S2	13d	27-Aug-19	13-Sep-19	238d
Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.		104d	18-Jul-19	03-Jan-20	230d
CON.DRN.504B.005	Install Drainage - Block 504B - P1-S1	40d	18-Jul-19	16-Sep-19	230d
CON.DRN.504B.010	Install Drainage - Block 504B - P1-S2	25d	13-Nov-19	03-Jan-20	230d
Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn		15d	07-Jun-19	27-Jun-19	257d
CON.DRN.504C.005	Install Drainage - Block 504C	15d	07-Jun-19	27-Jun-19	257d
Block 505 - Holly St.		53d	31-Jul-19	16-Oct-19	487d
CON.DRN.505.015	Install Drainage - Block 505 - P1-S1	6d	31-Jul-19	07-Aug-19	487d
CON.DRN.505.020	Install Drainage - Block 505 - P4-S1	13d	30-Sep-19	16-Oct-19	487d
Block 510 - Monaco St.		15d	13-Sep-19	04-Oct-19	490d
CON.DRN.510.015	Install Drainage - Block 510 - P4-S1	15d	13-Sep-19	04-Oct-19	490d
Block 519 - Quebec St.		32d	18-Jul-19	04-Sep-19	495d
CON.DRN.519.015	Install Drainage - Block 519 - P4-S1	32d	18-Jul-19	04-Sep-19	495d
East Area		180d	27-Jul-18	06-May-19	667d
Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)		180d	27-Jul-18	06-May-19	667d
Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		3d	01-Aug-18	03-Aug-18	636d
CON.DRN.602A.015	Install Drainage - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)	3d	01-Aug-18	03-Aug-18	636d
Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		8d	13-Aug-18	23-Aug-18	620d
CON.DRN.602B.015	Install Drainage - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)	8d	13-Aug-18	23-Aug-18	620d
Block 602D - WB I-70 - STA 2334+00 to 2353+00		7d	01-Aug-18	09-Aug-18	619d
CON.DRN.602D.015	Install Drainage - WB I-70 - STA 2334+00 to 2353+00	7d	01-Aug-18	09-Aug-18	619d
Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.		3d	10-Aug-18	15-Aug-18	619d
CON.DRN.602F.005	Install Drainage - WB I-70 - STA 2391+00 to Chambers Rd.	3d	10-Aug-18	15-Aug-18	619d
Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		15d	01-Aug-18	22-Aug-18	532d
CON.DRN.603A.015	Install Drainage - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)	15d	01-Aug-18	22-Aug-18	532d
Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		12d	30-Aug-18	17-Sep-18	527d
CON.DRN.603B.015	Install Drainage - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)	12d	30-Aug-18	17-Sep-18	527d
Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		23d	18-Sep-18	22-Oct-18	527d
CON.DRN.603C.015	Install Drainage - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)	23d	18-Sep-18	22-Oct-18	527d
Block 603D - EB I-70 - STA 2334+00 to 2353+00		7d	23-Oct-18	31-Oct-18	527d
CON.DRN.603D.015	Install Drainage - EB I-70 - STA 2334+00 to 2353+00	7d	23-Oct-18	31-Oct-18	527d
Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)		115d	01-Nov-18	06-May-19	667d
CON.DRN.603E.010	Install Drainage - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)	20d	01-Nov-18	30-Nov-18	527d
CON.CIV.603E.050	Place Topsoil/Landscaping - Block 603E	10d	23-Apr-19	06-May-19	667d
Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.		20d	03-Dec-18	10-Jan-19	527d
CON.DRN.603F.010	Install Drainage - EB I-70 - STA 2391+00 to Chambers Rd.	20d	03-Dec-18	10-Jan-19	527d
Block 606 - EB I-270 to Central Park Blvd. Off-Ramp		6d	07-Aug-18	15-Aug-18	707d
CON.DRN.606.015	Install Drainage - EB I-270 to Central Park Blvd. Off-Ramp	6d	07-Aug-18	15-Aug-18	707d
Block 617 - Havana St. Under I-70		18d	27-Jul-18	22-Aug-18	755d
CON.DRN.617.015	Install Drainage - Havana St. Under I-70	18d	27-Jul-18	22-Aug-18	755d
Block 624 - Peoria St. Under I-70		4d	05-Nov-18	08-Nov-18	704d
CON.DRN.624.015	Install Drainage - Peoria St. Under I-70	4d	05-Nov-18	08-Nov-18	704d
Utilities		677d	01-Jul-17	26-May-20	490d
West Area		464d	01-Jun-18	20-May-20	420d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		180d	01-Jun-18	08-Mar-19	623d
Block 201 - 46th Ave. N.		19d	31-Aug-18	27-Sep-18	49d
CON.UTL.201.150	Install Waterline W-1 Local	18d	31-Aug-18	26-Sep-18	49d
CON.UTL.201.145	Utilities Mitigated - Block 201	0d		27-Sep-18	49d
Block 202 - WB I-70		0d	28-Feb-19	28-Feb-19	233d
CON.UTL.202.130	Utilities Mitigated - Block 202	0d		28-Feb-19	233d
Block 203 - EB I-70		0d	28-Feb-19	28-Feb-19	396d
CON.UTL.203.135	Utilities Mitigated - Block 203	0d		28-Feb-19	396d
Block 204 - 46th Ave. S.		165d	01-Jun-18	15-Feb-19	491d
CON.UTL.204.135	Install Sewer SS-York MHDG12A - MH10 (Brighton West)	60d	01-Jun-18	29-Aug-18	144d
CON.UTL.204.140	Install Sewer SS-York MH10 - MH5 (Pond 7 Area)	60d	30-Aug-18	28-Nov-18	144d
CON.UTL.204.145	Install Sewer SS-York MH5 - MH1 (UPRR to York)	40d	29-Nov-18	07-Feb-19	144d
CON.UTL.204.130	Utilities Mitigated - Block 204	0d		02-Jan-19	521d
CON.UTL.204.150	Tie in SS-York	5d	11-Feb-19	15-Feb-19	144d
Block 205 - WB I-70 Bridge Over Brighton Blvd.		0d	29-Aug-18	29-Aug-18	294d
CON.UTL.205.095	Utilities Mitigated - Block 205	0d		29-Aug-18	294d
Block 206 - EB I-70 Bridge Over Brighton Blvd.		0d	29-Aug-18	29-Aug-18	608d
CON.UTL.206.090	Utilities Mitigated - Block 206	0d		29-Aug-18	608d
Block 207 - Brighton Blvd		11d	22-Feb-19	08-Mar-19	167d
CON.UTL.207.140	Install Waterline W-1 Brighton	10d	22-Feb-19	07-Mar-19	167d
CON.UTL.207.135	Utilities Mitigated - Block 207	0d		08-Mar-19	167d
Block 209 - Brighton Blvd. to WB I-70 On-Ramp		0d	13-Feb-19	13-Feb-19	202d
CON.UTL.209.060	Utilities Mitigated - Block 209	0d		13-Feb-19	202d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		0d	27-Sep-18	27-Sep-18	416d
CON.UTL.210.065	Utilities Mitigated - Block 210	0d		27-Sep-18	416d
Block 213 - EB I-70 to Brighton Blvd. Off-Ramp		0d	27-Sep-18	27-Sep-18	649d
CON.UTL.213.055	Utilities Mitigated - Block 213	0d		27-Sep-18	649d
Block 214 - Brighton Blvd. to EB I-70 On-Ramp		0d	02-Jan-19	02-Jan-19	588d
CON.UTL.214.060	Utilities Mitigated - Block 214	0d		02-Jan-19	588d
Block 217 - E. 47th Ave.		0d	22-Feb-19	22-Feb-19	633d
CON.UTL.217.070	Utilities Mitigated - Block 217	0d		22-Feb-19	633d
Block 218 - UPRR Bridge Over I-70		0d	02-Jan-19	02-Jan-19	25d
CON.UTL.218.450	Utilities Mitigated - Block 218	0d		02-Jan-19	25d
Block 219 - Local Road North of 46th Ave		0d	21-Sep-18	21-Sep-18	695d



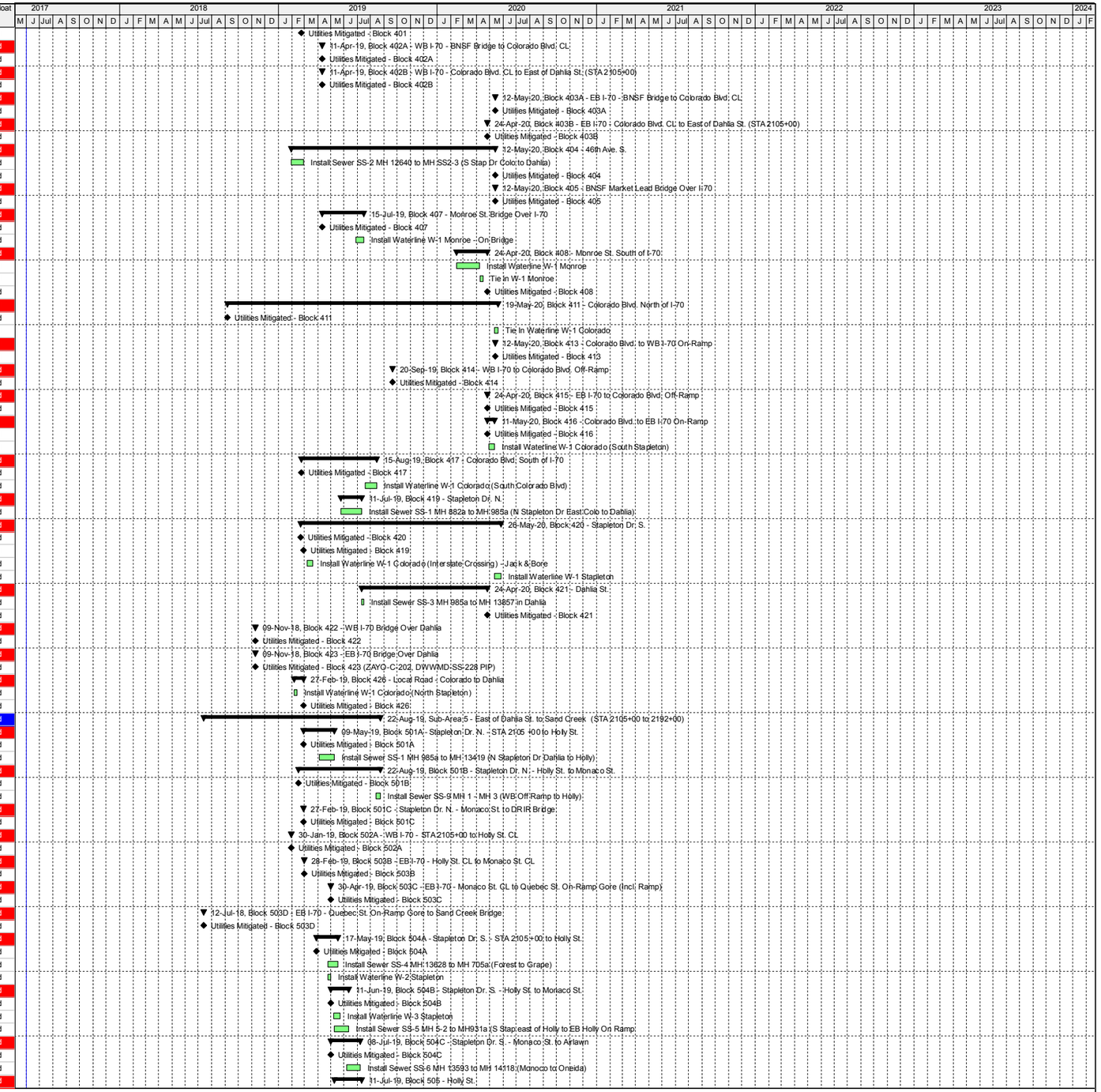
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.UTL.219.075	Utilities Mitigated - Block 219	0d		21-Sep-18	695d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		**464d**	**01-Jun-18**	**20-May-20**	**420d**
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		**30d**	**15-Oct-18**	**29-Nov-18**	**21d**
CON.UTL.301A.090	Install Waterline W-1 46th North	11d	15-Oct-18	31-Oct-18	28d
CON.UTL.301A.095	Install Waterline W-2 46th North	12d	01-Nov-18	16-Nov-18	28d
CON.UTL.301A.085	Utilities Mitigated - Block 301A	0d		29-Nov-18	21d
Block 302A - WB I-70 - York St. to Steele/Vasquez		**0d**	**10-May-19**	**10-May-19**	**158d**
CON.UTL.302A.155	Utilities Mitigated - Block 302A	0d		10-May-19	158d
Block 302B - WB I-70 - Steele/Vasquez to BNSF		**0d**	**10-May-19**	**10-May-19**	**119d**
CON.UTL.302B.125	Utilities Mitigated - Block 302B	0d		10-May-19	119d
Block 303 - EB I-70		**0d**	**20-May-20**	**20-May-20**	**84d**
CON.UTL.303.200	Utilities Mitigated - Block 303	0d		20-May-20	84d
Block 304 - 46th Ave. S.		**252d**	**01-Jun-18**	**27-Jun-19**	**486d**
CON.UTL.304.105	Install Sewer SS-10 Clayton Street - Flow redirect	3d	01-Jun-18	06-Jun-18	251d
CON.UTL.304.095	Install Sewer SS-8 Str 73 to MH 12135 (Columbine to Alley b/t Fillmore and Milwaukee)	35d	04-Jun-18	25-Jul-18	73d
CON.UTL.304.100	Install Sewer SS-8 Str 82 to Str 88 (Steele to Cook)	20d	26-Jul-18	23-Aug-18	213d
CON.UTL.304.090	Install Sewer SS-8 Str 69 - Str 73 (York to Columbine)	15d	18-Feb-19	08-Mar-19	144d
CON.UTL.304.110	Install Sewer SS-8 Str 73 - Str 82 (Columbine to Steele)	50d	11-Mar-19	23-May-19	190d
CON.UTL.304.120	Install Waterline W-1 46th South (York to Columbine)	15d	11-Mar-19	02-Apr-19	144d
CON.UTL.304.085	Utilities Mitigated - Block 304	0d		09-Apr-19	500d
CON.UTL.304.125	Install Waterline W-1 46th South (Columbine to Fillmore)	18d	24-May-19	21-Jun-19	486d
CON.UTL.304.115	Install Waterline W-3 46th South	4d	24-Jun-19	27-Jun-19	486d
Block 305 - York St. North of I-70		**0d**	**30-Oct-18**	**30-Oct-18**	**659d**
CON.UTL.305.115	Utilities Mitigated - Block 305	0d		30-Oct-18	659d
Block 306 - SB York St. Bridge Over I-70		**248d**	**30-Oct-18**	**20-Nov-19**	**418d**
CON.UTL.306.180	Utilities Mitigated - Block 306	0d		30-Oct-18	600d
CON.UTL.306.185	Remove 48" SS - York Street (Partial of DWWMD-S-208	5d	18-Feb-19	22-Feb-19	532d
CON.UTL.306.190	Install Waterline W-1 York - On Bridge	8d	11-Nov-19	20-Nov-19	418d
Block 308 - York St. South of I-70		**87d**	**09-Apr-19**	**21-Aug-19**	**506d**
CON.UTL.308.075	Utilities Mitigated - Block 308	0d		09-Apr-19	593d
CON.UTL.308.080	Install Waterline W-1 York	6d	13-Aug-19	21-Aug-19	486d
Block 309 - Josephine St. North of I-70		**0d**	**22-Feb-19**	**22-Feb-19**	**631d**
CON.UTL.309.065	Utilities Mitigated - Block 309	0d		22-Feb-19	631d
Block 310 - Josephine St. Bridge Over I-70		**0d**	**02-Jan-19**	**02-Jan-19**	**503d**
CON.UTL.310.095	Utilities Mitigated - Block 310	0d		02-Jan-19	503d
Block 312 - Columbine St. North of I-70		**89d**	**05-Feb-19**	**20-Jun-19**	**502d**
CON.UTL.312.060	Utilities Mitigated - Block 312	0d		05-Feb-19	578d
CON.UTL.312.065	Install Waterline W-1 Columbine	4d	17-Jun-19	20-Jun-19	502d
Block 313 - Columbine St. Bridge Over I-70		**125d**	**05-Feb-19**	**15-Aug-19**	**466d**
CON.UTL.313.110	Utilities Mitigated - Block 313	0d		05-Feb-19	117d
CON.UTL.313.115	Install Waterline W-1 Columbine - On Bridge	8d	05-Aug-19	15-Aug-19	466d
Block 315 - Columbine St. South of I-70		**182d**	**05-Feb-19**	**07-Nov-19**	**544d**
CON.UTL.315.065	Utilities Mitigated - Block 315	0d		05-Feb-19	647d
CON.UTL.315.070	Tie In W-1 Columbine (36" Conduit)	5d	01-Nov-19	07-Nov-19	259d
Block 316 - Cover over WB I-70		**0d**	**14-Sep-18**	**14-Sep-18**	**48d**
CON.UTL.316.075	Utilities Mitigated - Block 316	0d		14-Sep-18	48d
Block 317 - Cover over EB I-70		**0d**	**28-Sep-18**	**28-Sep-18**	**499d**
CON.UTL.317.065	Utilities Mitigated - Block 317	0d		28-Sep-18	499d
Block 319 - Clayton St. Bridge Over I-70		**0d**	**02-Jan-19**	**02-Jan-19**	**139d**
CON.UTL.319.095	Utilities Mitigated - Block 319	0d		02-Jan-19	139d
Block 323 - Fillmore St. Bridge Over I-70		**70d**	**02-Jan-19**	**17-Apr-19**	**219d**
CON.UTL.323.100	Utilities Mitigated - Block 323	0d		02-Jan-19	164d
CON.UTL.323.110	Install Waterline W-1 Fillmore - On Bridge	8d	05-Apr-19	17-Apr-19	219d
Block 324 - Fillmore St. South of I-70		**119d**	**10-May-19**	**07-Nov-19**	**89d**
CON.UTL.324.065	Utilities Mitigated - Block 324	0d		10-May-19	198d
CON.UTL.324.070	Install Waterline W-1 Fillmore (Raw Water)	4d	24-May-19	30-May-19	190d
CON.UTL.324.075	Tie In W-1 Fillmore (Raw Water)	5d	01-Nov-19	07-Nov-19	90d
Block 325 - Milwaukee St. North of I-70		**0d**	**13-Feb-19**	**13-Feb-19**	**637d**
CON.UTL.325.070	Utilities Mitigated - Block 325	0d		13-Feb-19	637d
Block 326 - Milwaukee St. South of I-70		**0d**	**28-Sep-18**	**28-Sep-18**	**705d**
CON.UTL.326.080	Utilities Mitigated - Block 326	0d		28-Sep-18	705d
Block 327 - Steele/Vasquez Bridge Over I-70		**50d**	**26-Jul-18**	**05-Oct-18**	**425d**
CON.UTL.327.110	Install Sewer SS-8 MH 12135 to Str 82 (Alley b/t Fillmore and Milwaukee to Steele)	13d	26-Jul-18	13-Aug-18	220d
CON.UTL.327.115	Install Waterline W-1 Steele/Vasquez - On Bridge	8d	24-Sep-18	03-Oct-18	427d
CON.UTL.327.105	Hang Utilities on Bridge	10d	24-Sep-18	05-Oct-18	425d
Block 329 - Vasquez Blvd. North of I-70		**0d**	**13-Feb-19**	**13-Feb-19**	**533d**
CON.UTL.329.125	Utilities Mitigated - Block 329	0d		13-Feb-19	533d
Block 331 - Vasquez Blvd. to WB I-70 On-Ramp		**0d**	**30-Aug-19**	**30-Aug-19**	**131d**
CON.UTL.331.080	Utilities Mitigated - Block 331	0d		30-Aug-19	131d
Block 333 - EB I-70 to Steele St. Off-Ramp		**0d**	**28-Sep-18**	**28-Sep-18**	**587d**
CON.UTL.333.065	Utilities Mitigated - Block 333	0d		28-Sep-18	587d
Block 335 - Steele St. South of I-70		**48d**	**30-Jan-19**	**10-Apr-19**	**494d**
CON.UTL.335.065	Utilities Mitigated - Block 335	0d		30-Jan-19	542d
CON.UTL.335.070	Install Waterline W-1 Steele/Vasquez	18d	07-Mar-19	03-Apr-19	119d
CON.UTL.335.075	Tie In W-1 Steele/Vsquez	5d	04-Apr-19	10-Apr-19	119d
Block 337 - Cook St. Bridge Over I-70		**0d**	**11-Apr-19**	**11-Apr-19**	**525d**
CON.UTL.337.095	Utilities Mitigated - Block 337	0d		11-Apr-19	525d
Block 338 - Cook St. South of I-70		**0d**	**12-May-20**	**12-May-20**	**344d**
CON.UTL.338.065	Utilities Mitigated - Block 338	0d		12-May-20	344d
Central Area		**439d**	**12-Jul-18**	**26-May-20**	**396d**
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		**403d**	**06-Sep-18**	**26-May-20**	**396d**
Block 401 - 46th Ave. N.		**0d**	**22-Feb-19**	**22-Feb-19**	**21d**

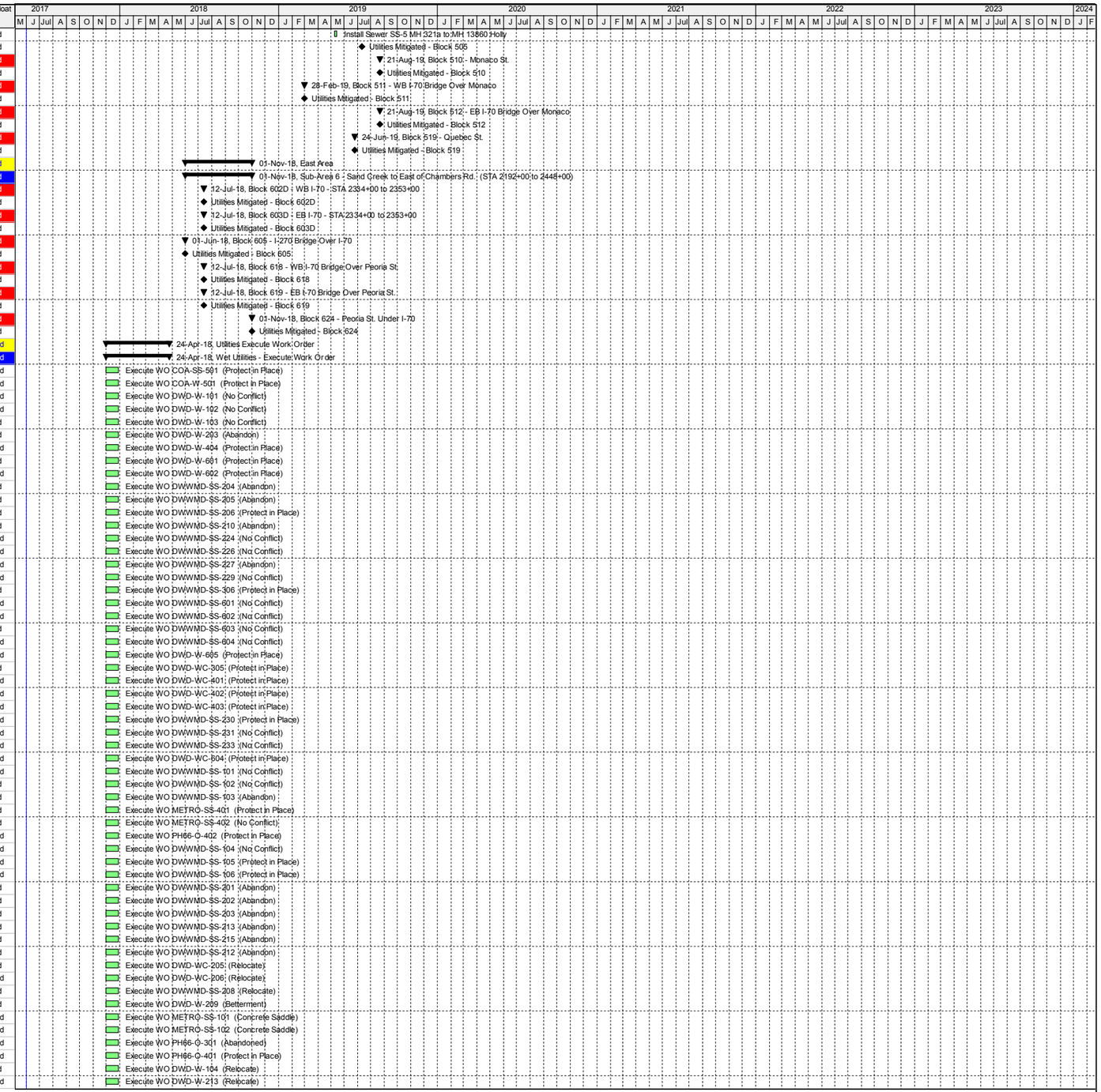
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.UTL.401.095	Utilities Mitigated - Block 401	0d		22-Feb-19	21d
Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL		0d	11-Apr-19	11-Apr-19	186d
CON.UTL.402A.095	Utilities Mitigated - Block 402A	0d		11-Apr-19	186d
Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		0d	11-Apr-19	11-Apr-19	207d
CON.UTL.402B.080	Utilities Mitigated - Block 402B	0d		11-Apr-19	207d
Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL		0d	12-May-20	12-May-20	149d
CON.UTL.403A.135	Utilities Mitigated - Block 403A	0d		12-May-20	149d
Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		0d	24-Apr-20	24-Apr-20	175d
CON.UTL.403B.145	Utilities Mitigated - Block 403B	0d		24-Apr-20	175d
Block 404 - 46th Ave. S.		306d	30-Jan-19	12-May-20	251d
CON.UTL.404.080	Install Sewer SS-2 MH 12640 to MH SS2-3 (S Stap Dr Colo to Dahlia)	20d	30-Jan-19	27-Feb-19	238d
CON.UTL.404.075	Utilities Mitigated - Block 404	0d		12-May-20	251d
Block 405 - BNSF Market Lead Bridge Over I-70		0d	12-May-20	12-May-20	404d
CON.UTL.405.095	Utilities Mitigated - Block 405	0d		12-May-20	404d
Block 407 - Monroe St. Bridge Over I-70		60d	11-Apr-19	15-Jul-19	227d
CON.UTL.407.095	Utilities Mitigated - Block 407	0d		11-Apr-19	227d
CON.UTL.407.100	Install Waterline W-1 Monroe - On Bridge	10d	28-Jun-19	15-Jul-19	227d
Block 408 - Monroe St. South of I-70		50d	14-Feb-20	24-Apr-20	244d
CON.UTL.408.120	Install Waterline W-1 Monroe	37d	14-Feb-20	07-Apr-20	55d
CON.UTL.408.125	Tie in W-1 Monroe	5d	08-Apr-20	14-Apr-20	55d
CON.UTL.408.115	Utilities Mitigated - Block 408	0d		24-Apr-20	244d
Block 411 - Colorado Blvd. North of I-70		399d	06-Sep-18	19-May-20	84d
CON.UTL.411.125	Utilities Mitigated - Block 411	0d		06-Sep-18	353d
CON.UTL.411.130	Tie In Waterline W-1 Colorado	5d	12-May-20	19-May-20	84d
Block 413 - Colorado Blvd. to WB I-70 On-Ramp		0d	12-May-20	12-May-20	55d
CON.UTL.413.050	Utilities Mitigated - Block 413	0d		12-May-20	55d
Block 414 - WB I-70 to Colorado Blvd. Off-Ramp		0d	20-Sep-19	20-Sep-19	203d
CON.UTL.414.050	Utilities Mitigated - Block 414	0d		20-Sep-19	203d
Block 415 - EB I-70 to Colorado Blvd. Off-Ramp		0d	24-Apr-20	24-Apr-20	228d
CON.UTL.415.080	Utilities Mitigated - Block 415	0d		24-Apr-20	228d
Block 416 - Colorado Blvd. to EB I-70 On-Ramp		11d	24-Apr-20	11-May-20	84d
CON.UTL.416.075	Utilities Mitigated - Block 416	0d		24-Apr-20	84d
CON.UTL.416.080	Install Waterline W-1 Colorado (South Stapleton)	10d	28-Apr-20	11-May-20	84d
Block 417 - Colorado Blvd. South of I-70		113d	22-Feb-19	15-Aug-19	259d
CON.UTL.417.125	Utilities Mitigated - Block 417	0d		22-Feb-19	259d
CON.UTL.417.130	Install Waterline W-1 Colorado (South Colorado Blvd)	18d	19-Jul-19	15-Aug-19	259d
Block 419 - Stapleton Dr. N.		30d	24-May-19	11-Jul-19	325d
CON.UTL.419.160	Install Sewer SS-1 MH 882a to MH 985a (N Stapleton Dr East Colo to Dahlia)	30d	24-May-19	11-Jul-19	325d
Block 420 - Stapleton Dr. S.		299d	20-Feb-19	26-May-20	337d
CON.UTL.420.065	Utilities Mitigated - Block 420	0d		20-Feb-19	359d
CON.UTL.419.005	Utilities Mitigated - Block 419	0d		27-Feb-19	39d
CON.UTL.420.070	Install Waterline W-1 Colorado (Interstate Crossing) - Jack & Bore	10d	07-Mar-19	20-Mar-19	354d
CON.UTL.420.075	Install Waterline W-1 Stapleton	9d	12-May-20	26-May-20	337d
Block 421 - Dahlia St.		187d	12-Jul-19	24-Apr-20	348d
CON.UTL.421.070	Install Sewer SS-3 MH 985a to MH 13857 in Dahlia	3d	12-Jul-19	16-Jul-19	325d
CON.UTL.421.065	Utilities Mitigated - Block 421	0d		24-Apr-20	348d
Block 422 - WB I-70 Bridge Over Dahlia		0d	09-Nov-18	09-Nov-18	284d
CON.UTL.422.175	Utilities Mitigated - Block 422	0d		09-Nov-18	284d
Block 423 - EB I-70 Bridge Over Dahlia		0d	09-Nov-18	09-Nov-18	291d
CON.UTL.423.170	Utilities Mitigated - Block 423 (ZAYO-C-202, DWWMD-SS-228 PIP)	0d		09-Nov-18	291d
Block 426 - Local Road - Colorado to Dahlia		15d	06-Feb-19	27-Feb-19	580d
CON.UTL.426.080	Install Waterline W-1 Colorado (North Stapleton)	5d	06-Feb-19	13-Feb-19	379d
CON.UTL.426.075	Utilities Mitigated - Block 426	0d		27-Feb-19	580d
Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)		260d	12-Jul-18	22-Aug-19	489d
Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.		47d	27-Feb-19	09-May-19	212d
CON.UTL.501A.125	Utilities Mitigated - Block 501A	0d		27-Feb-19	203d
CON.UTL.501A.130	Install Sewer SS-1 MH 985a to MH 13419 (N Stapleton Dr Dahlia to Holly)	23d	05-Apr-19	09-May-19	212d
Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.		123d	15-Feb-19	22-Aug-19	203d
CON.UTL.501B.120	Utilities Mitigated - Block 501B	0d		15-Feb-19	211d
CON.UTL.501B.125	Install Sewer SS-9 MH 1 - MH 3 (WB Off Ramp to Holly)	7d	13-Aug-19	22-Aug-19	203d
Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge		0d	27-Feb-19	27-Feb-19	247d
CON.UTL.501C.115	Utilities Mitigated - Block 501C	0d		27-Feb-19	247d
Block 502A - WB I-70 - STA 2105+00 to Holly St. CL		0d	30-Jan-19	30-Jan-19	464d
CON.UTL.502A.125	Utilities Mitigated - Block 502A	0d		30-Jan-19	464d
Block 503B - EB I-70 - Holly St. CL to Monaco St. CL		0d	28-Feb-19	28-Feb-19	424d
CON.UTL.503B.105	Utilities Mitigated - Block 503B	0d		28-Feb-19	424d
Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		0d	30-Apr-19	30-Apr-19	379d
CON.UTL.503C.115	Utilities Mitigated - Block 503C	0d		30-Apr-19	379d
Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		0d	12-Jul-18	12-Jul-18	564d
CON.UTL.503D.120	Utilities Mitigated - Block 503D	0d		12-Jul-18	564d
Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.		33d	29-Mar-19	17-May-19	254d
CON.UTL.504A.130	Utilities Mitigated - Block 504A	0d		29-Mar-19	238d
CON.UTL.504A.135	Install Sewer SS-4 MH 13628 to MH 705a (Forest to Grape)	18d	24-Apr-19	17-May-19	254d
CON.UTL.504A.140	Install Waterline W-2 Stapleton	6d	24-Apr-19	01-May-19	238d
Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.		27d	30-Apr-19	11-Jun-19	254d
CON.UTL.504B.120	Utilities Mitigated - Block 504B	0d		30-Apr-19	252d
CON.UTL.504B.130	Install Waterline W-3 Stapleton	11d	08-May-19	22-May-19	265d
CON.UTL.504B.125	Install Sewer SS-5 MH 5-2 to MH931a (S Stap east of Holly to EB Holly On Ramp	20d	10-May-19	11-Jun-19	230d
Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn		44d	30-Apr-19	08-Jul-19	252d
CON.UTL.504C.110	Utilities Mitigated - Block 504C	0d		30-Apr-19	252d
CON.UTL.504C.115	Install Sewer SS-6 MH 13593 to MH 14118 (Monoco to Oneida)	20d	07-Jun-19	08-Jul-19	252d
Block 505 - Holly St.		40d	10-May-19	11-Jul-19	487d



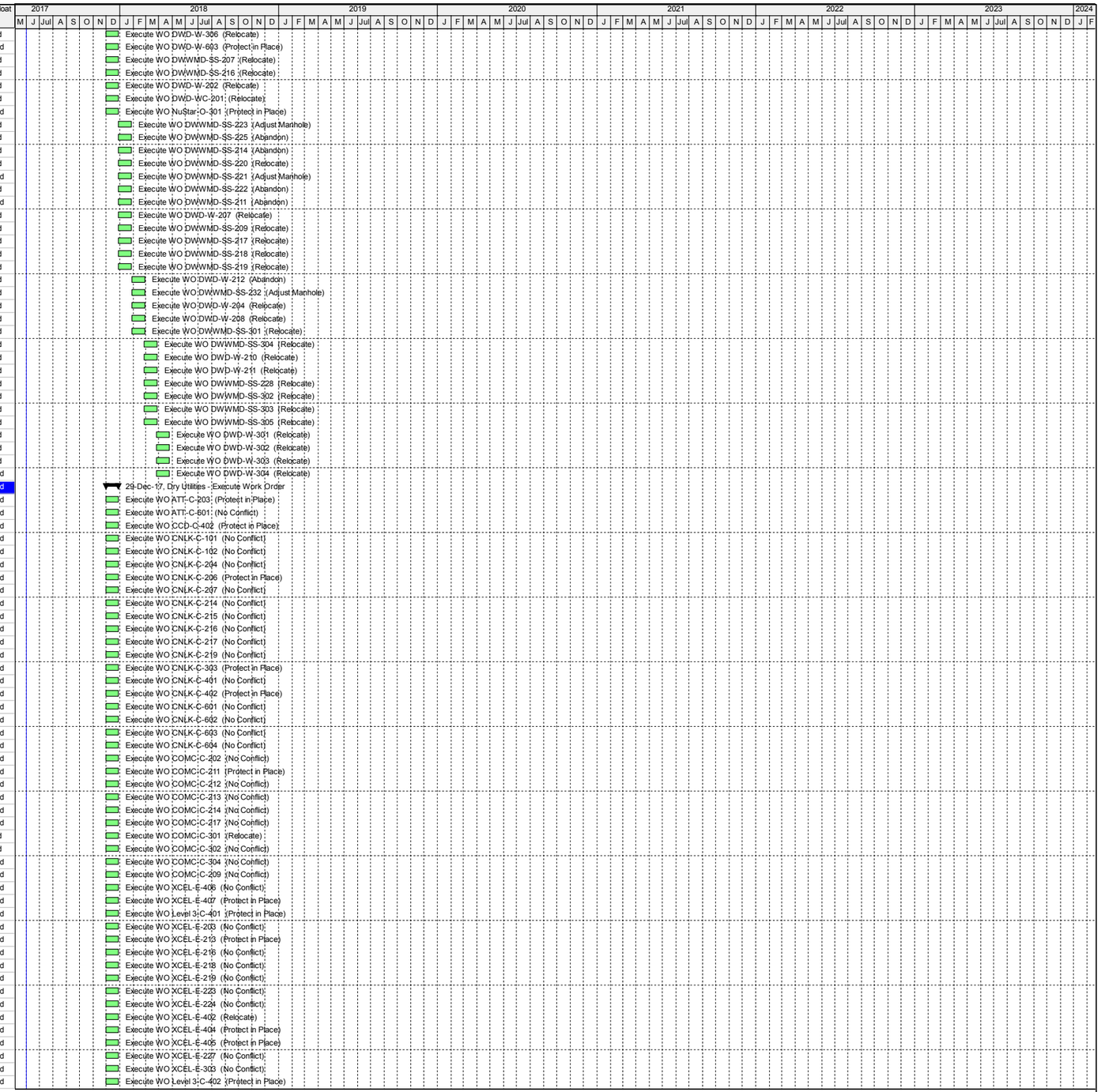
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.UTL.505.120	Install Sewer SS-5 MH 321a to MH 13860 Holly	3d	10-May-19	14-May-19	247d
CON.UTL.505.115	Utilities Mitigated - Block 505	0d		11-Jul-19	487d
Block 510 - Monaco St.		0d	21-Aug-19	21-Aug-19	490d
CON.UTL.510.065	Utilities Mitigated - Block 510	0d		21-Aug-19	490d
Block 511 - WB I-70 Bridge Over Monaco		0d	28-Feb-19	28-Feb-19	443d
CON.UTL.511.160	Utilities Mitigated - Block 511	0d		28-Feb-19	443d
Block 512 - EB I-70 Bridge Over Monaco		0d	21-Aug-19	21-Aug-19	331d
CON.UTL.512.160	Utilities Mitigated - Block 512	0d		21-Aug-19	331d
Block 519 - Quebec St.		0d	24-Jun-19	24-Jun-19	495d
CON.UTL.519.065	Utilities Mitigated - Block 519	0d		24-Jun-19	495d
East Area		102d	01-Jun-18	01-Nov-18	704d
Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)		102d	01-Jun-18	01-Nov-18	704d
Block 602D - WB I-70 - STA 2334+00 to 2353+00		0d	12-Jul-18	12-Jul-18	534d
CON.UTL.602D.075	Utilities Mitigated - Block 602D	0d		12-Jul-18	534d
Block 603D - EB I-70 - STA 2334+00 to 2353+00		0d	12-Jul-18	12-Jul-18	580d
CON.UTL.603D.090	Utilities Mitigated - Block 603D	0d		12-Jul-18	580d
Block 605 - I-270 Bridge Over I-70		0d	01-Jun-18	01-Jun-18	482d
CON.UTL.605.140	Utilities Mitigated - Block 605	0d		01-Jun-18	482d
Block 618 - WB I-70 Bridge Over Peoria St.		0d	12-Jul-18	12-Jul-18	555d
CON.UTL.618.215	Utilities Mitigated - Block 618	0d		12-Jul-18	555d
Block 619 - EB I-70 Bridge Over Peoria St.		0d	12-Jul-18	12-Jul-18	580d
CON.UTL.619.215	Utilities Mitigated - Block 619	0d		12-Jul-18	580d
Block 624 - Peoria St. Under I-70		0d	01-Nov-18	01-Nov-18	704d
CON.UTL.624.045	Utilities Mitigated - Block 624	0d		01-Nov-18	704d
Utilities Execute Work Order		146d	30-Nov-17	24-Apr-18	1522d
Wet Utilities - Execute Work Order		146d	30-Nov-17	24-Apr-18	1410d
UTL.UX.COA-SS-501	Execute WO COA-SS-501 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.COA-W-501	Execute WO COA-W-501 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWD-W-101	Execute WO DWD-W-101 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWD-W-102	Execute WO DWD-W-102 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWD-W-103	Execute WO DWD-W-103 (No Conflict)	30d	30-Nov-17	29-Dec-17	720d
UTL.UX.DWD-W-203	Execute WO DWD-W-203 (Abandon)	30d	30-Nov-17	29-Dec-17	377d
UTL.UX.DWD-W-404	Execute WO DWD-W-404 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWD-W-601	Execute WO DWD-W-601 (Protect in Place)	30d	30-Nov-17	29-Dec-17	790d
UTL.UX.DWD-W-602	Execute WO DWD-W-602 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-204	Execute WO DWWMD-SS-204 (Abandon)	30d	30-Nov-17	29-Dec-17	333d
UTL.UX.DWWMD-SS-205	Execute WO DWWMD-SS-205 (Abandon)	30d	30-Nov-17	29-Dec-17	333d
UTL.UX.DWWMD-SS-206	Execute WO DWWMD-SS-206 (Protect in Place)	30d	30-Nov-17	29-Dec-17	405d
UTL.UX.DWWMD-SS-210	Execute WO DWWMD-SS-210 (Abandon)	30d	30-Nov-17	29-Dec-17	354d
UTL.UX.DWWMD-SS-224	Execute WO DWWMD-SS-224 (No Conflict)	30d	30-Nov-17	29-Dec-17	1257d
UTL.UX.DWWMD-SS-226	Execute WO DWWMD-SS-226 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-227	Execute WO DWWMD-SS-227 (Abandon)	30d	30-Nov-17	29-Dec-17	1188d
UTL.UX.DWWMD-SS-229	Execute WO DWWMD-SS-229 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-306	Execute WO DWWMD-SS-306 (Protect in Place)	30d	30-Nov-17	29-Dec-17	902d
UTL.UX.DWWMD-SS-601	Execute WO DWWMD-SS-601 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-602	Execute WO DWWMD-SS-602 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-603	Execute WO DWWMD-SS-603 (No Conflict)	30d	30-Nov-17	29-Dec-17	790d
UTL.UX.DWWMD-SS-604	Execute WO DWWMD-SS-604 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWD-W-605	Execute WO DWD-W-605 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWD-WC-305	Execute WO DWD-WC-305 (Protect in Place)	30d	30-Nov-17	29-Dec-17	747d
UTL.UX.DWD-WC-401	Execute WO DWD-WC-401 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWD-WC-402	Execute WO DWD-WC-402 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1188d
UTL.UX.DWD-WC-403	Execute WO DWD-WC-403 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-230	Execute WO DWWMD-SS-230 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-231	Execute WO DWWMD-SS-231 (No Conflict)	30d	30-Nov-17	29-Dec-17	1232d
UTL.UX.DWWMD-SS-233	Execute WO DWWMD-SS-233 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWD-WC-604	Execute WO DWD-WC-604 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-101	Execute WO DWWMD-SS-101 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-102	Execute WO DWWMD-SS-102 (No Conflict)	30d	30-Nov-17	29-Dec-17	720d
UTL.UX.DWWMD-SS-103	Execute WO DWWMD-SS-103 (Abandon)	30d	30-Nov-17	29-Dec-17	705d
UTL.UX.METRO-SS-401	Execute WO METRO-SS-401 (Protect in Place)	30d	30-Nov-17	29-Dec-17	747d
UTL.UX.METRO-SS-402	Execute WO METRO-SS-402 (No Conflict)	30d	30-Nov-17	29-Dec-17	747d
UTL.UX.PH66-O-402	Execute WO PH66-O-402 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-104	Execute WO DWWMD-SS-104 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-105	Execute WO DWWMD-SS-105 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-106	Execute WO DWWMD-SS-106 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-201	Execute WO DWWMD-SS-201 (Abandon)	30d	30-Nov-17	29-Dec-17	333d
UTL.UX.DWWMD-SS-202	Execute WO DWWMD-SS-202 (Abandon)	30d	30-Nov-17	29-Dec-17	333d
UTL.UX.DWWMD-SS-203	Execute WO DWWMD-SS-203 (Abandon)	30d	30-Nov-17	29-Dec-17	333d
UTL.UX.DWWMD-SS-213	Execute WO DWWMD-SS-213 (Abandon)	30d	30-Nov-17	29-Dec-17	317d
UTL.UX.DWWMD-SS-215	Execute WO DWWMD-SS-215 (Abandon)	30d	30-Nov-17	29-Dec-17	317d
UTL.UX.DWWMD-SS-212	Execute WO DWWMD-SS-212 (Abandon)	30d	30-Nov-17	29-Dec-17	354d
UTL.UX.DWD-WC-205	Execute WO DWD-WC-205 (Relocate)	30d	30-Nov-17	29-Dec-17	411d
UTL.UX.DWD-WC-206	Execute WO DWD-WC-206 (Relocate)	30d	30-Nov-17	29-Dec-17	1000d
UTL.UX.DWWMD-SS-208	Execute WO DWWMD-SS-208 (Relocate)	30d	30-Nov-17	29-Dec-17	320d
UTL.UX.DWD-W-209	Execute WO DWD-W-209 (Betterment)	30d	30-Nov-17	29-Dec-17	711d
UTL.UX.METRO-SS-101	Execute WO METRO-SS-101 (Concrete Saddle)	30d	30-Nov-17	29-Dec-17	1514d
UTL.UX.METRO-SS-102	Execute WO METRO-SS-102 (Concrete Saddle)	30d	30-Nov-17	29-Dec-17	1514d
UTL.UX.PH66-O-301	Execute WO PH66-O-301 (Abandoned)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.PH66-O-401	Execute WO PH66-O-401 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWD-W-104	Execute WO DWD-W-104 (Relocate)	30d	30-Nov-17	29-Dec-17	689d
UTL.UX.DWD-W-213	Execute WO DWD-W-213 (Relocate)	30d	30-Nov-17	29-Dec-17	1393d



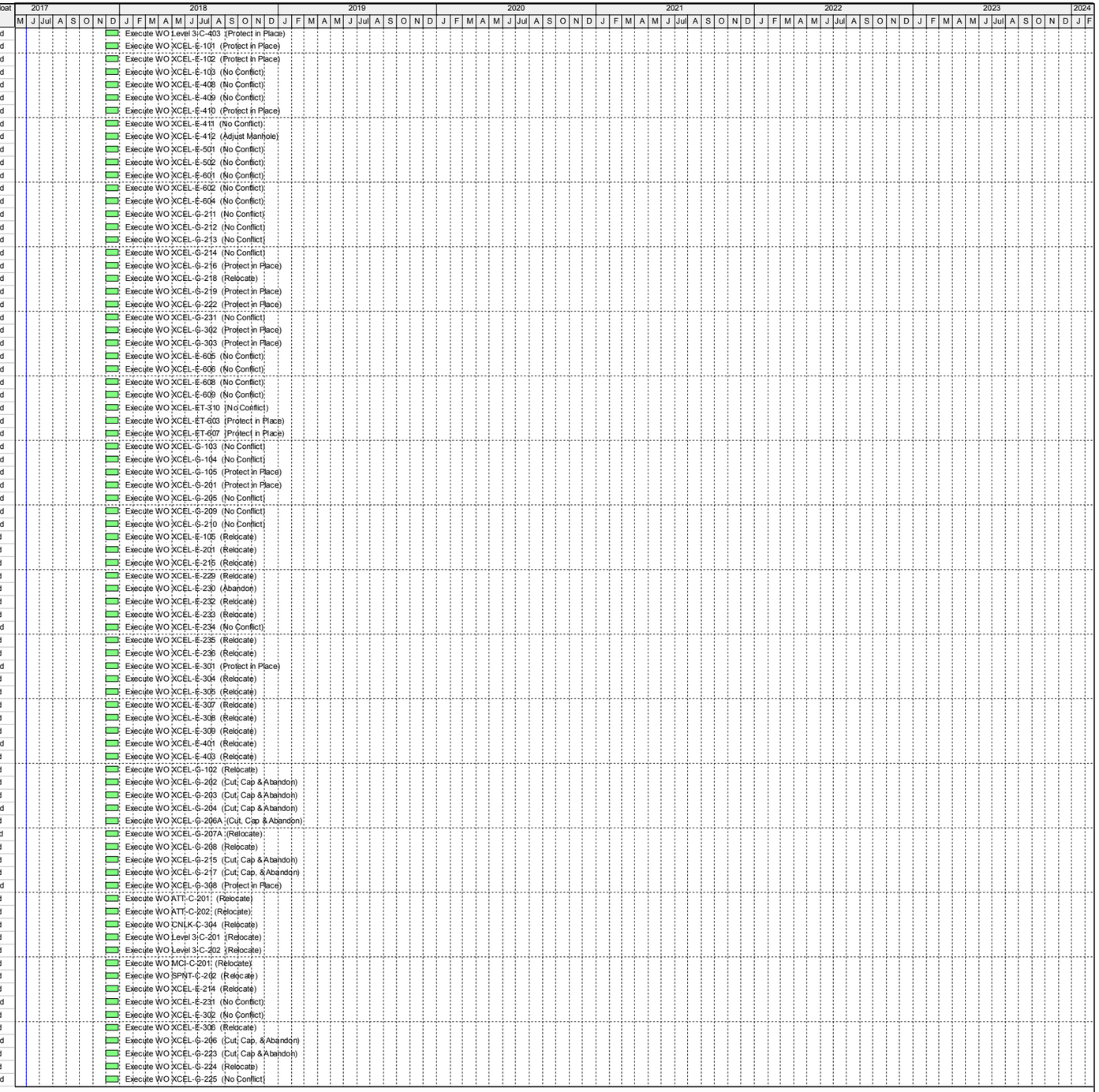
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UX.DWD-W-306	Execute WO DWD-W-306 (Relocate)	30d	30-Nov-17	29-Dec-17	747d
UTL.UX.DWD-W-603	Execute WO DWD-W-603 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-207	Execute WO DWWMD-SS-207 (Relocate)	30d	30-Nov-17	29-Dec-17	649d
UTL.UX.DWWMD-SS-216	Execute WO DWWMD-SS-216 (Relocate)	30d	30-Nov-17	29-Dec-17	549d
UTL.UX.DWD-W-202	Execute WO DWD-W-202 (Relocate)	30d	30-Nov-17	29-Dec-17	347d
UTL.UX.DWD-WC-201	Execute WO DWD-WC-201 (Relocate)	30d	30-Nov-17	29-Dec-17	688d
UTL.UX.NuStar-O-301	Execute WO NuStar-O-301 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.DWWMD-SS-223	Execute WO DWWMD-SS-223 (Adjust Manhole)	30d	29-Dec-17	27-Jan-18	972d
UTL.UX.DWWMD-SS-225	Execute WO DWWMD-SS-225 (Abandon)	30d	29-Dec-17	27-Jan-18	408d
UTL.UX.DWWMD-SS-214	Execute WO DWWMD-SS-214 (Abandon)	30d	29-Dec-17	27-Jan-18	288d
UTL.UX.DWWMD-SS-220	Execute WO DWWMD-SS-220 (Relocate)	30d	29-Dec-17	27-Jan-18	325d
UTL.UX.DWWMD-SS-221	Execute WO DWWMD-SS-221 (Adjust Manhole)	30d	29-Dec-17	27-Jan-18	1345d
UTL.UX.DWWMD-SS-222	Execute WO DWWMD-SS-222 (Abandon)	30d	29-Dec-17	27-Jan-18	635d
UTL.UX.DWWMD-SS-211	Execute WO DWWMD-SS-211 (Abandon)	30d	29-Dec-17	27-Jan-18	1073d
UTL.UX.DWD-W-207	Execute WO DWD-W-207 (Relocate)	30d	29-Dec-17	27-Jan-18	620d
UTL.UX.DWWMD-SS-209	Execute WO DWWMD-SS-209 (Relocate)	30d	29-Dec-17	27-Jan-18	682d
UTL.UX.DWWMD-SS-217	Execute WO DWWMD-SS-217 (Relocate)	30d	29-Dec-17	27-Jan-18	544d
UTL.UX.DWWMD-SS-218	Execute WO DWWMD-SS-218 (Relocate)	30d	29-Dec-17	27-Jan-18	620d
UTL.UX.DWWMD-SS-219	Execute WO DWWMD-SS-219 (Relocate)	30d	29-Dec-17	27-Jan-18	600d
UTL.UX.DWD-W-212	Execute WO DWD-W-212 (Abandon)	30d	29-Jan-18	27-Feb-18	617d
UTL.UX.DWWMD-SS-232	Execute WO DWWMD-SS-232 (Adjust Manhole)	30d	29-Jan-18	27-Feb-18	744d
UTL.UX.DWD-W-204	Execute WO DWD-W-204 (Relocate)	30d	29-Jan-18	27-Feb-18	617d
UTL.UX.DWD-W-208	Execute WO DWD-W-208 (Relocate)	30d	29-Jan-18	27-Feb-18	861d
UTL.UX.DWWMD-SS-301	Execute WO DWWMD-SS-301 (Relocate)	30d	29-Jan-18	27-Feb-18	855d
UTL.UX.DWWMD-SS-304	Execute WO DWWMD-SS-304 (Relocate)	30d	26-Feb-18	27-Mar-18	973d
UTL.UX.DWD-W-210	Execute WO DWD-W-210 (Relocate)	30d	26-Feb-18	27-Mar-18	859d
UTL.UX.DWD-W-211	Execute WO DWD-W-211 (Relocate)	30d	26-Feb-18	27-Mar-18	366d
UTL.UX.DWWMD-SS-228	Execute WO DWWMD-SS-228 (Relocate)	30d	26-Feb-18	27-Mar-18	708d
UTL.UX.DWWMD-SS-302	Execute WO DWWMD-SS-302 (Relocate)	30d	26-Feb-18	27-Mar-18	708d
UTL.UX.DWWMD-SS-303	Execute WO DWWMD-SS-303 (Relocate)	30d	26-Feb-18	27-Mar-18	796d
UTL.UX.DWWMD-SS-305	Execute WO DWWMD-SS-305 (Relocate)	30d	26-Feb-18	27-Mar-18	757d
UTL.UX.DWD-W-301	Execute WO DWD-W-301 (Relocate)	30d	26-Mar-18	24-Apr-18	621d
UTL.UX.DWD-W-302	Execute WO DWD-W-302 (Relocate)	30d	26-Mar-18	24-Apr-18	590d
UTL.UX.DWD-W-303	Execute WO DWD-W-303 (Relocate)	30d	26-Mar-18	24-Apr-18	961d
UTL.UX.DWD-W-304	Execute WO DWD-W-304 (Relocate)	30d	26-Mar-18	24-Apr-18	1161d
Dry Utilities - Execute Work Order		30d	30-Nov-17	29-Dec-17	1638d
UTL.UX.ATT-C-203	Execute WO ATT-C-203 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ATT-C-601	Execute WO ATT-C-601 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CCD-C-402	Execute WO CCD-C-402 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-101	Execute WO CNLK-C-101 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-102	Execute WO CNLK-C-102 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-204	Execute WO CNLK-C-204 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-206	Execute WO CNLK-C-206 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-207	Execute WO CNLK-C-207 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-214	Execute WO CNLK-C-214 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-215	Execute WO CNLK-C-215 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-216	Execute WO CNLK-C-216 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-217	Execute WO CNLK-C-217 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-219	Execute WO CNLK-C-219 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-303	Execute WO CNLK-C-303 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-401	Execute WO CNLK-C-401 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-402	Execute WO CNLK-C-402 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-601	Execute WO CNLK-C-601 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-602	Execute WO CNLK-C-602 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-603	Execute WO CNLK-C-603 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-604	Execute WO CNLK-C-604 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.COMC-C-202	Execute WO COMC-C-202 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.COMC-C-211	Execute WO COMC-C-211 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.COMC-C-212	Execute WO COMC-C-212 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.COMC-C-213	Execute WO COMC-C-213 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.COMC-C-214	Execute WO COMC-C-214 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.COMC-C-217	Execute WO COMC-C-217 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.COMC-C-301	Execute WO COMC-C-301 (Relocate)	30d	30-Nov-17	29-Dec-17	770d
UTL.UX.COMC-C-302	Execute WO COMC-C-302 (No Conflict)	30d	30-Nov-17	29-Dec-17	713d
UTL.UX.COMC-C-304	Execute WO COMC-C-304 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.COMC-C-209	Execute WO COMC-C-209 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-406	Execute WO XCEL-E-406 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-407	Execute WO XCEL-E-407 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.Level3-C-401	Execute WO Level 3-C-401 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-203	Execute WO XCEL-E-203 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-213	Execute WO XCEL-E-213 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-216	Execute WO XCEL-E-216 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-218	Execute WO XCEL-E-218 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-219	Execute WO XCEL-E-219 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-223	Execute WO XCEL-E-223 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-224	Execute WO XCEL-E-224 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-402	Execute WO XCEL-E-402 (Relocate)	30d	30-Nov-17	29-Dec-17	1306d
UTL.UX.XCEL-E-404	Execute WO XCEL-E-404 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-405	Execute WO XCEL-E-405 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-227	Execute WO XCEL-E-227 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-303	Execute WO XCEL-E-303 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.Level3-C-402	Execute WO Level 3-C-402 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d



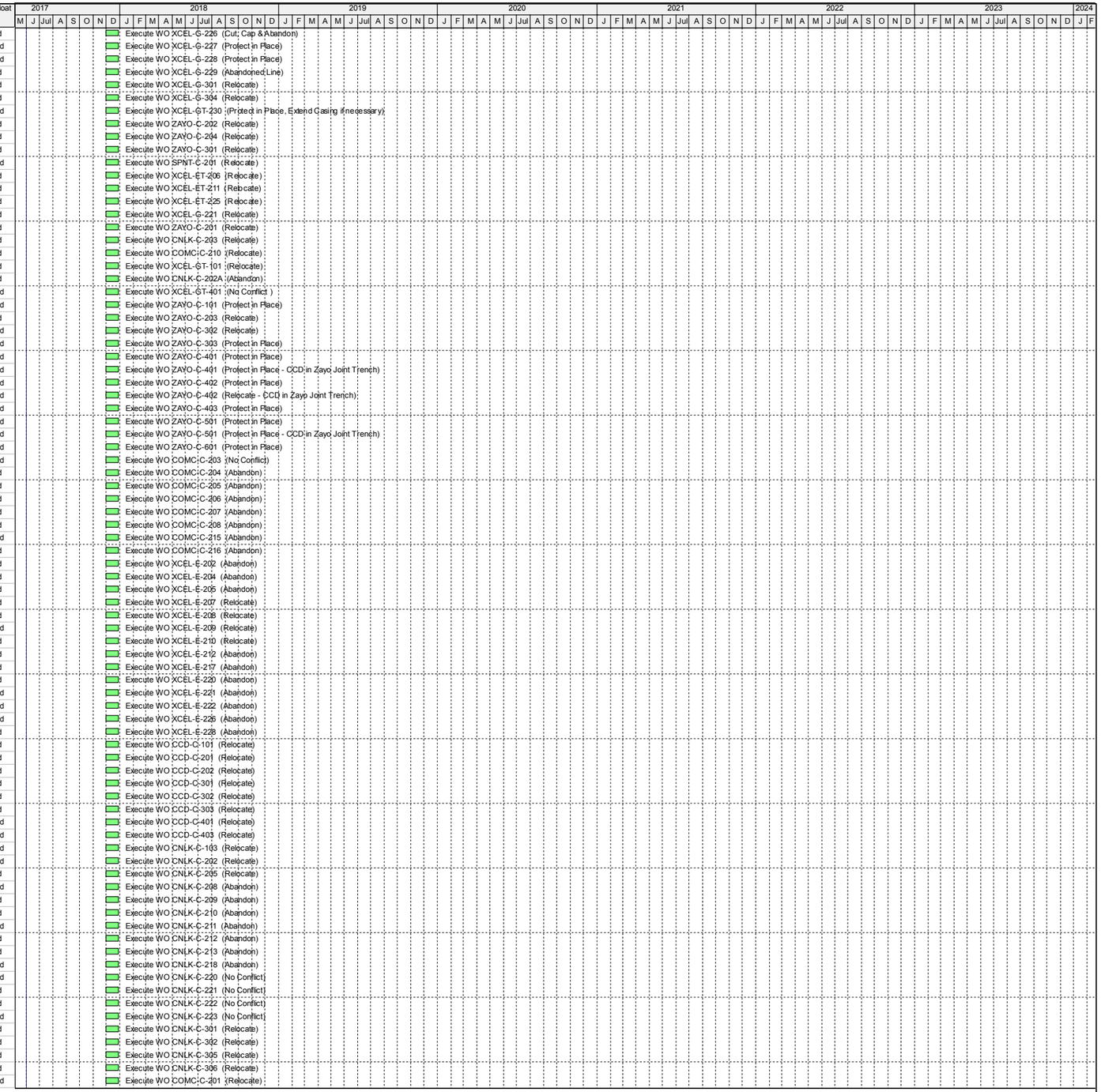
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UX.Level3-C-403	Execute WO Level 3-C-403 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-101	Execute WO XCEL-E-101 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-102	Execute WO XCEL-E-102 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-103	Execute WO XCEL-E-103 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-408	Execute WO XCEL-E-408 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-409	Execute WO XCEL-E-409 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-410	Execute WO XCEL-E-410 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-411	Execute WO XCEL-E-411 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-412	Execute WO XCEL-E-412 (Adjust Manhole)	30d	30-Nov-17	29-Dec-17	1398d
UTL.UX.XCEL-E-501	Execute WO XCEL-E-501 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-502	Execute WO XCEL-E-502 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-601	Execute WO XCEL-E-601 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-602	Execute WO XCEL-E-602 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-604	Execute WO XCEL-E-604 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-211	Execute WO XCEL-G-211 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-212	Execute WO XCEL-G-212 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-213	Execute WO XCEL-G-213 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-214	Execute WO XCEL-G-214 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-216	Execute WO XCEL-G-216 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-218	Execute WO XCEL-G-218 (Relocate)	30d	30-Nov-17	29-Dec-17	1386d
UTL.UX.XCEL-G-219	Execute WO XCEL-G-219 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-222	Execute WO XCEL-G-222 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-231	Execute WO XCEL-G-231 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-302	Execute WO XCEL-G-302 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-303	Execute WO XCEL-G-303 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-605	Execute WO XCEL-E-605 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-606	Execute WO XCEL-E-606 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-608	Execute WO XCEL-E-608 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-609	Execute WO XCEL-E-609 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-ET-310	Execute WO XCEL-ET-310 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-ET-603	Execute WO XCEL-ET-603 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-ET-607	Execute WO XCEL-ET-607 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-103	Execute WO XCEL-G-103 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-104	Execute WO XCEL-G-104 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-105	Execute WO XCEL-G-105 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-201	Execute WO XCEL-G-201 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-205	Execute WO XCEL-G-205 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-209	Execute WO XCEL-G-209 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-210	Execute WO XCEL-G-210 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-105	Execute WO XCEL-E-105 (Relocate)	30d	30-Nov-17	29-Dec-17	628d
UTL.UX.XCEL-E-201	Execute WO XCEL-E-201 (Relocate)	30d	30-Nov-17	29-Dec-17	628d
UTL.UX.XCEL-E-215	Execute WO XCEL-E-215 (Relocate)	30d	30-Nov-17	29-Dec-17	953d
UTL.UX.XCEL-E-229	Execute WO XCEL-E-229 (Relocate)	30d	30-Nov-17	29-Dec-17	404d
UTL.UX.XCEL-E-230	Execute WO XCEL-E-230 (Abandon)	30d	30-Nov-17	29-Dec-17	369d
UTL.UX.XCEL-E-232	Execute WO XCEL-E-232 (Relocate)	30d	30-Nov-17	29-Dec-17	277d
UTL.UX.XCEL-E-233	Execute WO XCEL-E-233 (Relocate)	30d	30-Nov-17	29-Dec-17	743d
UTL.UX.XCEL-E-234	Execute WO XCEL-E-234 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-235	Execute WO XCEL-E-235 (Relocate)	30d	30-Nov-17	29-Dec-17	908d
UTL.UX.XCEL-E-236	Execute WO XCEL-E-236 (Relocate)	30d	30-Nov-17	29-Dec-17	306d
UTL.UX.XCEL-E-301	Execute WO XCEL-E-301 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-304	Execute WO XCEL-E-304 (Relocate)	30d	30-Nov-17	29-Dec-17	908d
UTL.UX.XCEL-E-305	Execute WO XCEL-E-305 (Relocate)	30d	30-Nov-17	29-Dec-17	908d
UTL.UX.XCEL-E-307	Execute WO XCEL-E-307 (Relocate)	30d	30-Nov-17	29-Dec-17	587d
UTL.UX.XCEL-E-308	Execute WO XCEL-E-308 (Relocate)	30d	30-Nov-17	29-Dec-17	812d
UTL.UX.XCEL-E-309	Execute WO XCEL-E-309 (Relocate)	30d	30-Nov-17	29-Dec-17	673d
UTL.UX.XCEL-E-401	Execute WO XCEL-E-401 (Relocate)	30d	30-Nov-17	29-Dec-17	1245d
UTL.UX.XCEL-E-403	Execute WO XCEL-E-403 (Relocate)	30d	30-Nov-17	29-Dec-17	839d
UTL.UX.XCEL-G-102	Execute WO XCEL-G-102 (Relocate)	30d	30-Nov-17	29-Dec-17	628d
UTL.UX.XCEL-G-202	Execute WO XCEL-G-202 (Cut, Cap & Abandon)	30d	30-Nov-17	29-Dec-17	729d
UTL.UX.XCEL-G-203	Execute WO XCEL-G-203 (Cut, Cap & Abandon)	30d	30-Nov-17	29-Dec-17	284d
UTL.UX.XCEL-G-204	Execute WO XCEL-G-204 (Cut, Cap & Abandon)	30d	30-Nov-17	29-Dec-17	1282d
UTL.UX.XCEL-G-206A	Execute WO XCEL-G-206A (Cut, Cap & Abandon)	30d	30-Nov-17	29-Dec-17	306d
UTL.UX.XCEL-G-207A	Execute WO XCEL-G-207A (Relocate)	30d	30-Nov-17	29-Dec-17	1114d
UTL.UX.XCEL-G-208	Execute WO XCEL-G-208 (Relocate)	30d	30-Nov-17	29-Dec-17	306d
UTL.UX.XCEL-G-215	Execute WO XCEL-G-215 (Cut, Cap & Abandon)	30d	30-Nov-17	29-Dec-17	518d
UTL.UX.XCEL-G-217	Execute WO XCEL-G-217 (Cut, Cap, & Abandon)	30d	30-Nov-17	29-Dec-17	557d
UTL.UX.XCEL-G-308	Execute WO XCEL-G-308 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1477d
UTL.UX.ATT-C-201	Execute WO ATT-C-201 (Relocate)	30d	30-Nov-17	29-Dec-17	545d
UTL.UX.ATT-C-202	Execute WO ATT-C-202 (Relocate)	30d	30-Nov-17	29-Dec-17	515d
UTL.UX.CNLK-C-304	Execute WO CNLK-C-304 (Relocate)	30d	30-Nov-17	29-Dec-17	552d
UTL.UX.Level3-C-201	Execute WO Level 3-C-201 (Relocate)	30d	30-Nov-17	29-Dec-17	537d
UTL.UX.Level3-C-202	Execute WO Level 3-C-202 (Relocate)	30d	30-Nov-17	29-Dec-17	582d
UTL.UX.MCI-C-201	Execute WO MCI-C-201 (Relocate)	30d	30-Nov-17	29-Dec-17	537d
UTL.UX.SPNT-C-202	Execute WO SPNT-C-202 (Relocate)	30d	30-Nov-17	29-Dec-17	418d
UTL.UX.XCEL-E-214	Execute WO XCEL-E-214 (Relocate)	30d	30-Nov-17	29-Dec-17	211d
UTL.UX.XCEL-E-231	Execute WO XCEL-E-231 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-E-302	Execute WO XCEL-E-302 (No Conflict)	30d	30-Nov-17	29-Dec-17	656d
UTL.UX.XCEL-E-306	Execute WO XCEL-E-306 (Relocate)	30d	30-Nov-17	29-Dec-17	717d
UTL.UX.XCEL-G-206	Execute WO XCEL-G-206 (Cut, Cap, & Abandon)	30d	30-Nov-17	29-Dec-17	1131d
UTL.UX.XCEL-G-223	Execute WO XCEL-G-223 (Cut, Cap & Abandon)	30d	30-Nov-17	29-Dec-17	255d
UTL.UX.XCEL-G-224	Execute WO XCEL-G-224 (Relocate)	30d	30-Nov-17	29-Dec-17	344d
UTL.UX.XCEL-G-225	Execute WO XCEL-G-225 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d



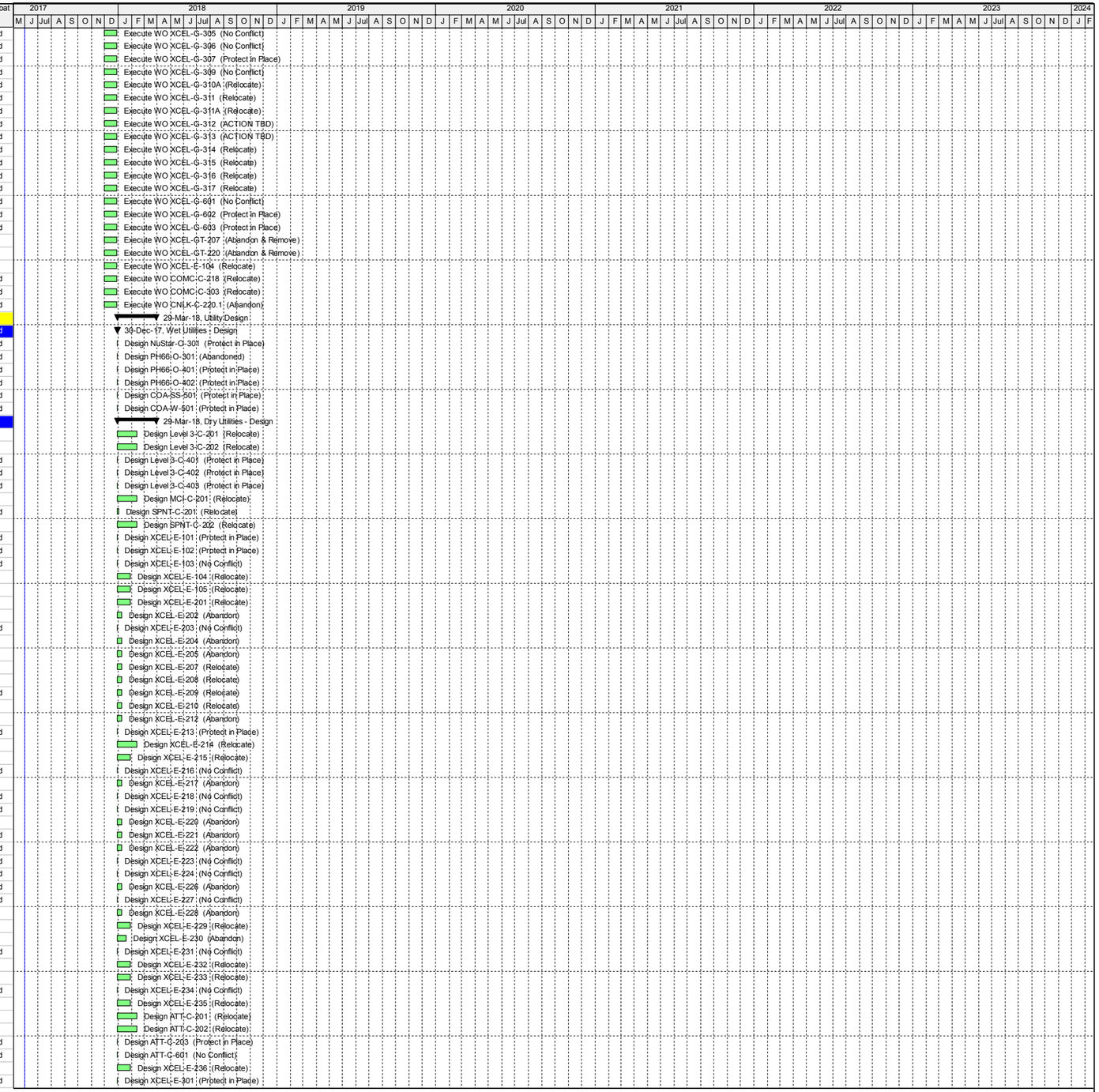
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UX.XCEL-G-226	Execute WO XCEL-G-226 (Cut, Cap & Abandon)	30d	30-Nov-17	29-Dec-17	344d
UTL.UX.XCEL-G-227	Execute WO XCEL-G-227 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-228	Execute WO XCEL-G-228 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1010d
UTL.UX.XCEL-G-229	Execute WO XCEL-G-229 (Abandoned Line)	30d	30-Nov-17	29-Dec-17	990d
UTL.UX.XCEL-G-301	Execute WO XCEL-G-301 (Relocate)	30d	30-Nov-17	29-Dec-17	623d
UTL.UX.XCEL-G-304	Execute WO XCEL-G-304 (Relocate)	30d	30-Nov-17	29-Dec-17	723d
UTL.UX.XCEL-GT-230	Execute WO XCEL-GT-230 (Protect in Place, Extend Casing if necessary)	30d	30-Nov-17	29-Dec-17	1416d
UTL.UX.ZAYO-C-202	Execute WO ZAYO-C-202 (Relocate)	30d	30-Nov-17	29-Dec-17	823d
UTL.UX.ZAYO-C-204	Execute WO ZAYO-C-204 (Relocate)	30d	30-Nov-17	29-Dec-17	778d
UTL.UX.ZAYO-C-301	Execute WO ZAYO-C-301 (Relocate)	30d	30-Nov-17	29-Dec-17	788d
UTL.UX.SPNT-C-201	Execute WO SPNT-C-201 (Relocate)	30d	30-Nov-17	29-Dec-17	1332d
UTL.UX.XCEL-ET-206	Execute WO XCEL-ET-206 (Relocate)	30d	30-Nov-17	29-Dec-17	674d
UTL.UX.XCEL-ET-211	Execute WO XCEL-ET-211 (Relocate)	30d	30-Nov-17	29-Dec-17	437d
UTL.UX.XCEL-ET-225	Execute WO XCEL-ET-225 (Relocate)	30d	30-Nov-17	29-Dec-17	437d
UTL.UX.XCEL-G-221	Execute WO XCEL-G-221 (Relocate)	30d	30-Nov-17	29-Dec-17	763d
UTL.UX.ZAYO-C-201	Execute WO ZAYO-C-201 (Relocate)	30d	30-Nov-17	29-Dec-17	259d
UTL.UX.CNLK-C-203	Execute WO CNLK-C-203 (Relocate)	30d	30-Nov-17	29-Dec-17	319d
UTL.UX.COMC-C-210	Execute WO COMC-C-210 (Relocate)	30d	30-Nov-17	29-Dec-17	156d
UTL.UX.XCEL-GT-101	Execute WO XCEL-GT-101 (Relocate)	30d	30-Nov-17	29-Dec-17	480d
UTL.UX.CNLK-C-202A	Execute WO CNLK-C-202A (Abandon)	30d	30-Nov-17	29-Dec-17	480d
UTL.UX.XCEL-GT-401	Execute WO XCEL-GT-401 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ZAYO-C-101	Execute WO ZAYO-C-101 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ZAYO-C-203	Execute WO ZAYO-C-203 (Relocate)	30d	30-Nov-17	29-Dec-17	778d
UTL.UX.ZAYO-C-302	Execute WO ZAYO-C-302 (Relocate)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ZAYO-C-303	Execute WO ZAYO-C-303 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ZAYO-C-401	Execute WO ZAYO-C-401 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ZAYO-C-401D	Execute WO ZAYO-C-401 (Protect in Place - CCD in Zayo Joint Trench)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ZAYO-C-402	Execute WO ZAYO-C-402 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ZAYO-C-402D	Execute WO ZAYO-C-402 (Relocate - CCD in Zayo Joint Trench)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ZAYO-C-403	Execute WO ZAYO-C-403 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ZAYO-C-501	Execute WO ZAYO-C-501 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ZAYO-C-501D	Execute WO ZAYO-C-501 (Protect in Place - CCD in Zayo Joint Trench)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.ZAYO-C-601	Execute WO ZAYO-C-601 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.COMC-C-203	Execute WO COMC-C-203 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.COMC-C-204	Execute WO COMC-C-204 (Abandon)	30d	30-Nov-17	29-Dec-17	331d
UTL.UX.COMC-C-205	Execute WO COMC-C-205 (Abandon)	30d	30-Nov-17	29-Dec-17	773d
UTL.UX.COMC-C-206	Execute WO COMC-C-206 (Abandon)	30d	30-Nov-17	29-Dec-17	380d
UTL.UX.COMC-C-207	Execute WO COMC-C-207 (Abandon)	30d	30-Nov-17	29-Dec-17	388d
UTL.UX.COMC-C-208	Execute WO COMC-C-208 (Abandon)	30d	30-Nov-17	29-Dec-17	323d
UTL.UX.COMC-C-215	Execute WO COMC-C-215 (Abandon)	30d	30-Nov-17	29-Dec-17	1204d
UTL.UX.COMC-C-216	Execute WO COMC-C-216 (Abandon)	30d	30-Nov-17	29-Dec-17	334d
UTL.UX.XCEL-E-202	Execute WO XCEL-E-202 (Abandon)	30d	30-Nov-17	29-Dec-17	911d
UTL.UX.XCEL-E-204	Execute WO XCEL-E-204 (Abandon)	30d	30-Nov-17	29-Dec-17	848d
UTL.UX.XCEL-E-205	Execute WO XCEL-E-205 (Abandon)	30d	30-Nov-17	29-Dec-17	311d
UTL.UX.XCEL-E-207	Execute WO XCEL-E-207 (Relocate)	30d	30-Nov-17	29-Dec-17	753d
UTL.UX.XCEL-E-208	Execute WO XCEL-E-208 (Relocate)	30d	30-Nov-17	29-Dec-17	368d
UTL.UX.XCEL-E-209	Execute WO XCEL-E-209 (Relocate)	30d	30-Nov-17	29-Dec-17	1306d
UTL.UX.XCEL-E-210	Execute WO XCEL-E-210 (Relocate)	30d	30-Nov-17	29-Dec-17	368d
UTL.UX.XCEL-E-212	Execute WO XCEL-E-212 (Abandon)	30d	30-Nov-17	29-Dec-17	340d
UTL.UX.XCEL-E-217	Execute WO XCEL-E-217 (Abandon)	30d	30-Nov-17	29-Dec-17	340d
UTL.UX.XCEL-E-220	Execute WO XCEL-E-220 (Abandon)	30d	30-Nov-17	29-Dec-17	543d
UTL.UX.XCEL-E-221	Execute WO XCEL-E-221 (Abandon)	30d	30-Nov-17	29-Dec-17	1201d
UTL.UX.XCEL-E-222	Execute WO XCEL-E-222 (Abandon)	30d	30-Nov-17	29-Dec-17	1516d
UTL.UX.XCEL-E-226	Execute WO XCEL-E-226 (Abandon)	30d	30-Nov-17	29-Dec-17	1190d
UTL.UX.XCEL-E-228	Execute WO XCEL-E-228 (Abandon)	30d	30-Nov-17	29-Dec-17	437d
UTL.UX.CCD-C-101	Execute WO CCD-C-101 (Relocate)	30d	30-Nov-17	29-Dec-17	318d
UTL.UX.CCD-C-201	Execute WO CCD-C-201 (Relocate)	30d	30-Nov-17	29-Dec-17	648d
UTL.UX.CCD-C-202	Execute WO CCD-C-202 (Relocate)	30d	30-Nov-17	29-Dec-17	733d
UTL.UX.CCD-C-301	Execute WO CCD-C-301 (Relocate)	30d	30-Nov-17	29-Dec-17	422d
UTL.UX.CCD-C-302	Execute WO CCD-C-302 (Relocate)	30d	30-Nov-17	29-Dec-17	795d
UTL.UX.CCD-C-303	Execute WO CCD-C-303 (Relocate)	30d	30-Nov-17	29-Dec-17	844d
UTL.UX.CCD-C-401	Execute WO CCD-C-401 (Relocate)	30d	30-Nov-17	29-Dec-17	1039d
UTL.UX.CCD-C-403	Execute WO CCD-C-403 (Relocate)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-103	Execute WO CNLK-C-103 (Relocate)	30d	30-Nov-17	29-Dec-17	1330d
UTL.UX.CNLK-C-202	Execute WO CNLK-C-202 (Relocate)	30d	30-Nov-17	29-Dec-17	1308d
UTL.UX.CNLK-C-205	Execute WO CNLK-C-205 (Relocate)	30d	30-Nov-17	29-Dec-17	355d
UTL.UX.CNLK-C-208	Execute WO CNLK-C-208 (Abandon)	30d	30-Nov-17	29-Dec-17	1262d
UTL.UX.CNLK-C-209	Execute WO CNLK-C-209 (Abandon)	30d	30-Nov-17	29-Dec-17	246d
UTL.UX.CNLK-C-210	Execute WO CNLK-C-210 (Abandon)	30d	30-Nov-17	29-Dec-17	223d
UTL.UX.CNLK-C-211	Execute WO CNLK-C-211 (Abandon)	30d	30-Nov-17	29-Dec-17	1262d
UTL.UX.CNLK-C-212	Execute WO CNLK-C-212 (Abandon)	30d	30-Nov-17	29-Dec-17	338d
UTL.UX.CNLK-C-213	Execute WO CNLK-C-213 (Abandon)	30d	30-Nov-17	29-Dec-17	223d
UTL.UX.CNLK-C-218	Execute WO CNLK-C-218 (Abandon)	30d	30-Nov-17	29-Dec-17	1157d
UTL.UX.CNLK-C-220	Execute WO CNLK-C-220 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.CNLK-C-221	Execute WO CNLK-C-221 (No Conflict)	30d	30-Nov-17	29-Dec-17	823d
UTL.UX.CNLK-C-222	Execute WO CNLK-C-222 (No Conflict)	30d	30-Nov-17	29-Dec-17	945d
UTL.UX.CNLK-C-223	Execute WO CNLK-C-223 (No Conflict)	30d	30-Nov-17	29-Dec-17	1319d
UTL.UX.CNLK-C-301	Execute WO CNLK-C-301 (Relocate)	30d	30-Nov-17	29-Dec-17	646d
UTL.UX.CNLK-C-302	Execute WO CNLK-C-302 (Relocate)	30d	30-Nov-17	29-Dec-17	743d
UTL.UX.CNLK-C-305	Execute WO CNLK-C-305 (Relocate)	30d	30-Nov-17	29-Dec-17	567d
UTL.UX.CNLK-C-306	Execute WO CNLK-C-306 (Relocate)	30d	30-Nov-17	29-Dec-17	814d
UTL.UX.COMC-C-201	Execute WO COMC-C-201 (Relocate)	30d	30-Nov-17	29-Dec-17	1317d



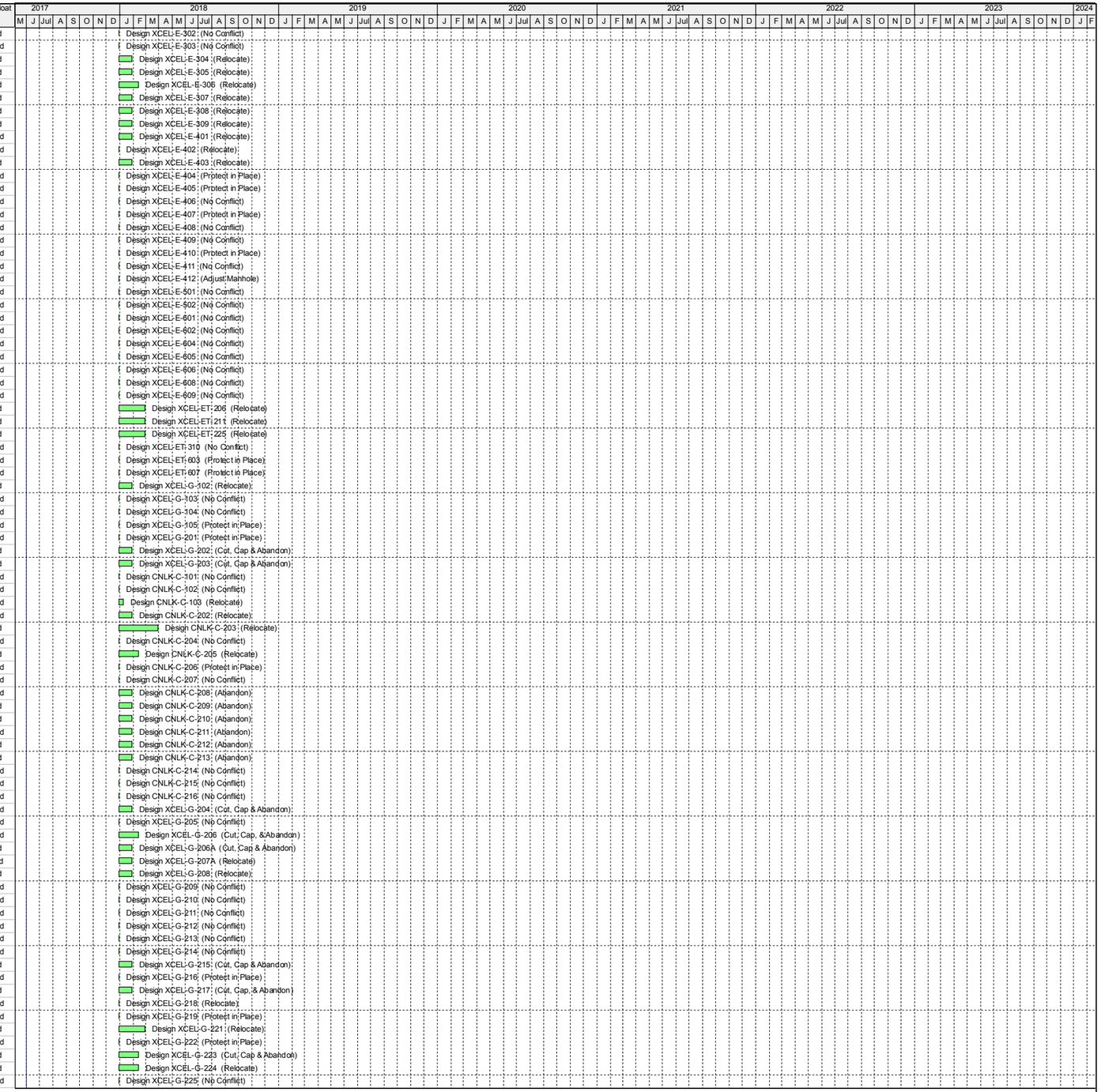
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UX.XCEL-G-305	Execute WO XCEL-G-305 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-306	Execute WO XCEL-G-306 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-307	Execute WO XCEL-G-307 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-309	Execute WO XCEL-G-309 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-310A	Execute WO XCEL-G-310A (Relocate)	30d	30-Nov-17	29-Dec-17	1638d
UTL.UX.XCEL-G-311	Execute WO XCEL-G-311 (Relocate)	30d	30-Nov-17	29-Dec-17	1593d
UTL.UX.XCEL-G-311A	Execute WO XCEL-G-311A (Relocate)	30d	30-Nov-17	29-Dec-17	1638d
UTL.UX.XCEL-G-312	Execute WO XCEL-G-312 (ACTION TBD)	30d	30-Nov-17	29-Dec-17	1638d
UTL.UX.XCEL-G-313	Execute WO XCEL-G-313 (ACTION TBD)	30d	30-Nov-17	29-Dec-17	1638d
UTL.UX.XCEL-G-314	Execute WO XCEL-G-314 (Relocate)	30d	30-Nov-17	29-Dec-17	1638d
UTL.UX.XCEL-G-315	Execute WO XCEL-G-315 (Relocate)	30d	30-Nov-17	29-Dec-17	1638d
UTL.UX.XCEL-G-316	Execute WO XCEL-G-316 (Relocate)	30d	30-Nov-17	29-Dec-17	1638d
UTL.UX.XCEL-G-317	Execute WO XCEL-G-317 (Relocate)	30d	30-Nov-17	29-Dec-17	1638d
UTL.UX.XCEL-G-601	Execute WO XCEL-G-601 (No Conflict)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-602	Execute WO XCEL-G-602 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-G-603	Execute WO XCEL-G-603 (Protect in Place)	30d	30-Nov-17	29-Dec-17	1526d
UTL.UX.XCEL-GT-207	Execute WO XCEL-GT-207 (Abandon & Remove)	30d	30-Nov-17	29-Dec-17	678d
UTL.UX.XCEL-GT-220	Execute WO XCEL-GT-220 (Abandon & Remove)	30d	30-Nov-17	29-Dec-17	678d
UTL.UX.XCEL-E-104	Execute WO XCEL-E-104 (Relocate)	30d	30-Nov-17	29-Dec-17	628d
UTL.UX.COMC-C-218	Execute WO COMC-C-218 (Relocate)	30d	30-Nov-17	29-Dec-17	1317d
UTL.UX.COMC-C-303	Execute WO COMC-C-303 (Relocate)	30d	30-Nov-17	29-Dec-17	1237d
UTL.UX.CNLK-C-220.1	Execute WO CNLK-C-220.1 (Abandon)	30d	30-Nov-17	29-Dec-17	1197d
Utility Design		57d	30-Dec-17	29-Mar-18	998d
Wet Utilities - Design		0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.NuStar-O-301	Design NuStar-O-301 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.PH66-O-301	Design PH66-O-301 (Abandoned)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.PH66-O-401	Design PH66-O-401 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.PH66-O-402	Design PH66-O-402 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COA-SS-501	Design COA-SS-501 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COA-W-501	Design COA-W-501 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
Dry Utilities - Design		57d	30-Dec-17	29-Mar-18	998d
UTL.UD.Level3-C-201	Design Level 3-C-201 (Relocate)	45d	30-Dec-17	12-Feb-18	537d
UTL.UD.Level3-C-202	Design Level 3-C-202 (Relocate)	45d	30-Dec-17	12-Feb-18	582d
UTL.UD.Level3-C-401	Design Level 3-C-401 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.Level3-C-402	Design Level 3-C-402 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.Level3-C-403	Design Level 3-C-403 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.MCI-C-201	Design MCI-C-201 (Relocate)	45d	30-Dec-17	12-Feb-18	537d
UTL.UD.SPNT-C-201	Design SPNT-C-201 (Relocate)	5d	30-Dec-17	03-Jan-18	1332d
UTL.UD.SPNT-C-202	Design SPNT-C-202 (Relocate)	45d	30-Dec-17	12-Feb-18	418d
UTL.UD.XCEL-E-101	Design XCEL-E-101 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-102	Design XCEL-E-102 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-103	Design XCEL-E-103 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-104	Design XCEL-E-104 (Relocate)	30d	30-Dec-17	28-Jan-18	628d
UTL.UD.XCEL-E-105	Design XCEL-E-105 (Relocate)	30d	30-Dec-17	28-Jan-18	628d
UTL.UD.XCEL-E-201	Design XCEL-E-201 (Relocate)	30d	30-Dec-17	28-Jan-18	628d
UTL.UD.XCEL-E-202	Design XCEL-E-202 (Abandon)	10d	30-Dec-17	08-Jan-18	911d
UTL.UD.XCEL-E-203	Design XCEL-E-203 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-204	Design XCEL-E-204 (Abandon)	10d	30-Dec-17	08-Jan-18	848d
UTL.UD.XCEL-E-205	Design XCEL-E-205 (Abandon)	10d	30-Dec-17	08-Jan-18	311d
UTL.UD.XCEL-E-207	Design XCEL-E-207 (Relocate)	10d	30-Dec-17	08-Jan-18	753d
UTL.UD.XCEL-E-208	Design XCEL-E-208 (Relocate)	10d	30-Dec-17	08-Jan-18	368d
UTL.UD.XCEL-E-209	Design XCEL-E-209 (Relocate)	10d	30-Dec-17	08-Jan-18	1306d
UTL.UD.XCEL-E-210	Design XCEL-E-210 (Relocate)	10d	30-Dec-17	08-Jan-18	368d
UTL.UD.XCEL-E-212	Design XCEL-E-212 (Abandon)	10d	30-Dec-17	08-Jan-18	340d
UTL.UD.XCEL-E-213	Design XCEL-E-213 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-214	Design XCEL-E-214 (Relocate)	45d	30-Dec-17	12-Feb-18	211d
UTL.UD.XCEL-E-215	Design XCEL-E-215 (Relocate)	30d	30-Dec-17	28-Jan-18	953d
UTL.UD.XCEL-E-216	Design XCEL-E-216 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-217	Design XCEL-E-217 (Abandon)	10d	30-Dec-17	08-Jan-18	340d
UTL.UD.XCEL-E-218	Design XCEL-E-218 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-219	Design XCEL-E-219 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-220	Design XCEL-E-220 (Abandon)	10d	30-Dec-17	08-Jan-18	543d
UTL.UD.XCEL-E-221	Design XCEL-E-221 (Abandon)	10d	30-Dec-17	08-Jan-18	1201d
UTL.UD.XCEL-E-222	Design XCEL-E-222 (Abandon)	10d	30-Dec-17	08-Jan-18	1516d
UTL.UD.XCEL-E-223	Design XCEL-E-223 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-224	Design XCEL-E-224 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-226	Design XCEL-E-226 (Abandon)	10d	30-Dec-17	08-Jan-18	1190d
UTL.UD.XCEL-E-227	Design XCEL-E-227 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-228	Design XCEL-E-228 (Abandon)	10d	30-Dec-17	08-Jan-18	437d
UTL.UD.XCEL-E-229	Design XCEL-E-229 (Relocate)	30d	30-Dec-17	28-Jan-18	404d
UTL.UD.XCEL-E-230	Design XCEL-E-230 (Abandon)	20d	30-Dec-17	18-Jan-18	369d
UTL.UD.XCEL-E-231	Design XCEL-E-231 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-232	Design XCEL-E-232 (Relocate)	30d	30-Dec-17	28-Jan-18	277d
UTL.UD.XCEL-E-233	Design XCEL-E-233 (Relocate)	30d	30-Dec-17	28-Jan-18	743d
UTL.UD.XCEL-E-234	Design XCEL-E-234 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-235	Design XCEL-E-235 (Relocate)	30d	30-Dec-17	28-Jan-18	908d
UTL.UD.ATT-C-201	Design ATT-C-201 (Relocate)	45d	30-Dec-17	12-Feb-18	545d
UTL.UD.ATT-C-202	Design ATT-C-202 (Relocate)	45d	30-Dec-17	12-Feb-18	515d
UTL.UD.ATT-C-203	Design ATT-C-203 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ATT-C-601	Design ATT-C-601 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-236	Design XCEL-E-236 (Relocate)	30d	30-Dec-17	28-Jan-18	306d
UTL.UD.XCEL-E-301	Design XCEL-E-301 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UD.XCEL-E-302	Design XCEL-E-302 (No Conflict)	0d	30-Dec-17	30-Dec-17	656d
UTL.UD.XCEL-E-303	Design XCEL-E-303 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-304	Design XCEL-E-304 (Relocate)	30d	30-Dec-17	28-Jan-18	908d
UTL.UD.XCEL-E-305	Design XCEL-E-305 (Relocate)	30d	30-Dec-17	28-Jan-18	908d
UTL.UD.XCEL-E-306	Design XCEL-E-306 (Relocate)	45d	30-Dec-17	12-Feb-18	717d
UTL.UD.XCEL-E-307	Design XCEL-E-307 (Relocate)	30d	30-Dec-17	28-Jan-18	587d
UTL.UD.XCEL-E-308	Design XCEL-E-308 (Relocate)	30d	30-Dec-17	28-Jan-18	812d
UTL.UD.XCEL-E-309	Design XCEL-E-309 (Relocate)	30d	30-Dec-17	28-Jan-18	673d
UTL.UD.XCEL-E-401	Design XCEL-E-401 (Relocate)	30d	30-Dec-17	28-Jan-18	1245d
UTL.UD.XCEL-E-402	Design XCEL-E-402 (Relocate)	0d	30-Dec-17	30-Dec-17	1306d
UTL.UD.XCEL-E-403	Design XCEL-E-403 (Relocate)	30d	30-Dec-17	28-Jan-18	839d
UTL.UD.XCEL-E-404	Design XCEL-E-404 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-405	Design XCEL-E-405 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-406	Design XCEL-E-406 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-407	Design XCEL-E-407 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-408	Design XCEL-E-408 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-409	Design XCEL-E-409 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-410	Design XCEL-E-410 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-411	Design XCEL-E-411 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-412	Design XCEL-E-412 (Adjust Manhole)	0d	30-Dec-17	30-Dec-17	1398d
UTL.UD.XCEL-E-501	Design XCEL-E-501 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-502	Design XCEL-E-502 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-601	Design XCEL-E-601 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-602	Design XCEL-E-602 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-604	Design XCEL-E-604 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-605	Design XCEL-E-605 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-606	Design XCEL-E-606 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-608	Design XCEL-E-608 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-E-609	Design XCEL-E-609 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-ET-206	Design XCEL-ET-206 (Relocate)	60d	30-Dec-17	27-Feb-18	674d
UTL.UD.XCEL-ET-211	Design XCEL-ET-211 (Relocate)	60d	30-Dec-17	27-Feb-18	437d
UTL.UD.XCEL-ET-225	Design XCEL-ET-225 (Relocate)	60d	30-Dec-17	27-Feb-18	437d
UTL.UD.XCEL-ET-310	Design XCEL-ET-310 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-ET-603	Design XCEL-ET-603 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-ET-607	Design XCEL-ET-607 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-102	Design XCEL-G-102 (Relocate)	30d	30-Dec-17	28-Jan-18	628d
UTL.UD.XCEL-G-103	Design XCEL-G-103 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-104	Design XCEL-G-104 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-105	Design XCEL-G-105 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-201	Design XCEL-G-201 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-202	Design XCEL-G-202 (Cut, Cap & Abandon)	30d	30-Dec-17	28-Jan-18	729d
UTL.UD.XCEL-G-203	Design XCEL-G-203 (Cut, Cap & Abandon)	30d	30-Dec-17	28-Jan-18	284d
UTL.UD.CNLK-C-101	Design CNLK-C-101 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-102	Design CNLK-C-102 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-103	Design CNLK-C-103 (Relocate)	10d	30-Dec-17	08-Jan-18	1330d
UTL.UD.CNLK-C-202	Design CNLK-C-202 (Relocate)	30d	30-Dec-17	28-Jan-18	1308d
UTL.UD.CNLK-C-203	Design CNLK-C-203 (Relocate)	90d	30-Dec-17	29-Mar-18	319d
UTL.UD.CNLK-C-204	Design CNLK-C-204 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-205	Design CNLK-C-205 (Relocate)	45d	30-Dec-17	12-Feb-18	355d
UTL.UD.CNLK-C-206	Design CNLK-C-206 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-207	Design CNLK-C-207 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-208	Design CNLK-C-208 (Abandon)	30d	30-Dec-17	28-Jan-18	1262d
UTL.UD.CNLK-C-209	Design CNLK-C-209 (Abandon)	30d	30-Dec-17	28-Jan-18	246d
UTL.UD.CNLK-C-210	Design CNLK-C-210 (Abandon)	30d	30-Dec-17	28-Jan-18	223d
UTL.UD.CNLK-C-211	Design CNLK-C-211 (Abandon)	30d	30-Dec-17	28-Jan-18	1262d
UTL.UD.CNLK-C-212	Design CNLK-C-212 (Abandon)	30d	30-Dec-17	28-Jan-18	338d
UTL.UD.CNLK-C-213	Design CNLK-C-213 (Abandon)	30d	30-Dec-17	28-Jan-18	223d
UTL.UD.CNLK-C-214	Design CNLK-C-214 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-215	Design CNLK-C-215 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-216	Design CNLK-C-216 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-204	Design XCEL-G-204 (Cut, Cap & Abandon)	30d	30-Dec-17	28-Jan-18	1282d
UTL.UD.XCEL-G-205	Design XCEL-G-205 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-206	Design XCEL-G-206 (Cut, Cap, & Abandon)	45d	30-Dec-17	12-Feb-18	1131d
UTL.UD.XCEL-G-206A	Design XCEL-G-206A (Cut, Cap & Abandon)	30d	30-Dec-17	28-Jan-18	306d
UTL.UD.XCEL-G-207A	Design XCEL-G-207A (Relocate)	30d	30-Dec-17	28-Jan-18	1114d
UTL.UD.XCEL-G-208	Design XCEL-G-208 (Relocate)	30d	30-Dec-17	28-Jan-18	306d
UTL.UD.XCEL-G-209	Design XCEL-G-209 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-210	Design XCEL-G-210 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-211	Design XCEL-G-211 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-212	Design XCEL-G-212 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-213	Design XCEL-G-213 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-214	Design XCEL-G-214 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-215	Design XCEL-G-215 (Cut, Cap & Abandon)	30d	30-Dec-17	28-Jan-18	518d
UTL.UD.XCEL-G-216	Design XCEL-G-216 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-217	Design XCEL-G-217 (Cut, Cap, & Abandon)	30d	30-Dec-17	28-Jan-18	557d
UTL.UD.XCEL-G-218	Design XCEL-G-218 (Relocate)	0d	30-Dec-17	30-Dec-17	1386d
UTL.UD.XCEL-G-219	Design XCEL-G-219 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-221	Design XCEL-G-221 (Relocate)	60d	30-Dec-17	27-Feb-18	763d
UTL.UD.XCEL-G-222	Design XCEL-G-222 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-223	Design XCEL-G-223 (Cut, Cap & Abandon)	45d	30-Dec-17	12-Feb-18	255d
UTL.UD.XCEL-G-224	Design XCEL-G-224 (Relocate)	45d	30-Dec-17	12-Feb-18	344d
UTL.UD.XCEL-G-225	Design XCEL-G-225 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d

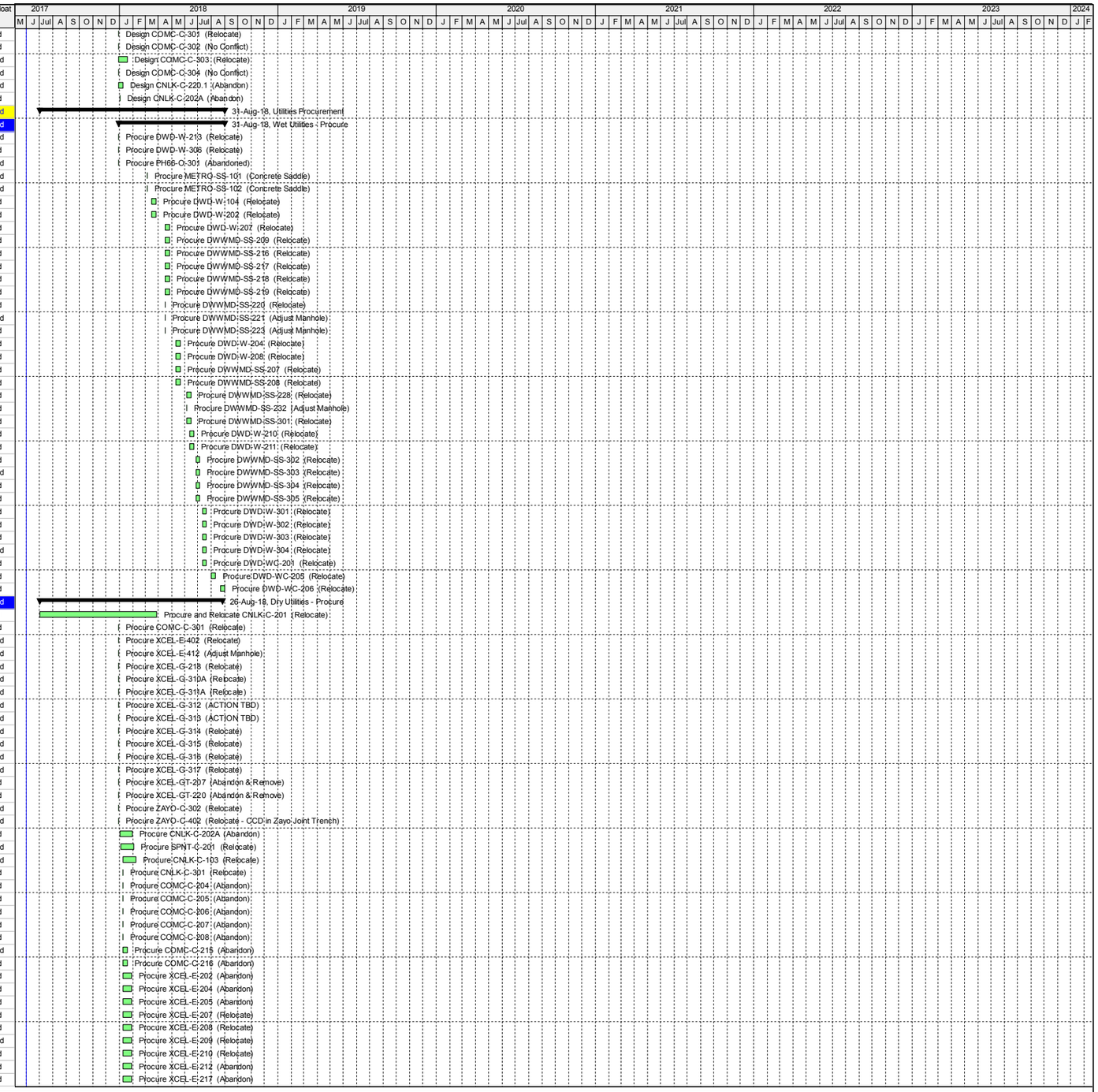


Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UD.XCEL-G-226	Design XCEL-G-226 (Cut, Cap & Abandon)	45d	30-Dec-17	12-Feb-18	344d
UTL.UD.XCEL-G-227	Design XCEL-G-227 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-228	Design XCEL-G-228 (Protect in Place)	45d	30-Dec-17	12-Feb-18	1010d
UTL.UD.XCEL-G-229	Design XCEL-G-229 (Abandoned Line)	45d	30-Dec-17	12-Feb-18	990d
UTL.UD.XCEL-G-231	Design XCEL-G-231 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-301	Design XCEL-G-301 (Relocate)	45d	30-Dec-17	12-Feb-18	623d
UTL.UD.XCEL-G-302	Design XCEL-G-302 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-303	Design XCEL-G-303 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-304	Design XCEL-G-304 (Relocate)	45d	30-Dec-17	12-Feb-18	723d
UTL.UD.XCEL-G-305	Design XCEL-G-305 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-306	Design XCEL-G-306 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-307	Design XCEL-G-307 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-308	Design XCEL-G-308 (Protect in Place)	30d	30-Dec-17	28-Jan-18	1477d
UTL.UD.XCEL-G-309	Design XCEL-G-309 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-310A	Design XCEL-G-310A (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UD.XCEL-G-311	Design XCEL-G-311 (Relocate)	45d	30-Dec-17	12-Feb-18	1593d
UTL.UD.XCEL-G-311A	Design XCEL-G-311A (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UD.XCEL-G-312	Design XCEL-G-312 (ACTION TBD)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UD.XCEL-G-313	Design XCEL-G-313 (ACTION TBD)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UD.XCEL-G-314	Design XCEL-G-314 (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UD.XCEL-G-315	Design XCEL-G-315 (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UD.XCEL-G-316	Design XCEL-G-316 (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UD.CNLK-C-217	Design CNLK-C-217 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-218	Design CNLK-C-218 (Abandon)	30d	30-Dec-17	28-Jan-18	1157d
UTL.UD.CNLK-C-219	Design CNLK-C-219 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-220	Design CNLK-C-220 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-221	Design CNLK-C-221 (No Conflict)	0d	30-Dec-17	30-Dec-17	823d
UTL.UD.CNLK-C-222	Design CNLK-C-222 (No Conflict)	0d	30-Dec-17	30-Dec-17	945d
UTL.UD.CNLK-C-223	Design CNLK-C-223 (No Conflict)	0d	30-Dec-17	30-Dec-17	1319d
UTL.UD.CNLK-C-301	Design CNLK-C-301 (Relocate)	10d	30-Dec-17	08-Jan-18	646d
UTL.UD.CNLK-C-302	Design CNLK-C-302 (Relocate)	30d	30-Dec-17	28-Jan-18	743d
UTL.UD.CNLK-C-303	Design CNLK-C-303 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-304	Design CNLK-C-304 (Relocate)	45d	30-Dec-17	12-Feb-18	552d
UTL.UD.CNLK-C-305	Design CNLK-C-305 (Relocate)	30d	30-Dec-17	28-Jan-18	567d
UTL.UD.CNLK-C-306	Design CNLK-C-306 (Relocate)	30d	30-Dec-17	28-Jan-18	814d
UTL.UD.CNLK-C-401	Design CNLK-C-401 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-402	Design CNLK-C-402 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-601	Design CNLK-C-601 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-602	Design CNLK-C-602 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-603	Design CNLK-C-603 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-604	Design CNLK-C-604 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COMC-C-201	Design COMC-C-201 (Relocate)	30d	30-Dec-17	28-Jan-18	1317d
UTL.UD.XCEL-G-317	Design XCEL-G-317 (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UD.XCEL-G-601	Design XCEL-G-601 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-602	Design XCEL-G-602 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-G-603	Design XCEL-G-603 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.XCEL-GT-101	Design XCEL-GT-101 (Relocate)	90d	30-Dec-17	29-Mar-18	480d
UTL.UD.XCEL-GT-207	Design XCEL-GT-207 (Abandon & Remove)	0d	30-Dec-17	30-Dec-17	678d
UTL.UD.XCEL-GT-220	Design XCEL-GT-220 (Abandon & Remove)	0d	30-Dec-17	30-Dec-17	678d
UTL.UD.XCEL-GT-230	Design XCEL-GT-230 (Protect in Place, Extend Casing if necessary)	45d	30-Dec-17	12-Feb-18	1416d
UTL.UD.XCEL-GT-401	Design XCEL-GT-401 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ZAYO-C-101	Design ZAYO-C-101 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ZAYO-C-201	Design ZAYO-C-201 (Relocate)	60d	30-Dec-17	27-Feb-18	259d
UTL.UD.ZAYO-C-203	Design ZAYO-C-203 (Relocate)	45d	30-Dec-17	12-Feb-18	778d
UTL.UD.ZAYO-C-204	Design ZAYO-C-204 (Relocate)	45d	30-Dec-17	12-Feb-18	778d
UTL.UD.ZAYO-C-302	Design ZAYO-C-302 (Relocate)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ZAYO-C-303	Design ZAYO-C-303 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ZAYO-C-401	Design ZAYO-C-401 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ZAYO-C-401D	Design ZAYO-C-401 (Protect in Place - CCD in Zayo Joint Trench)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ZAYO-C-402	Design ZAYO-C-402 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ZAYO-C-402D	Design ZAYO-C-402 (Relocate - CCD in Zayo Joint Trench)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ZAYO-C-403	Design ZAYO-C-403 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ZAYO-C-501	Design ZAYO-C-501 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ZAYO-C-501D	Design ZAYO-C-501 (Protect in Place - CCD in Zayo Joint Trench)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.ZAYO-C-601	Design ZAYO-C-601 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COMC-C-202	Design COMC-C-202 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COMC-C-203	Design COMC-C-203 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COMC-C-204	Design COMC-C-204 (Abandon)	10d	30-Dec-17	08-Jan-18	331d
UTL.UD.COMC-C-205	Design COMC-C-205 (Abandon)	10d	30-Dec-17	08-Jan-18	773d
UTL.UD.COMC-C-206	Design COMC-C-206 (Abandon)	10d	30-Dec-17	08-Jan-18	380d
UTL.UD.COMC-C-207	Design COMC-C-207 (Abandon)	10d	30-Dec-17	08-Jan-18	388d
UTL.UD.COMC-C-208	Design COMC-C-208 (Abandon)	10d	30-Dec-17	08-Jan-18	323d
UTL.UD.COMC-C-209	Design COMC-C-209 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COMC-C-210	Design COMC-C-210 (Relocate)	90d	30-Dec-17	29-Mar-18	156d
UTL.UD.COMC-C-211	Design COMC-C-211 (Protect in Place)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COMC-C-212	Design COMC-C-212 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COMC-C-213	Design COMC-C-213 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COMC-C-214	Design COMC-C-214 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COMC-C-215	Design COMC-C-215 (Abandon)	10d	30-Dec-17	08-Jan-18	1204d
UTL.UD.COMC-C-216	Design COMC-C-216 (Abandon)	10d	30-Dec-17	08-Jan-18	334d
UTL.UD.COMC-C-217	Design COMC-C-217 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.COMC-C-218	Design COMC-C-218 (Relocate)	30d	30-Dec-17	28-Jan-18	1317d

Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

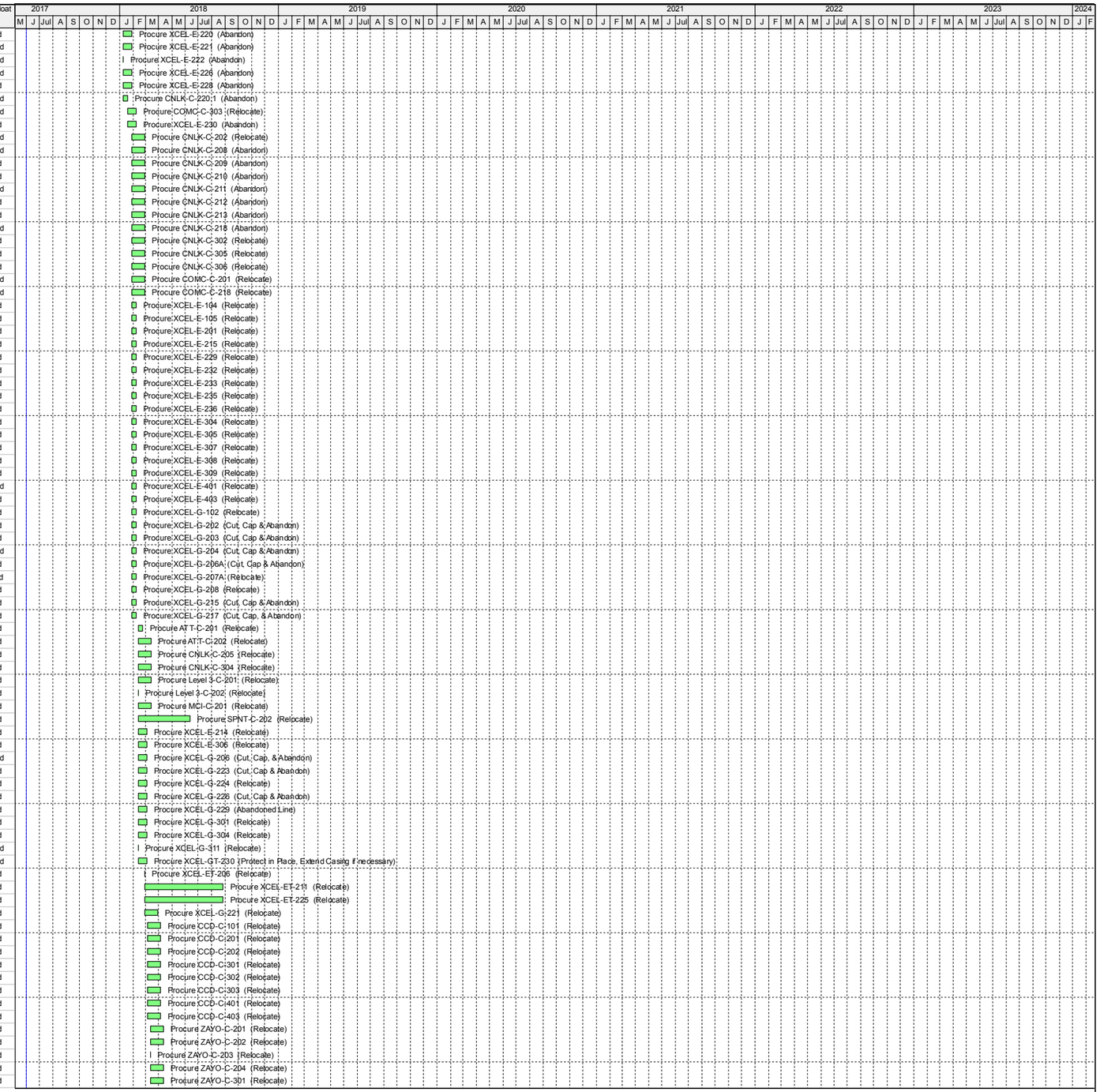
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UD.COMC-C-301	Design COMC-C-301 (Relocate)	0d	30-Dec-17	30-Dec-17	770d
UTL.UD.COMC-C-302	Design COMC-C-302 (No Conflict)	0d	30-Dec-17	30-Dec-17	713d
UTL.UD.COMC-C-303	Design COMC-C-303 (Relocate)	20d	30-Dec-17	18-Jan-18	1237d
UTL.UD.COMC-C-304	Design COMC-C-304 (No Conflict)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UD.CNLK-C-220.1	Design CNLK-C-220.1 (Abandon)	10d	30-Dec-17	08-Jan-18	1197d
UTL.UD.CNLK-C-202A	Design CNLK-C-202A (Abandon)	0d	02-Jan-18	02-Jan-18	306d
Utilities Procurement		427d	01-Jul-17	31-Aug-18	1393d
Wet Utilities - Procure		245d	30-Dec-17	31-Aug-18	1281d
UTL.UP.DWD-W-213	Procure DWD-W-213 (Relocate)	0d	30-Dec-17	30-Dec-17	1393d
UTL.UP.DWD-W-306	Procure DWD-W-306 (Relocate)	0d	30-Dec-17	30-Dec-17	747d
UTL.UP.PH66-O-301	Procure PH66-O-301 (Abandoned)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UP.METRO-SS-101	Procure METRO-SS-101 (Concrete Saddle)	0d	06-Mar-18	06-Mar-18	1448d
UTL.UP.METRO-SS-102	Procure METRO-SS-102 (Concrete Saddle)	0d	06-Mar-18	06-Mar-18	1448d
UTL.UP.DWD-W-104	Procure DWD-W-104 (Relocate)	10d	17-Mar-18	26-Mar-18	602d
UTL.UP.DWD-W-202	Procure DWD-W-202 (Relocate)	10d	17-Mar-18	26-Mar-18	260d
UTL.UP.DWD-W-207	Procure DWD-W-207 (Relocate)	10d	17-Apr-18	26-Apr-18	531d
UTL.UP.DWWMD-SS-209	Procure DWWMD-SS-209 (Relocate)	10d	17-Apr-18	26-Apr-18	593d
UTL.UP.DWWMD-SS-216	Procure DWWMD-SS-216 (Relocate)	10d	17-Apr-18	26-Apr-18	431d
UTL.UP.DWWMD-SS-217	Procure DWWMD-SS-217 (Relocate)	10d	17-Apr-18	26-Apr-18	455d
UTL.UP.DWWMD-SS-218	Procure DWWMD-SS-218 (Relocate)	10d	17-Apr-18	26-Apr-18	531d
UTL.UP.DWWMD-SS-219	Procure DWWMD-SS-219 (Relocate)	10d	17-Apr-18	26-Apr-18	511d
UTL.UP.DWWMD-SS-220	Procure DWWMD-SS-220 (Relocate)	0d	17-Apr-18	17-Apr-18	246d
UTL.UP.DWWMD-SS-221	Procure DWWMD-SS-221 (Adjust Manhole)	0d	17-Apr-18	17-Apr-18	1266d
UTL.UP.DWWMD-SS-223	Procure DWWMD-SS-223 (Adjust Manhole)	0d	17-Apr-18	17-Apr-18	893d
UTL.UP.DWD-W-204	Procure DWD-W-204 (Relocate)	10d	12-May-18	21-May-18	534d
UTL.UP.DWD-W-208	Procure DWD-W-208 (Relocate)	10d	12-May-18	21-May-18	778d
UTL.UP.DWWMD-SS-207	Procure DWWMD-SS-207 (Relocate)	10d	12-May-18	21-May-18	619d
UTL.UP.DWWMD-SS-208	Procure DWWMD-SS-208 (Relocate)	10d	12-May-18	21-May-18	177d
UTL.UP.DWWMD-SS-228	Procure DWWMD-SS-228 (Relocate)	10d	05-Jun-18	14-Jun-18	894d
UTL.UP.DWWMD-SS-232	Procure DWWMD-SS-232 (Adjust Manhole)	0d	05-Jun-18	05-Jun-18	647d
UTL.UP.DWWMD-SS-301	Procure DWWMD-SS-301 (Relocate)	10d	05-Jun-18	14-Jun-18	748d
UTL.UP.DWD-W-210	Procure DWD-W-210 (Relocate)	10d	12-Jun-18	21-Jun-18	773d
UTL.UP.DWD-W-211	Procure DWD-W-211 (Relocate)	10d	12-Jun-18	21-Jun-18	280d
UTL.UP.DWWMD-SS-302	Procure DWWMD-SS-302 (Relocate)	10d	26-Jun-18	05-Jul-18	608d
UTL.UP.DWWMD-SS-303	Procure DWWMD-SS-303 (Relocate)	10d	26-Jun-18	05-Jul-18	1092d
UTL.UP.DWWMD-SS-304	Procure DWWMD-SS-304 (Relocate)	10d	26-Jun-18	05-Jul-18	873d
UTL.UP.DWWMD-SS-305	Procure DWWMD-SS-305 (Relocate)	10d	26-Jun-18	05-Jul-18	657d
UTL.UP.DWD-W-301	Procure DWD-W-301 (Relocate)	10d	11-Jul-18	20-Jul-18	534d
UTL.UP.DWD-W-302	Procure DWD-W-302 (Relocate)	10d	11-Jul-18	20-Jul-18	503d
UTL.UP.DWD-W-303	Procure DWD-W-303 (Relocate)	10d	11-Jul-18	20-Jul-18	874d
UTL.UP.DWD-W-304	Procure DWD-W-304 (Relocate)	10d	11-Jul-18	20-Jul-18	1074d
UTL.UP.DWD-WC-201	Procure DWD-WC-201 (Relocate)	10d	11-Jul-18	20-Jul-18	485d
UTL.UP.DWD-WC-205	Procure DWD-WC-205 (Relocate)	10d	01-Aug-18	10-Aug-18	187d
UTL.UP.DWD-WC-206	Procure DWD-WC-206 (Relocate)	10d	22-Aug-18	31-Aug-18	755d
Dry Utilities - Procure		422d	01-Jul-17	26-Aug-18	1398d
UTL.UP.CNLK-C-201	Procure and Relocate CNLK-C-201 (Relocate)	270d	01-Jul-17	27-Mar-18	47d
UTL.UP.COMC-C-301	Procure COMC-C-301 (Relocate)	0d	30-Dec-17	30-Dec-17	770d
UTL.UP.XCEL-E-402	Procure XCEL-E-402 (Relocate)	0d	30-Dec-17	30-Dec-17	1306d
UTL.UP.XCEL-E-412	Procure XCEL-E-412 (Adjust Manhole)	0d	30-Dec-17	30-Dec-17	1398d
UTL.UP.XCEL-G-218	Procure XCEL-G-218 (Relocate)	0d	30-Dec-17	30-Dec-17	1386d
UTL.UP.XCEL-G-310A	Procure XCEL-G-310A (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UP.XCEL-G-311A	Procure XCEL-G-311A (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UP.XCEL-G-312	Procure XCEL-G-312 (ACTION TBD)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UP.XCEL-G-313	Procure XCEL-G-313 (ACTION TBD)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UP.XCEL-G-314	Procure XCEL-G-314 (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UP.XCEL-G-315	Procure XCEL-G-315 (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UP.XCEL-G-316	Procure XCEL-G-316 (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UP.XCEL-G-317	Procure XCEL-G-317 (Relocate)	0d	30-Dec-17	30-Dec-17	1638d
UTL.UP.XCEL-GT-207	Procure XCEL-GT-207 (Abandon & Remove)	0d	30-Dec-17	30-Dec-17	678d
UTL.UP.XCEL-GT-220	Procure XCEL-GT-220 (Abandon & Remove)	0d	30-Dec-17	30-Dec-17	678d
UTL.UP.ZAYO-C-302	Procure ZAYO-C-302 (Relocate)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UP.ZAYO-C-402D	Procure ZAYO-C-402 (Relocate - CCD in Zayo Joint Trench)	0d	30-Dec-17	30-Dec-17	1526d
UTL.UP.CNLK-C-202A	Procure CNLK-C-202A (Abandon)	30d	02-Jan-18	31-Jan-18	477d
UTL.UP.SPNT-C-201	Procure SPNT-C-201 (Relocate)	30d	04-Jan-18	02-Feb-18	1332d
UTL.UP.CNLK-C-103	Procure CNLK-C-103 (Relocate)	30d	09-Jan-18	07-Feb-18	1330d
UTL.UP.CNLK-C-301	Procure CNLK-C-301 (Relocate)	0d	09-Jan-18	09-Jan-18	646d
UTL.UP.COMC-C-204	Procure COMC-C-204 (Abandon)	0d	09-Jan-18	09-Jan-18	331d
UTL.UP.COMC-C-205	Procure COMC-C-205 (Abandon)	0d	09-Jan-18	09-Jan-18	773d
UTL.UP.COMC-C-206	Procure COMC-C-206 (Abandon)	0d	09-Jan-18	09-Jan-18	380d
UTL.UP.COMC-C-207	Procure COMC-C-207 (Abandon)	0d	09-Jan-18	09-Jan-18	388d
UTL.UP.COMC-C-208	Procure COMC-C-208 (Abandon)	0d	09-Jan-18	09-Jan-18	323d
UTL.UP.COMC-C-215	Procure COMC-C-215 (Abandon)	10d	09-Jan-18	18-Jan-18	1204d
UTL.UP.COMC-C-216	Procure COMC-C-216 (Abandon)	10d	09-Jan-18	18-Jan-18	334d
UTL.UP.XCEL-E-202	Procure XCEL-E-202 (Abandon)	20d	09-Jan-18	28-Jan-18	911d
UTL.UP.XCEL-E-204	Procure XCEL-E-204 (Abandon)	20d	09-Jan-18	28-Jan-18	848d
UTL.UP.XCEL-E-205	Procure XCEL-E-205 (Abandon)	20d	09-Jan-18	28-Jan-18	311d
UTL.UP.XCEL-E-207	Procure XCEL-E-207 (Relocate)	20d	09-Jan-18	28-Jan-18	753d
UTL.UP.XCEL-E-208	Procure XCEL-E-208 (Relocate)	20d	09-Jan-18	28-Jan-18	368d
UTL.UP.XCEL-E-209	Procure XCEL-E-209 (Relocate)	20d	09-Jan-18	28-Jan-18	1306d
UTL.UP.XCEL-E-210	Procure XCEL-E-210 (Relocate)	20d	09-Jan-18	28-Jan-18	368d
UTL.UP.XCEL-E-212	Procure XCEL-E-212 (Abandon)	20d	09-Jan-18	28-Jan-18	340d
UTL.UP.XCEL-E-217	Procure XCEL-E-217 (Abandon)	20d	09-Jan-18	28-Jan-18	340d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

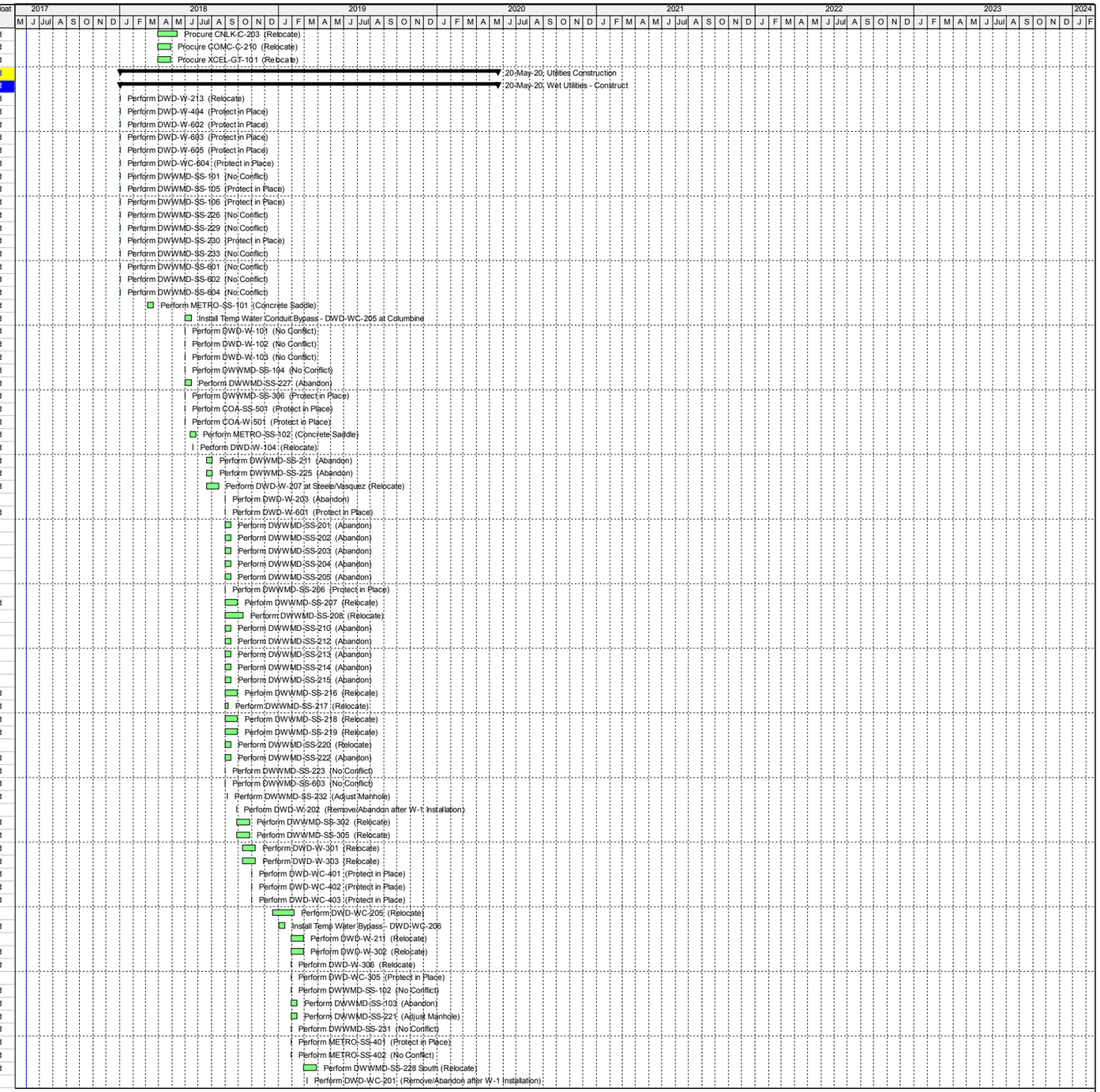
Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UP.XCEL-E-220	Procure XCEL-E-220 (Abandon)	20d	09-Jan-18	28-Jan-18	543d
UTL.UP.XCEL-E-221	Procure XCEL-E-221 (Abandon)	20d	09-Jan-18	28-Jan-18	1201d
UTL.UP.XCEL-E-222	Procure XCEL-E-222 (Abandon)	0d	09-Jan-18	09-Jan-18	1516d
UTL.UP.XCEL-E-226	Procure XCEL-E-226 (Abandon)	20d	09-Jan-18	28-Jan-18	1190d
UTL.UP.XCEL-E-228	Procure XCEL-E-228 (Abandon)	20d	09-Jan-18	28-Jan-18	437d
UTL.UP.CNLK-C-220.1	Procure CNLK-C-220.1 (Abandon)	10d	09-Jan-18	18-Jan-18	1197d
UTL.UP.COMC-C-303	Procure COMC-C-303 (Relocate)	20d	19-Jan-18	07-Feb-18	1237d
UTL.UP.XCEL-E-230	Procure XCEL-E-230 (Abandon)	20d	19-Jan-18	07-Feb-18	369d
UTL.UP.CNLK-C-202	Procure CNLK-C-202 (Relocate)	30d	29-Jan-18	27-Feb-18	1308d
UTL.UP.CNLK-C-208	Procure CNLK-C-208 (Abandon)	30d	29-Jan-18	27-Feb-18	1262d
UTL.UP.CNLK-C-209	Procure CNLK-C-209 (Abandon)	30d	29-Jan-18	27-Feb-18	246d
UTL.UP.CNLK-C-210	Procure CNLK-C-210 (Abandon)	30d	29-Jan-18	27-Feb-18	223d
UTL.UP.CNLK-C-211	Procure CNLK-C-211 (Abandon)	30d	29-Jan-18	27-Feb-18	1262d
UTL.UP.CNLK-C-212	Procure CNLK-C-212 (Abandon)	30d	29-Jan-18	27-Feb-18	338d
UTL.UP.CNLK-C-213	Procure CNLK-C-213 (Abandon)	30d	29-Jan-18	27-Feb-18	223d
UTL.UP.CNLK-C-218	Procure CNLK-C-218 (Abandon)	30d	29-Jan-18	27-Feb-18	1157d
UTL.UP.CNLK-C-302	Procure CNLK-C-302 (Relocate)	30d	29-Jan-18	27-Feb-18	743d
UTL.UP.CNLK-C-305	Procure CNLK-C-305 (Relocate)	30d	29-Jan-18	27-Feb-18	567d
UTL.UP.CNLK-C-306	Procure CNLK-C-306 (Relocate)	30d	29-Jan-18	27-Feb-18	814d
UTL.UP.COMC-C-201	Procure COMC-C-201 (Relocate)	30d	29-Jan-18	27-Feb-18	1317d
UTL.UP.COMC-C-218	Procure COMC-C-218 (Relocate)	30d	29-Jan-18	27-Feb-18	1317d
UTL.UP.XCEL-E-104	Procure XCEL-E-104 (Relocate)	10d	29-Jan-18	07-Feb-18	628d
UTL.UP.XCEL-E-105	Procure XCEL-E-105 (Relocate)	10d	29-Jan-18	07-Feb-18	628d
UTL.UP.XCEL-E-201	Procure XCEL-E-201 (Relocate)	10d	29-Jan-18	07-Feb-18	628d
UTL.UP.XCEL-E-215	Procure XCEL-E-215 (Relocate)	10d	29-Jan-18	07-Feb-18	953d
UTL.UP.XCEL-E-229	Procure XCEL-E-229 (Relocate)	10d	29-Jan-18	07-Feb-18	404d
UTL.UP.XCEL-E-232	Procure XCEL-E-232 (Relocate)	10d	29-Jan-18	07-Feb-18	277d
UTL.UP.XCEL-E-233	Procure XCEL-E-233 (Relocate)	10d	29-Jan-18	07-Feb-18	743d
UTL.UP.XCEL-E-235	Procure XCEL-E-235 (Relocate)	10d	29-Jan-18	07-Feb-18	908d
UTL.UP.XCEL-E-236	Procure XCEL-E-236 (Relocate)	10d	29-Jan-18	07-Feb-18	306d
UTL.UP.XCEL-E-304	Procure XCEL-E-304 (Relocate)	10d	29-Jan-18	07-Feb-18	908d
UTL.UP.XCEL-E-305	Procure XCEL-E-305 (Relocate)	10d	29-Jan-18	07-Feb-18	908d
UTL.UP.XCEL-E-307	Procure XCEL-E-307 (Relocate)	10d	29-Jan-18	07-Feb-18	587d
UTL.UP.XCEL-E-308	Procure XCEL-E-308 (Relocate)	10d	29-Jan-18	07-Feb-18	812d
UTL.UP.XCEL-E-309	Procure XCEL-E-309 (Relocate)	10d	29-Jan-18	07-Feb-18	673d
UTL.UP.XCEL-E-401	Procure XCEL-E-401 (Relocate)	10d	29-Jan-18	07-Feb-18	1245d
UTL.UP.XCEL-E-403	Procure XCEL-E-403 (Relocate)	10d	29-Jan-18	07-Feb-18	839d
UTL.UP.XCEL-G-102	Procure XCEL-G-102 (Relocate)	10d	29-Jan-18	07-Feb-18	628d
UTL.UP.XCEL-G-202	Procure XCEL-G-202 (Cut, Cap & Abandon)	10d	29-Jan-18	07-Feb-18	729d
UTL.UP.XCEL-G-203	Procure XCEL-G-203 (Cut, Cap & Abandon)	10d	29-Jan-18	07-Feb-18	284d
UTL.UP.XCEL-G-204	Procure XCEL-G-204 (Cut, Cap & Abandon)	10d	29-Jan-18	07-Feb-18	1282d
UTL.UP.XCEL-G-206A	Procure XCEL-G-206A (Cut, Cap & Abandon)	10d	29-Jan-18	07-Feb-18	306d
UTL.UP.XCEL-G-207A	Procure XCEL-G-207A (Relocate)	10d	29-Jan-18	07-Feb-18	1114d
UTL.UP.XCEL-G-208	Procure XCEL-G-208 (Relocate)	10d	29-Jan-18	07-Feb-18	306d
UTL.UP.XCEL-G-215	Procure XCEL-G-215 (Cut, Cap & Abandon)	10d	29-Jan-18	07-Feb-18	518d
UTL.UP.XCEL-G-217	Procure XCEL-G-217 (Cut, Cap, & Abandon)	10d	29-Jan-18	07-Feb-18	557d
UTL.UP.ATT-C-201	Procure ATT-C-201 (Relocate)	10d	13-Feb-18	22-Feb-18	545d
UTL.UP.ATT-C-202	Procure ATT-C-202 (Relocate)	30d	13-Feb-18	14-Mar-18	515d
UTL.UP.CNLK-C-205	Procure CNLK-C-205 (Relocate)	30d	13-Feb-18	14-Mar-18	355d
UTL.UP.CNLK-C-304	Procure CNLK-C-304 (Relocate)	30d	13-Feb-18	14-Mar-18	552d
UTL.UP.Level3-C-201	Procure Level 3-C-201 (Relocate)	30d	13-Feb-18	14-Mar-18	537d
UTL.UP.Level3-C-202	Procure Level 3-C-202 (Relocate)	0d	13-Feb-18	13-Feb-18	582d
UTL.UP.MCI-C-201	Procure MCI-C-201 (Relocate)	30d	13-Feb-18	14-Mar-18	537d
UTL.UP.SPNT-C-202	Procure SPNT-C-202 (Relocate)	120d	13-Feb-18	12-Jun-18	418d
UTL.UP.XCEL-E-214	Procure XCEL-E-214 (Relocate)	20d	13-Feb-18	04-Mar-18	211d
UTL.UP.XCEL-E-306	Procure XCEL-E-306 (Relocate)	20d	13-Feb-18	04-Mar-18	717d
UTL.UP.XCEL-G-206	Procure XCEL-G-206 (Cut, Cap, & Abandon)	20d	13-Feb-18	04-Mar-18	1131d
UTL.UP.XCEL-G-223	Procure XCEL-G-223 (Cut, Cap & Abandon)	20d	13-Feb-18	04-Mar-18	255d
UTL.UP.XCEL-G-224	Procure XCEL-G-224 (Relocate)	20d	13-Feb-18	04-Mar-18	344d
UTL.UP.XCEL-G-226	Procure XCEL-G-226 (Cut, Cap & Abandon)	20d	13-Feb-18	04-Mar-18	344d
UTL.UP.XCEL-G-229	Procure XCEL-G-229 (Abandoned Line)	20d	13-Feb-18	04-Mar-18	990d
UTL.UP.XCEL-G-301	Procure XCEL-G-301 (Relocate)	20d	13-Feb-18	04-Mar-18	623d
UTL.UP.XCEL-G-304	Procure XCEL-G-304 (Relocate)	20d	13-Feb-18	04-Mar-18	723d
UTL.UP.XCEL-G-311	Procure XCEL-G-311 (Relocate)	0d	13-Feb-18	13-Feb-18	1593d
UTL.UP.XCEL-GT-230	Procure XCEL-GT-230 (Protect in Place, Extend Casing if necessary)	20d	13-Feb-18	04-Mar-18	1416d
UTL.UP.XCEL-ET-206	Procure XCEL-ET-206 (Relocate)	0d	28-Feb-18	28-Feb-18	674d
UTL.UP.XCEL-ET-211	Procure XCEL-ET-211 (Relocate)	180d	28-Feb-18	26-Aug-18	437d
UTL.UP.XCEL-ET-225	Procure XCEL-ET-225 (Relocate)	180d	28-Feb-18	26-Aug-18	437d
UTL.UP.XCEL-G-221	Procure XCEL-G-221 (Relocate)	30d	28-Feb-18	29-Mar-18	763d
UTL.UP.CCD-C-101	Procure CCD-C-101 (Relocate)	30d	06-Mar-18	04-Apr-18	222d
UTL.UP.CCD-C-201	Procure CCD-C-201 (Relocate)	30d	06-Mar-18	04-Apr-18	552d
UTL.UP.CCD-C-202	Procure CCD-C-202 (Relocate)	30d	06-Mar-18	04-Apr-18	637d
UTL.UP.CCD-C-301	Procure CCD-C-301 (Relocate)	30d	06-Mar-18	04-Apr-18	326d
UTL.UP.CCD-C-302	Procure CCD-C-302 (Relocate)	30d	06-Mar-18	04-Apr-18	699d
UTL.UP.CCD-C-303	Procure CCD-C-303 (Relocate)	30d	06-Mar-18	04-Apr-18	748d
UTL.UP.CCD-C-401	Procure CCD-C-401 (Relocate)	30d	06-Mar-18	04-Apr-18	943d
UTL.UP.CCD-C-403	Procure CCD-C-403 (Relocate)	30d	06-Mar-18	04-Apr-18	895d
UTL.UP.ZAYO-C-201	Procure ZAYO-C-201 (Relocate)	30d	13-Mar-18	11-Apr-18	246d
UTL.UP.ZAYO-C-202	Procure ZAYO-C-202 (Relocate)	30d	13-Mar-18	11-Apr-18	782d
UTL.UP.ZAYO-C-203	Procure ZAYO-C-203 (Relocate)	0d	13-Mar-18	13-Mar-18	750d
UTL.UP.ZAYO-C-204	Procure ZAYO-C-204 (Relocate)	30d	13-Mar-18	11-Apr-18	750d
UTL.UP.ZAYO-C-301	Procure ZAYO-C-301 (Relocate)	30d	13-Mar-18	11-Apr-18	685d



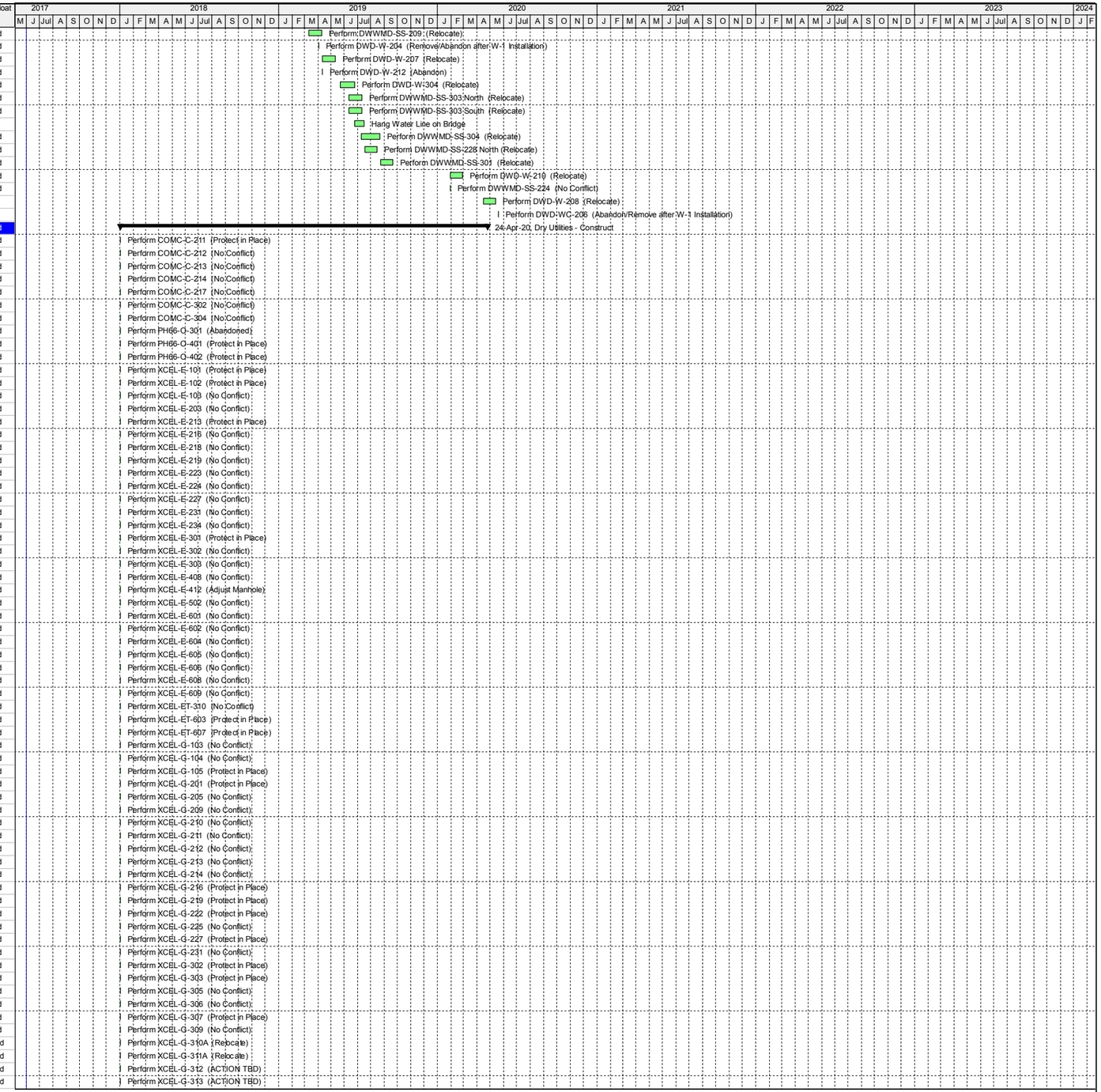
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UP.CNLK-C-203	Procure CNLK-C-203 (Relocate)	45d	30-Mar-18	13-May-18	319d
UTL.UP.COMC-C-210	Procure COMC-C-210 (Relocate)	30d	30-Mar-18	28-Apr-18	156d
UTL.UP.XCEL-GT-101	Procure XCEL-GT-101 (Relocate)	30d	30-Mar-18	28-Apr-18	480d
Utilities Construction		562d	02-Jan-18	20-May-20	493d
Wet Utilities - Construct		562d	02-Jan-18	20-May-20	420d
UTL.UC.DWD-W-213	Perform DWD-W-213 (Relocate)	0d	02-Jan-18	02-Jan-18	901d
UTL.UC.DWD-W-404	Perform DWD-W-404 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWD-W-602	Perform DWD-W-602 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWD-W-603	Perform DWD-W-603 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWD-W-605	Perform DWD-W-605 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWD-WC-604	Perform DWD-WC-604 (Protect in Place)	0d	02-Jan-18	02-Jan-18	417d
UTL.UC.DWWMD-SS-101	Perform DWWMD-SS-101 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWWMD-SS-105	Perform DWWMD-SS-105 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWWMD-SS-106	Perform DWWMD-SS-106 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWWMD-SS-226	Perform DWWMD-SS-226 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWWMD-SS-229	Perform DWWMD-SS-229 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWWMD-SS-230	Perform DWWMD-SS-230 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWWMD-SS-233	Perform DWWMD-SS-233 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWWMD-SS-601	Perform DWWMD-SS-601 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWWMD-SS-602	Perform DWWMD-SS-602 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.DWWMD-SS-604	Perform DWWMD-SS-604 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.METRO-SS-101	Perform METRO-SS-101 (Concrete Saddle)	10d	06-Mar-18	19-Mar-18	931d
CON.UTL.313.105	Install Temp Water Conduit Bypass - DWD-WC-205 at Columbine	10d	01-Jun-18	15-Jun-18	153d
UTL.UC.DWD-W-101	Perform DWD-W-101 (No Conflict)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.DWD-W-102	Perform DWD-W-102 (No Conflict)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.DWD-W-103	Perform DWD-W-103 (No Conflict)	0d	01-Jun-18	01-Jun-18	365d
UTL.UC.DWWMD-SS-104	Perform DWWMD-SS-104 (No Conflict)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.DWWMD-SS-227	Perform DWWMD-SS-227 (Abandon)	10d	01-Jun-18	15-Jun-18	665d
UTL.UC.DWWMD-SS-306	Perform DWWMD-SS-306 (Protect in Place)	0d	01-Jun-18	01-Jun-18	482d
UTL.UC.COA-SS-501	Perform COA-SS-501 (Protect in Place)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.COA-W-501	Perform COA-W-501 (Protect in Place)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.METRO-SS-102	Perform METRO-SS-102 (Concrete Saddle)	10d	12-Jun-18	25-Jun-18	868d
UTL.UC.DWD-W-104	Perform DWD-W-104 (Relocate)	0d	19-Jun-18	19-Jun-18	336d
UTL.UC.DWWMD-SS-211	Perform DWWMD-SS-211 (Abandon)	10d	19-Jul-18	02-Aug-18	574d
UTL.UC.DWWMD-SS-225	Perform DWWMD-SS-225 (Abandon)	10d	19-Jul-18	02-Aug-18	149d
UTL.UC.DWD-W-207SV	Perform DWD-W-207 at Steele/Vasquez (Relocate)	20d	19-Jul-18	17-Aug-18	459d
UTL.UC.DWD-W-203	Perform DWD-W-203 (Abandon)	0d	31-Aug-18	31-Aug-18	81d
UTL.UC.DWD-W-601	Perform DWD-W-601 (Protect in Place)	0d	31-Aug-18	31-Aug-18	346d
UTL.UC.DWWMD-SS-201	Perform DWWMD-SS-201 (Abandon)	10d	31-Aug-18	14-Sep-18	58d
UTL.UC.DWWMD-SS-202	Perform DWWMD-SS-202 (Abandon)	10d	31-Aug-18	14-Sep-18	58d
UTL.UC.DWWMD-SS-203	Perform DWWMD-SS-203 (Abandon)	10d	31-Aug-18	14-Sep-18	58d
UTL.UC.DWWMD-SS-204	Perform DWWMD-SS-204 (Abandon)	10d	31-Aug-18	14-Sep-18	58d
UTL.UC.DWWMD-SS-205	Perform DWWMD-SS-205 (Abandon)	10d	31-Aug-18	14-Sep-18	58d
UTL.UC.DWWMD-SS-206	Perform DWWMD-SS-206 (Protect in Place)	0d	31-Aug-18	31-Aug-18	99d
UTL.UC.DWWMD-SS-207	Perform DWWMD-SS-207 (Relocate)	20d	31-Aug-18	28-Sep-18	326d
UTL.UC.DWWMD-SS-208	Perform DWWMD-SS-208 (Relocate)	30d	31-Aug-18	12-Oct-18	51d
UTL.UC.DWWMD-SS-210	Perform DWWMD-SS-210 (Abandon)	10d	31-Aug-18	14-Sep-18	71d
UTL.UC.DWWMD-SS-212	Perform DWWMD-SS-212 (Abandon)	10d	31-Aug-18	14-Sep-18	71d
UTL.UC.DWWMD-SS-213	Perform DWWMD-SS-213 (Abandon)	10d	31-Aug-18	14-Sep-18	48d
UTL.UC.DWWMD-SS-214	Perform DWWMD-SS-214 (Abandon)	10d	31-Aug-18	14-Sep-18	48d
UTL.UC.DWWMD-SS-215	Perform DWWMD-SS-215 (Abandon)	10d	31-Aug-18	14-Sep-18	48d
UTL.UC.DWWMD-SS-216	Perform DWWMD-SS-216 (Relocate)	20d	31-Aug-18	28-Sep-18	193d
UTL.UC.DWWMD-SS-217	Perform DWWMD-SS-217 (Relocate)	5d	31-Aug-18	07-Sep-18	208d
UTL.UC.DWWMD-SS-218	Perform DWWMD-SS-218 (Relocate)	20d	31-Aug-18	28-Sep-18	259d
UTL.UC.DWWMD-SS-219	Perform DWWMD-SS-219 (Relocate)	20d	31-Aug-18	28-Sep-18	246d
UTL.UC.DWWMD-SS-220	Perform DWWMD-SS-220 (Relocate)	10d	31-Aug-18	14-Sep-18	71d
UTL.UC.DWWMD-SS-222	Perform DWWMD-SS-222 (Abandon)	10d	31-Aug-18	14-Sep-18	269d
UTL.UC.DWWMD-SS-223	Perform DWWMD-SS-223 (No Conflict)	0d	31-Aug-18	31-Aug-18	487d
UTL.UC.DWWMD-SS-603	Perform DWWMD-SS-603 (No Conflict)	0d	31-Aug-18	31-Aug-18	346d
UTL.UC.DWWMD-SS-232	Perform DWWMD-SS-232 (Adjust Manhole)	0d	06-Sep-18	06-Sep-18	353d
UTL.UC.DWD-W-202	Perform DWD-W-202 (Remove/Abandon after W-1 Installation)	1d	27-Sep-18	27-Sep-18	49d
UTL.UC.DWWMD-SS-302	Perform DWWMD-SS-302 (Relocate)	20d	27-Sep-18	26-Oct-18	332d
UTL.UC.DWWMD-SS-305	Perform DWWMD-SS-305 (Relocate)	20d	27-Sep-18	26-Oct-18	366d
UTL.UC.DWD-W-301	Perform DWD-W-301 (Relocate)	20d	11-Oct-18	09-Nov-18	279d
UTL.UC.DWD-W-303	Perform DWD-W-303 (Relocate)	20d	11-Oct-18	09-Nov-18	508d
UTL.UC.DWD-WC-401	Perform DWD-WC-401 (Protect in Place)	0d	01-Nov-18	01-Nov-18	359d
UTL.UC.DWD-WC-402	Perform DWD-WC-402 (Protect in Place)	0d	01-Nov-18	01-Nov-18	283d
UTL.UC.DWD-WC-403	Perform DWD-WC-403 (Protect in Place)	0d	01-Nov-18	01-Nov-18	359d
UTL.UC.DWD-WC-205	Perform DWD-WC-205 (Relocate)	30d	19-Dec-18	05-Feb-19	35d
CON.UTL.323.105	Install Temp Water Bypass - DWD-WC-206	10d	02-Jan-19	15-Jan-19	164d
UTL.UC.DWD-W-211	Perform DWD-W-211 (Relocate)	20d	30-Jan-19	27-Feb-19	39d
UTL.UC.DWD-W-302	Perform DWD-W-302 (Relocate)	20d	30-Jan-19	27-Feb-19	203d
UTL.UC.DWD-W-306	Perform DWD-W-306 (Relocate)	0d	30-Jan-19	30-Jan-19	223d
UTL.UC.DWD-WC-305	Perform DWD-WC-305 (Protect in Place)	0d	30-Jan-19	30-Jan-19	82d
UTL.UC.DWWMD-SS-102	Perform DWWMD-SS-102 (No Conflict)	0d	30-Jan-19	30-Jan-19	212d
UTL.UC.DWWMD-SS-103	Perform DWWMD-SS-103 (Abandon)	10d	30-Jan-19	13-Feb-19	202d
UTL.UC.DWWMD-SS-221	Perform DWWMD-SS-221 (Adjust Manhole)	10d	30-Jan-19	13-Feb-19	637d
UTL.UC.DWWMD-SS-231	Perform DWWMD-SS-231 (No Conflict)	0d	30-Jan-19	30-Jan-19	543d
UTL.UC.METRO-SS-401	Perform METRO-SS-401 (Protect in Place)	0d	30-Jan-19	30-Jan-19	223d
UTL.UC.METRO-SS-402	Perform METRO-SS-402 (No Conflict)	0d	30-Jan-19	30-Jan-19	223d
UTL.UC.DWWMD-SS-228S	Perform DWWMD-SS-228 South (Relocate)	20d	28-Feb-19	29-Mar-19	238d
UTL.UC.DWD-WC-201	Perform DWD-WC-201 (Remove/Abandon after W-1 Installation)	1d	08-Mar-19	08-Mar-19	25d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UC.DWWMD-SS-209	Perform DWWMD-SS-209 (Relocate)	20d	11-Mar-19	09-Apr-19	179d
UTL.UC.DWD-W-204	Perform DWD-W-204 (Remove/Abandon after W-1 Installation)	1d	03-Apr-19	03-Apr-19	144d
UTL.UC.DWD-W-207	Perform DWD-W-207 (Relocate)	20d	11-Apr-19	10-May-19	119d
UTL.UC.DWD-W-212	Perform DWD-W-212 (Abandon)	1d	11-Apr-19	11-Apr-19	138d
UTL.UC.DWD-W-304	Perform DWD-W-304 (Relocate)	20d	23-May-19	24-Jun-19	495d
UTL.UC.DWWMD-SS-303	Perform DWWMD-SS-303 North (Relocate)	20d	12-Jun-19	11-Jul-19	487d
UTL.UC.DWWMD-SS-303S	Perform DWWMD-SS-303 South (Relocate)	20d	12-Jun-19	11-Jul-19	230d
CON.UTL.313.065	Hang Water Line on Bridge	15d	24-Jun-19	15-Jul-19	55d
UTL.UC.DWWMD-SS-304	Perform DWWMD-SS-304 (Relocate)	30d	09-Jul-19	21-Aug-19	331d
UTL.UC.DWWMD-SS-228	Perform DWWMD-SS-228 North (Relocate)	20d	17-Jul-19	15-Aug-19	325d
UTL.UC.DWWMD-SS-301	Perform DWWMD-SS-301 (Relocate)	20d	23-Aug-19	20-Sep-19	203d
UTL.UC.DWD-W-210	Perform DWD-W-210 (Relocate)	20d	31-Jan-20	27-Feb-20	124d
UTL.UC.DWWMD-SS-224	Perform DWWMD-SS-224 (No Conflict)	0d	31-Jan-20	31-Jan-20	323d
UTL.UC.DWD-W-208	Perform DWD-W-208 (Relocate)	20d	15-Apr-20	12-May-20	55d
UTL.UC.DWD-WC-206	Perform DWD-WC-206 (Abandon/Remove after W-1 Installation)	1d	20-May-20	20-May-20	84d
Dry Utilities - Construct		545d	02-Jan-18	24-Apr-20	510d
UTL.UC.COMC-C-211	Perform COMC-C-211 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.COMC-C-212	Perform COMC-C-212 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.COMC-C-213	Perform COMC-C-213 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.COMC-C-214	Perform COMC-C-214 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.COMC-C-217	Perform COMC-C-217 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.COMC-C-302	Perform COMC-C-302 (No Conflict)	0d	02-Jan-18	02-Jan-18	459d
UTL.UC.COMC-C-304	Perform COMC-C-304 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.PH66-O-301	Perform PH66-O-301 (Abandoned)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.PH66-O-401	Perform PH66-O-401 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.PH66-O-402	Perform PH66-O-402 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-101	Perform XCEL-E-101 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-102	Perform XCEL-E-102 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-103	Perform XCEL-E-103 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-203	Perform XCEL-E-203 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-213	Perform XCEL-E-213 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-216	Perform XCEL-E-216 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-218	Perform XCEL-E-218 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-219	Perform XCEL-E-219 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-223	Perform XCEL-E-223 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-224	Perform XCEL-E-224 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-227	Perform XCEL-E-227 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-231	Perform XCEL-E-231 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-234	Perform XCEL-E-234 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-301	Perform XCEL-E-301 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-302	Perform XCEL-E-302 (No Conflict)	0d	02-Jan-18	02-Jan-18	423d
UTL.UC.XCEL-E-303	Perform XCEL-E-303 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-408	Perform XCEL-E-408 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-412	Perform XCEL-E-412 (Adjust Manhole)	0d	02-Jan-18	02-Jan-18	904d
UTL.UC.XCEL-E-502	Perform XCEL-E-502 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-601	Perform XCEL-E-601 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-602	Perform XCEL-E-602 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-604	Perform XCEL-E-604 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-605	Perform XCEL-E-605 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-606	Perform XCEL-E-606 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-608	Perform XCEL-E-608 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-E-609	Perform XCEL-E-609 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-ET-310	Perform XCEL-ET-310 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-ET-603	Perform XCEL-ET-603 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-ET-607	Perform XCEL-ET-607 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-103	Perform XCEL-G-103 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-104	Perform XCEL-G-104 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-105	Perform XCEL-G-105 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-201	Perform XCEL-G-201 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-205	Perform XCEL-G-205 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-209	Perform XCEL-G-209 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-210	Perform XCEL-G-210 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-211	Perform XCEL-G-211 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-212	Perform XCEL-G-212 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-213	Perform XCEL-G-213 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-214	Perform XCEL-G-214 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-216	Perform XCEL-G-216 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-219	Perform XCEL-G-219 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-222	Perform XCEL-G-222 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-225	Perform XCEL-G-225 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-227	Perform XCEL-G-227 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-231	Perform XCEL-G-231 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-302	Perform XCEL-G-302 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-303	Perform XCEL-G-303 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-305	Perform XCEL-G-305 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-306	Perform XCEL-G-306 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-307	Perform XCEL-G-307 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-309	Perform XCEL-G-309 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-310A	Perform XCEL-G-310A (Relocate)	0d	02-Jan-18	02-Jan-18	1055d
UTL.UC.XCEL-G-311A	Perform XCEL-G-311A (Relocate)	0d	02-Jan-18	02-Jan-18	1055d
UTL.UC.XCEL-G-312	Perform XCEL-G-312 (ACTION TBD)	0d	02-Jan-18	02-Jan-18	1055d
UTL.UC.XCEL-G-313	Perform XCEL-G-313 (ACTION TBD)	0d	02-Jan-18	02-Jan-18	1055d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

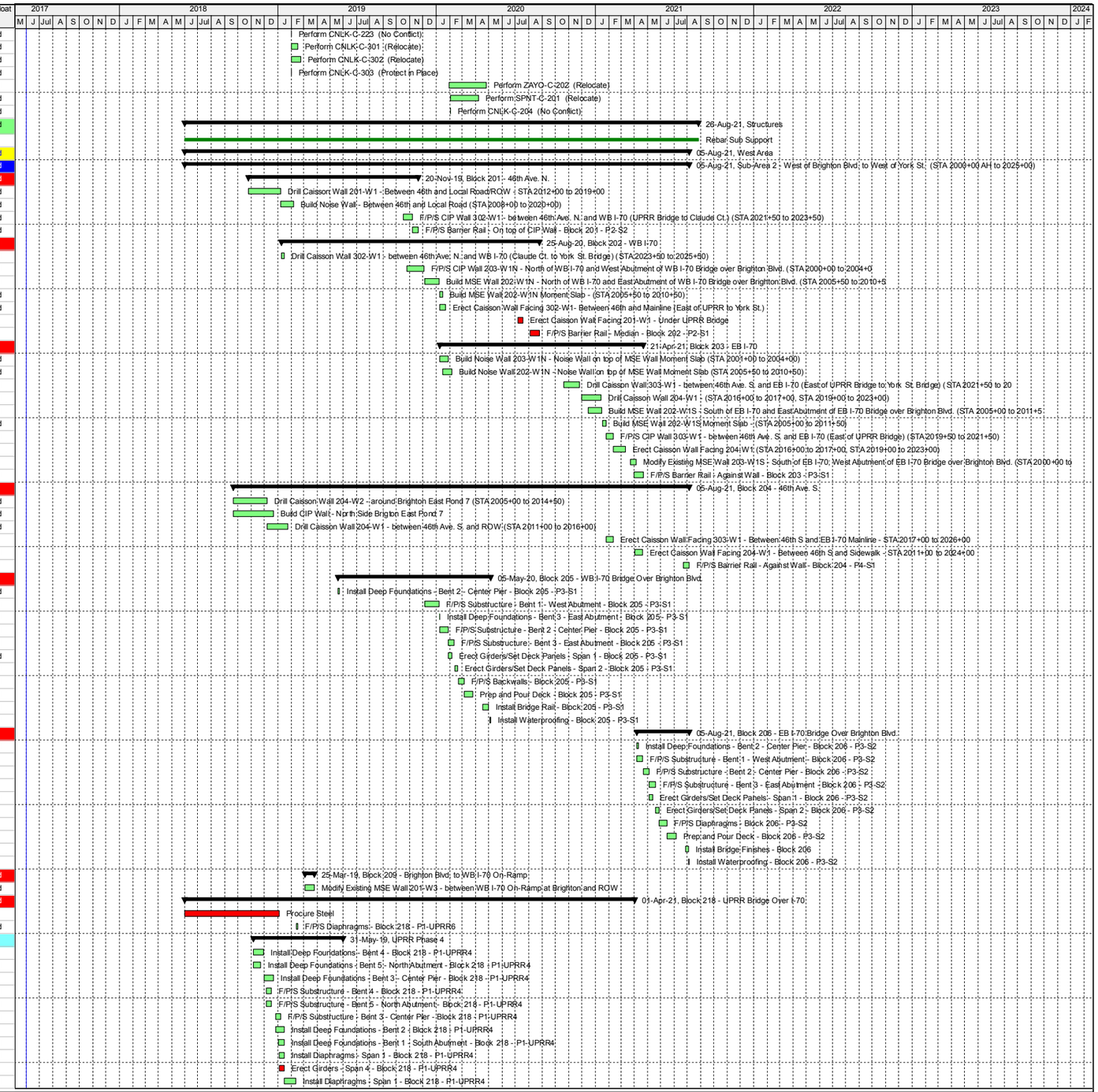
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UC.XCEL-G-314	Perform XCEL-G-314 (Relocate)	0d	02-Jan-18	02-Jan-18	1055d
UTL.UC.XCEL-G-315	Perform XCEL-G-315 (Relocate)	0d	02-Jan-18	02-Jan-18	1055d
UTL.UC.XCEL-G-316	Perform XCEL-G-316 (Relocate)	0d	02-Jan-18	02-Jan-18	1055d
UTL.UC.XCEL-G-317	Perform XCEL-G-317 (Relocate)	0d	02-Jan-18	02-Jan-18	1055d
UTL.UC.XCEL-G-601	Perform XCEL-G-601 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-602	Perform XCEL-G-602 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.XCEL-G-603	Perform XCEL-G-603 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.ZAYO-C-101	Perform ZAYO-C-101 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.ZAYO-C-402D	Perform ZAYO-C-402 (Relocate - CCD in Zayo Joint Trench)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.ATT-C-203	Perform ATT-C-203 (Protect in Place)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.ATT-C-601	Perform ATT-C-601 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.COMC-C-202	Perform COMC-C-202 (No Conflict)	0d	02-Jan-18	02-Jan-18	982d
UTL.UC.COMC-C-207	Perform COMC-C-207 (Abandon)	10d	09-Jan-18	23-Jan-18	248d
UTL.UC.XCEL-E-222	Perform XCEL-E-222 (Abandon)	0d	09-Jan-18	09-Jan-18	977d
UTL.UC.COMC-C-204	Perform COMC-C-204 (Abandon)	0d	09-Jan-18	09-Jan-18	217d
UTL.UC.XCEL-E-202	Perform XCEL-E-202 (Abandon)	5d	29-Jan-18	05-Feb-18	588d
UTL.UC.XCEL-G-308	Perform XCEL-G-308 (Protect in Place)	15d	29-Jan-18	20-Feb-18	950d
UTL.UC.CNLK-C-202A	Perform CNLK-C-202A (Abandon)	30d	01-Feb-18	16-Mar-18	308d
UTL.UC.CNLK-C-102	Perform CNLK-C-102 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-207	Perform CNLK-C-207 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-214	Perform CNLK-C-214 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-215	Perform CNLK-C-215 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-216	Perform CNLK-C-216 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-217	Perform CNLK-C-217 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-219	Perform CNLK-C-219 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-220	Perform CNLK-C-220 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-401	Perform CNLK-C-401 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-402	Perform CNLK-C-402 (Protect in Place)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-601	Perform CNLK-C-601 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-602	Perform CNLK-C-602 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-603	Perform CNLK-C-603 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-604	Perform CNLK-C-604 (No Conflict)	0d	01-Feb-18	01-Feb-18	750d
UTL.UC.CNLK-C-220.1	Perform CNLK-C-220.1 (Abandon)	10d	01-Feb-18	16-Feb-18	605d
UTL.UC.COMC-C-303	Perform COMC-C-303 (Relocate)	20d	09-Feb-18	08-Mar-18	798d
UTL.UC.XCEL-E-230	Perform XCEL-E-230 (Abandon)	30d	09-Feb-18	23-Mar-18	235d
UTL.UC.XCEL-E-304	Perform XCEL-E-304 (Relocate)	15d	09-Feb-18	01-Mar-18	586d
UTL.UC.XCEL-E-305	Perform XCEL-E-305 (Relocate)	15d	09-Feb-18	01-Mar-18	586d
UTL.UC.XCEL-E-308	Perform XCEL-E-308 (Relocate)	15d	09-Feb-18	01-Mar-18	524d
UTL.UC.XCEL-E-403	Perform XCEL-E-403 (Relocate)	15d	09-Feb-18	01-Mar-18	541d
UTL.UC.XCEL-G-207A	Perform XCEL-G-207A (Relocate)	15d	09-Feb-18	01-Mar-18	715d
UTL.UC.Level3-C-202	Perform Level 3-C-202 (Relocate)	30d	13-Feb-18	28-Mar-18	324d
UTL.UC.XCEL-G-228	Perform XCEL-G-228 (Protect in Place)	300d	13-Feb-18	21-May-19	656d
UTL.UC.XCEL-G-311	Perform XCEL-G-311 (Relocate)	0d	13-Feb-18	13-Feb-18	1029d
UTL.UC.XCEL-E-307	Perform XCEL-E-307 (Relocate)	15d	28-Feb-18	20-Mar-18	366d
UTL.UC.CNLK-C-209	Perform CNLK-C-209 (Abandon)	15d	28-Feb-18	20-Mar-18	163d
UTL.UC.CNLK-C-213	Perform CNLK-C-213 (Abandon)	15d	28-Feb-18	20-Mar-18	148d
UTL.UC.CNLK-C-305	Perform CNLK-C-305 (Relocate)	0d	28-Feb-18	28-Feb-18	313d
UTL.UC.CNLK-C-306	Perform CNLK-C-306 (Relocate)	0d	28-Feb-18	28-Feb-18	420d
UTL.UC.XCEL-G-229	Perform XCEL-G-229 (Abandoned Line)	300d	05-Mar-18	13-Jun-19	642d
UTL.UC.XCEL-G-301	Perform XCEL-G-301 (Relocate)	30d	05-Mar-18	19-Apr-18	404d
UTL.UC.XCEL-GT-230	Perform XCEL-GT-230 (Protect in Place, Extend Casing if necessary)	30d	05-Mar-18	19-Apr-18	912d
UTL.UC.XCEL-E-309	Perform XCEL-E-309 (Relocate)	15d	15-Mar-18	06-Apr-18	411d
UTL.UC.ATT-C-202	Perform ATT-C-202 (Relocate)	60d	15-Mar-18	15-Jun-18	330d
UTL.UC.CNLK-C-304	Perform CNLK-C-304 (Relocate)	30d	15-Mar-18	01-May-18	302d
UTL.UC.CNLK-C-201	Splice and Tie-In CNLK-C-201 (Relocate)	270d	28-Mar-18	22-Dec-18	47d
UTL.UC.XCEL-G-221	Perform XCEL-G-221 (Relocate)	60d	30-Mar-18	28-Jun-18	492d
UTL.UC.COMC-C-206	Perform COMC-C-206 (Abandon)	10d	01-Jun-18	15-Jun-18	150d
UTL.UC.COMC-C-215	Perform COMC-C-215 (Abandon)	10d	01-Jun-18	15-Jun-18	690d
UTL.UC.COMC-C-301	Perform COMC-C-301 (Relocate)	0d	01-Jun-18	01-Jun-18	393d
UTL.UC.Level3-C-401	Perform Level 3-C-401 (Protect in Place)	0d	01-Jun-18	01-Jun-18	672d
UTL.UC.Level3-C-402	Perform Level 3-C-402 (Protect in Place)	0d	01-Jun-18	01-Jun-18	672d
UTL.UC.Level3-C-403	Perform Level 3-C-403 (Protect in Place)	0d	01-Jun-18	01-Jun-18	672d
UTL.UC.XCEL-E-201	Perform XCEL-E-201 (Relocate)	15d	01-Jun-18	22-Jun-18	332d
UTL.UC.XCEL-E-204	Perform XCEL-E-204 (Abandon)	30d	01-Jun-18	16-Jul-18	466d
UTL.UC.XCEL-E-221	Perform XCEL-E-221 (Abandon)	5d	01-Jun-18	08-Jun-18	695d
UTL.UC.XCEL-E-229	Perform XCEL-E-229 (Relocate)	5d	01-Jun-18	08-Jun-18	186d
UTL.UC.XCEL-E-232	Perform XCEL-E-232 (Relocate)	15d	01-Jun-18	22-Jun-18	109d
UTL.UC.XCEL-E-233	Perform XCEL-E-233 (Relocate)	15d	01-Jun-18	22-Jun-18	402d
UTL.UC.XCEL-E-401	Perform XCEL-E-401 (Relocate)	15d	01-Jun-18	22-Jun-18	729d
UTL.UC.XCEL-E-402	Perform XCEL-E-402 (Relocate)	0d	01-Jun-18	01-Jun-18	744d
UTL.UC.XCEL-E-404	Perform XCEL-E-404 (Protect in Place)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.XCEL-E-405	Perform XCEL-E-405 (Protect in Place)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.XCEL-E-406	Perform XCEL-E-406 (No Conflict)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.XCEL-E-407	Perform XCEL-E-407 (Protect in Place)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.XCEL-E-409	Perform XCEL-E-409 (No Conflict)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.XCEL-E-410	Perform XCEL-E-410 (Protect in Place)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.XCEL-E-411	Perform XCEL-E-411 (No Conflict)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.XCEL-E-501	Perform XCEL-E-501 (No Conflict)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.XCEL-G-102	Perform XCEL-G-102 (Relocate)	15d	01-Jun-18	22-Jun-18	332d
UTL.UC.XCEL-G-206	Perform XCEL-G-206 (Cut, Cap, & Abandon)	30d	01-Jun-18	16-Jul-18	671d
UTL.UC.XCEL-G-224	Perform XCEL-G-224 (Relocate)	30d	01-Jun-18	16-Jul-18	161d
UTL.UC.XCEL-G-226	Perform XCEL-G-226 (Cut, Cap & Abandon)	30d	01-Jun-18	16-Jul-18	161d

Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UC.XCEL-GT-101	Perform XCEL-GT-101 (Relocate)	60d	01-Jun-18	29-Aug-18	287d
UTL.UC.XCEL-GT-401	Perform XCEL-GT-401 (No Conflict)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.ZAYO-C-401D	Perform ZAYO-C-401 (Protect in Place - CCD in Zayo Joint Trench)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.ZAYO-C-402	Perform ZAYO-C-402 (Protect in Place)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.ZAYO-C-403	Perform ZAYO-C-403 (Protect in Place)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.ZAYO-C-501	Perform ZAYO-C-501 (Protect in Place)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.ZAYO-C-501D	Perform ZAYO-C-501 (Protect in Place - CCD in Zayo Joint Trench)	0d	01-Jun-18	01-Jun-18	884d
UTL.UC.ATT-C-201	Perform ATT-C-201 (Relocate)	60d	01-Jun-18	29-Aug-18	287d
UTL.UC.CCD-C-402	Perform CCD-C-402 (Protect in Place)	0d	01-Jun-18	01-Jun-18	1373d
UTL.UC.CNLK-C-101	Perform CNLK-C-101 (No Conflict)	0d	01-Jun-18	01-Jun-18	672d
UTL.UC.CNLK-C-206	Perform CNLK-C-206 (Protect in Place)	0d	01-Jun-18	01-Jun-18	672d
UTL.UC.CNLK-C-218	Perform CNLK-C-218 (Abandon)	15d	01-Jun-18	22-Jun-18	527d
UTL.UC.CNLK-C-221	Perform CNLK-C-221 (No Conflict)	0d	01-Jun-18	01-Jun-18	323d
UTL.UC.SPNT-C-202	Perform SPNT-C-202 (Relocate)	60d	13-Jun-18	10-Sep-18	215d
UTL.UC.CCD-C-101	Perform CCD-C-101 (Relocate)	30d	13-Jun-18	12-Jul-18	153d
UTL.UC.CCD-C-201	Perform CCD-C-201 (Relocate)	30d	13-Jun-18	12-Jul-18	483d
UTL.UC.CCD-C-202	Perform CCD-C-202 (Relocate)	30d	13-Jun-18	12-Jul-18	568d
UTL.UC.CCD-C-301	Perform CCD-C-301 (Relocate)	30d	13-Jun-18	12-Jul-18	257d
UTL.UC.CCD-C-401	Perform CCD-C-401 (Relocate)	30d	13-Jun-18	12-Jul-18	874d
UTL.UC.CCD-C-403	Perform CCD-C-403 (Relocate)	30d	13-Jun-18	12-Jul-18	826d
UTL.UC.ZAYO-C-203	Perform ZAYO-C-203 (Relocate)	0d	27-Jun-18	27-Jun-18	412d
UTL.UC.ZAYO-C-601	Perform ZAYO-C-601 (Protect in Place)	0d	27-Jun-18	27-Jun-18	867d
UTL.UC.COMC-C-208	Perform COMC-C-208 (Abandon)	10d	31-Aug-18	14-Sep-18	58d
UTL.UC.COMC-C-209	Perform COMC-C-209 (No Conflict)	0d	31-Aug-18	31-Aug-18	823d
UTL.UC.COMC-C-210	Perform COMC-C-210 (Relocate)	30d	31-Aug-18	12-Oct-18	21d
UTL.UC.COMC-C-216	Perform COMC-C-216 (Abandon)	10d	31-Aug-18	14-Sep-18	71d
UTL.UC.Level3-C-201	Perform Level 3-C-201 (Relocate)	60d	31-Aug-18	28-Feb-19	180d
UTL.UC.MCI-C-201	Perform MCI-C-201 (Relocate)	60d	31-Aug-18	28-Feb-19	180d
UTL.UC.XCEL-E-104	Perform XCEL-E-104 (Relocate)	15d	31-Aug-18	21-Sep-18	271d
UTL.UC.XCEL-E-105	Perform XCEL-E-105 (Relocate)	15d	31-Aug-18	21-Sep-18	271d
UTL.UC.XCEL-E-205	Perform XCEL-E-205 (Abandon)	5d	31-Aug-18	07-Sep-18	63d
UTL.UC.XCEL-E-207	Perform XCEL-E-207 (Relocate)	5d	31-Aug-18	07-Sep-18	341d
UTL.UC.XCEL-E-208	Perform XCEL-E-208 (Relocate)	5d	31-Aug-18	07-Sep-18	94d
UTL.UC.XCEL-E-209	Perform XCEL-E-209 (Relocate)	5d	31-Aug-18	07-Sep-18	705d
UTL.UC.XCEL-E-210	Perform XCEL-E-210 (Relocate)	5d	31-Aug-18	07-Sep-18	94d
UTL.UC.XCEL-E-212	Perform XCEL-E-212 (Abandon)	5d	31-Aug-18	07-Sep-18	76d
UTL.UC.XCEL-E-214	Perform XCEL-E-214 (Relocate)	60d	31-Aug-18	29-Nov-18	21d
UTL.UC.XCEL-E-215	Perform XCEL-E-215 (Relocate)	5d	31-Aug-18	07-Sep-18	482d
UTL.UC.XCEL-E-217	Perform XCEL-E-217 (Abandon)	5d	31-Aug-18	07-Sep-18	76d
UTL.UC.XCEL-E-220	Perform XCEL-E-220 (Abandon)	5d	31-Aug-18	07-Sep-18	208d
UTL.UC.XCEL-E-228	Perform XCEL-E-228 (Abandon)	5d	31-Aug-18	07-Sep-18	140d
UTL.UC.XCEL-E-236	Perform XCEL-E-236 (Relocate)	15d	31-Aug-18	21-Sep-18	66d
UTL.UC.XCEL-ET-206	Perform XCEL-ET-206 (Relocate)	40d	31-Aug-18	30-Oct-18	306d
UTL.UC.XCEL-ET-211	Perform XCEL-ET-211 (Relocate)	40d	31-Aug-18	30-Oct-18	278d
UTL.UC.XCEL-ET-225	Perform XCEL-ET-225 (Relocate)	40d	31-Aug-18	30-Oct-18	278d
UTL.UC.XCEL-G-202	Perform XCEL-G-202 (Cut, Cap & Abandon)	15d	31-Aug-18	21-Sep-18	331d
UTL.UC.XCEL-G-203	Perform XCEL-G-203 (Cut, Cap & Abandon)	15d	31-Aug-18	21-Sep-18	53d
UTL.UC.XCEL-G-204	Perform XCEL-G-204 (Cut, Cap & Abandon)	15d	31-Aug-18	21-Sep-18	695d
UTL.UC.XCEL-G-206A	Perform XCEL-G-206A (Cut, Cap & Abandon)	15d	31-Aug-18	21-Sep-18	66d
UTL.UC.XCEL-G-208	Perform XCEL-G-208 (Relocate)	15d	31-Aug-18	21-Sep-18	66d
UTL.UC.XCEL-G-215	Perform XCEL-G-215 (Cut, Cap & Abandon)	15d	31-Aug-18	21-Sep-18	198d
UTL.UC.XCEL-G-217	Perform XCEL-G-217 (Cut, Cap, & Abandon)	15d	31-Aug-18	21-Sep-18	223d
UTL.UC.XCEL-G-223	Perform XCEL-G-223 (Cut, Cap & Abandon)	30d	31-Aug-18	12-Oct-18	51d
UTL.UC.XCEL-GT-207	Perform XCEL-GT-207 (Abandon & Remove)	0d	31-Aug-18	31-Aug-18	279d
UTL.UC.ZAYO-C-201	Perform ZAYO-C-201 (Relocate)	12d	31-Aug-18	18-Sep-18	69d
UTL.UC.CNLK-C-203	Perform CNLK-C-203 (Relocate)	180d	31-Aug-18	30-Aug-19	78d
UTL.UC.CNLK-C-208	Perform CNLK-C-208 (Abandon)	15d	31-Aug-18	21-Sep-18	537d
UTL.UC.CNLK-C-210	Perform CNLK-C-210 (Abandon)	15d	31-Aug-18	21-Sep-18	26d
UTL.UC.CNLK-C-211	Perform CNLK-C-211 (Abandon)	15d	31-Aug-18	21-Sep-18	537d
UTL.UC.CNLK-C-212	Perform CNLK-C-212 (Abandon)	15d	31-Aug-18	21-Sep-18	41d
UTL.UC.COMC-C-203	Perform COMC-C-203 (No Conflict)	0d	31-Aug-18	31-Aug-18	823d
UTL.UC.COMC-C-205	Perform COMC-C-205 (Abandon)	0d	31-Aug-18	31-Aug-18	341d
UTL.UC.COMC-C-218	Perform COMC-C-218 (Relocate)	10d	30-Jan-19	13-Feb-19	640d
UTL.UC.NuStar-O-301	Perform NuStar-O-301 (Protect in Place)	0d	30-Jan-19	30-Jan-19	731d
UTL.UC.XCEL-E-226	Perform XCEL-E-226 (Abandon)	10d	30-Jan-19	13-Feb-19	533d
UTL.UC.XCEL-E-235	Perform XCEL-E-235 (Relocate)	15d	30-Jan-19	20-Feb-19	359d
UTL.UC.XCEL-E-306	Perform XCEL-E-306 (Relocate)	30d	30-Jan-19	13-Mar-19	248d
UTL.UC.XCEL-G-218	Perform XCEL-G-218 (Relocate)	0d	30-Jan-19	30-Jan-19	647d
UTL.UC.XCEL-G-304	Perform XCEL-G-304 (Relocate)	30d	30-Jan-19	13-Mar-19	252d
UTL.UC.XCEL-GT-220	Perform XCEL-GT-220 (Abandon & Remove)	0d	30-Jan-19	30-Jan-19	187d
UTL.UC.ZAYO-C-204	Perform ZAYO-C-204 (Relocate)	60d	30-Jan-19	30-Apr-19	298d
UTL.UC.ZAYO-C-301	Perform ZAYO-C-301 (Relocate)	60d	30-Jan-19	30-Apr-19	252d
UTL.UC.ZAYO-C-302	Perform ZAYO-C-302 (Relocate)	0d	30-Jan-19	30-Jan-19	731d
UTL.UC.ZAYO-C-303	Perform ZAYO-C-303 (Protect in Place)	0d	30-Jan-19	30-Jan-19	731d
UTL.UC.ZAYO-C-401	Perform ZAYO-C-401 (Protect in Place)	0d	30-Jan-19	30-Jan-19	731d
UTL.UC.CCD-C-302	Perform CCD-C-302 (Relocate)	30d	30-Jan-19	28-Feb-19	399d
UTL.UC.CCD-C-303	Perform CCD-C-303 (Relocate)	30d	30-Jan-19	28-Feb-19	448d
UTL.UC.COMC-C-201	Perform COMC-C-201 (Relocate)	10d	30-Jan-19	13-Feb-19	640d
UTL.UC.CNLK-C-103	Perform CNLK-C-103 (Relocate)	15d	01-Feb-19	22-Feb-19	528d
UTL.UC.CNLK-C-202	Perform CNLK-C-202 (Relocate)	15d	01-Feb-19	22-Feb-19	526d
UTL.UC.CNLK-C-205	Perform CNLK-C-205 (Relocate)	15d	01-Feb-19	22-Feb-19	21d
UTL.UC.CNLK-C-222	Perform CNLK-C-222 (No Conflict)	0d	01-Feb-19	01-Feb-19	303d

Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
UTL.UC.CNLK-C-223	Perform CNLK-C-223 (No Conflict)	0d	01-Feb-19	01-Feb-19	493d
UTL.UC.CNLK-C-301	Perform CNLK-C-301 (Relocate)	10d	01-Feb-19	15-Feb-19	170d
UTL.UC.CNLK-C-302	Perform CNLK-C-302 (Relocate)	15d	01-Feb-19	22-Feb-19	208d
UTL.UC.CNLK-C-303	Perform CNLK-C-303 (Protect in Place)	0d	01-Feb-19	01-Feb-19	570d
UTL.UC.ZAYO-C-202	Perform ZAYO-C-202 (Relocate)	60d	31-Jan-20	24-Apr-20	84d
UTL.UC.SPNT-C-201	Perform SPNT-C-201 (Relocate)	45d	03-Feb-20	06-Apr-20	345d
UTL.UC.CNLK-C-204	Perform CNLK-C-204 (No Conflict)	0d	03-Feb-20	03-Feb-20	390d
Structures		766d	01-Jun-18	26-Aug-21	161d
CON.STR.JW.005	Rebar Sub Support	766d	01-Jun-18	26-Aug-21	0d
West Area		751d	01-Jun-18	05-Aug-21	133d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		751d	01-Jun-18	05-Aug-21	128d
Block 201 - 46th Ave. N.		252d	25-Oct-18	20-Nov-19	530d
CON.STR.201.120	Drill Caisson Wall 201-W1 - Between 46th and Local Road/ROW - STA 2012+00 to 2019+00	42d	25-Oct-18	07-Jan-19	175d
CON.STR.201.135	Build Noise Wall - Between 46th and Local Road (STA 2008+00 to 2020+00)	20d	08-Jan-19	06-Feb-19	720d
CON.STR.201.130	F/P/S CIP Wall 302-W1 - between 46th Ave. N. and WB I-70 (UPRR Bridge to Claude Ct.) (STA 2021+50 to 2023+50)	15d	16-Oct-19	06-Nov-19	471d
CON.STR.201.115	F/P/S Barrier Rail - On top of CIP Wall - Block 201 - P2-S2	10d	07-Nov-19	20-Nov-19	530d
Block 202 - WB I-70		387d	09-Jan-19	25-Aug-20	11d
CON.STR.201.125	Drill Caisson Wall 302-W1 - between 46th Ave. N. and WB I-70 (Claude Ct. to York St. Bridge) (STA 2023+50 to 2025+50)	5d	09-Jan-19	15-Jan-19	13d
CON.STR.202.105	F/P/S CIP Wall 203-W1N - North of WB I-70 and West Abutment of WB I-70 Bridge over Brighton Blvd. (STA 2000+00 to 2	25d	25-Oct-19	03-Dec-19	83d
CON.STR.202.110	Build MSE Wall 202-W1N - North of WB I-70 and East Abutment of WB I-70 Bridge over Brighton Blvd. (STA 2005+50 to 2	15d	05-Dec-19	07-Jan-20	96d
CON.STR.202.115	Build MSE Wall 202-W1N Moment Slab - (STA 2005+50 to 2010+50)	6d	08-Jan-20	15-Jan-20	147d
CON.STR.202.100	Erect Caisson Wall Facing 302-W1- Between 46th and Mainline (East of UPRR to York St.)	10d	08-Jan-20	21-Jan-20	158d
CON.STR.202.095	Erect Caisson Wall Facing 201-W1 - Under UPRR Bridge	10d	06-Jul-20	17-Jul-20	1d
CON.STR.202.090	F/P/S Barrier Rail - Median - Block 202 - P2-S1	15d	04-Aug-20	25-Aug-20	1d
Block 203 - EB I-70		309d	08-Jan-20	21-Apr-21	74d
CON.STR.202.125	Build Noise Wall 203-W1N - Noise Wall on top of MSE Wall Moment Slab (STA 2001+00 to 2004+00)	15d	08-Jan-20	28-Jan-20	153d
CON.STR.202.120	Build Noise Wall 202-W1N - Noise Wall on top of MSE Wall Moment Slab (STA 2005+50 to 2010+50)	15d	16-Jan-20	05-Feb-20	147d
CON.STR.203.100	Drill Caisson Wall 303-W1 - between 46th Ave. S. and EB I-70 (East of UPRR Bridge to York St. Bridge) (STA 2021+50 to 2	25d	21-Oct-20	25-Nov-20	22d
CON.STR.203.090	Drill Caisson Wall 204-W1 - (STA 2016+00 to 2017+00, STA 2019+00 to 2023+00)	25d	30-Nov-20	14-Jan-21	22d
CON.STR.203.115	Build MSE Wall 202-W1S - South of EB I-70 and East Abutment of EB I-70 Bridge over Brighton Blvd. (STA 2005+00 to 20	15d	16-Dec-20	15-Jan-21	46d
CON.STR.203.120	Build MSE Wall 202-W1S Moment Slab - (STA 2005+00 to 2011+50)	6d	18-Jan-21	26-Jan-21	107d
CON.STR.203.110	F/P/S CIP Wall 303-W1 - between 46th Ave. S. and EB I-70 (East of UPRR Bridge) (STA 2019+50 to 2021+50)	10d	26-Jan-21	10-Feb-21	31d
CON.STR.203.095	Erect Caisson Wall Facing 204-W1 (STA 2016+00 to 2017+00, STA 2019+00 to 2023+00)	20d	11-Feb-21	10-Mar-21	6d
CON.STR.203.125	Modify Existing MSE Wall 203-W1S - South of EB I-70; West Abutment of EB I-70 Bridge over Brighton Blvd. (STA 2000+0	10d	23-Mar-21	05-Apr-21	8d
CON.STR.203.085	F/P/S Barrier Rail - Against Wall - Block 203 - P3-S1	15d	31-Mar-21	21-Apr-21	74d
Block 204 - 46th Ave. S.		676d	21-Sep-18	05-Aug-21	6d
CON.STR.204.115	Drill Caisson Wall 204-W2 - around Brighton East Pond 7 (STA 2005+00 to 2014+50)	50d	21-Sep-18	06-Dec-18	437d
CON.STR.204.130	Build CIP Wall - North Side Brigton East Pond 7	60d	21-Sep-18	21-Dec-18	437d
CON.STR.204.110	Drill Caisson Wall 204-W1 - between 46th Ave. S. and ROW (STA 2011+00 to 2016+00)	25d	07-Dec-18	23-Jan-19	511d
CON.STR.203.105	Erect Caisson Wall Facing 303-W1 - Between 46th S and EB I-70 Mainline - STA 2017+00 to 2026+00	10d	26-Jan-21	10-Feb-21	6d
CON.STR.204.120	Erect Caisson Wall Facing 204-W1 - Between 46th S and Sidewalk - STA 2011+00 to 2024+00	13d	01-Apr-21	20-Apr-21	49d
CON.STR.204.105	F/P/S Barrier Rail - Against Wall - Block 204 - P4-S1	10d	23-Jul-21	05-Aug-21	6d
Block 205 - WB I-70 Bridge Over Brighton Blvd.		228d	20-May-19	05-May-20	82d
CON.STR.205.065	Install Deep Foundations - Bent 2 - Center Pier - Block 205 - P3-S1	4d	20-May-19	23-May-19	128d
CON.STR.205.085	F/P/S Substructure - Bent 1 - West Abutment - Block 205 - P3-S1	15d	05-Dec-19	07-Jan-20	83d
CON.STR.205.070	Install Deep Foundations - Bent 3 - East Abutment - Block 205 - P3-S1	2d	08-Jan-20	09-Jan-20	96d
CON.STR.205.080	F/P/S Substructure - Bent 2 - Center Pier - Block 205 - P3-S1	15d	08-Jan-20	28-Jan-20	83d
CON.STR.205.075	F/P/S Substructure - Bent 3 - East Abutment - Block 205 - P3-S1	10d	29-Jan-20	11-Feb-20	83d
CON.STR.205.055	Erect Girders/Set Deck Panels - Span 1 - Block 205 - P3-S1	6d	29-Jan-20	05-Feb-20	103d
CON.STR.205.060	Erect Girders/Set Deck Panels - Span 2 - Block 205 - P3-S1	6d	12-Feb-20	19-Feb-20	83d
CON.STR.205.045	F/P/S Backwalls - Block 205 - P3-S1	10d	20-Feb-20	04-Mar-20	83d
CON.STR.205.040	Prep and Pour Deck - Block 205 - P3-S1	15d	05-Mar-20	25-Mar-20	83d
CON.STR.205.035	Install Bridge Rail - Block 205 - P3-S1	10d	17-Apr-20	30-Apr-20	83d
CON.STR.205.090	Install Waterproofing - Block 205 - P3-S1	2d	04-May-20	05-May-20	80d
Block 206 - EB I-70 Bridge Over Brighton Blvd.		83d	06-Apr-21	05-Aug-21	8d
CON.STR.206.065	Install Deep Foundations - Bent 2 - Center Pier - Block 206 - P3-S2	4d	06-Apr-21	09-Apr-21	14d
CON.STR.206.075	F/P/S Substructure - Bent 1 - West Abutment - Block 206 - P3-S2	10d	06-Apr-21	20-Apr-21	8d
CON.STR.206.070	F/P/S Substructure - Bent 2 - Center Pier - Block 206 - P3-S2	10d	21-Apr-21	04-May-21	8d
CON.STR.206.080	F/P/S Substructure - Bent 3 - East Abutment - Block 206 - P3-S2	10d	05-May-21	19-May-21	8d
CON.STR.206.055	Erect Girders/Set Deck Panels - Span 1 - Block 206 - P3-S2	6d	05-May-21	12-May-21	28d
CON.STR.206.060	Erect Girders/Set Deck Panels - Span 2 - Block 206 - P3-S2	6d	20-May-21	27-May-21	8d
CON.STR.206.045	F/P/S Diaphragms - Block 206 - P3-S2	10d	28-May-21	14-Jun-21	8d
CON.STR.206.040	Prep and Pour Deck - Block 206 - P3-S2	15d	15-Jun-21	06-Jul-21	8d
CON.STR.206.035	Install Bridge Finishes - Block 206	5d	28-Jul-21	03-Aug-21	8d
CON.STR.206.085	Install Waterproofing - Block 206 - P3-S2	2d	04-Aug-21	05-Aug-21	8d
Block 209 - Brighton Blvd. to WB I-70 On-Ramp		15d	04-Mar-19	25-Mar-19	198d
CON.STR.209.055	Modify Existing MSE Wall 201-W3 - between WB I-70 On-Ramp at Brighton and ROW	15d	04-Mar-19	25-Mar-19	198d
Block 218 - UPRR Bridge Over I-70		666d	01-Jun-18	01-Apr-21	213d
CON.STR.218.140	Procure Steel	217d	01-Jun-18	03-Jan-19	4d
CON.STR.218.190	F/P/S Diaphragms - Block 218 - P1-UPRR6	3d	13-Feb-19	15-Feb-19	646d
UPRR Phase 4		159d	06-Nov-18	31-May-19	3d
CON.STR.218.320	Install Deep Foundations - Bent 4 - Block 218 - P1-UPRR4	18d	06-Nov-18	29-Nov-18	9d
CON.STR.218.330	Install Deep Foundations - Bent 5 - North Abutment - Block 218 - P1-UPRR4	13d	06-Nov-18	21-Nov-18	23d
CON.STR.218.310	Install Deep Foundations - Bent 3 - Center Pier - Block 218 - P1-UPRR4	18d	30-Nov-18	22-Dec-18	9d
CON.STR.218.425	F/P/S Substructure - Bent 4 - Block 218 - P1-UPRR4	10d	06-Dec-18	17-Dec-18	14d
CON.STR.218.415	F/P/S Substructure - Bent 5 - North Abutment - Block 218 - P1-UPRR4	10d	06-Dec-18	17-Dec-18	14d
CON.STR.218.375	F/P/S Substructure - Bent 3 - Center Pier - Block 218 - P1-UPRR4	10d	26-Dec-18	07-Jan-19	10d
CON.STR.218.300	Install Deep Foundations - Bent 2 - Block 218 - P1-UPRR4	18d	26-Dec-18	16-Jan-19	9d
CON.STR.218.365	Install Deep Foundations - Bent 1 - South Abutment - Block 218 - P1-UPRR4	13d	02-Jan-19	16-Jan-19	30d
CON.STR.218.225	Install Diaphragms - Span 1 - Block 218 - P1-UPRR4	10d	04-Jan-19	15-Jan-19	51d
CON.STR.218.285	Erect Girders - Span 4 - Block 218 - P1-UPRR4	10d	04-Jan-19	15-Jan-19	3d
CON.STR.218.215	Install Diaphragms - Span 1 - Block 218 - P1-UPRR4	19d	16-Jan-19	11-Feb-19	32d



Remaining Work | Remaining Level of Effort | Summary
Critical Remaining Work | Milestone

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.218.270	Erect Girders - Span 3 - Block 218 - P1-UPRR4	19d	16-Jan-19	11-Feb-19	3d
CON.STR.218.410	F/P/S Substructure - Bent 1 - West Abutment - Block 218 - P1-UPRR4	10d	17-Jan-19	31-Jan-19	30d
CON.STR.218.380	F/P/S Substructure - Bent 2 - Block 218 - P1-UPRR4	12d	17-Jan-19	02-Feb-19	9d
CON.STR.218.205	Install Diaphragms - Span 1 - Block 218 - P1-UPRR4	19d	12-Feb-19	06-Mar-19	13d
CON.STR.218.255	Erect Girders - Span 2 - Block 218 - P1-UPRR4	19d	12-Feb-19	06-Mar-19	3d
CON.STR.218.195	Install Diaphragms - Span 1 - Block 218 - P1-UPRR4	10d	07-Mar-19	18-Mar-19	3d
CON.STR.218.240	Erect Girders - Span 1 - Block 218 - P1-UPRR4	10d	07-Mar-19	18-Mar-19	3d
CON.STR.218.185	Prep and Pour Deck - Block 218 - P1-UPRR4	35d	19-Mar-19	03-May-19	3d
CON.STR.218.150	Install Bridge Finishes - Block 218	23d	04-May-19	31-May-19	3d
UPRR Phase 5		108d	16-Oct-19	09-Mar-20	2d
CON.STR.218.370	Install Deep Foundations - Bent 1 - South Abutment - Block 218 - P1-UPRR5	8d	16-Oct-19	25-Oct-19	2d
CON.STR.218.440	F/P/S Substructure - Bent 1 - West Abutment - Block 218 - P1-UPRR5	11d	26-Oct-19	07-Nov-19	2d
CON.STR.218.305	Install Deep Foundations - Bent 2 - Block 218 - P1-UPRR5	10d	26-Oct-19	06-Nov-19	3d
CON.STR.218.315	Install Deep Foundations - Bent 3 - Center Pier - Block 218 - P1-UPRR5	10d	07-Nov-19	19-Nov-19	3d
CON.STR.218.445	F/P/S Substructure - Bent 2 - Block 218 - P1-UPRR5	10d	08-Nov-19	20-Nov-19	2d
CON.STR.218.325	Install Deep Foundations - Bent 4 - Block 218 - P1-UPRR5	10d	20-Nov-19	05-Dec-19	6d
CON.STR.218.200	Install Diaphragms - Span 1 - Block 218 - P1-UPRR5	5d	21-Nov-19	27-Nov-19	37d
CON.STR.218.395	F/P/S Substructure - Bent 3 - Center Pier - Block 218 - P1-UPRR5	13d	21-Nov-19	10-Dec-19	2d
CON.STR.218.245	Erect Girders - Span 1 - Block 218 - P1-UPRR5	5d	21-Nov-19	27-Nov-19	37d
CON.STR.218.335	Install Deep Foundations - Bent 5 - North Abutment - Block 218 - P1-UPRR5	10d	06-Dec-19	17-Dec-19	8d
CON.STR.218.210	Install Diaphragms - Span 1 - Block 218 - P1-UPRR5	10d	11-Dec-19	23-Dec-19	19d
CON.STR.218.405	F/P/S Substructure - Bent 4 - Block 218 - P1-UPRR5	12d	11-Dec-19	03-Jan-20	2d
CON.STR.218.260	Erect Girders - Span 2 - Block 218 - P1-UPRR5	10d	11-Dec-19	23-Dec-19	19d
CON.STR.218.220	Install Diaphragms - Span 1 - Block 218 - P1-UPRR5	10d	04-Jan-20	15-Jan-20	7d
CON.STR.218.435	F/P/S Substructure - Bent 5 - North Abutment - Block 218 - P1-UPRR5	10d	04-Jan-20	15-Jan-20	2d
CON.STR.218.275	Erect Girders - Span 3 - Block 218 - P1-UPRR5	10d	04-Jan-20	15-Jan-20	7d
CON.STR.218.230	Install Diaphragms - Span 1 - Block 218 - P1-UPRR5	5d	16-Jan-20	22-Jan-20	2d
CON.STR.218.290	Erect Girders - Span 4 - Block 218 - P1-UPRR5	5d	16-Jan-20	22-Jan-20	2d
CON.STR.218.170	Prep and Pour Deck - Block 218 - P1-UPRR5	21d	23-Jan-20	15-Feb-20	2d
CON.STR.218.155	Install Bridge Finishes - Block 218	18d	18-Feb-20	09-Mar-20	2d
UPRR Phase 6 - Service Road Bridge		531d	02-Jan-19	01-Apr-21	213d
CON.STR.218.355	Install Deep Foundations - Bent 3 - Center Pier - Block 218 - P1-UPRR6	2d	02-Jan-19	03-Jan-19	656d
CON.STR.218.385	F/P/S Substructure - Bent 3 - Center Pier - Block 218 - P1-UPRR6	10d	04-Jan-19	17-Jan-19	660d
CON.STR.218.360	Install Deep Foundations - Bent 4 - Block 218 - P1-UPRR6	2d	04-Jan-19	07-Jan-19	656d
CON.STR.218.400	F/P/S Substructure - Bent 4 - Block 218 - P1-UPRR6	10d	08-Jan-19	22-Jan-19	658d
CON.STR.218.340	Install Deep Foundations - Bent 5 - North Abutment - Block 218 - P1-UPRR6	2d	08-Jan-19	09-Jan-19	656d
CON.STR.218.430	F/P/S Substructure - Bent 5 - North Abutment - Block 218 - P1-UPRR6	10d	10-Jan-19	24-Jan-19	656d
CON.STR.218.295	Erect Girders - Span 4 - Block 218 - P1-UPRR6	1d	28-Jan-19	28-Jan-19	656d
CON.STR.218.280	Erect Girders - Span 3 - Block 218 - P1-UPRR6	1d	12-Feb-19	12-Feb-19	646d
CON.STR.218.180	Prep and Pour Deck Spans 3 & 4- Block 218 - P1-UPRR6	15d	01-Mar-19	22-Mar-19	530d
CON.STR.218.165	Install Bridge Finishes - Block 218 - Spans 3 & 4	10d	25-Mar-19	08-Apr-19	680d
CON.STR.218.345	Install Deep Foundations - Bent 1 - South Abutment - Block 218 - P1-UPRR6	4d	16-Dec-20	22-Dec-20	186d
CON.STR.218.390	F/P/S Substructure - Bent 1 - West Abutment - Block 218 - P1-UPRR6	10d	23-Dec-20	14-Jan-21	186d
CON.STR.218.350	Install Deep Foundations - Bent 2 - Block 218 - P1-UPRR6	2d	23-Dec-20	04-Jan-21	194d
CON.STR.218.420	F/P/S Substructure - Bent 2 - Block 218 - P1-UPRR6	10d	15-Jan-21	29-Jan-21	186d
CON.STR.218.250	Erect Girders - Span 1 - Block 218 - P1-UPRR6	1d	01-Feb-21	01-Feb-21	186d
CON.STR.218.265	Erect Girders - Span 2 - Block 218 - P1-UPRR6	1d	01-Feb-21	01-Feb-21	186d
CON.STR.218.175	Prep and Pour Deck Spans 1 & 2- Block 218 - P1-UPRR6	15d	01-Mar-21	19-Mar-21	169d
CON.STR.218.160	Install Bridge Finishes - Block 218 - Spans 1 & 2	9d	22-Mar-21	01-Apr-21	213d
Block 219 - Local Road North of 46th Ave		10d	08-Jan-19	22-Jan-19	175d
CON.STR.219.065	Drill Caisson Wall 201-W1 - between 46th Ave. N. and ROW (UPRR Bridge to York St. Bridge) (STA 2021+50 to 2025+50)	10d	08-Jan-19	22-Jan-19	175d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		720d	26-Jun-18	15-Jul-21	148d
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		173d	17-Dec-18	16-Sep-19	580d
CON.STR.301A.065	Drill Caisson Wall 302-W1 - between 46th Ave. N. and WB I-70 (STA 2030+00 to 2031+50) (Josephine to Cover)	4d	17-Dec-18	21-Dec-18	13d
CON.STR.301A.060	Drill Caisson Wall 302-W1 - between 46th Ave. N. and WB I-70 (STA 2027+00 to 2029+00) (York to Josephine)	5d	02-Jan-19	08-Jan-19	13d
CON.STR.301A.070	Drill Caisson Wall 302-W1 - between 46th Ave. N. and WB I-70 (STA 2041+50 to 2044+00) (Cover to Fillmore)	8d	16-Jan-19	29-Jan-19	13d
CON.STR.301A.075	Drill Caisson Wall 302-W1 - between 46th Ave. N. and WB I-70 On-Ramp at Vasquez Blvd. (STA 2044+50 to 2047+50) (Fr	8d	30-Jan-19	11-Feb-19	280d
CON.STR.301A.080	F/P/S CIP Wall 302-W1 - between 46th Ave. N. and WB I-70 On-Ramp at Vasquez Blvd. (STA 2047+50 to 2049+00)	10d	03-Sep-19	16-Sep-19	580d
Block 302A - WB I-70 - York St. to Steele/Vasquez		170d	19-Nov-19	10-Aug-20	13d
CON.STR.302A.125	Erect Caisson Wall Facing 302-W1 - STA 2027+00 to 2029+00	2d	19-Nov-19	20-Nov-19	32d
CON.STR.302A.130	Erect Caisson Wall Facing 302-W1 - STA 2030+00 to 2032+00	2d	21-Nov-19	25-Nov-19	32d
CON.STR.302A.135	Erect Caisson Wall Facing 302-W1 - STA 2032+00 to 2042+00	10d	26-Nov-19	12-Dec-19	32d
CON.STR.302A.120	Erect Caisson Wall Facing - Cover Center Pier	10d	13-Dec-19	08-Jan-20	32d
CON.STR.302A.140	Erect Caisson Wall Facing 302-W1 - STA 2042+00 to 2044+00	2d	09-Jan-20	10-Jan-20	32d
CON.STR.302A.145	Erect Caisson Wall Facing 302-W1- STA 2045+00 to 2049+00	4d	13-Jan-20	16-Jan-20	68d
CON.STR.302A.150	Erect Caisson Wall Facing 302-W2- STA 2045+00 to 2053+00	8d	17-Jan-20	28-Jan-20	68d
CON.STR.302A.100	F/P/S Barrier Rail - Median - Block 302A- P2-S1	26d	07-Feb-20	13-Mar-20	35d
CON.STR.302A.105	F/P/S Barrier Rail - Median - North Side - Block 302A- P2-S1	10d	07-Feb-20	20-Feb-20	13d
CON.STR.302A.110	F/P/S Barrier Rail - Outside Mainline - Block 302A - P2-S1	38d	21-Feb-20	15-Apr-20	13d
CON.STR.302A.115	F/P/S Barrier Rail - Outside Mainline - Block 302A - P2-S2	10d	28-Jul-20	10-Aug-20	13d
Block 302B - WB I-70 - Steele/Vasquez to BNSF		116d	24-Jun-19	17-Dec-19	166d
CON.STR.302B.105	Build Soil Nail Wall 302-W2 - STA 2054+00 to 2059+00	30d	24-Jun-19	07-Aug-19	166d
CON.STR.302B.110	Build Soil Nail Wall 302-W2 - STA 2059+50 to 2064+50	30d	24-Jun-19	07-Aug-19	181d
CON.STR.302B.090	F/P/S Barrier Rail - Median - Block 302B - P2-S1	10d	01-Aug-19	15-Aug-19	191d
CON.STR.302B.115	Build Soil Nail Wall 302-W2 Facing - STA 2054+00 to 2059+00	15d	08-Aug-19	29-Aug-19	166d
CON.STR.302B.120	Build Soil Nail Wall 302-W2 Facing - STA 2059+50 to 2064+50	5d	30-Aug-19	06-Sep-19	166d
CON.STR.302B.095	F/P/S Barrier Rail - Outside Mainline - Block 302B - P2-S1	10d	09-Sep-19	20-Sep-19	166d
CON.STR.302B.100	F/P/S Barrier Rail - Outside Mainline - Block 302B - P2-S2	10d	03-Dec-19	17-Dec-19	166d
Block 303 - EB I-70		118d	12-Nov-20	19-May-21	41d
CON.STR.303.120	Drill Caisson Wall 303-W1 - between 46th Ave. S. and EB I-70 (STA 2027+00 to 2029+00)	5d	12-Nov-20	19-Nov-20	31d
CON.STR.303.125	Drill Caisson Wall 303-W1 - between 46th Ave. S. and EB I-70 (STA 2030+00 to 2031+50)	4d	20-Nov-20	25-Nov-20	31d
CON.STR.303.115	Drill Caisson Wall 303-W1 - between 45th Ave. S. and EB I-70 (STA 2041+50 to 2044+00)	8d	30-Nov-20	10-Dec-20	31d

Remaining Work | Remaining Level of Effort | Summary
Critical Remaining Work | Milestone

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.303.130	Drill Caisson Wall 303-W1 - between 46th Ave. S. and EB I-70 (STA 2045+00 to 2047+00)	5d	11-Dec-20	17-Dec-20	31d
CON.STR.303.140	Drill Caisson Wall 303-W2 - STA 2054+00 to 2059+00	13d	21-Dec-20	15-Jan-21	31d
CON.STR.303.180	Build Soil Nail Wall 303-W2 - between 46th Ave. S. and EB I-70 (STA 2054+00 to 2069+00)	17d	07-Jan-21	01-Feb-21	29d
CON.STR.303.185	Build Soil Nail Wall 303-W2 - between 46th Ave. S. and EB I-70 (STA 2059+50 to 2064+50)	17d	07-Jan-21	01-Feb-21	34d
CON.STR.303.145	Drill Caisson Wall 303-W2 - STA 2059+50 to 2064+50	13d	18-Jan-21	05-Feb-21	31d
CON.STR.303.175	F/P/S CIP Wall 303-W2 - between 46th Ave. S. and EB I-70 (STA 2043+00 to 2052+50)	25d	03-Feb-21	10-Mar-21	42d
CON.STR.303.165	Erect Caisson Wall Facing 303-W1- STA 2027+00 to 2029+00	2d	03-Feb-21	04-Feb-21	27d
CON.STR.303.190	Build Soil Nail Wall Facing 303-W2- STA 2054+00 to 2059+00	5d	05-Feb-21	12-Feb-21	27d
CON.STR.303.195	Build Soil Nail Wall Facing 303-W2- STA 2059+50 to 2064+50	5d	15-Feb-21	19-Feb-21	27d
CON.STR.303.155	Erect Caisson Wall Facing 303-W1 - STA 2030+00 to 2032+00	2d	22-Feb-21	23-Feb-21	27d
CON.STR.303.160	Erect Caisson Wall Facing 303-W1 - STA 2032+00 to 2042+00	10d	24-Feb-21	09-Mar-21	27d
CON.STR.303.110	F/P/S Barrier Rail - Block 303 - P3-S1	58d	25-Feb-21	19-May-21	41d
CON.STR.303.170	Erect Caisson Wall Facing 303-W1- STA 2042+00 to 2044+00	2d	10-Mar-21	11-Mar-21	27d
CON.STR.303.150	Erect Caisson Wall Facing - Cover Center Pier	10d	12-Mar-21	25-Mar-21	27d
CON.STR.303.135	Erect Caisson Wall Facing 303-W1 - (STA 2045+00 to 2047+00)	4d	26-Mar-21	31-Mar-21	27d
Block 304 - 46th Ave. S.		10d	07-May-21	21-May-21	27d
CON.STR.304.075	F/P/S Barrier Rail - On top of CIP Wall - Block 304 - P4-S1	10d	07-May-21	21-May-21	27d
Block 306 - York St. Bridge Over I-70		373d	05-Sep-19	06-Apr-21	213d
CON.STR.306.135	Install Deep Foundations - Bent 1 - South Abutment - Block 306 - P2-S1	3d	05-Sep-19	09-Sep-19	413d
CON.STR.306.110	Install Deep Foundations - Bent 2 - Center Pier - Block 306 - P2-S1	3d	10-Sep-19	12-Sep-19	413d
CON.STR.306.160	F/P/S Substructure - Bent 1 - South Abutment - Block 306 - P2-S1	5d	10-Sep-19	16-Sep-19	431d
CON.STR.306.115	Install Deep Foundations - Bent 3 - North Abutment - Block 306 - P2-S1	3d	13-Sep-19	17-Sep-19	415d
CON.STR.306.155	F/P/S Substructure - Bent 2 - Center Pier - Block 306 - P2-S1	10d	13-Sep-19	27-Sep-19	413d
CON.STR.306.150	F/P/S Substructure - Bent 3 - North Abutment - Block 306 - P2-S1	5d	18-Sep-19	25-Sep-19	415d
CON.STR.306.090	Erect Girders/Set Deck Panels - Span 1 - Block 306 - P2-S1	4d	30-Sep-19	03-Oct-19	423d
CON.STR.306.100	Erect Girders/Set Deck Panels - Span 2 - Block 306 - P2-S1	4d	30-Sep-19	03-Oct-19	413d
CON.STR.306.075	F/P/S Diaphragms - Block 306 - P2-S1	10d	04-Oct-19	17-Oct-19	413d
CON.STR.306.070	Prep and Pour Deck - Block 306 - P2-S1	15d	21-Oct-19	08-Nov-19	413d
CON.STR.306.055	Install Bridge Finishes - Block 306	10d	11-Nov-19	25-Nov-19	416d
CON.STR.306.170	Install Waterproofing - Block 306 - P2-S1	2d	26-Nov-19	27-Nov-19	308d
CON.STR.306.120	Install Deep Foundations - Bent 1 - South Abutment - Block 306 - P3-S1	2d	18-Nov-20	19-Nov-20	191d
CON.STR.306.125	Install Deep Foundations - Bent 2 - Center Pier - Block 306 - P3-S1	2d	20-Nov-20	23-Nov-20	191d
CON.STR.306.165	F/P/S Substructure - Bent 1 - South Abutment - Block 306 - P3-S1	5d	20-Nov-20	30-Nov-20	208d
CON.STR.306.130	Install Deep Foundations - Bent 3 - North Abutment - Block 306 - P3-S1	2d	24-Nov-20	25-Nov-20	194d
CON.STR.306.140	F/P/S Substructure - Bent 2 - Center Pier - Block 306 - P3-S1	10d	24-Nov-20	10-Dec-20	191d
CON.STR.306.145	F/P/S Substructure - Bent 3 - North Abutment - Block 306 - P3-S1	5d	30-Nov-20	07-Dec-20	194d
CON.STR.306.095	Erect Girders/Set Deck Panels - Span 1 - Block 306 - P3-S1	2d	11-Dec-20	14-Dec-20	201d
CON.STR.306.105	Erect Girders/Set Deck Panels - Span 2 - Block 306 - P3-S1	2d	11-Dec-20	14-Dec-20	191d
CON.STR.306.080	F/P/S Diaphragms - Block 306 - P3-S1	10d	15-Dec-20	07-Jan-21	191d
CON.STR.306.065	Prep and Pour Deck - Block 306 - P3-S1	15d	01-Mar-21	19-Mar-21	158d
CON.STR.306.060	Install Bridge Finishes - Block 306	10d	22-Mar-21	02-Apr-21	158d
CON.STR.306.175	Install Waterproofing - Block 306 - P3-S1	2d	05-Apr-21	06-Apr-21	158d
Block 308 - York St. South of I-70		20d	22-Aug-19	19-Sep-19	486d
CON.STR.308.070	F/P/S CIP Wall 304-W1 - East of York St., South of I-70	20d	22-Aug-19	19-Sep-19	486d
Block 310 - Josephine St. Bridge Over I-70		57d	28-Jan-19	23-Apr-19	674d
CON.STR.310.060	Install Deep Foundations - Bent 1 - South Abutment - Block 310 - P1-S1	3d	28-Jan-19	30-Jan-19	495d
CON.STR.310.065	Install Deep Foundations - Bent 2 - Center Pier - Block 310 - P1-S1	3d	31-Jan-19	04-Feb-19	495d
CON.STR.310.080	F/P/S Substructure - Bent 1 - South Abutment - Block 310 - P1-S1	5d	31-Jan-19	06-Feb-19	513d
CON.STR.310.070	Install Deep Foundations - Bent 3 - North Abutment - Block 310 - P1-S1	3d	05-Feb-19	07-Feb-19	497d
CON.STR.310.075	F/P/S Substructure - Bent 2 - Center Pier - Block 310 - P1-S1	10d	05-Feb-19	19-Feb-19	495d
CON.STR.310.085	F/P/S Substructure - Bent 3 - North Abutment - Block 310 - P1-S1	5d	11-Feb-19	15-Feb-19	497d
CON.STR.310.050	Erect Girders/Set Deck Panels - Span 1 - Block 310 - P1-S1	4d	20-Feb-19	25-Feb-19	505d
CON.STR.310.055	Erect Girders/Set Deck Panels - Span 2 - Block 310 - P1-S1	4d	20-Feb-19	25-Feb-19	495d
CON.STR.310.040	F/P/S Diaphragms - Block 310 - P1-S1	10d	26-Feb-19	11-Mar-19	495d
CON.STR.310.035	Prep and Pour Deck - Block 310 - P1-S1	15d	12-Mar-19	03-Apr-19	388d
CON.STR.310.030	Install Bridge Finishes - Block 310	10d	04-Apr-19	19-Apr-19	495d
CON.STR.310.090	Install Waterproofing - Block 310 - P1-S1	2d	22-Apr-19	23-Apr-19	511d
Block 313 - Columbine St. Bridge Over I-70		50d	04-Jun-19	19-Aug-19	414d
CON.STR.313.070	Install Deep Foundations - Bent 1 - South Abutment - Block 313 - P1-S2	3d	04-Jun-19	06-Jun-19	48d
CON.STR.313.075	Install Deep Foundations - Bent 2 - Center Pier - Block 313 - P1-S2	3d	07-Jun-19	10-Jun-19	48d
CON.STR.313.085	F/P/S Substructure - Bent 1 - South Abutment - Block 313 - P1-S2	5d	07-Jun-19	13-Jun-19	63d
CON.STR.313.080	Install Deep Foundations - Bent 3 - North Abutment - Block 313 - P1-S2	3d	11-Jun-19	14-Jun-19	50d
CON.STR.313.090	F/P/S Substructure - Bent 2 - Center Pier - Block 313 - P1-S2	10d	11-Jun-19	22-Jun-19	48d
CON.STR.313.095	F/P/S Substructure - Bent 3 - North Abutment - Block 313 - P1-S2	5d	15-Jun-19	20-Jun-19	50d
CON.STR.313.055	Erect Girders/Set Deck Panels - Span 1 - Block 313 - P1-S2	4d	24-Jun-19	28-Jun-19	55d
CON.STR.313.060	Erect Girders/Set Deck Panels - Span 2 - Block 313 - P1-S2	4d	24-Jun-19	28-Jun-19	48d
CON.STR.313.045	F/P/S Backwalls/Diaphragms - Block 313 - P1-S2	10d	29-Jun-19	13-Jul-19	48d
CON.STR.313.040	Prep and Pour Deck - Block 313 - P1-S2	15d	15-Jul-19	02-Aug-19	48d
CON.STR.313.035	Install Bridge Finishes - Block 313	10d	03-Aug-19	15-Aug-19	48d
CON.STR.313.100	Install Waterproofing - Block 313 - P1-S2	2d	16-Aug-19	19-Aug-19	306d
Block 316 - Cover over WB I-70		255d	31-Aug-18	03-Oct-19	227d
CON.STR.316.075	Construct Temporary Wall at Swansea Elementary School	10d	31-Aug-18	14-Sep-18	13d
CON.STR.316.055	Install Deep Foundations (Caissons) - Bent 2 - Center Pier - Block 316 - P1-S1	25d	07-Nov-18	14-Dec-18	13d
CON.STR.316.065	F/P/S Substructure - Bent 3 - North Abutment - Block 316 - P1-S1	40d	19-Nov-18	30-Jan-19	229d
CON.STR.316.060	F/P/S Substructure - Bent 2 - Center Pier - Block 316 - P1-S1	50d	17-Dec-18	11-Mar-19	202d
CON.STR.316.050	Erect Girders - Span 2 - Block 316 - P1-S1	40d	12-Mar-19	10-May-19	202d
CON.STR.316.040	F/P/S Diaphragms/Backwalls - Block 316 - P1-S1	40d	13-May-19	12-Jul-19	227d
CON.STR.316.035	Prep and Pour Deck - Block 316 - P1-S1	55d	15-Jul-19	03-Oct-19	172d
Block 317 - Cover over EB I-70		140d	10-Dec-20	15-Jul-21	53d
CON.STR.317.055	Install Deep Foundations - Bent 1 - South Abutment - Block 317 - P3-S2	25d	10-Dec-20	26-Jan-21	0d
CON.STR.317.060	F/P/S Substructure - Bent 1 - South Abutment - Block 317 - P3-S2	40d	05-Jan-21	04-Mar-21	0d
CON.STR.317.050	Erect Girders - Span 1 - Block 317 - P3-S2	40d	04-Feb-21	01-Apr-21	0d

Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.317.040	F/P/S Diaphragms/Backwall - Block 317 - P3-S2	40d	26-Feb-21	23-Apr-21	53d
CON.STR.317.035	Prep and Pour Deck - Block 317 - P3-S2	55d	26-Apr-21	15-Jul-21	53d
Block 319 - Clayton St. Bridge Over I-70		**51d**	**04-Jun-19**	**20-Aug-19**	**413d**
CON.STR.319.070	Install Deep Foundations - Bent 3 - North Abutment - Block 319 - P2-S1	3d	04-Jun-19	06-Jun-19	51d
CON.STR.319.060	Install Deep Foundations - Bent 1 - South Abutment - Block 319 - P2-S1	3d	04-Jun-19	06-Jun-19	46d
CON.STR.319.065	Install Deep Foundations - Bent 2 - Center Pier - Block 319 - P2-S1	3d	04-Jun-19	06-Jun-19	46d
CON.STR.319.075	F/P/S Substructure - Bent 1 - South Abutment - Block 319 - P2-S1	5d	07-Jun-19	13-Jun-19	61d
CON.STR.319.080	F/P/S Substructure - Bent 2 - Center Pier - Block 319 - P2-S1	10d	07-Jun-19	19-Jun-19	46d
CON.STR.319.085	F/P/S Substructure - Bent 3 - North Abutment - Block 319 - P2-S1	5d	07-Jun-19	13-Jun-19	51d
CON.STR.319.050	Erect Girders/Set Deck Panels - Span 1 - Block 319 - P2-S1	4d	20-Jun-19	24-Jun-19	56d
CON.STR.319.055	Erect Girders/Set Deck Panels - Span 2 - Block 319 - P2-S1	4d	20-Jun-19	24-Jun-19	46d
CON.STR.319.040	F/P/S Diaphragms - Block 319 - P2-S1	10d	25-Jun-19	10-Jul-19	46d
CON.STR.319.035	Prep and Pour Deck - Block 319 - P2-S1	15d	11-Jul-19	30-Jul-19	46d
CON.STR.319.030	Install Bridge Finishes - Block 319	10d	31-Jul-19	12-Aug-19	51d
CON.STR.319.090	Install Waterproofing - Block 319 - P2-S1	2d	19-Aug-19	20-Aug-19	305d
Block 323 - Fillmore St. Bridge Over I-70		**57d**	**29-Jan-19**	**24-Apr-19**	**673d**
CON.STR.323.065	Install Deep Foundations - Bent 1 - South Abutment - Block 323 - P1-S2	3d	29-Jan-19	31-Jan-19	164d
CON.STR.323.070	Install Deep Foundations - Bent 2 - Center Pier - Block 323 - P1-S2	3d	01-Feb-19	05-Feb-19	164d
CON.STR.323.090	F/P/S Substructure - Bent 1 - South Abutment - Block 323 - P1-S2	5d	01-Feb-19	07-Feb-19	182d
CON.STR.323.075	Install Deep Foundations - Bent 3 - North Abutment - Block 323 - P1-S2	3d	06-Feb-19	11-Feb-19	166d
CON.STR.323.080	F/P/S Substructure - Bent 2 - Center Pier - Block 323 - P1-S2	10d	06-Feb-19	20-Feb-19	164d
CON.STR.323.085	F/P/S Substructure - Bent 3 - North Abutment - Block 323 - P1-S2	5d	12-Feb-19	18-Feb-19	166d
CON.STR.323.055	Erect Girders/Set Deck Panels - Span 1 - Block 323 - P1-S2	4d	21-Feb-19	26-Feb-19	174d
CON.STR.323.060	Erect Girders/Set Deck Panels - Span 2 - Block 323 - P1-S2	4d	21-Feb-19	26-Feb-19	164d
CON.STR.323.045	F/P/S Diaphragms - Block 323 - P1-S2	10d	27-Feb-19	12-Mar-19	164d
CON.STR.323.040	Prep and Pour Deck - Block 323 - P1-S2	15d	13-Mar-19	04-Apr-19	164d
CON.STR.323.035	Install Bridge Finishes - Block 323	10d	05-Apr-19	22-Apr-19	618d
CON.STR.323.095	Install Waterproofing - Block 323 - P1-S2	2d	23-Apr-19	24-Apr-19	510d
Block 325 - Milwaukee St. North of I-70		**15d**	**21-Feb-19**	**13-Mar-19**	**637d**
CON.STR.325.060	Construct Block Wall 301-W2 - NW Corner	5d	21-Feb-19	27-Feb-19	637d
CON.STR.325.065	F/P/S CIP Wall 301-W1 - NE Corner	10d	28-Feb-19	13-Mar-19	637d
Block 326 - Milwaukee St. South of I-70		**15d**	**02-Apr-21**	**23-Apr-21**	**136d**
CON.STR.326.070	F/P/S CIP Wall 304-W2- SW Corner	10d	02-Apr-21	16-Apr-21	136d
CON.STR.326.065	Construct Block Wall 304-W5 - SE Corner	5d	19-Apr-21	23-Apr-21	136d
Block 327 - Steele/Vasquez Bridge Over I-70		**571d**	**26-Jun-18**	**23-Nov-20**	**185d**
CON.STR.327.065	Install Deep Foundations - Bent 3 - East Abutment - Block 327 - P1-S1	8d	26-Jun-18	06-Jul-18	445d
CON.STR.327.075	Install Deep Foundations - Bent 2 - Center Pier - Block 327 - P1-S1	8d	09-Jul-18	18-Jul-18	445d
CON.STR.327.090	F/P/S Substructure - Bent 3 - North Abutment - Block 327 - P1-S1	5d	09-Jul-18	13-Jul-18	458d
CON.STR.327.085	F/P/S Substructure - Bent 2 - Center Pier - Block 327 - P1-S1	10d	19-Jul-18	02-Aug-18	445d
CON.STR.327.060	Erect Girders/Set Deck Panels - Span 2 - Block 327 - P1-S1	4d	03-Aug-18	08-Aug-18	445d
CON.STR.327.070	Install Deep Foundations - Bent 1 - South Abutment - Block 327 - P1-S1	8d	15-Aug-18	24-Aug-18	425d
CON.STR.327.080	F/P/S Substructure - Bent 1 - South Abutment - Block 327 - P1-S1	5d	27-Aug-18	31-Aug-18	425d
CON.STR.327.055	Erect Girders/Set Deck Panels - Span 1 - Block 327 - P1-S1	4d	04-Sep-18	07-Sep-18	425d
CON.STR.327.045	F/P/S Diaphragms - Block 327 - P1-S1	10d	10-Sep-18	21-Sep-18	425d
CON.STR.327.035	Prep and Pour Deck - Block 327 - P1-S1	15d	08-Oct-18	30-Oct-18	318d
CON.STR.327.030	Install Bridge Finishes - Block 327	10d	31-Oct-18	13-Nov-18	428d
CON.STR.327.095	Install Waterproofing - Block 327 - P1-S1	2d	14-Nov-18	15-Nov-18	320d
CON.STR.327.040	Prep and Pour Deck - Block 327 - P3-S1 - to Complete Deck after Viaduct Demo	7d	12-Nov-20	23-Nov-20	133d
Block 331 - Vasquez Blvd. to WB I-70 On-Ramp		**17d**	**12-Sep-19**	**07-Oct-19**	**427d**
CON.STR.331.070	Drill Caisson Wall 302-W2 - STA 2048+00 to 2053+00 (Fillmore to Steele/Vasquez)	13d	12-Sep-19	01-Oct-19	131d
CON.STR.331.075	F/P/S CIP Wall 302-W2- STA 2045+00 to 2048+00	15d	16-Sep-19	07-Oct-19	427d
Block 333 - EB I-70 to Steele St. Off-Ramp		**28d**	**10-Dec-20**	**29-Jan-21**	**88d**
CON.STR.333.050	Drill Caisson Wall 303-W1 - STA 2045+00 to 2049+00 (EB I-70 to Steele St)	13d	10-Dec-20	07-Jan-21	88d
CON.STR.333.055	Erect Caisson Wall Facing 301-W1- STA 2045+00 to 2049+00 (EB I-70 to Steele St)	15d	08-Jan-21	29-Jan-21	88d
Block 337 - Cook St. Bridge Over I-70		**95d**	**08-May-19**	**30-Sep-19**	**488d**
CON.STR.337.060	Install Deep Foundations - Bent 1 - South Abutment - Block 337 - P1-S3	3d	08-May-19	10-May-19	516d
CON.STR.337.065	Install Deep Foundations - Bent 2 - Center Pier - Block 337 - P1-S3	3d	13-May-19	15-May-19	518d
CON.STR.337.070	Install Deep Foundations - Bent 3 - North Abutment - Block 337 - P1-S3	3d	16-May-19	20-May-19	525d
CON.STR.337.075	F/P/S Substructure - Bent 1 - South Abutment - Block 337 - P1-S3	5d	28-Jun-19	08-Jul-19	485d
CON.STR.337.080	F/P/S Substructure - Bent 2 - Center Pier - Block 337 - P1-S3	10d	09-Jul-19	22-Jul-19	485d
CON.STR.337.085	F/P/S Substructure - Bent 3 - North Abutment - Block 337 - P1-S3	5d	23-Jul-19	30-Jul-19	485d
CON.STR.337.050	Erect Girders/Set Deck Panels - Span 1 - Block 337 - P1-S3	4d	23-Jul-19	29-Jul-19	500d
CON.STR.337.055	Erect Girders/Set Deck Panels - Span 2 - Block 337 - P1-S3	4d	31-Jul-19	05-Aug-19	485d
CON.STR.337.040	F/P/S Diaphragms - Block 337 - P1-S3	10d	06-Aug-19	20-Aug-19	485d
CON.STR.337.035	Prep and Pour Deck - Block 337 - P1-S3	15d	21-Aug-19	11-Sep-19	378d
CON.STR.337.030	Install Bridge Finishes - Block 337	10d	12-Sep-19	26-Sep-19	488d
CON.STR.337.090	Install Waterproofing - Block 337 - P1-S3	2d	27-Sep-19	30-Sep-19	380d
Central Area		**705d**	**06-Jun-18**	**02-Jun-21**	**220d**
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		**705d**	**06-Jun-18**	**02-Jun-21**	**220d**
Block 401 - 46th Ave. N.		**152d**	**21-Jan-19**	**09-Sep-19**	**412d**
CON.STR.411.115	F/P/S CIP Wall 401-W2 - Outside Shoulder of SB Colorado - STA 1150+00 to 1157+15	15d	21-Jan-19	12-Feb-19	549d
CON.STR.401.070	F/P/S CIP Wall 302-W2 - Between 46th Ave. and Mainline - STA 2066+00 to 2072+00	25d	25-Jun-19	01-Aug-19	21d
CON.STR.401.075	F/P/S CIP/Soil Nail Wall 402-W1 - Between WB I-70 and Colorado On-Ramp - STA 2066+00 to 2077+00	25d	02-Aug-19	09-Sep-19	21d
Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL		**122d**	**26-Nov-19**	**04-Jun-20**	**54d**
CON.STR.402A.085	Build Soil Nail Wall 402-W1 - between WB I-70 On-Ramp at Colorado Blvd. and WB I-70 (STA 2071+00 to 2077+00)	40d	26-Nov-19	05-Feb-20	51d
CON.STR.402A.070	Erect Caisson Wall Facing 302-W2N - Between 46th Ave. and Ramp - STA 2065+00 to 2066+00	10d	06-Feb-20	19-Feb-20	65d
CON.STR.402A.075	Erect Caisson Wall Facing 302-W2N- Between 46th Ave. and Mainline - STA 2066+50 to 2072+00	15d	20-Feb-20	11-Mar-20	65d
CON.STR.402A.080	Erect Caisson Wall Facing 401-W1N - Between Colorado to WB I-70 On-Ramp and Mainline - STA 2066+00 to 2077+00	20d	12-Mar-20	09-Apr-20	65d
CON.STR.402A.060	F/P/S Barrier Rail - Against Wall - Block 402A - P2-S2	20d	30-Mar-20	24-Apr-20	54d
CON.STR.402A.065	F/P/S Barrier Rail - Median - Block 402A - P2-S2	12d	15-May-20	04-Jun-20	54d
Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		**215d**	**19-Nov-19**	**15-Oct-20**	**192d**
CON.STR.402B.060	Build MSE Wall 402-W1 - Between 46th Ave. N. and WB I-70 (STA 2079+00 to 2082+00)	9d	19-Nov-19	05-Dec-19	72d

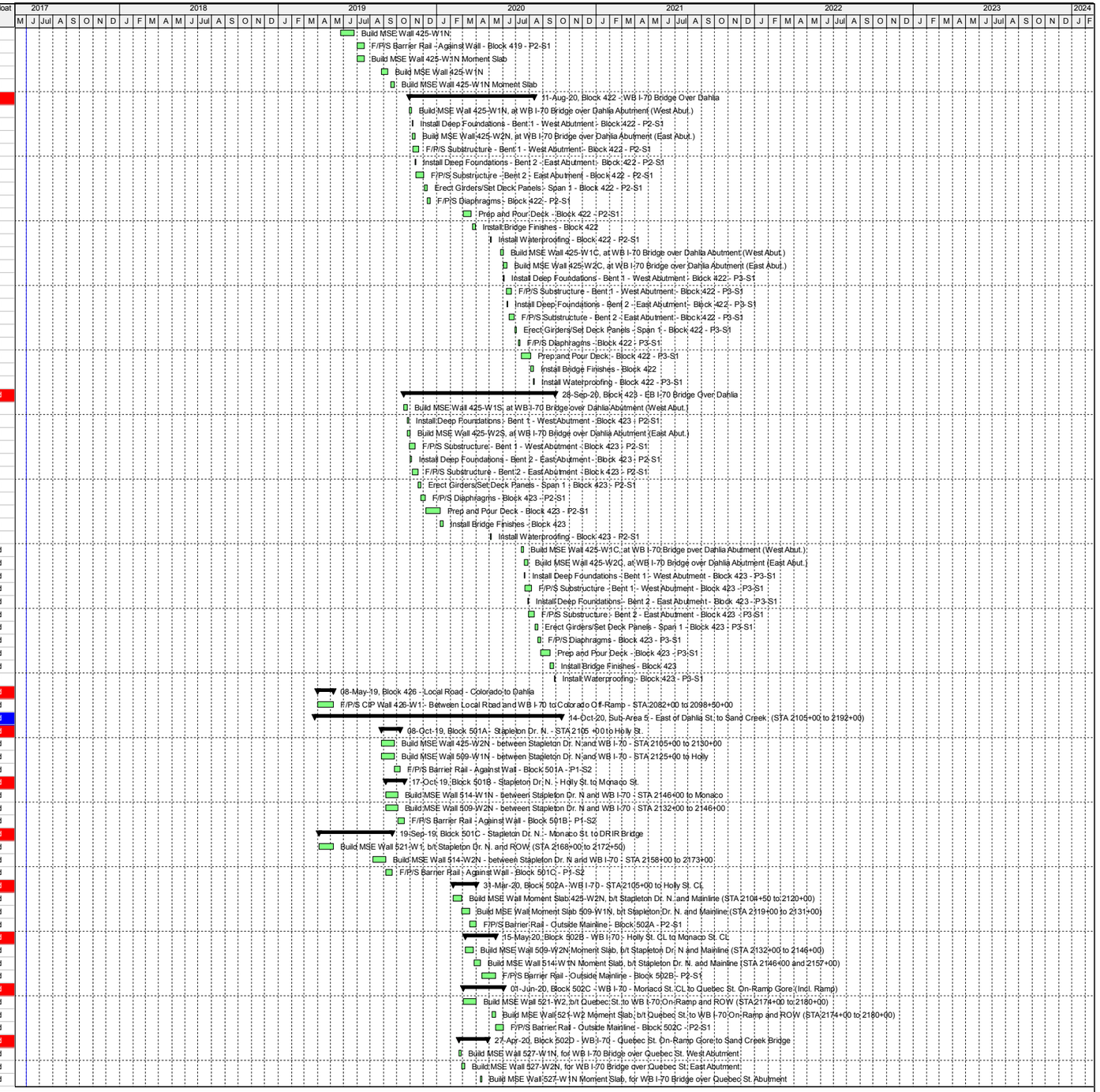
Remaining Work | Remaining Level of Effort | Summary
Critical Remaining Work | Milestone

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.402B.055	F/P/S CIP Wall 402-W1 - Between 46th Ave. N. and WB I-70 (STA2082+00 to 2090+00)	20d	06-Dec-19	15-Jan-20	72d
CON.STR.402B.065	Build MSE Wall 402-W1 Moment Slab (STA 2079+00 to 2082+00)	5d	06-Dec-19	12-Dec-19	107d
CON.STR.402B.070	Build MSE Wall 425-W1N - between Stapleton Dr. N. and Mainline - STA 2093+00 to 2103+50	20d	16-Jan-20	12-Feb-20	72d
CON.STR.402B.075	Build MSE Wall 425-W1N Moment Slab (STA 2093+00 to 2103+50)	10d	13-Feb-20	26-Feb-20	72d
CON.STR.402B.050	F/P/S Barrier Rail - Median - Block 402B - P2-S2	15d	22-May-20	16-Jun-20	51d
CON.STR.402B.145	F/P/S Barrier Rail - Median - Block 402B - P3-S1	5d	09-Oct-20	15-Oct-20	192d
Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL		**37d**	**23-Nov-20**	**28-Jan-21**	**78d**
CON.STR.403A.125	Build Soil Nail Wall 403-W1 - between EB I-70 Off-Ramp at Colorado Blvd. and EB I-70 (STA 2067+00 to 2076+00)	11d	23-Nov-20	10-Dec-20	63d
CON.STR.403A.130	Build Soil Nail Wall 403-W1 Facing (STA 2067+00 to 2076+00)	10d	11-Dec-20	05-Jan-21	82d
CON.STR.403A.110	F/P/S Barrier Rail - Against Wall - Block 403A - P3-S1	12d	06-Jan-21	21-Jan-21	82d
CON.STR.403A.120	Build Soil Nail Wall 303-W2 Facing (STA 2066+50 to 2071+50)	6d	20-Jan-21	28-Jan-21	63d
Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		**248d**	**13-May-20**	**02-Jun-21**	**47d**
CON.STR.403B.135	Build MSE Wall 425-W1S - between Stapleton Dr. S and Colorado to EB I-70 On-Ramp - STA 2093+00 to 2104+00	15d	13-May-20	08-Jun-20	175d
CON.STR.403B.140	Build MSE Wall 425-W1S Moment Slab - STA 2093+00 to 2104+00	11d	13-Jul-20	28-Jul-20	175d
CON.STR.403B.125	F/P/S Barrier Rail - Median - Block 403B - P3-S1	10d	30-Oct-20	12-Nov-20	147d
CON.STR.403B.130	F/P/S Barrier Rail - Median - Block 403B - P3-S3	5d	26-May-21	02-Jun-21	47d
Block 404 - 46th Ave. S.		**81d**	**04-Nov-20**	**17-Mar-21**	**93d**
CON.STR.415.070	F/P/S CIP Wall 404-W1 - Between 46th and EB I-70 to Colorado Off-Ramp - STA 2066+50 to 2076+00	35d	04-Nov-20	07-Jan-21	118d
CON.STR.415.060	Construct Block Wall 404-W2 - between Stapleton Dr. S. and ROW (STA 2084+00 to 2090+00)	10d	08-Jan-21	21-Jan-21	118d
CON.STR.404.070	F/P/S Barrier Rail - Block 404 - P4-S1	10d	04-Mar-21	17-Mar-21	93d
Block 405 - BNSF Market Lead Bridge Over I-70		**64d**	**13-May-20**	**19-Aug-20**	**404d**
CON.STR.405.065	Install Deep Foundations - Bent 1 - South Abutment - Block 405 - P1-S3	3d	13-May-20	15-May-20	404d
CON.STR.405.080	F/P/S Substructure - Bent 1 - South Abutment - Block 405 - P1-S3	10d	19-May-20	02-Jun-20	407d
CON.STR.405.070	Install Deep Foundations - Bent 2 - Center Pier - Block 405 - P1-S3	3d	19-May-20	21-May-20	404d
CON.STR.405.085	F/P/S Substructure - Bent 2 - Center Pier - Block 405 - P1-S3	10d	22-May-20	09-Jun-20	404d
CON.STR.405.075	Install Deep Foundations - Bent 3 - North Abutment - Block 405 - P1-S3	3d	22-May-20	27-May-20	416d
CON.STR.405.090	F/P/S Substructure - Bent 3 - North Abutment - Block 405 - P1-S3	10d	28-May-20	12-Jun-20	416d
CON.STR.405.055	Erect Girders - Span 1 - Block 405 - P1-S3	15d	10-Jun-20	30-Jun-20	404d
CON.STR.405.060	Erect Girders - Span 2 - Block 405 - P1-S3	15d	01-Jul-20	22-Jul-20	404d
CON.STR.405.045	Prep and Pour Deck - Block 405 - P1-S3	18d	23-Jul-20	19-Aug-20	299d
Block 407 - Monroe St. Bridge Over I-70		**50d**	**25-Apr-19**	**10-Jul-19**	**623d**
CON.STR.407.060	Install Deep Foundations - Bent 1 - South Abutment - Block 407 - P1-S3	3d	25-Apr-19	29-Apr-19	227d
CON.STR.407.065	Install Deep Foundations - Bent 2 - Center Pier - Block 407 - P1-S3	3d	30-Apr-19	02-May-19	227d
CON.STR.407.075	F/P/S Substructure - Bent 1 - South Abutment - Block 407 - P1-S3	10d	30-Apr-19	13-May-19	238d
CON.STR.407.070	Install Deep Foundations - Bent 3 - North Abutment - Block 407 - P1-S3	3d	03-May-19	07-May-19	227d
CON.STR.407.080	F/P/S Substructure - Bent 2 - Center Pier - Block 407 - P1-S3	10d	03-May-19	16-May-19	230d
CON.STR.407.085	F/P/S Substructure - Bent 3 - North Abutment - Block 407 - P1-S3	10d	08-May-19	21-May-19	227d
CON.STR.407.050	Erect Girders/Set Deck Panels - Span 1 - Block 407 - P1-S3	4d	17-May-19	22-May-19	235d
CON.STR.407.055	Erect Girders/Set Deck Panels - Span 2 - Block 407 - P1-S3	4d	22-May-19	28-May-19	227d
CON.STR.407.040	F/P/S Diaphragms - Block 407 - P1-S3	5d	29-May-19	06-Jun-19	227d
CON.STR.407.035	Prep and Pour Deck - Block 407 - P1-S3	15d	07-Jun-19	27-Jun-19	172d
CON.STR.407.030	Install Bridge Finishes - Block 407	5d	28-Jun-19	08-Jul-19	568d
CON.STR.407.090	Install Waterproofing - Block 407 - P1-S3	2d	09-Jul-19	10-Jul-19	460d
Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)		**77d**	**06-Jun-18**	**26-Sep-18**	**437d**
CON.STR.409A.090	Build MSE Wall 402-W1 - Colorado Bridge - North Abutment (West Half)	10d	06-Jun-18	19-Jun-18	429d
CON.STR.409A.060	Install Deep Foundations - Bent 1 - South Abutment - Block 409A - P1-S1	2d	20-Jun-18	21-Jun-18	429d
CON.STR.409A.095	Build MSE Wall 403-W1 - Colorado Bridge - South Abutment (West Half)	10d	20-Jun-18	03-Jul-18	439d
CON.STR.409A.065	Install Deep Foundations - Bent 2 - Center Pier - Block 409A - P1-S1	6d	22-Jun-18	29-Jun-18	433d
CON.STR.409A.085	F/P/S Substructure - Bent 1 - South Abutment - Block 409A - P1-S1	10d	22-Jun-18	06-Jul-18	429d
CON.STR.409A.070	Install Deep Foundations - Bent 3 - North Abutment - Block 409A - P1-S1	2d	05-Jul-18	06-Jul-18	439d
CON.STR.409A.075	F/P/S Substructure - Bent 2 - Center Pier - Block 409A - P1-S1	10d	09-Jul-18	20-Jul-18	429d
CON.STR.409A.080	F/P/S Substructure - Bent 3 - North Abutment - Block 409A - P1-S1	10d	23-Jul-18	06-Aug-18	429d
CON.STR.409A.050	Erect Girders/Set Deck Panels - Span 1 - Block 409A - P1-S1	8d	23-Jul-18	02-Aug-18	444d
CON.STR.409A.055	Erect Girders/Set Deck Panels - Span 2 - Block 409A - P1-S1	8d	07-Aug-18	17-Aug-18	429d
CON.STR.409A.040	F/P/S Diaphragms - Block 409A - P1-S1	5d	20-Aug-18	24-Aug-18	429d
CON.STR.409A.035	Prep and Pour Deck - Block 409A - P1-S1	15d	27-Aug-18	17-Sep-18	322d
CON.STR.409A.030	Install Bridge Finishes - Block 409A	5d	18-Sep-18	24-Sep-18	437d
CON.STR.409A.100	Install Waterproofing - Block 409A - P1-S1	2d	25-Sep-18	26-Sep-18	329d
Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)		**66d**	**29-Jul-19**	**01-Nov-19**	**547d**
CON.STR.409B.085	Build MSE Wall 402-W1 - Colorado Bridge - North Abutment (East Half)	10d	29-Jul-19	09-Aug-19	496d
CON.STR.409B.055	Install Deep Foundations - Bent 1 - South Abutment - Block 409B - P1-S2	2d	12-Aug-19	13-Aug-19	498d
CON.STR.409B.090	Build MSE Wall 403-W1 - Colorado Bridge - South Abutment (East Half)	10d	12-Aug-19	26-Aug-19	496d
CON.STR.409B.060	Install Deep Foundations - Bent 2 - Center Pier - Block 409B - P1-S2	6d	15-Aug-19	22-Aug-19	498d
CON.STR.409B.080	F/P/S Substructure - Bent 1 - South Abutment - Block 409B - P1-S2	10d	15-Aug-19	28-Aug-19	511d
CON.STR.409B.070	F/P/S Substructure - Bent 2 - Center Pier - Block 409B - P1-S2	10d	23-Aug-19	06-Sep-19	500d
CON.STR.409B.065	Install Deep Foundations - Bent 3 - North Abutment - Block 409B - P1-S2	2d	27-Aug-19	28-Aug-19	496d
CON.STR.409B.075	F/P/S Substructure - Bent 3 - North Abutment - Block 409B - P1-S2	10d	29-Aug-19	12-Sep-19	496d
CON.STR.409B.045	Erect Girders/Set Deck Panels - Span 1 - Block 409B - P1-S2	8d	09-Sep-19	18-Sep-19	505d
CON.STR.409B.050	Erect Girders/Set Deck Panels - Span 2 - Block 409B - P1-S2	8d	13-Sep-19	25-Sep-19	496d
CON.STR.409B.035	F/P/S Diaphragms - Block 409B - P1-S2	5d	26-Sep-19	02-Oct-19	496d
CON.STR.409B.030	Prep and Pour Deck - Block 409B - P1-S2	15d	03-Oct-19	24-Oct-19	389d
CON.STR.409B.025	Install Bridge Finishes - Block 409B	4d	25-Oct-19	30-Oct-19	547d
CON.STR.409B.095	Install Waterproofing - Block 409B - P1-S2	2d	31-Oct-19	01-Nov-19	384d
Block 415 - EB I-70 to Colorado Blvd. Off-Ramp		**403d**	**02-May-19**	**19-Jan-21**	**134d**
CON.STR.417.115	F/P/S CIP Wall 404-W3 - Outside Shoulder of SB Colorado - STA 1051+00 to 1061+00	15d	02-May-19	22-May-19	259d
CON.STR.415.065	Erect Caisson Wall Facing 403-W1 - Between EB I-70 to Colorado Off-Ramp and Mainline - STA 2067+00 to 2077+00	15d	04-Nov-20	25-Nov-20	162d
CON.STR.403A.115	Build Soil Nail Wall 303-W2 - between 46th Ave. S. and EB I-70 Off-Ramp at Colorado Blvd. (STA 2066+50 to 2071+50)	20d	11-Dec-20	19-Jan-21	63d
Block 416 - Colorado Blvd. to EB I-70 On-Ramp		**59d**	**06-May-20**	**04-Aug-20**	**244d**
CON.STR.416.060	Build MSE Wall 403-W1 - between EB I-70 On-Ramp at Colorado and EB I-70 (STA 2079+00 to 2087+00)	10d	06-May-20	20-May-20	252d
CON.STR.416.070	Build Retaining Wall	10d	01-Jul-20	15-Jul-20	244d
CON.STR.416.065	Build MSE Wall 403-W1 Moment Slab	10d	21-Jul-20	04-Aug-20	244d
Block 419 - Stapleton Dr. N.		**79d**	**24-May-19**	**24-Sep-19**	**39d**

Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.419.140	Build MSE Wall 425-W1N	20d	24-May-19	25-Jun-19	39d
CON.STR.419.135	F/P/S Barrier Rail - Against Wall - Block 419 - P2-S1	10d	02-Jul-19	17-Jul-19	42d
CON.STR.419.150	Build MSE Wall 425-W1N Moment Slab	10d	02-Jul-19	17-Jul-19	39d
CON.STR.419.145	Build MSE Wall 425-W1N	10d	27-Aug-19	10-Sep-19	39d
CON.STR.419.155	Build MSE Wall 425-W1N Moment Slab	5d	17-Sep-19	24-Sep-19	39d
Block 422 - WB I-70 Bridge Over Dahlia		**186d**	**29-Oct-19**	**11-Aug-20**	**23d**
CON.STR.422.150	Build MSE Wall 425-W1N, at WB I-70 Bridge over Dahlia Abutment (West Abut.)	5d	29-Oct-19	04-Nov-19	74d
CON.STR.422.105	Install Deep Foundations - Bent 1 - West Abutment - Block 422 - P2-S1	2d	05-Nov-19	06-Nov-19	77d
CON.STR.422.160	Build MSE Wall 425-W2N, at WB I-70 Bridge over Dahlia Abutment (East Abut.)	5d	05-Nov-19	11-Nov-19	74d
CON.STR.422.125	F/P/S Substructure - Bent 1 - West Abutment - Block 422 - P2-S1	10d	07-Nov-19	20-Nov-19	79d
CON.STR.422.110	Install Deep Foundations - Bent 2 - East Abutment - Block 422 - P2-S1	2d	12-Nov-19	13-Nov-19	74d
CON.STR.422.130	F/P/S Substructure - Bent 2 - East Abutment - Block 422 - P2-S1	10d	14-Nov-19	02-Dec-19	74d
CON.STR.422.095	Erect Girders/Set Deck Panels - Span 1 - Block 422 - P2-S1	4d	03-Dec-19	09-Dec-19	74d
CON.STR.422.075	F/P/S Diaphragms - Block 422 - P2-S1	5d	10-Dec-19	16-Dec-19	74d
CON.STR.422.065	Prep and Pour Deck - Block 422 - P2-S1	15d	02-Mar-20	20-Mar-20	29d
CON.STR.422.055	Install Bridge Finishes - Block 422	5d	23-Mar-20	30-Mar-20	38d
CON.STR.422.165	Install Waterproofing - Block 422 - P2-S1	1d	04-May-20	04-May-20	13d
CON.STR.422.145	Build MSE Wall 425-W1C, at WB I-70 Bridge over Dahlia Abutment (West Abut.)	5d	26-May-20	01-Jun-20	14d
CON.STR.422.155	Build MSE Wall 425-W2C, at WB I-70 Bridge over Dahlia Abutment (East Abut.)	5d	02-Jun-20	10-Jun-20	14d
CON.STR.422.115	Install Deep Foundations - Bent 1 - West Abutment - Block 422 - P3-S1	2d	02-Jun-20	04-Jun-20	17d
CON.STR.422.135	F/P/S Substructure - Bent 1 - West Abutment - Block 422 - P3-S1	10d	08-Jun-20	19-Jun-20	19d
CON.STR.422.120	Install Deep Foundations - Bent 2 - East Abutment - Block 422 - P3-S1	2d	11-Jun-20	12-Jun-20	14d
CON.STR.422.140	F/P/S Substructure - Bent 2 - East Abutment - Block 422 - P3-S1	10d	15-Jun-20	26-Jun-20	14d
CON.STR.422.100	Erect Girders/Set Deck Panels - Span 1 - Block 422 - P3-S1	4d	29-Jun-20	02-Jul-20	14d
CON.STR.422.080	F/P/S Diaphragms - Block 422 - P3-S1	5d	06-Jul-20	10-Jul-20	14d
CON.STR.422.070	Prep and Pour Deck - Block 422 - P3-S1	15d	13-Jul-20	03-Aug-20	14d
CON.STR.422.060	Install Bridge Finishes - Block 422	5d	04-Aug-20	10-Aug-20	23d
CON.STR.422.170	Install Waterproofing - Block 422 - P3-S1	1d	11-Aug-20	11-Aug-20	23d
Block 423 - EB I-70 Bridge Over Dahlia		**224d**	**17-Oct-19**	**28-Sep-20**	**215d**
CON.STR.423.145	Build MSE Wall 425-W1S, at WB I-70 Bridge over Dahlia Abutment (West Abut.)	5d	17-Oct-19	24-Oct-19	81d
CON.STR.423.100	Install Deep Foundations - Bent 1 - West Abutment - Block 423 - P2-S1	2d	25-Oct-19	28-Oct-19	84d
CON.STR.423.155	Build MSE Wall 425-W2S, at WB I-70 Bridge over Dahlia Abutment (East Abut.)	5d	25-Oct-19	31-Oct-19	81d
CON.STR.423.130	F/P/S Substructure - Bent 1 - West Abutment - Block 423 - P2-S1	10d	29-Oct-19	11-Nov-19	86d
CON.STR.423.105	Install Deep Foundations - Bent 2 - East Abutment - Block 423 - P2-S1	2d	01-Nov-19	04-Nov-19	81d
CON.STR.423.135	F/P/S Substructure - Bent 2 - East Abutment - Block 423 - P2-S1	10d	05-Nov-19	18-Nov-19	81d
CON.STR.423.090	Erect Girders/Set Deck Panels - Span 1 - Block 423 - P2-S1	4d	19-Nov-19	25-Nov-19	81d
CON.STR.423.070	F/P/S Diaphragms - Block 423 - P2-S1	5d	26-Nov-19	05-Dec-19	81d
CON.STR.423.060	Prep and Pour Deck - Block 423 - P2-S1	15d	06-Dec-19	08-Jan-20	81d
CON.STR.423.050	Install Bridge Finishes - Block 423	5d	09-Jan-20	15-Jan-20	90d
CON.STR.423.160	Install Waterproofing - Block 423 - P2-S1	1d	04-May-20	04-May-20	13d
CON.STR.423.140	Build MSE Wall 425-W1C, at WB I-70 Bridge over Dahlia Abutment (West Abut.)	5d	13-Jul-20	17-Jul-20	206d
CON.STR.423.150	Build MSE Wall 425-W2C, at WB I-70 Bridge over Dahlia Abutment (East Abut.)	5d	20-Jul-20	27-Jul-20	206d
CON.STR.423.110	Install Deep Foundations - Bent 1 - West Abutment - Block 423 - P3-S1	2d	20-Jul-20	21-Jul-20	209d
CON.STR.423.120	F/P/S Substructure - Bent 1 - West Abutment - Block 423 - P3-S1	10d	22-Jul-20	05-Aug-20	211d
CON.STR.423.115	Install Deep Foundations - Bent 2 - East Abutment - Block 423 - P3-S1	2d	28-Jul-20	29-Jul-20	206d
CON.STR.423.125	F/P/S Substructure - Bent 2 - East Abutment - Block 423 - P3-S1	10d	30-Jul-20	12-Aug-20	206d
CON.STR.423.095	Erect Girders/Set Deck Panels - Span 1 - Block 423 - P3-S1	4d	13-Aug-20	19-Aug-20	206d
CON.STR.423.075	F/P/S Diaphragms - Block 423 - P3-S1	5d	20-Aug-20	26-Aug-20	206d
CON.STR.423.065	Prep and Pour Deck - Block 423 - P3-S1	15d	27-Aug-20	17-Sep-20	154d
CON.STR.423.055	Install Bridge Finishes - Block 423	5d	18-Sep-20	25-Sep-20	215d
CON.STR.423.165	Install Waterproofing - Block 423 - P3-S1	1d	28-Sep-20	28-Sep-20	95d
Block 426 - Local Road - Colorado to Dahlia		**25d**	**02-Apr-19**	**08-May-19**	**587d**
CON.STR.426.070	F/P/S CIP Wall 426-W1 - Between Local Road and WB I-70 to Colorado Off-Ramp - STA 2082+00 to 2098+50+00	25d	02-Apr-19	08-May-19	587d
Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)		**371d**	**26-Mar-19**	**14-Oct-20**	**322d**
Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.		**30d**	**26-Aug-19**	**08-Oct-19**	**235d**
CON.STR.501A.115	Build MSE Wall 425-W2N - between Stapleton Dr. N and WB I-70 - STA 2105+00 to 2130+00	20d	26-Aug-19	24-Sep-19	235d
CON.STR.501A.120	Build MSE Wall 509-W1N - between Stapleton Dr. N and WB I-70 - STA 2125+00 to Holly	20d	26-Aug-19	24-Sep-19	235d
CON.STR.501A.110	F/P/S Barrier Rail - Against Wall - Block 501A - P1-S2	10d	25-Sep-19	08-Oct-19	235d
Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.		**30d**	**05-Sep-19**	**17-Oct-19**	**206d**
CON.STR.501B.115	Build MSE Wall 514-W1N - between Stapleton Dr. N and WB I-70 - STA 2146+00 to Monaco	20d	05-Sep-19	03-Oct-19	206d
CON.STR.501B.110	Build MSE Wall 509-W2N - between Stapleton Dr. N and WB I-70 - STA 2132+00 to 2146+00	20d	05-Sep-19	03-Oct-19	206d
CON.STR.501B.105	F/P/S Barrier Rail - Against Wall - Block 501B - P1-S2	10d	04-Oct-19	17-Oct-19	206d
Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge		**110d**	**05-Apr-19**	**19-Sep-19**	**247d**
CON.STR.501C.110	Build MSE Wall 521-W1, b/t Stapleton Dr. N. and ROW (STA 2168+00 to 2172+50)	22d	05-Apr-19	08-May-19	247d
CON.STR.501C.105	Build MSE Wall 514-W2N - between Stapleton Dr. N and WB I-70 - STA 2158+00 to 2173+00	20d	07-Aug-19	05-Sep-19	247d
CON.STR.501C.100	F/P/S Barrier Rail - Against Wall - Block 501C - P1-S2	10d	06-Sep-19	19-Sep-19	247d
Block 502A - WB I-70 - STA 2105+00 to Holly St. CL		**37d**	**07-Feb-20**	**31-Mar-20**	**250d**
CON.STR.502A.110	Build MSE Wall Moment Slab 425-W2N, b/t Stapleton Dr. N. and Mainline (STA 2104+50 to 2120+00)	15d	07-Feb-20	27-Feb-20	245d
CON.STR.502A.115	Build MSE Wall Moment Slab 509-W1N, b/t Stapleton Dr. N. and Mainline (STA 2119+00 to 2131+00)	12d	28-Feb-20	16-Mar-20	245d
CON.STR.502A.105	F/P/S Barrier Rail - Outside Mainline - Block 502A - P2-S1	10d	17-Mar-20	31-Mar-20	250d
Block 502B - WB I-70 - Holly St. CL to Monaco St. CL		**50d**	**06-Mar-20**	**15-May-20**	**219d**
CON.STR.502B.095	Build MSE Wall 509-W2N Moment Slab, b/t Stapleton Dr. N and Mainline (STA 2132+00 to 2146+00)	14d	06-Mar-20	25-Mar-20	219d
CON.STR.502B.100	Build MSE Wall 514-W1N Moment Slab, b/t Stapleton Dr. N. and Mainline (STA 2146+00 and 2157+00)	11d	26-Mar-20	10-Apr-20	219d
CON.STR.502B.090	F/P/S Barrier Rail - Outside Mainline - Block 502B - P2-S1	25d	13-Apr-20	15-May-20	219d
Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		**63d**	**02-Mar-20**	**01-Jun-20**	**207d**
CON.STR.502C.105	Build MSE Wall 521-W2, b/t Quebec St. to WB I-70 On-Ramp and ROW (STA 2174+00 to 2180+00)	21d	02-Mar-20	31-Mar-20	206d
CON.STR.502C.100	Build MSE Wall 521-W2 Moment Slab, b/t Quebec St. to WB I-70 On-Ramp and ROW (STA 2174+00 to 2180+00)	7d	06-May-20	14-May-20	206d
CON.STR.502C.095	F/P/S Barrier Rail - Outside Mainline - Block 502C - P2-S1	10d	15-May-20	01-Jun-20	207d
Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		**47d**	**20-Feb-20**	**27-Apr-20**	**226d**
CON.STR.502D.100	Build MSE Wall 527-W1N, for WB I-70 Bridge over Quebec St. West Abutment	5d	20-Feb-20	26-Feb-20	219d
CON.STR.502D.110	Build MSE Wall 527-W2N, for WB I-70 Bridge over Quebec St. East Abutment	5d	27-Feb-20	04-Mar-20	219d
CON.STR.502D.095	Build MSE Wall 527-W1N Moment Slab, for WB I-70 Bridge over Quebec St. Abutment	2d	10-Apr-20	13-Apr-20	219d

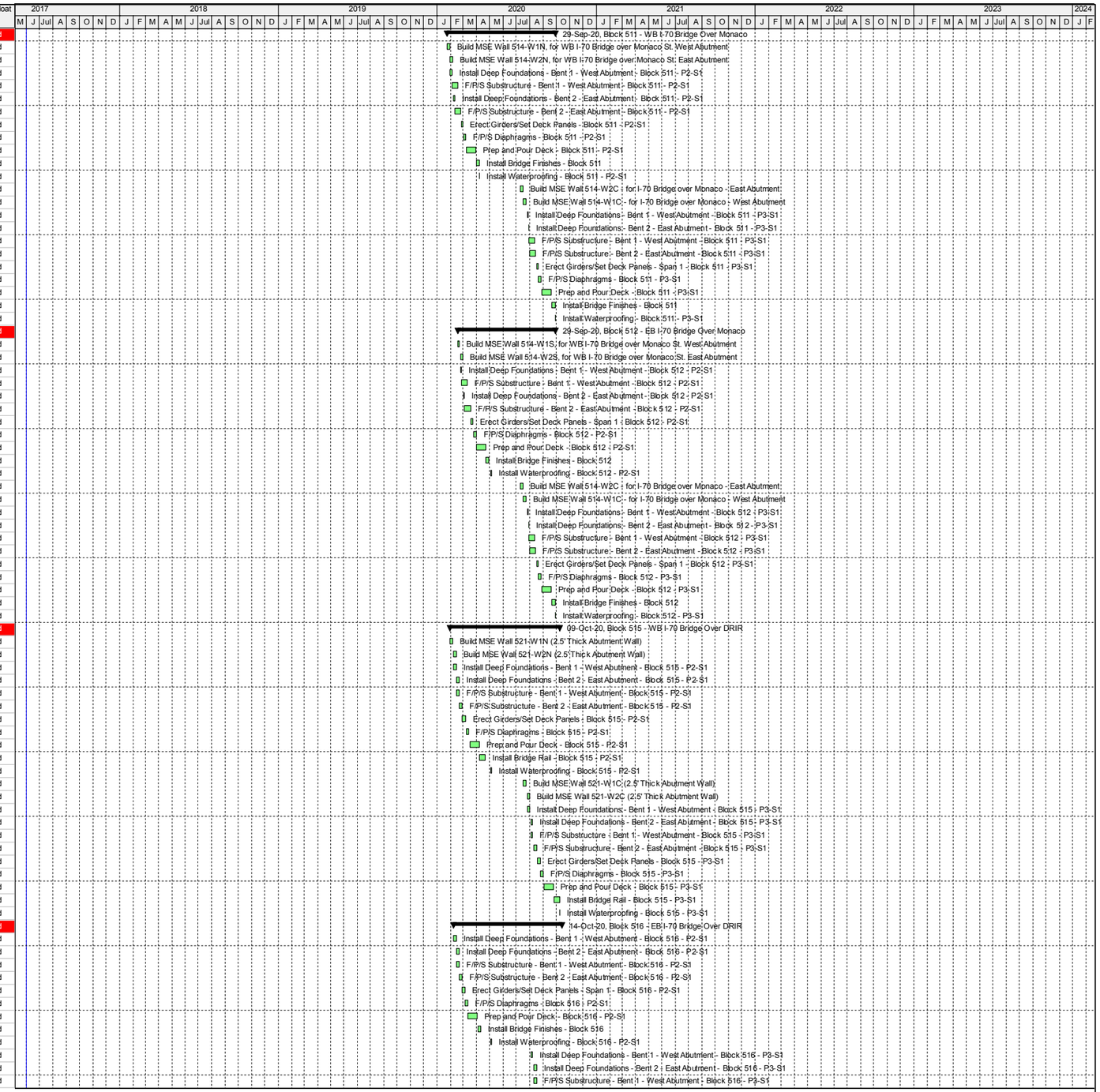


Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.502D.105	Build MSE Wall 527-W2N Moment Slab, for WB I-70 Bridge over Quebec St. Abutment	2d	14-Apr-20	15-Apr-20	219d
CON.STR.502D.090	F/P/S Barrier Rail - Outside Mainline - Block 502D - P2-S1	10d	14-Apr-20	27-Apr-20	226d
Block 503A - EB I-70 - STA 2105+00 to Holly St. CL		**115d**	**07-Feb-20**	**27-Jul-20**	**290d**
CON.STR.503A.105	Build MSE Wall 425-W2S Moment Slab, b/t Stapleton Dr. S and Mainline (STA 2104+50 to 2122+00)	18d	07-Feb-20	03-Mar-20	243d
CON.STR.503A.110	Build MSE Wall 509-W1S Moment Slab, b/t Stapleton Dr. S and Mainline (STA 2120+50 to 2131+00)	11d	04-Mar-20	18-Mar-20	243d
CON.STR.503A.100	F/P/S Barrier Rail - Outside Mainline - Block 503A - P2-S1	10d	19-Mar-20	02-Apr-20	243d
CON.STR.503A.095	F/P/S Barrier Rail - Median - Block 503A- P3- S1	15d	06-Jul-20	27-Jul-20	290d
Block 503B - EB I-70 - Holly St. CL to Monaco St. CL		**104d**	**02-Mar-20**	**03-Aug-20**	**279d**
CON.STR.503B.095	Build MSE Wall 509-W2S Moment Slab, b/t Stapleton Dr. S. and Mainline (STA 2132+00 to 2138+00)	6d	02-Mar-20	09-Mar-20	228d
CON.STR.503B.100	Build MSE Wall 514-W1S Moment Slab, b/t Stapleton Dr. S. and Mainline (STA 2146+00 to 2157+00)	11d	10-Mar-20	24-Mar-20	228d
CON.STR.503B.090	F/P/S Barrier Rail - Outside Mainline - Block 503B - P2-S1	25d	25-Mar-20	29-Apr-20	228d
CON.STR.503B.085	F/P/S Barrier Rail - Median - Block 503B - P3-S1	20d	06-Jul-20	03-Aug-20	279d
Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		**100d**	**06-Mar-20**	**03-Aug-20**	**280d**
CON.STR.503C.105	Build MSE Wall 514-W2S Moment Slab, b/t Stapleton Dr. S. and Mainline (STA 2158+00 to 2167+00)	9d	06-Mar-20	18-Mar-20	232d
CON.STR.503C.100	Build MSE Wall 503-W1S Moment Slab, b/t Stapleton Dr. S. and Mainline (STA 2163+00 to 2175+50)	12d	19-Mar-20	06-Apr-20	232d
CON.STR.503C.095	F/P/S Barrier Rail - Outside Mainline - Block 503C - P2-S1	25d	19-Mar-20	23-Apr-20	232d
CON.STR.503C.090	F/P/S Barrier Rail - Median - Block 503C - P3-S1	15d	13-Jul-20	03-Aug-20	280d
Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		**124d**	**28-Jan-20**	**28-Jul-20**	**293d**
CON.STR.503D.105	Build MSE Wall 527-W1S, for EB I-70 Bridge over Quebec St. West Abutment	5d	28-Jan-20	03-Feb-20	222d
CON.STR.503D.115	Build MSE Wall 527-W2S, for EB I-70 Bridge over Quebec St. East Abutment	5d	04-Feb-20	10-Feb-20	222d
CON.STR.503D.100	Build MSE Wall 527-W1S Moment Slab, for EB I-70 Bridge over Quebec St. Abutment	2d	10-Mar-20	11-Mar-20	241d
CON.STR.503D.110	Build MSE Wall 527-W2S Moment Slab, for EB I-70 Bridge over Quebec St. Abutment	2d	12-Mar-20	13-Mar-20	241d
CON.STR.503D.095	F/P/S Barrier Rail - Outside Mainline - Block 503D - P2-S1	10d	16-Mar-20	30-Mar-20	246d
CON.STR.503D.090	F/P/S Barrier Rail - Median - Block 503D - P3-S1	15d	07-Jul-20	28-Jul-20	293d
Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.		**28d**	**16-Sep-19**	**25-Oct-19**	**238d**
CON.STR.504A.120	Build MSE Wall 425-W2S - between Stapleton Dr. S and EB I-70 - STA 2105+00 to 2130+00	18d	16-Sep-19	10-Oct-19	238d
CON.STR.504A.125	Build MSE Wall 509-W1S - between Stapleton Dr. S and EB I-70 - STA 2125+00 to Holly	18d	16-Sep-19	10-Oct-19	238d
CON.STR.504A.115	F/P/S Barrier Rail - Against Wall - Block 504A - P1-S2	10d	11-Oct-19	25-Oct-19	238d
Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.		**50d**	**06-Jan-20**	**13-Mar-20**	**392d**
CON.STR.504B.115	Build MSE Wall 514-W1S - between Stapleton Dr. S and EB I-70 - STA 2146+00 to Monaco	20d	06-Jan-20	31-Jan-20	230d
CON.STR.504B.110	Build MSE Wall 509-W2S - between Stapleton Dr. S and EB I-70 - STA 2132+00 to 2146+00	20d	03-Feb-20	28-Feb-20	392d
CON.STR.504B.105	F/P/S Barrier Rail - Against Wall - Block 504B - P1-S2	10d	02-Mar-20	13-Mar-20	392d
Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn		**30d**	**26-Aug-19**	**08-Oct-19**	**252d**
CON.STR.504C.100	Build MSE Wall 503-W1, b/t Stapleton Dr. S. and EB I-70 to Quebec Off-Ramp (STA 2163+00 to 2175+50)	20d	26-Aug-19	24-Sep-19	252d
CON.STR.504C.105	Build MSE Wall 514-W2S, b/t EB I-70 ML and Stapleton Dr. S to Quebec Ramp (STA 2158+00 to 2167+00)	25d	26-Aug-19	01-Oct-19	252d
CON.STR.504C.095	F/P/S Barrier Rail - Against Wall - Block 504C - P1-S2	10d	25-Sep-19	08-Oct-19	252d
Block 506 - WB I-70 Bridge Over Holly		**168d**	**29-Jan-20**	**02-Oct-20**	**329d**
CON.STR.506.135	Build MSE Wall 509-W1C, at WB I-70 Bridge over Holly Abutment (West Abut.)	5d	29-Jan-20	04-Feb-20	244d
CON.STR.506.145	Build MSE Wall 509-W2C, at WB I-70 Bridge over Holly Abutment (East Abut.)	5d	05-Feb-20	11-Feb-20	244d
CON.STR.506.095	Install Deep Foundations - Bent 1 - West Abutment - Block 506 - P2-S1	2d	05-Feb-20	06-Feb-20	247d
CON.STR.506.115	F/P/S Substructure - Bent 1 - West Abutment - Block 506 - P2-S1	10d	07-Feb-20	20-Feb-20	249d
CON.STR.506.100	Install Deep Foundations - Bent 2 - East Abutment - Block 506 - P2-S1	2d	12-Feb-20	13-Feb-20	244d
CON.STR.506.125	F/P/S Substructure - Bent 2 - East Abutment - Block 506 - P2-S1	10d	14-Feb-20	27-Feb-20	244d
CON.STR.506.085	Erect Girders/Set Deck Panels - Block 506 - P2-S1	4d	28-Feb-20	04-Mar-20	244d
CON.STR.506.065	F/P/S Diaphragms - Block 506 - P2-S1	5d	05-Mar-20	11-Mar-20	244d
CON.STR.506.055	Prep and Pour Deck - Block 506 - P2-S1	15d	12-Mar-20	02-Apr-20	192d
CON.STR.506.045	Install Bridge Rail - Block 506 - P2-S1	10d	03-Apr-20	16-Apr-20	248d
CON.STR.506.155	Install Waterproofing - Block 506 - P2-S1	1d	17-Apr-20	17-Apr-20	195d
CON.STR.506.140	Build MSE Wall 509-W1C, at WB I-70 Bridge over Holly Abutment (West Abut.)	5d	10-Jul-20	16-Jul-20	284d
CON.STR.506.150	Build MSE Wall 509-W2C, at WB I-70 Bridge over Holly Abutment (East Abut.)	5d	17-Jul-20	23-Jul-20	284d
CON.STR.506.105	Install Deep Foundations - Bent 1 - West Abutment - Block 506 - P3-S1	2d	17-Jul-20	20-Jul-20	287d
CON.STR.506.120	F/P/S Substructure - Bent 1 - West Abutment - Block 506 - P3-S1	10d	21-Jul-20	04-Aug-20	289d
CON.STR.506.110	Install Deep Foundations - Bent 2 - East Abutment - Block 506 - P3-S1	2d	27-Jul-20	28-Jul-20	284d
CON.STR.506.130	F/P/S Substructure - Bent 2 - East Abutment - Block 506 - P3-S1	10d	29-Jul-20	11-Aug-20	284d
CON.STR.506.090	Erect Girders/Set Deck Panels - Block 506 - P3-S1	4d	12-Aug-20	18-Aug-20	284d
CON.STR.506.070	F/P/S Diaphragms - Block 506 - P3-S1	5d	19-Aug-20	25-Aug-20	284d
CON.STR.506.060	Prep and Pour Deck - Block 506 - P3-S1	15d	26-Aug-20	16-Sep-20	232d
CON.STR.506.050	Install Bridge Rail - Block 506 - P3-S1	10d	17-Sep-20	01-Oct-20	329d
CON.STR.506.160	Install Waterproofing - Block 506 - P3-S1	1d	02-Oct-20	02-Oct-20	221d
Block 507 - EB I-70 Bridge Over Holly		**171d**	**24-Jan-20**	**02-Oct-20**	**329d**
CON.STR.507.140	Build MSE Wall 509-W1S, at EB I-70 Bridge over Holly Abutment (West Abut.)	5d	24-Jan-20	30-Jan-20	247d
CON.STR.507.095	Install Deep Foundations - Bent 1 - West Abutment - Block 507 - P2-S1	2d	31-Jan-20	03-Feb-20	250d
CON.STR.507.150	Build MSE Wall 509-W2S, at EB I-70 Bridge over Holly Abutment (East Abut.)	5d	31-Jan-20	06-Feb-20	247d
CON.STR.507.115	F/P/S Substructure - Bent 1 - West Abutment - Block 507 - P2-S1	10d	04-Feb-20	17-Feb-20	252d
CON.STR.507.100	Install Deep Foundations - Bent 2 - East Abutment - Block 507 - P2-S1	2d	07-Feb-20	10-Feb-20	247d
CON.STR.507.125	F/P/S Substructure - Bent 2 - East Abutment - Block 507 - P2-S1	10d	11-Feb-20	24-Feb-20	247d
CON.STR.507.090	Erect Girders/Set Deck Panels - Span 1 - Block 507 - P2-S1	4d	25-Feb-20	28-Feb-20	247d
CON.STR.507.065	F/P/S Diaphragms - Block 507 - P2-S1	5d	02-Mar-20	06-Mar-20	247d
CON.STR.507.055	Prep and Pour Deck - Block 507 - P2-S1	15d	09-Mar-20	30-Mar-20	195d
CON.STR.507.045	Install Bridge Rail - Block 507 - P2-S1	10d	31-Mar-20	13-Apr-20	251d
CON.STR.507.155	Install Waterproofing - Block 507 - P2-S1	1d	14-Apr-20	14-Apr-20	198d
CON.STR.507.135	Build MSE Wall 509-W1C, at EB I-70 Bridge over Holly Abutment (West Abut.)	5d	10-Jul-20	16-Jul-20	284d
CON.STR.507.145	Build MSE Wall 509-W2C, at EB I-70 Bridge over Holly Abutment (East Abut.)	5d	17-Jul-20	23-Jul-20	284d
CON.STR.507.105	Install Deep Foundations - Bent 1 - West Abutment - Block 507 - P3-S1	2d	17-Jul-20	20-Jul-20	287d
CON.STR.507.120	F/P/S Substructure - Bent 1 - West Abutment - Block 507 - P3-S1	10d	21-Jul-20	04-Aug-20	289d
CON.STR.507.110	Install Deep Foundations - Bent 2 - East Abutment - Block 507 - P3-S1	2d	27-Jul-20	28-Jul-20	284d
CON.STR.507.130	F/P/S Substructure - Bent 2 - East Abutment - Block 507 - P3-S1	10d	29-Jul-20	11-Aug-20	284d
CON.STR.507.085	Erect Girders/Set Deck Panels - Block 507 - P3-S1	4d	12-Aug-20	18-Aug-20	284d
CON.STR.507.070	F/P/S Diaphragms - Block 507 - P3-S1	5d	19-Aug-20	25-Aug-20	284d
CON.STR.507.060	Prep and Pour Deck - Block 507 - P3-S1	15d	26-Aug-20	16-Sep-20	232d
CON.STR.507.050	Install Bridge Rail - Block 507 - P3-S1	10d	17-Sep-20	01-Oct-20	329d
CON.STR.507.160	Install Waterproofing - Block 507 - P3-S1	1d	02-Oct-20	02-Oct-20	221d

Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Block 511 - WB I-70 Bridge Over Monaco		**168d**	**24-Jan-20**	**29-Sep-20**	**332d**
CON.STR.511.135	Build MSE Wall 514-W1N, for WB I-70 Bridge over Monaco St. West Abutment	5d	24-Jan-20	30-Jan-20	247d
CON.STR.511.145	Build MSE Wall 514-W2N, for WB I-70 Bridge over Monaco St. East Abutment	5d	31-Jan-20	06-Feb-20	247d
CON.STR.511.090	Install Deep Foundations - Bent 1 - West Abutment - Block 511 - P2-S1	2d	31-Jan-20	03-Feb-20	250d
CON.STR.511.110	F/P/S Substructure - Bent 1 - West Abutment - Block 511 - P2-S1	10d	04-Feb-20	17-Feb-20	252d
CON.STR.511.095	Install Deep Foundations - Bent 2 - East Abutment - Block 511 - P2-S1	2d	07-Feb-20	10-Feb-20	247d
CON.STR.511.120	F/P/S Substructure - Bent 2 - East Abutment - Block 511 - P2-S1	10d	11-Feb-20	24-Feb-20	247d
CON.STR.511.080	Erect Girders/Set Deck Panels - Block 511 - P2-S1	4d	25-Feb-20	28-Feb-20	247d
CON.STR.511.060	F/P/S Diaphragms - Block 511 - P2-S1	5d	02-Mar-20	06-Mar-20	247d
CON.STR.511.050	Prep and Pour Deck - Block 511 - P2-S1	15d	09-Mar-20	30-Mar-20	195d
CON.STR.511.040	Install Bridge Finishes - Block 511	5d	31-Mar-20	06-Apr-20	256d
CON.STR.511.150	Install Waterproofing - Block 511 - P2-S1	1d	07-Apr-20	07-Apr-20	203d
CON.STR.511.140	Build MSE Wall 514-W2C - for I-70 Bridge over Monaco - East Abutment	5d	10-Jul-20	16-Jul-20	282d
CON.STR.511.130	Build MSE Wall 514-W1C - for I-70 Bridge over Monaco - West Abutment	5d	17-Jul-20	23-Jul-20	282d
CON.STR.511.100	Install Deep Foundations - Bent 1 - West Abutment - Block 511 - P3-S1	2d	27-Jul-20	28-Jul-20	282d
CON.STR.511.105	Install Deep Foundations - Bent 2 - East Abutment - Block 511 - P3-S1	2d	29-Jul-20	30-Jul-20	282d
CON.STR.511.115	F/P/S Substructure - Bent 1 - West Abutment - Block 511 - P3-S1	10d	29-Jul-20	11-Aug-20	284d
CON.STR.511.125	F/P/S Substructure - Bent 2 - East Abutment - Block 511 - P3-S1	10d	31-Jul-20	13-Aug-20	282d
CON.STR.511.085	Erect Girders/Set Deck Panels - Span 1 - Block 511 - P3-S1	4d	17-Aug-20	20-Aug-20	282d
CON.STR.511.065	F/P/S Diaphragms - Block 511 - P3-S1	5d	21-Aug-20	27-Aug-20	282d
CON.STR.511.055	Prep and Pour Deck - Block 511 - P3-S1	15d	28-Aug-20	18-Sep-20	230d
CON.STR.511.045	Install Bridge Finishes - Block 511	5d	21-Sep-20	28-Sep-20	332d
CON.STR.511.155	Install Waterproofing - Block 511 - P3-S1	1d	29-Sep-20	29-Sep-20	224d
Block 512 - EB I-70 Bridge Over Monaco		**152d**	**17-Feb-20**	**29-Sep-20**	**332d**
CON.STR.512.135	Build MSE Wall 514-W1S, for WB I-70 Bridge over Monaco St. West Abutment	5d	17-Feb-20	21-Feb-20	230d
CON.STR.512.145	Build MSE Wall 514-W2S, for WB I-70 Bridge over Monaco St. East Abutment	5d	24-Feb-20	28-Feb-20	230d
CON.STR.512.090	Install Deep Foundations - Bent 1 - West Abutment - Block 512 - P2-S1	2d	24-Feb-20	25-Feb-20	233d
CON.STR.512.115	F/P/S Substructure - Bent 1 - West Abutment - Block 512 - P2-S1	10d	26-Feb-20	10-Mar-20	235d
CON.STR.512.095	Install Deep Foundations - Bent 2 - East Abutment - Block 512 - P2-S1	2d	02-Mar-20	03-Mar-20	230d
CON.STR.512.125	F/P/S Substructure - Bent 2 - East Abutment - Block 512 - P2-S1	10d	04-Mar-20	17-Mar-20	230d
CON.STR.512.080	Erect Girders/Set Deck Panels - Span 1 - Block 512 - P2-S1	4d	18-Mar-20	23-Mar-20	230d
CON.STR.512.060	F/P/S Diaphragms - Block 512 - P2-S1	5d	24-Mar-20	31-Mar-20	230d
CON.STR.512.050	Prep and Pour Deck - Block 512 - P2-S1	15d	01-Apr-20	21-Apr-20	178d
CON.STR.512.040	Install Bridge Finishes - Block 512	5d	22-Apr-20	28-Apr-20	239d
CON.STR.512.150	Install Waterproofing - Block 512 - P2-S1	1d	04-May-20	04-May-20	116d
CON.STR.512.140	Build MSE Wall 514-W2C - for I-70 Bridge over Monaco - East Abutment	5d	10-Jul-20	16-Jul-20	282d
CON.STR.512.130	Build MSE Wall 514-W1C - for I-70 Bridge over Monaco - West Abutment	5d	17-Jul-20	23-Jul-20	282d
CON.STR.512.100	Install Deep Foundations - Bent 1 - West Abutment - Block 512 - P3-S1	2d	27-Jul-20	28-Jul-20	282d
CON.STR.512.105	Install Deep Foundations - Bent 2 - East Abutment - Block 512 - P3-S1	2d	29-Jul-20	30-Jul-20	282d
CON.STR.512.120	F/P/S Substructure - Bent 1 - West Abutment - Block 512 - P3-S1	10d	29-Jul-20	11-Aug-20	284d
CON.STR.512.110	F/P/S Substructure - Bent 2 - East Abutment - Block 512 - P3-S1	10d	31-Jul-20	13-Aug-20	282d
CON.STR.512.085	Erect Girders/Set Deck Panels - Span 1 - Block 512 - P3-S1	4d	17-Aug-20	20-Aug-20	282d
CON.STR.512.065	F/P/S Diaphragms - Block 512 - P3-S1	5d	21-Aug-20	27-Aug-20	282d
CON.STR.512.055	Prep and Pour Deck - Block 512 - P3-S1	15d	28-Aug-20	18-Sep-20	230d
CON.STR.512.045	Install Bridge Finishes - Block 512	5d	21-Sep-20	28-Sep-20	332d
CON.STR.512.155	Install Waterproofing - Block 512 - P3-S1	1d	29-Sep-20	29-Sep-20	224d
Block 515 - WB I-70 Bridge Over DRIR		**171d**	**31-Jan-20**	**09-Oct-20**	**325d**
CON.STR.515.140	Build MSE Wall 521-W1N (2.5' Thick Abutment Wall)	5d	31-Jan-20	06-Feb-20	245d
CON.STR.515.150	Build MSE Wall 521-W2N (2.5' Thick Abutment Wall)	5d	07-Feb-20	13-Feb-20	245d
CON.STR.515.095	Install Deep Foundations - Bent 1 - West Abutment - Block 515 - P2-S1	5d	07-Feb-20	13-Feb-20	245d
CON.STR.515.100	Install Deep Foundations - Bent 2 - East Abutment - Block 515 - P2-S1	5d	14-Feb-20	20-Feb-20	245d
CON.STR.515.125	F/P/S Substructure - Bent 1 - West Abutment - Block 515 - P2-S1	5d	14-Feb-20	20-Feb-20	250d
CON.STR.515.115	F/P/S Substructure - Bent 2 - East Abutment - Block 515 - P2-S1	5d	21-Feb-20	27-Feb-20	245d
CON.STR.515.085	Erect Girders/Set Deck Panels - Block 515 - P2-S1	6d	28-Feb-20	06-Mar-20	245d
CON.STR.515.065	F/P/S Diaphragms - Block 515 - P2-S1	5d	09-Mar-20	13-Mar-20	245d
CON.STR.515.060	Prep and Pour Deck - Block 515 - P2-S1	15d	16-Mar-20	06-Apr-20	245d
CON.STR.515.045	Install Bridge Rail - Block 515 - P2-S1	10d	07-Apr-20	20-Apr-20	245d
CON.STR.515.155	Install Waterproofing - Block 515 - P2-S1	1d	04-May-20	04-May-20	116d
CON.STR.515.135	Build MSE Wall 521-W1C (2.5' Thick Abutment Wall)	5d	17-Jul-20	23-Jul-20	279d
CON.STR.515.145	Build MSE Wall 521-W2C (2.5' Thick Abutment Wall)	5d	27-Jul-20	31-Jul-20	279d
CON.STR.515.105	Install Deep Foundations - Bent 1 - West Abutment - Block 515 - P3-S1	5d	27-Jul-20	31-Jul-20	279d
CON.STR.515.110	Install Deep Foundations - Bent 2 - East Abutment - Block 515 - P3-S1	5d	03-Aug-20	07-Aug-20	279d
CON.STR.515.130	F/P/S Substructure - Bent 1 - West Abutment - Block 515 - P3-S1	5d	03-Aug-20	07-Aug-20	284d
CON.STR.515.120	F/P/S Substructure - Bent 2 - East Abutment - Block 515 - P3-S1	5d	10-Aug-20	17-Aug-20	279d
CON.STR.515.090	Erect Girders/Set Deck Panels - Block 515 - P3-S1	6d	18-Aug-20	25-Aug-20	279d
CON.STR.515.070	F/P/S Diaphragms - Block 515 - P3-S1	5d	26-Aug-20	01-Sep-20	279d
CON.STR.515.055	Prep and Pour Deck - Block 515 - P3-S1	15d	02-Sep-20	24-Sep-20	227d
CON.STR.515.050	Install Bridge Rail - Block 515 - P3-S1	10d	25-Sep-20	08-Oct-20	325d
CON.STR.515.160	Install Waterproofing - Block 515 - P3-S1	1d	09-Oct-20	09-Oct-20	217d
Block 516 - EB I-70 Bridge Over DRIR		**169d**	**07-Feb-20**	**14-Oct-20**	**265d**
CON.STR.516.095	Install Deep Foundations - Bent 1 - West Abutment - Block 516 - P2-S1	5d	07-Feb-20	13-Feb-20	248d
CON.STR.516.100	Install Deep Foundations - Bent 2 - East Abutment - Block 516 - P2-S1	5d	14-Feb-20	20-Feb-20	248d
CON.STR.516.125	F/P/S Substructure - Bent 1 - West Abutment - Block 516 - P2-S1	5d	14-Feb-20	20-Feb-20	253d
CON.STR.516.115	F/P/S Substructure - Bent 2 - East Abutment - Block 516 - P2-S1	5d	21-Feb-20	27-Feb-20	248d
CON.STR.516.090	Erect Girders/Set Deck Panels - Span 1 - Block 516 - P2-S1	4d	28-Feb-20	04-Mar-20	248d
CON.STR.516.065	F/P/S Diaphragms - Block 516 - P2-S1	5d	05-Mar-20	11-Mar-20	248d
CON.STR.516.055	Prep and Pour Deck - Block 516 - P2-S1	15d	12-Mar-20	02-Apr-20	196d
CON.STR.516.050	Install Bridge Finishes - Block 516	5d	03-Apr-20	09-Apr-20	252d
CON.STR.516.135	Install Waterproofing - Block 516 - P2-S1	1d	04-May-20	04-May-20	116d
CON.STR.516.105	Install Deep Foundations - Bent 1 - West Abutment - Block 516 - P3-S1	5d	03-Aug-20	07-Aug-20	265d
CON.STR.516.110	Install Deep Foundations - Bent 2 - East Abutment - Block 516 - P3-S1	5d	10-Aug-20	17-Aug-20	265d
CON.STR.516.130	F/P/S Substructure - Bent 1 - West Abutment - Block 516 - P3-S1	5d	10-Aug-20	17-Aug-20	270d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.516.120	F/P/S Substructure - Bent 2 - East Abutment - Block 516 - P3-S1	5d	18-Aug-20	24-Aug-20	265d
CON.STR.516.085	Erect Girders/Set Deck Panels - Block 516 - P3-S1	4d	25-Aug-20	28-Aug-20	265d
CON.STR.516.070	F/P/S Diaphragms - Block 516 - P3-S1	5d	31-Aug-20	04-Sep-20	265d
CON.STR.516.060	Prep and Pour Deck - Block 516 - P3-S1	15d	08-Sep-20	29-Sep-20	213d
CON.STR.516.045	Install Bridge Rail - Block 516 - P3-S1	10d	30-Sep-20	13-Oct-20	265d
CON.STR.516.140	Install Waterproofing - Block 516 - P3-S1	1d	14-Oct-20	14-Oct-20	212d
Block 517 - WB I-70 Bridge Over Quebec		**156d**	**13-Feb-20**	**01-Oct-20**	**330d**
CON.STR.517.130	Build MSE Wall 527-W1N, for WB I-70 Bridge over Quebec St. West Abutment	5d	13-Feb-20	19-Feb-20	232d
CON.STR.517.140	Build MSE Wall 527-W2N, for WB I-70 Bridge over Quebec St. East Abutment	5d	20-Feb-20	26-Feb-20	232d
CON.STR.517.085	Install Deep Foundations - Bent 1 - West Abutment - Block 517 - P2-S1	2d	20-Feb-20	21-Feb-20	235d
CON.STR.517.105	F/P/S Substructure - Bent 1 - West Abutment - Block 517 - P2-S1	10d	24-Feb-20	06-Mar-20	237d
CON.STR.517.090	Install Deep Foundations - Bent 2 - East Abutment - Block 517 - P2-S1	2d	27-Feb-20	28-Feb-20	232d
CON.STR.517.115	F/P/S Substructure - Bent 2 - East Abutment - Block 517 - P2-S1	10d	02-Mar-20	13-Mar-20	232d
CON.STR.517.075	Erect Girders/Set Deck Panels - Span 1 - Block 517 - P2-S1	4d	16-Mar-20	19-Mar-20	232d
CON.STR.517.055	F/P/S Diaphragms - Block 517 - P2-S1	5d	20-Mar-20	26-Mar-20	232d
CON.STR.517.045	Prep and Pour Deck - Block 517 - P2-S1	15d	30-Mar-20	17-Apr-20	180d
CON.STR.517.035	Install Bridge Rail - Block 517 - P2-S1	10d	20-Apr-20	01-May-20	236d
CON.STR.517.145	Install Waterproofing - Block 517 - P2-S1	1d	04-May-20	04-May-20	116d
CON.STR.517.125	Build MSE Wall 527-W1C, for WB I-70 Bridge over Quebec St. West Abutment	5d	09-Jul-20	15-Jul-20	285d
CON.STR.517.135	Build MSE Wall 527-W2C, for WB I-70 Bridge over Quebec St. East Abutment	5d	16-Jul-20	22-Jul-20	285d
CON.STR.517.095	Install Deep Foundations - Bent 1 - West Abutment - Block 517 - P3-S1	2d	16-Jul-20	17-Jul-20	288d
CON.STR.517.110	F/P/S Substructure - Bent 1 - West Abutment - Block 517 - P3-S1	10d	20-Jul-20	03-Aug-20	290d
CON.STR.517.100	Install Deep Foundations - Bent 2 - East Abutment - Block 517 - P3-S1	2d	23-Jul-20	27-Jul-20	285d
CON.STR.517.120	F/P/S Substructure - Bent 2 - East Abutment - Block 517 - P3-S1	10d	28-Jul-20	10-Aug-20	285d
CON.STR.517.080	Erect Girders/Set Deck Panels - Span 1 - Block 517 - P3-S1	4d	11-Aug-20	17-Aug-20	285d
CON.STR.517.060	F/P/S Diaphragms - Block 517 - P3-S1	5d	18-Aug-20	24-Aug-20	285d
CON.STR.517.050	Prep and Pour Deck - Block 517 - P3-S1	15d	25-Aug-20	15-Sep-20	233d
CON.STR.517.040	Install Bridge Rail - Block 517 - P3-S1	10d	16-Sep-20	30-Sep-20	330d
CON.STR.517.150	Install Waterproofing - Block 517 - P3-S1	1d	01-Oct-20	01-Oct-20	222d
Block 518 - EB I-70 Bridge Over Quebec		**145d**	**27-Feb-20**	**30-Sep-20**	**331d**
CON.STR.518.130	Build MSE Wall 527-W1S, for WB I-70 Bridge over Quebec St. West Abutment	5d	27-Feb-20	04-Mar-20	222d
CON.STR.518.140	Build MSE Wall 527-W2S, for WB I-70 Bridge over Quebec St. East Abutment	5d	05-Mar-20	11-Mar-20	222d
CON.STR.518.085	Install Deep Foundations - Bent 1 - West Abutment - Block 518 - P2-S1	2d	05-Mar-20	06-Mar-20	225d
CON.STR.518.105	F/P/S Substructure - Bent 1 - West Abutment - Block 518 - P2-S1	10d	09-Mar-20	20-Mar-20	227d
CON.STR.518.090	Install Deep Foundations - Bent 2 - East Abutment - Block 518 - P2-S1	2d	12-Mar-20	13-Mar-20	222d
CON.STR.518.115	F/P/S Substructure - Bent 2 - East Abutment - Block 518 - P2-S1	10d	16-Mar-20	30-Mar-20	222d
CON.STR.518.075	Erect Girders/Set Deck Panels - Span 1 - Block 518 - P2-S1	4d	31-Mar-20	03-Apr-20	222d
CON.STR.518.055	F/P/S Diaphragms - Block 518 - P2-S1	5d	06-Apr-20	10-Apr-20	222d
CON.STR.518.045	Prep and Pour Deck - Block 518 - P2-S1	15d	13-Apr-20	01-May-20	170d
CON.STR.518.035	Install Bridge Rail - Block 518 - P2-S1	10d	04-May-20	15-May-20	226d
CON.STR.518.145	Install Waterproofing - Block 518 - P2-S1	1d	18-May-20	18-May-20	108d
CON.STR.518.125	Build MSE Wall 527-W1C, for WB I-70 Bridge over Quebec St. West Abutment	5d	08-Jul-20	14-Jul-20	286d
CON.STR.518.135	Build MSE Wall 527-W2C, for WB I-70 Bridge over Quebec St. East Abutment	5d	15-Jul-20	21-Jul-20	286d
CON.STR.518.095	Install Deep Foundations - Bent 1 - West Abutment - Block 518 - P3-S1	2d	15-Jul-20	16-Jul-20	289d
CON.STR.518.110	F/P/S Substructure - Bent 1 - West Abutment - Block 518 - P3-S1	10d	17-Jul-20	31-Jul-20	291d
CON.STR.518.100	Install Deep Foundations - Bent 2 - East Abutment - Block 518 - P3-S1	2d	22-Jul-20	23-Jul-20	286d
CON.STR.518.120	F/P/S Substructure - Bent 2 - East Abutment - Block 518 - P3-S1	10d	27-Jul-20	07-Aug-20	286d
CON.STR.518.080	Erect Girders/Set Deck Panels - Span 1 - Block 518 - P3-S1	4d	10-Aug-20	13-Aug-20	286d
CON.STR.518.060	F/P/S Diaphragms - Block 518 - P3-S1	5d	17-Aug-20	21-Aug-20	286d
CON.STR.518.050	Prep and Pour Deck - Block 518 - P3-S1	15d	24-Aug-20	14-Sep-20	234d
CON.STR.518.040	Install Bridge Rail - Block 518 - P3-S1	10d	15-Sep-20	29-Sep-20	331d
CON.STR.518.150	Install Waterproofing - Block 518 - P3-S1	1d	30-Sep-20	30-Sep-20	223d
Block 532 - Stapleton N. Bridge Over DRIR		**89d**	**26-Mar-19**	**08-Aug-19**	**525d**
CON.STR.532.045	Install Deep Foundations - Bent 1 - West Abutment - Block 532 - P1-S1	9d	26-Mar-19	08-Apr-19	513d
CON.STR.532.050	Install Deep Foundations - Bent 2 - East Abutment - Block 532 - P1-S1	9d	09-Apr-19	23-Apr-19	524d
CON.STR.532.055	F/P/S Substructure - Bent 1 - West Abutment - Block 532 - P1-S1	20d	09-Apr-19	08-May-19	513d
CON.STR.532.060	F/P/S Substructure - Bent 2 - East Abutment - Block 532 - P1-S1	20d	09-May-19	10-Jun-19	513d
CON.STR.532.040	Erect Girders/Set Deck Panels - Block 532 - P1-S1	6d	11-Jun-19	18-Jun-19	513d
CON.STR.532.030	F/P/S Diaphragms - Block 532 - P1-S1	10d	19-Jun-19	02-Jul-19	513d
CON.STR.532.025	Prep and Pour Deck - Block 532 - P1-S1	15d	03-Jul-19	26-Jul-19	406d
CON.STR.532.020	Install Bridge Finishes - Block 532	6d	29-Jul-19	05-Aug-19	513d
CON.STR.532.065	Install Waterproofing - Block 532 - P1-S1	3d	06-Aug-19	08-Aug-19	281d
Block 533 - Stapleton S. Bridge Over DRIR		**78d**	**20-Jan-20**	**07-May-20**	**348d**
CON.STR.533.055	Install Deep Foundations - Bent 1 - West Abutment - Block 533 - P3-S1	9d	20-Jan-20	30-Jan-20	336d
CON.STR.533.060	Install Deep Foundations - Bent 2 - East Abutment - Block 533 - P3-S1	9d	31-Jan-20	12-Feb-20	336d
CON.STR.533.065	F/P/S Substructure - Bent 1 - West Abutment - Block 533 - P3-S1	20d	31-Jan-20	27-Feb-20	345d
CON.STR.533.070	F/P/S Substructure - Bent 2 - East Abutment - Block 533 - P3-S1	20d	13-Feb-20	11-Mar-20	336d
CON.STR.533.050	Erect Girders/Set Deck Panels - Block 533 - P3-S1	6d	12-Mar-20	19-Mar-20	336d
CON.STR.533.040	F/P/S Diaphragms - Block 533 - P3-S1	10d	20-Mar-20	03-Apr-20	336d
CON.STR.533.035	Prep and Pour Deck - Block 533 - P3-S1	15d	06-Apr-20	24-Apr-20	284d
CON.STR.533.030	Install Bridge Finishes - Block 533	6d	27-Apr-20	04-May-20	336d
CON.STR.533.075	Install Waterproofing - Block 533 - P3-S1	3d	05-May-20	07-May-20	224d
East Area		**313d**	**04-Jun-18**	**01-Oct-19**	**492d**
Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)		**313d**	**04-Jun-18**	**01-Oct-19**	**492d**
Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		**37d**	**01-Aug-18**	**24-Sep-18**	**602d**
CON.DRN.603B.020	Install Block Wall - Block 603B	20d	01-Aug-18	29-Aug-18	527d
CON.DRN.603B.25	Install Block Wall - Block 602B	8d	01-Aug-18	10-Aug-18	620d
CON.DRN.603B.30	F/P/S Type 7 Barrier	3d	24-Aug-18	28-Aug-18	668d
CON.DRN.603B.025	F/P/S Type 7 Barrier - Block 603B	5d	18-Sep-18	24-Sep-18	602d
Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		**12d**	**01-Jul-19**	**18-Jul-19**	**515d**
CON.STR.603C.075	F/P/S Barrier Rail - Block 603C - P3-S1	12d	01-Jul-19	18-Jul-19	515d
Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)		**28d**	**01-Aug-18**	**11-Sep-18**	**593d**

Remaining Work | Remaining Level of Effort | Summary
Critical Remaining Work | Milestone

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.603E.070	Build MSE Wall 621-W1, b/t Peoria St. to EB I-70 Mainline On-Ramp and Mainline (STA 2353+00 to 2365+00)	16d	01-Aug-18	23-Aug-18	573d
CON.STR.603E.075	Build MSE Wall 621-W1 Moment Slab	12d	24-Aug-18	11-Sep-18	593d
Block 605 - I-270 Bridge Over I-70		**284d**	**04-Jun-18**	**19-Aug-19**	**472d**
CON.STR.605.085	Install Deep Foundations - Bent 3 - Block 605 - P1-S1	5d	04-Jun-18	11-Jun-18	542d
CON.STR.605.095	F/P/S Substructure - Bent 3 - Block 605 - P1-S1	20d	12-Jun-18	10-Jul-18	542d
CON.STR.605.080	Install Deep Foundations - Bent 2 - Block 605 - P1-S1	5d	12-Jun-18	18-Jun-18	557d
CON.STR.605.120	Build MSE Wall 605-W1, North Abutment	20d	11-Jul-18	08-Aug-18	482d
CON.STR.605.105	F/P/S Substructure - Bent 2 - Block 605 - P1-S1	20d	11-Jul-18	08-Aug-18	542d
CON.STR.605.075	Install Deep Foundations - Bent 1 - South Abutment - Block 605 - P1-S1	5d	09-Aug-18	16-Aug-18	497d
CON.STR.605.130	Build MSE Wall 607-W1, South Abutment (STA 2206+00 to 2217+00)	25d	09-Aug-18	14-Sep-18	482d
CON.STR.605.100	F/P/S Substructure - Bent 1 - West Abutment - Block 605 - P1-S1	10d	17-Aug-18	30-Aug-18	497d
CON.STR.605.070	Install Deep Foundations - Bent 4 - North Abutment - Block 605 - P1-S1	5d	17-Sep-18	21-Sep-18	482d
CON.STR.605.090	F/P/S Substructure - Bent 4 - Block 605 - P1-S1	10d	24-Sep-18	05-Oct-18	482d
CON.STR.605.015	Install Falsework Towers (7 EA)	20d	08-Oct-18	06-Nov-18	482d
CON.STR.605.065	Erect Girders/Set Deck Panels - Block 605 - P1-S1	20d	07-Nov-18	07-Dec-18	482d
CON.STR.605.055	F/P/S Diaphragms/Closure Pours - Block 605 - P1-S1	38d	10-Dec-18	14-Feb-19	482d
CON.STR.605.110	Post-Tensioning	20d	01-Mar-19	01-Apr-19	365d
CON.STR.605.050	Prep and Pour Deck - Block 605 - P1-S1	30d	02-Apr-19	15-May-19	365d
CON.STR.605.115	Build MSE Wall 605-W1 Moment Slab - North Abutment	5d	16-May-19	22-May-19	472d
CON.STR.605.125	Build MSE Wall 607-W1 Moment Slab, South Abutment	12d	23-May-19	12-Jun-19	472d
CON.STR.605.045	Install Bridge Finishes - Block 605	24d	08-Jul-19	09-Aug-19	472d
CON.STR.605.135	Install Waterproofing - Block 605 - P1-S1	5d	12-Aug-19	19-Aug-19	230d
Block 618 - WB I-70 Bridge Over Peoria St.		**256d**	**28-Aug-18**	**01-Oct-19**	**491d**
CON.STR.618.175	Build MSE Wall 624-W1N - I-70 over Peoria Bridge - West Abutment	10d	28-Aug-18	11-Sep-18	548d
CON.STR.618.105	Install Deep Foundations - Bent 1 - West Abutment - Block 618 - P2-S1	2d	12-Sep-18	13-Sep-18	556d
CON.STR.618.195	Build MSE Wall 624-W2N - I-70 over Peoria Bridge - East Abutment	10d	12-Sep-18	25-Sep-18	548d
CON.STR.618.110	Install Deep Foundations - Bent 2 - Center Pier - Block 618 - P2-S1	3d	26-Sep-18	28-Sep-18	548d
CON.STR.618.135	F/P/S Substructure - Bent 1 - West Abutment - Block 618 - P2-S1	5d	26-Sep-18	02-Oct-18	557d
CON.STR.618.140	F/P/S Substructure - Bent 2 - Center Pier - Block 618 - P2-S1	10d	01-Oct-18	12-Oct-18	548d
CON.STR.618.115	Install Deep Foundations - Bent 3 - East Abutment - Block 618 - P2-S1	2d	01-Oct-18	02-Oct-18	556d
CON.STR.618.085	Erect Girders/Set Deck Panels - Span 1 - Block 618 - P2-S1	4d	15-Oct-18	22-Oct-18	549d
CON.STR.618.150	F/P/S Substructure - Bent 3 - East Abutment - Block 618 - P2-S1	5d	15-Oct-18	23-Oct-18	548d
CON.STR.618.095	Erect Girders/Set Deck Panels - Span 2 - Block 618 - P2-S1	4d	24-Oct-18	29-Oct-18	548d
CON.STR.618.065	F/P/S Diaphragms - Block 618 - P2-S1	10d	30-Oct-18	12-Nov-18	548d
CON.STR.618.055	Prep and Pour Deck - Block 618 - P2-S1	15d	13-Nov-18	05-Mar-19	389d
CON.STR.618.045	Install Bridge Finishes - Block 618	5d	06-Mar-19	12-Mar-19	496d
CON.STR.618.180	Build MSE Wall 624-W1N Moment Slab	5d	13-Mar-19	19-Mar-19	496d
CON.STR.618.200	Build MSE Wall 624-W2N Moment Slab	5d	20-Mar-19	28-Mar-19	496d
CON.STR.618.205	Install Waterproofing - Block 618 - P2-S1	2d	01-May-19	02-May-19	238d
CON.STR.618.165	Build MSE Wall 624-W1C - I-70 over Peoria Bridge - West Abutment	5d	30-May-19	07-Jun-19	488d
CON.STR.618.185	Build MSE Wall 624-W2C - I-70 over Peoria Bridge - East Abutment	5d	10-Jun-19	14-Jun-19	501d
CON.STR.618.120	Install Deep Foundations - Bent 1 - West Abutment - Block 618 - P3-S1	2d	26-Jun-19	27-Jun-19	481d
CON.STR.618.125	Install Deep Foundations - Bent 2 - Center Pier - Block 618 - P3-S1	3d	28-Jun-19	02-Jul-19	481d
CON.STR.618.155	F/P/S Substructure - Bent 1 - West Abutment - Block 618 - P3-S1	5d	28-Jun-19	08-Jul-19	490d
CON.STR.618.145	F/P/S Substructure - Bent 2 - Center Pier - Block 618 - P3-S1	10d	03-Jul-19	18-Jul-19	481d
CON.STR.618.130	Install Deep Foundations - Bent 3 - East Abutment - Block 618 - P3-S1	2d	03-Jul-19	08-Jul-19	489d
CON.STR.618.090	Erect Girders/Set Deck Panels - Span 1 - Block 618 - P3-S1	4d	19-Jul-19	25-Jul-19	482d
CON.STR.618.160	F/P/S Substructure - Bent 3 - East Abutment - Block 618 - P3-S1	5d	19-Jul-19	26-Jul-19	481d
CON.STR.618.100	Erect Girders/Set Deck Panels - Span 2 - Block 618 - P3-S1	4d	29-Jul-19	01-Aug-19	481d
CON.STR.618.070	F/P/S Diaphragms - Block 618 - P3-S1	10d	02-Aug-19	16-Aug-19	481d
CON.STR.618.060	Prep and Pour Deck - Block 618 - P3-S1	15d	19-Aug-19	09-Sep-19	374d
CON.STR.618.050	Install Bridge Finishes - Block 618	5d	10-Sep-19	16-Sep-19	481d
CON.STR.618.210	Install Waterproofing - Block 618 - P3-S1	2d	17-Sep-19	18-Sep-19	255d
CON.STR.618.170	Build MSE Wall 624-W1C Moment Slab	5d	17-Sep-19	24-Sep-19	481d
CON.STR.618.190	Build MSE Wall 624-W2C Moment Slab	5d	25-Sep-19	01-Oct-19	481d
Block 619 - EB I-70 Bridge Over Peoria St.		**234d**	**28-Sep-18**	**01-Oct-19**	**492d**
CON.STR.619.120	Install Deep Foundations - Bent 1 - West Abutment - Block 619 - P2-S1	2d	28-Sep-18	01-Oct-18	559d
CON.STR.619.175	Build MSE Wall 624-W1S - I-70 over Peoria Bridge - West Abutment	10d	28-Sep-18	11-Oct-18	551d
CON.STR.619.125	Install Deep Foundations - Bent 2 - Center Pier - Block 619 - P2-S1	3d	02-Oct-18	04-Oct-18	559d
CON.STR.619.150	F/P/S Substructure - Bent 1 - West Abutment - Block 619 - P2-S1	5d	02-Oct-18	08-Oct-18	567d
CON.STR.619.135	F/P/S Substructure - Bent 2 - Center Pier - Block 619 - P2-S1	10d	05-Oct-18	22-Oct-18	559d
CON.STR.619.195	Build MSE Wall 624-W2S - I-70 over Peoria Bridge - East Abutment	10d	12-Oct-18	29-Oct-18	551d
CON.STR.619.180	Build MSE Wall 624-W1S Moment Slab	5d	12-Oct-18	22-Oct-18	587d
CON.STR.619.085	Erect Girders/Set Deck Panels - Span 1 - Block 619 - P2-S1	4d	23-Oct-18	26-Oct-18	559d
CON.STR.619.130	Install Deep Foundations - Bent 3 - East Abutment - Block 619 - P2-S1	2d	30-Oct-18	31-Oct-18	551d
CON.STR.619.200	Build MSE Wall 624-W2S Moment Slab	5d	30-Oct-18	05-Nov-18	582d
CON.STR.619.155	F/P/S Substructure - Bent 3 - East Abutment - Block 619 - P2-S1	5d	01-Nov-18	07-Nov-18	551d
CON.STR.619.095	Erect Girders/Set Deck Panels - Span 2 - Block 619 - P2-S1	4d	08-Nov-18	13-Nov-18	551d
CON.STR.619.065	F/P/S Diaphragms - Block 619 - P2-S1	10d	14-Nov-18	29-Nov-18	551d
CON.STR.619.055	Prep and Pour Deck - Block 619 - P2-S1	15d	30-Nov-18	20-Mar-19	392d
CON.STR.619.045	Install Bridge Finishes - Block 619	5d	22-Mar-19	29-Mar-19	504d
CON.STR.619.205	Install Waterproofing - Block 619 - P2-S1	2d	01-May-19	02-May-19	239d
CON.STR.619.165	Build MSE Wall 624-W1C - I-70 over Peoria Bridge - West Abutment	5d	19-Jun-19	25-Jun-19	481d
CON.STR.619.185	Build MSE Wall 624-W2C - I-70 over Peoria Bridge - East Abutment	5d	26-Jun-19	02-Jul-19	489d
CON.STR.619.105	Install Deep Foundations - Bent 1 - West Abutment - Block 619 - P3-S1	2d	26-Jun-19	27-Jun-19	497d
CON.STR.619.110	Install Deep Foundations - Bent 2 - Center Pier - Block 619 - P3-S1	3d	28-Jun-19	02-Jul-19	497d
CON.STR.619.145	F/P/S Substructure - Bent 1 - West Abutment - Block 619 - P3-S1	5d	28-Jun-19	08-Jul-19	506d
CON.STR.619.115	Install Deep Foundations - Bent 3 - East Abutment - Block 619 - P3-S1	2d	03-Jul-19	08-Jul-19	505d
CON.STR.619.140	F/P/S Substructure - Bent 2 - Center Pier - Block 619 - P3-S1	10d	03-Jul-19	18-Jul-19	497d
CON.STR.619.160	F/P/S Substructure - Bent 3 - East Abutment - Block 619 - P3-S1	5d	19-Jul-19	26-Jul-19	497d
CON.STR.619.090	Erect Girders/Set Deck Panels - Span 1 - Block 619 - P3-S1	4d	19-Jul-19	25-Jul-19	498d
CON.STR.619.100	Erect Girders/Set Deck Panels - Span 2 - Block 619 - P3-S1	4d	29-Jul-19	01-Aug-19	497d

Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.STR.619.070	F/P/S Diaphragms - Block 619 - P3-S1	10d	02-Aug-19	16-Aug-19	497d
CON.STR.619.060	Prep and Pour Deck - Block 619 - P3-S1	15d	19-Aug-19	09-Sep-19	390d
CON.STR.619.050	Install Bridge Finishes - Block 619	5d	10-Sep-19	16-Sep-19	500d
CON.STR.619.210	Install Waterproofing - Block 619 - P3-S1	2d	17-Sep-19	18-Sep-19	256d
CON.STR.619.170	Build MSE Wall 624-W1C Moment Slab	5d	17-Sep-19	24-Sep-19	481d
CON.STR.619.190	Build MSE Wall 624-W2C Moment Slab	5d	25-Sep-19	01-Oct-19	481d
Railroads		641d	17-Jul-18	08-Apr-21	286d
West Area		641d	17-Jul-18	08-Apr-21	213d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		641d	17-Jul-18	08-Apr-21	213d
Block 218 - UPRR Bridge Over I-70		641d	17-Jul-18	08-Apr-21	213d
CON.RR.218.125	Construct Shoofly Fill - West Side	20d	06-May-19	04-Jun-19	6d
UPRR Phase 1		55d	17-Jul-18	04-Oct-18	19d
CON.RMV.218.130	Remove Existing ML1 & Yrd428/039 (by UPRR)	5d	17-Jul-18	23-Jul-18	8d
CON.RR.218.035	Construct ML1 Track and Turnouts (by UPRR)	15d	25-Jul-18	15-Aug-18	19d
CON.RR.218.045	Construct Yrd428/039/427 (by UPRR)	15d	16-Aug-18	06-Sep-18	19d
CON.RR.218.050	Remove Existing YL112 (by UPRR)	5d	07-Sep-18	13-Sep-18	19d
CON.RR.218.040	Construct YL112 and Turnouts (by UPRR)	15d	14-Sep-18	04-Oct-18	19d
UPRR Phase 2		30d	17-Jul-18	22-Aug-18	9d
CON.RMV.218.135	Remove Existing 46th Ave Walls/Pavement for ML1 & ML2 Shoofly (East)	10d	17-Jul-18	28-Jul-18	9d
CON.RR.218.060	Construct Shoring and Temp Fill for ML1 & ML2 Shoofly	5d	30-Jul-18	03-Aug-18	9d
CON.RR.218.055	Construct ML1 & ML2 Shoofly and Remove Existing	15d	04-Aug-18	22-Aug-18	9d
UPRR Phase 3		60d	23-Aug-18	05-Nov-18	9d
CON.RR.218.070	Remove Existing Track and Tie Into PL Shooflies (by UPRR)	25d	23-Aug-18	21-Sep-18	9d
CON.RR.218.075	Remove Existing Track and Tie Into YL112 Shoofly (by UPRR)	25d	22-Sep-18	24-Oct-18	9d
CON.RR.218.065	Construct Shoring at Centerline of UPRR Bridge	10d	25-Oct-18	05-Nov-18	9d
UPRR Phase 4		60d	04-Jun-19	03-Sep-19	2d
CON.RR.218.025	Place Ballast	5d	04-Jun-19	11-Jun-19	2d
CON.RR.218.085	Construct YL112/418 & Yrd 404 & PL731 and Turnouts	40d	12-Jun-19	09-Aug-19	2d
CON.RR.218.090	Remove Existing Track and Tie Into Existing (by UPRR)	15d	12-Aug-19	03-Sep-19	2d
UPRR Phase 5		35d	10-Mar-20	28-Apr-20	2d
CON.RR.218.030	Place Ballast	5d	10-Mar-20	16-Mar-20	2d
CON.RR.218.095	Construct Track and Turnouts	15d	17-Mar-20	07-Apr-20	2d
CON.RR.218.100	Remove Existing Track and Tie Into Existing (by UPRR)	15d	08-Apr-20	28-Apr-20	2d
UPRR Phase 6 - Service Road Bridge		5d	02-Apr-21	08-Apr-21	213d
CON.RR.218.115	Construct UPRR Service Road	5d	02-Apr-21	08-Apr-21	213d
Central Area		154d	18-Feb-20	02-Oct-20	404d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		154d	18-Feb-20	02-Oct-20	404d
Block 405 - BNSF Market Lead Bridge Over I-70		154d	18-Feb-20	02-Oct-20	404d
CON.RR.405.040	Install Yard Track (South of Bridge)	60d	18-Feb-20	12-May-20	404d
CON.RR.405.020	BNSF Construction Duration (270 days Max)	228d	18-Feb-20	02-Oct-20	630d
CON.RR.405.015	Place Ballast	5d	20-Aug-20	26-Aug-20	404d
CON.RR.405.025	Place Ties	10d	27-Aug-20	10-Sep-20	404d
CON.RR.405.030	Install Track	10d	11-Sep-20	25-Sep-20	404d
CON.RR.405.035	Destress and Surface Track	5d	28-Sep-20	02-Oct-20	404d
Right-of-Way		510d	30-Nov-17	13-Feb-20	487d
ROW.MS.NOT	ROW Acquisition - Notice from Developer (Partial Takes)	0d	30-Nov-17*		58d
ROW.MS.2/28/18	ROW Acquisition Date - 2/28/18	0d	28-Feb-18*		106d
ROW.MS.5/31/18	ROW Acquisition Date - 5/31/18	0d	31-May-18*		68d
ROW.MS.NTP2	ROW Acquisition Date - NTP 2	0d	01-Jun-18		35d
ROW.MS.6/28/18	ROW Acquisition Date - 6/28/18	0d	28-Jun-18*		40d
ROW.MS.7/31/18	ROW Acquisition Date - 7/31/18	0d	31-Jul-18*		44d
ROW.MS.8/31/18	ROW Acquisition Date - 8/31/18	0d	31-Aug-18*		20d
ROW.MS.1/31/20	ROW Acquisition Date - 1/31/20	0d	31-Jan-20*		80d
West Area		178d	01-Jun-18	06-Mar-19	627d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		167d	01-Jun-18	19-Feb-19	636d
Block 201 - 46th Ave. N.		0d	31-Aug-18	31-Aug-18	49d
ROW.PREP.201	ROW Prepared - Block 201	0d		31-Aug-18	49d
ROW.ACQ.201	ROW Acquired - Block 201	0d		31-Aug-18	26d
Block 202 - WB I-70		0d	31-Aug-18	31-Aug-18	346d
ROW.PREP.202	ROW Prepared - Block 202	0d		31-Aug-18	346d
ROW.ACQ.202	ROW Acquired - Block 202	0d		31-Aug-18	58d
Block 203 - EB I-70		30d	01-Jun-18	16-Jul-18	550d
ROW.ACQ.203	ROW Acquired - Block 203	0d		01-Jun-18	119d
ROW.PREP.203	ROW Prepared - Block 203	0d		16-Jul-18	550d
Block 204 - 46th Ave. S.		60d	01-Jun-18	29-Aug-18	228d
ROW.ACQ.204	ROW Acquired - Block 204	0d		01-Jun-18	155d
ROW.PREP.204	ROW Prepared - Block 204	0d		29-Aug-18	228d
Block 205 - WB I-70 Bridge Over Brighton Blvd.		0d	01-Jun-18	01-Jun-18	354d
ROW.PREP.205	ROW Prepared - Block 205	0d		01-Jun-18	354d
ROW.ACQ.205	ROW Acquired - Block 205	0d		01-Jun-18	287d
Block 206 - EB I-70 Bridge Over Brighton Blvd.		0d	01-Jun-18	01-Jun-18	668d
ROW.PREP.206	ROW Prepared - Block 206	0d		01-Jun-18	668d
ROW.ACQ.206	ROW Acquired - Block 206	0d		01-Jun-18	287d
Block 207 - Brighton Blvd.		167d	01-Jun-18	19-Feb-19	128d
ROW.ACQ.207	ROW Acquired - Block 207	0d		01-Jun-18	128d
ROW.PREP.207	ROW Prepared - Block 207	0d		19-Feb-19	128d
Block 209 - Brighton Blvd. to WB I-70 On-Ramp		0d	01-Jun-18	01-Jun-18	365d
ROW.PREP.209	ROW Prepared - Block 209	0d		01-Jun-18	365d
ROW.ACQ.209	ROW Acquired - Block 209	0d		01-Jun-18	128d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		153d	01-Jun-18	30-Jan-19	343d
ROW.ACQ.210	ROW Acquired - Block 210	0d		01-Jun-18	119d

Remaining Work
Critical Remaining Work
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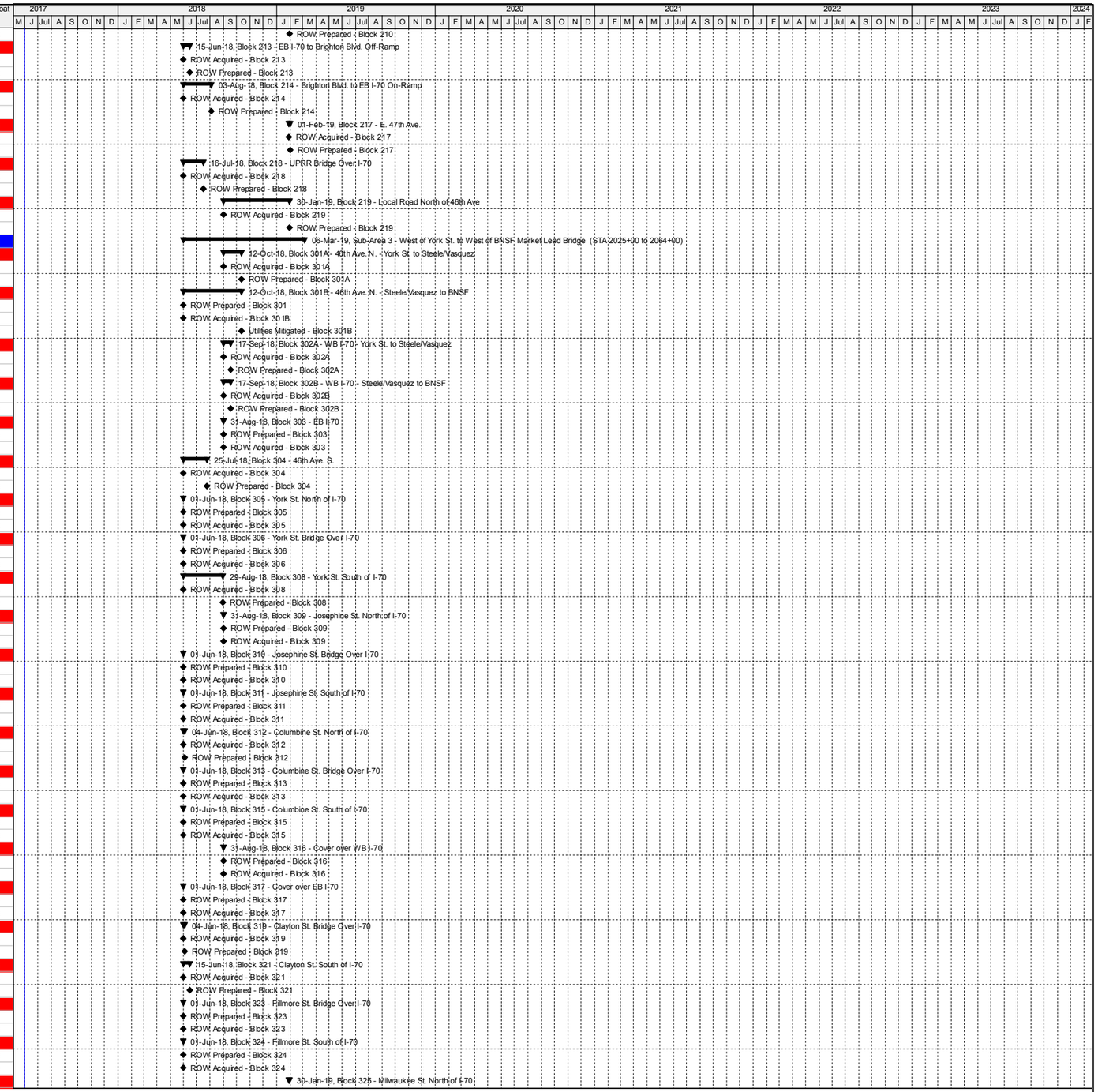
Milestone
Summary

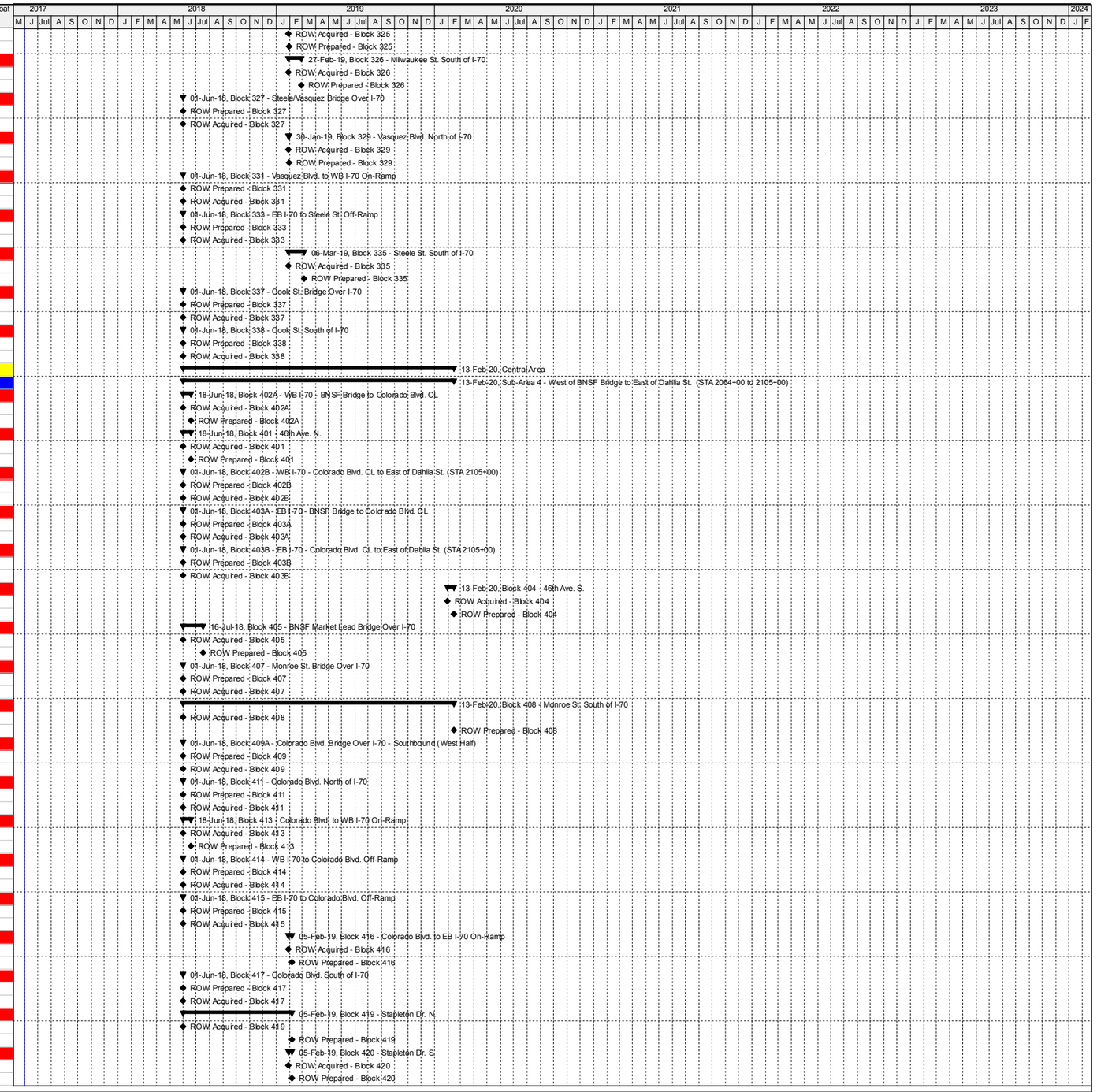
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
ROW.PREP.210	ROW Prepared - Block 210	0d		30-Jan-19	343d
Block 213 - EB I-70 to Brighton Blvd. Off-Ramp		10d	01-Jun-18	15-Jun-18	719d
ROW.ACQ.213	ROW Acquired - Block 213	0d		01-Jun-18	128d
ROW.PREP.213	ROW Prepared - Block 213	0d		15-Jun-18	719d
Block 214 - Brighton Blvd. to EB I-70 On-Ramp		43d	01-Jun-18	03-Aug-18	680d
ROW.ACQ.214	ROW Acquired - Block 214	0d		01-Jun-18	119d
ROW.PREP.214	ROW Prepared - Block 214	0d		03-Aug-18	680d
Block 217 - E. 47th Ave.		3d	29-Jan-19	01-Feb-19	647d
ROW.ACQ.217	ROW Acquired - Block 217	0d		29-Jan-19	202d
ROW.PREP.217	ROW Prepared - Block 217	0d		01-Feb-19	647d
Block 218 - UPRR Bridge Over I-70		30d	01-Jun-18	16-Jul-18	89d
ROW.ACQ.218	ROW Acquired - Block 218	0d		01-Jun-18	119d
ROW.PREP.218	ROW Prepared - Block 218	0d		16-Jul-18	8d
Block 219 - Local Road North of 46th Ave		92d	31-Aug-18	30-Jan-19	618d
ROW.ACQ.219	ROW Acquired - Block 219	0d		31-Aug-18	63d
ROW.PREP.219	ROW Prepared - Block 219	0d		30-Jan-19	618d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		178d	01-Jun-18	06-Mar-19	627d
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		30d	31-Aug-18	12-Oct-18	28d
ROW.ACQ.301A	ROW Acquired - Block 301A	0d		31-Aug-18	21d
ROW.PREP.301A	ROW Prepared - Block 301A	0d		12-Oct-18	28d
Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF		91d	01-Jun-18	12-Oct-18	115d
ROW.PREP.301B	ROW Prepared - Block 301	0d		01-Jun-18	206d
ROW.ACQ.301B	ROW Acquired - Block 301B	0d		01-Jun-18	206d
CON.UTL.301B.060	Utilities Mitigated - Block 301B	0d		12-Oct-18	115d
Block 302A - WB I-70 - York St. to Steele/Vasquez		11d	31-Aug-18	17-Sep-18	182d
ROW.ACQ.302A	ROW Acquired - Block 302A	0d		31-Aug-18	21d
ROW.PREP.302A	ROW Prepared - Block 302A	0d		17-Sep-18	182d
Block 302B - WB I-70 - Steele/Vasquez to BNSF		11d	31-Aug-18	17-Sep-18	182d
ROW.ACQ.302B	ROW Acquired - Block 302B	0d		31-Aug-18	21d
ROW.PREP.302B	ROW Prepared - Block 302B	0d		17-Sep-18	182d
Block 303 - EB I-70		0d	31-Aug-18	31-Aug-18	487d
ROW.PREP.303	ROW Prepared - Block 303	0d		31-Aug-18	487d
ROW.ACQ.303	ROW Acquired - Block 303	0d		31-Aug-18	21d
Block 304 - 46th Ave. S.		36d	01-Jun-18	25-Jul-18	664d
ROW.ACQ.304	ROW Acquired - Block 304	0d		01-Jun-18	82d
ROW.PREP.304	ROW Prepared - Block 304	0d		25-Jul-18	664d
Block 305 - York St. North of I-70		0d	01-Jun-18	01-Jun-18	760d
ROW.PREP.305	ROW Prepared - Block 305	0d		01-Jun-18	760d
ROW.ACQ.305	ROW Acquired - Block 305	0d		01-Jun-18	112d
Block 306 - York St. Bridge Over I-70		0d	01-Jun-18	01-Jun-18	701d
ROW.PREP.306	ROW Prepared - Block 306	0d		01-Jun-18	701d
ROW.ACQ.306	ROW Acquired - Block 306	0d		01-Jun-18	112d
Block 308 - York St. South of I-70		60d	01-Jun-18	29-Aug-18	733d
ROW.ACQ.308	ROW Acquired - Block 308	0d		01-Jun-18	112d
ROW.PREP.308	ROW Prepared - Block 308	0d		29-Aug-18	733d
Block 309 - Josephine St. North of I-70		0d	31-Aug-18	31-Aug-18	740d
ROW.PREP.309	ROW Prepared - Block 309	0d		31-Aug-18	740d
ROW.ACQ.309	ROW Acquired - Block 309	0d		31-Aug-18	66d
Block 310 - Josephine St. Bridge Over I-70		0d	01-Jun-18	01-Jun-18	638d
ROW.PREP.310	ROW Prepared - Block 310	0d		01-Jun-18	638d
ROW.ACQ.310	ROW Acquired - Block 310	0d		01-Jun-18	339d
Block 311 - Josephine St. South of I-70		0d	01-Jun-18	01-Jun-18	798d
ROW.PREP.311	ROW Prepared - Block 311	0d		01-Jun-18	798d
ROW.ACQ.311	ROW Acquired - Block 311	0d		01-Jun-18	339d
Block 312 - Columbine St. North of I-70		1d	01-Jun-18	04-Jun-18	735d
ROW.ACQ.312	ROW Acquired - Block 312	0d		01-Jun-18	127d
ROW.PREP.312	ROW Prepared - Block 312	0d		04-Jun-18	185d
Block 313 - Columbine St. Bridge Over I-70		0d	01-Jun-18	01-Jun-18	163d
ROW.PREP.313	ROW Prepared - Block 313	0d		01-Jun-18	153d
ROW.ACQ.313	ROW Acquired - Block 313	0d		01-Jun-18	163d
Block 315 - Columbine St. South of I-70		0d	01-Jun-18	01-Jun-18	805d
ROW.PREP.315	ROW Prepared - Block 315	0d		01-Jun-18	805d
ROW.ACQ.315	ROW Acquired - Block 315	0d		01-Jun-18	163d
Block 316 - Cover over WB I-70		0d	31-Aug-18	31-Aug-18	13d
ROW.PREP.316	ROW Prepared - Block 316	0d		31-Aug-18	13d
ROW.ACQ.316	ROW Acquired - Block 316	0d		31-Aug-18	13d
Block 317 - Cover over EB I-70		0d	01-Jun-18	01-Jun-18	580d
ROW.PREP.317	ROW Prepared - Block 317	0d		01-Jun-18	580d
ROW.ACQ.317	ROW Acquired - Block 317	0d		01-Jun-18	109d
Block 319 - Clayton St. Bridge Over I-70		1d	01-Jun-18	04-Jun-18	273d
ROW.ACQ.319	ROW Acquired - Block 319	0d		01-Jun-18	132d
ROW.PREP.319	ROW Prepared - Block 319	0d		04-Jun-18	98d
Block 321 - Clayton St. South of I-70		10d	01-Jun-18	15-Jun-18	793d
ROW.ACQ.321	ROW Acquired - Block 321	0d		01-Jun-18	803d
ROW.PREP.321	ROW Prepared - Block 321	0d		15-Jun-18	793d
Block 323 - Fillmore St. Bridge Over I-70		0d	01-Jun-18	01-Jun-18	308d
ROW.PREP.323	ROW Prepared - Block 323	0d		01-Jun-18	308d
ROW.ACQ.323	ROW Acquired - Block 323	0d		01-Jun-18	132d
Block 324 - Fillmore St. South of I-70		0d	01-Jun-18	01-Jun-18	419d
ROW.PREP.324	ROW Prepared - Block 324	0d		01-Jun-18	419d
ROW.ACQ.324	ROW Acquired - Block 324	0d		01-Jun-18	307d
Block 325 - Milwaukee St. North of I-70		0d	29-Jan-19	30-Jan-19	647d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Kiewit meridiam PARTNERS

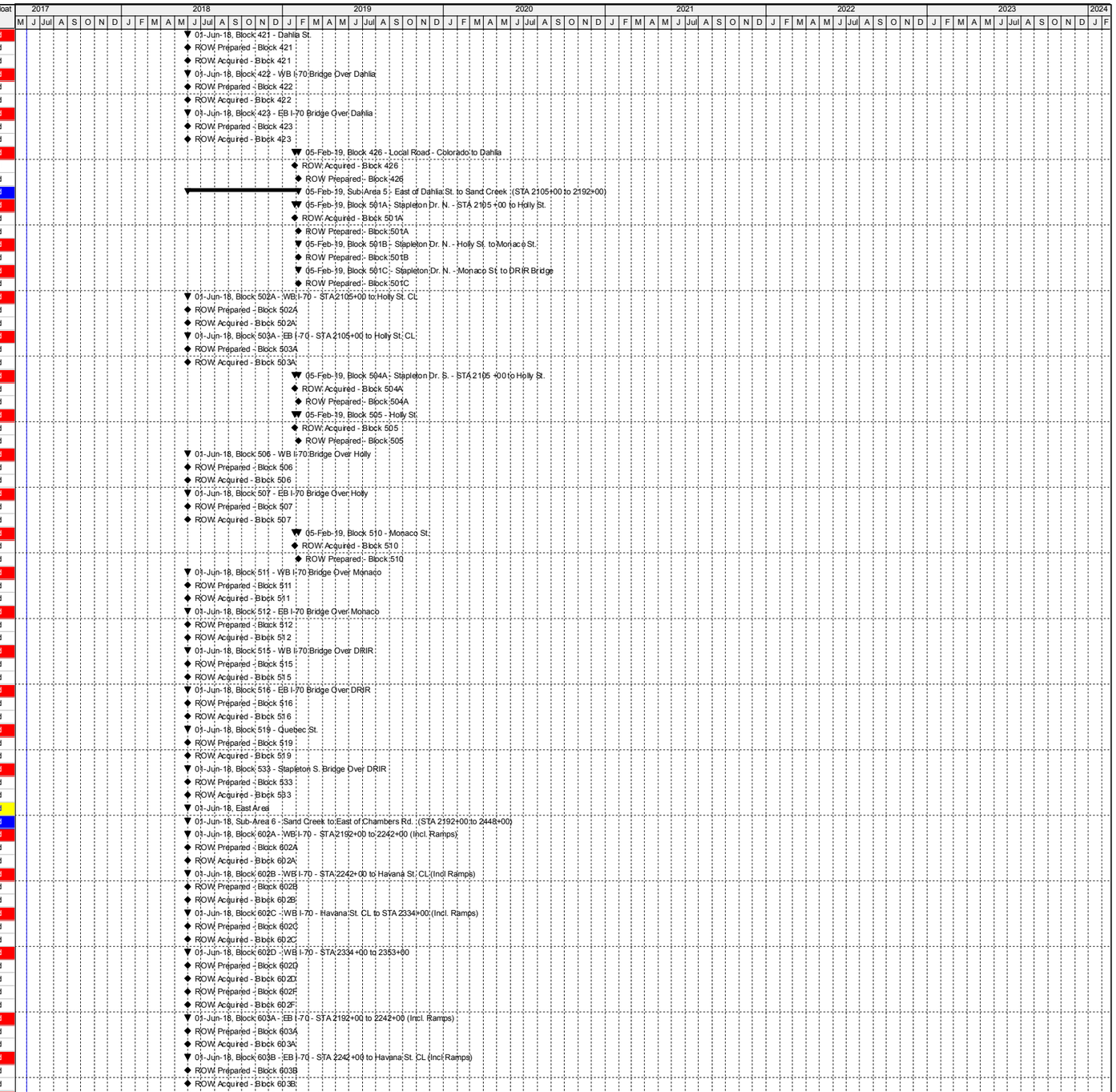
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
ROW.ACQ.325	ROW Acquired - Block 325	0d		29-Jan-19	637d
ROW.PREP.325	ROW Prepared - Block 325	0d		30-Jan-19	647d
Block 326 - Milwaukee St. South of I-70		20d	29-Jan-19	27-Feb-19	613d
ROW.ACQ.326	ROW Acquired - Block 326	0d		29-Jan-19	633d
ROW.PREP.326	ROW Prepared - Block 326	0d		27-Feb-19	613d
Block 327 - Steele/Vasquez Bridge Over I-70		0d	01-Jun-18	01-Jun-18	269d
ROW.PREP.327	ROW Prepared - Block 327	0d		01-Jun-18	73d
ROW.ACQ.327	ROW Acquired - Block 327	0d		01-Jun-18	269d
Block 329 - Vasquez Blvd. North of I-70		0d	29-Jan-19	30-Jan-19	187d
ROW.ACQ.329	ROW Acquired - Block 329	0d		29-Jan-19	187d
ROW.PREP.329	ROW Prepared - Block 329	0d		30-Jan-19	144d
Block 331 - Vasquez Blvd. to WB I-70 On-Ramp		0d	01-Jun-18	01-Jun-18	425d
ROW.PREP.331	ROW Prepared - Block 331	0d		01-Jun-18	425d
ROW.ACQ.331	ROW Acquired - Block 331	0d		01-Jun-18	192d
Block 333 - EB I-70 to Steele St. Off-Ramp		0d	01-Jun-18	01-Jun-18	668d
ROW.PREP.333	ROW Prepared - Block 333	0d		01-Jun-18	668d
ROW.ACQ.333	ROW Acquired - Block 333	0d		01-Jun-18	307d
Block 335 - Steele St. South of I-70		25d	29-Jan-19	06-Mar-19	162d
ROW.ACQ.335	ROW Acquired - Block 335	0d		29-Jan-19	187d
ROW.PREP.335	ROW Prepared - Block 335	0d		06-Mar-19	119d
Block 337 - Cook St. Bridge Over I-70		0d	01-Jun-18	01-Jun-18	727d
ROW.PREP.337	ROW Prepared - Block 337	0d		01-Jun-18	727d
ROW.ACQ.337	ROW Acquired - Block 337	0d		01-Jun-18	112d
Block 338 - Cook St. South of I-70		0d	01-Jun-18	01-Jun-18	803d
ROW.PREP.338	ROW Prepared - Block 338	0d		01-Jun-18	803d
ROW.ACQ.338	ROW Acquired - Block 338	0d		01-Jun-18	112d
Central Area		397d	01-Jun-18	13-Feb-20	487d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		397d	01-Jun-18	13-Feb-20	406d
Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL		11d	01-Jun-18	18-Jun-18	377d
ROW.ACQ.402A	ROW Acquired - Block 402A	0d		01-Jun-18	109d
ROW.PREP.402A	ROW Prepared - Block 402A	0d		18-Jun-18	377d
Block 401 - 46th Ave. N.		11d	01-Jun-18	18-Jun-18	180d
ROW.ACQ.401	ROW Acquired - Block 401	0d		01-Jun-18	161d
ROW.PREP.401	ROW Prepared - Block 401	0d		18-Jun-18	180d
Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		0d	01-Jun-18	01-Jun-18	405d
ROW.PREP.402B	ROW Prepared - Block 402B	0d		01-Jun-18	405d
ROW.ACQ.402B	ROW Acquired - Block 402B	0d		01-Jun-18	181d
Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL		0d	01-Jun-18	01-Jun-18	608d
ROW.PREP.403A	ROW Prepared - Block 403A	0d		01-Jun-18	608d
ROW.ACQ.403A	ROW Acquired - Block 403A	0d		01-Jun-18	170d
Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		0d	01-Jun-18	01-Jun-18	616d
ROW.PREP.403B	ROW Prepared - Block 403B	0d		01-Jun-18	616d
ROW.ACQ.403B	ROW Acquired - Block 403B	0d		01-Jun-18	170d
Block 404 - 46th Ave. S.		10d	31-Jan-20	13-Feb-20	313d
ROW.ACQ.404	ROW Acquired - Block 404	0d		31-Jan-20	84d
ROW.PREP.404	ROW Prepared - Block 404	0d		13-Feb-20	313d
Block 405 - BNSF Market Lead Bridge Over I-70		30d	01-Jun-18	16-Jul-18	773d
ROW.ACQ.405	ROW Acquired - Block 405	0d		01-Jun-18	112d
ROW.PREP.405	ROW Prepared - Block 405	0d		16-Jul-18	773d
Block 407 - Monroe St. Bridge Over I-70		0d	01-Jun-18	01-Jun-18	429d
ROW.PREP.407	ROW Prepared - Block 407	0d		01-Jun-18	429d
ROW.ACQ.407	ROW Acquired - Block 407	0d		01-Jun-18	112d
Block 408 - Monroe St. South of I-70		397d	01-Jun-18	13-Feb-20	55d
ROW.ACQ.408	ROW Acquired - Block 408	0d		01-Jun-18	112d
ROW.PREP.408	ROW Prepared - Block 408	0d		13-Feb-20	55d
Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)		0d	01-Jun-18	01-Jun-18	430d
ROW.PREP.409A	ROW Prepared - Block 409	0d		01-Jun-18	429d
ROW.ACQ.409	ROW Acquired - Block 409	0d		01-Jun-18	430d
Block 411 - Colorado Blvd. North of I-70		0d	01-Jun-18	01-Jun-18	417d
ROW.PREP.411	ROW Prepared - Block 411	0d		01-Jun-18	417d
ROW.ACQ.411	ROW Acquired - Block 411	0d		01-Jun-18	402d
Block 413 - Colorado Blvd. to WB I-70 On-Ramp		11d	01-Jun-18	18-Jun-18	503d
ROW.ACQ.413	ROW Acquired - Block 413	0d		01-Jun-18	109d
ROW.PREP.413	ROW Prepared - Block 413	0d		18-Jun-18	503d
Block 414 - WB I-70 to Colorado Blvd. Off-Ramp		0d	01-Jun-18	01-Jun-18	511d
ROW.PREP.414	ROW Prepared - Block 414	0d		01-Jun-18	511d
ROW.ACQ.414	ROW Acquired - Block 414	0d		01-Jun-18	192d
Block 415 - EB I-70 to Colorado Blvd. Off-Ramp		0d	01-Jun-18	01-Jun-18	675d
ROW.PREP.415	ROW Prepared - Block 415	0d		01-Jun-18	675d
ROW.ACQ.415	ROW Acquired - Block 415	0d		01-Jun-18	176d
Block 416 - Colorado Blvd. to EB I-70 On-Ramp		5d	29-Jan-19	05-Feb-19	373d
ROW.ACQ.416	ROW Acquired - Block 416	0d		29-Jan-19	298d
ROW.PREP.416	ROW Prepared - Block 416	0d		05-Feb-19	373d
Block 417 - Colorado Blvd. South of I-70		0d	01-Jun-18	01-Jun-18	429d
ROW.PREP.417	ROW Prepared - Block 417	0d		01-Jun-18	429d
ROW.ACQ.417	ROW Acquired - Block 417	0d		01-Jun-18	176d
Block 419 - Stapleton Dr. N.		158d	01-Jun-18	05-Feb-19	54d
ROW.ACQ.419	ROW Acquired - Block 419	0d		01-Jun-18	192d
ROW.PREP.419	ROW Prepared - Block 419	0d		05-Feb-19	54d
Block 420 - Stapleton Dr. S.		5d	29-Jan-19	05-Feb-19	369d
ROW.ACQ.420	ROW Acquired - Block 420	0d		29-Jan-19	318d
ROW.PREP.420	ROW Prepared - Block 420	0d		05-Feb-19	369d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Kiewit meridiam PARTNERS

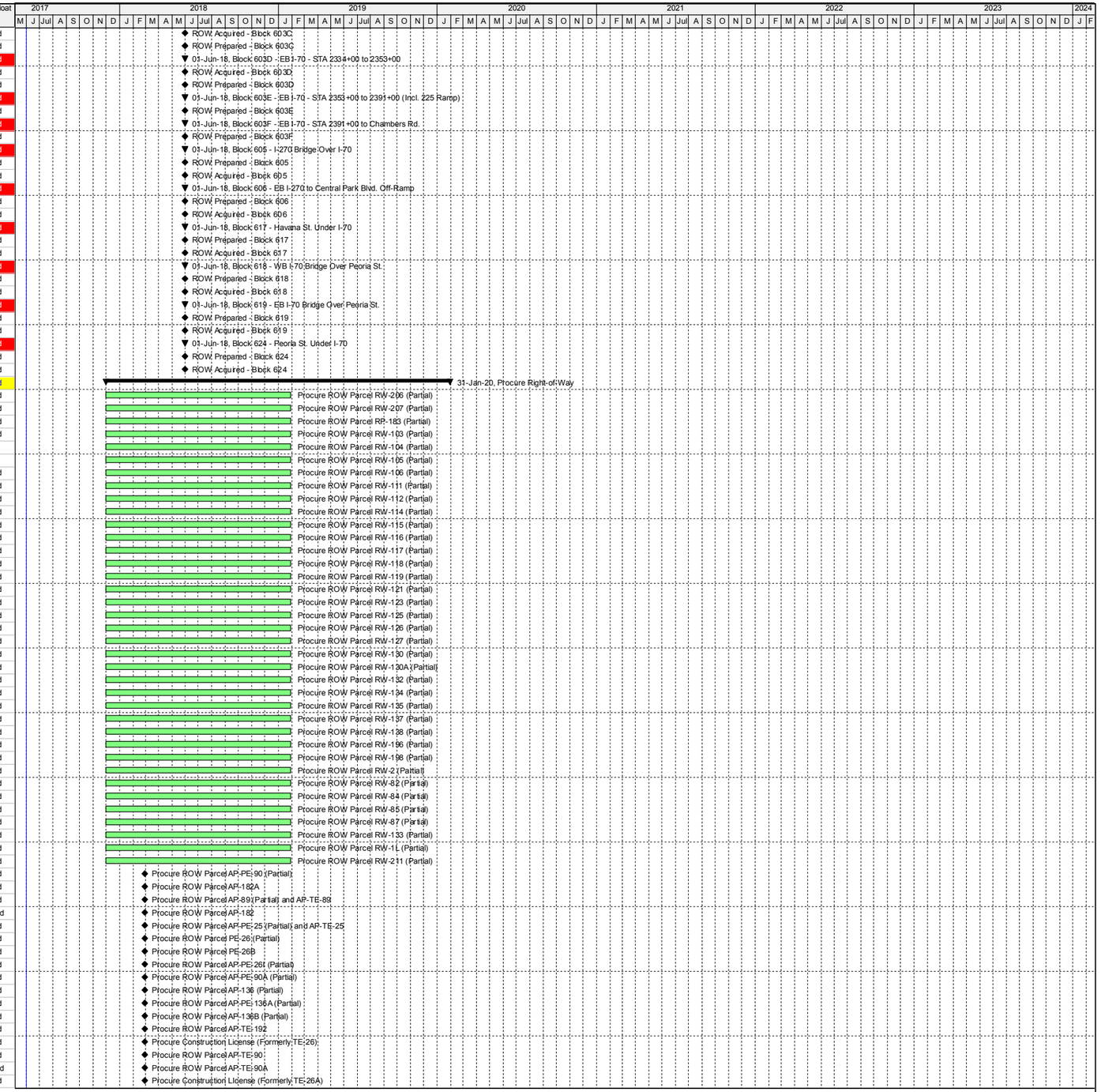
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Block 421 - Dahlia St.		0d	01-Jun-18	01-Jun-18	795d
ROW.PREP.421	ROW Prepared - Block 421	0d		01-Jun-18	795d
ROW.ACQ.421	ROW Acquired - Block 421	0d		01-Jun-18	170d
Block 422 - WB I-70 Bridge Over Dahlia		0d	01-Jun-18	01-Jun-18	393d
ROW.PREP.422	ROW Prepared - Block 422	0d		01-Jun-18	393d
ROW.ACQ.422	ROW Acquired - Block 422	0d		01-Jun-18	170d
Block 423 - EB I-70 Bridge Over Dahlia		0d	01-Jun-18	01-Jun-18	400d
ROW.PREP.423	ROW Prepared - Block 423	0d		01-Jun-18	400d
ROW.ACQ.423	ROW Acquired - Block 423	0d		01-Jun-18	170d
Block 426 - Local Road - Colorado to Dahlia		5d	29-Jan-19	05-Feb-19	379d
ROW.ACQ.426	ROW Acquired - Block 426	0d		29-Jan-19	39d
ROW.PREP.426	ROW Prepared - Block 426	0d		05-Feb-19	379d
Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)		158d	01-Jun-18	05-Feb-19	726d
Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.		5d	29-Jan-19	05-Feb-19	218d
ROW.ACQ.501A	ROW Acquired - Block 501A	0d		29-Jan-19	172d
ROW.PREP.501A	ROW Prepared - Block 501A	0d		05-Feb-19	218d
Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.		0d	05-Feb-19	05-Feb-19	218d
ROW.PREP.501B	ROW Prepared - Block 501B	0d		05-Feb-19	218d
Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge		0d	05-Feb-19	05-Feb-19	262d
ROW.PREP.501C	ROW Prepared - Block 501C	0d		05-Feb-19	262d
Block 502A - WB I-70 - STA 2105+00 to Holly St. CL		0d	01-Jun-18	01-Jun-18	554d
ROW.PREP.502A	ROW Prepared - Block 502A	0d		01-Jun-18	554d
ROW.ACQ.502	ROW Acquired - Block 502A	0d		01-Jun-18	376d
Block 503A - EB I-70 - STA 2105+00 to Holly St. CL		0d	01-Jun-18	01-Jun-18	592d
ROW.PREP.503A	ROW Prepared - Block 503A	0d		01-Jun-18	592d
ROW.ACQ.503	ROW Acquired - Block 503A	0d		01-Jun-18	376d
Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.		5d	29-Jan-19	05-Feb-19	273d
ROW.ACQ.504	ROW Acquired - Block 504A	0d		29-Jan-19	223d
ROW.PREP.504A	ROW Prepared - Block 504A	0d		05-Feb-19	273d
Block 505 - Holly St.		5d	29-Jan-19	05-Feb-19	589d
ROW.ACQ.505	ROW Acquired - Block 505	0d		29-Jan-19	248d
ROW.PREP.505	ROW Prepared - Block 505	0d		05-Feb-19	589d
Block 506 - WB I-70 Bridge Over Holly		0d	01-Jun-18	01-Jun-18	884d
ROW.PREP.506	ROW Prepared - Block 506	0d		01-Jun-18	884d
ROW.ACQ.506	ROW Acquired - Block 506	0d		01-Jun-18	884d
Block 507 - EB I-70 Bridge Over Holly		0d	01-Jun-18	01-Jun-18	884d
ROW.PREP.507	ROW Prepared - Block 507	0d		01-Jun-18	619d
ROW.ACQ.507	ROW Acquired - Block 507	0d		01-Jun-18	884d
Block 510 - Monaco St.		5d	29-Jan-19	05-Feb-19	619d
ROW.ACQ.510	ROW Acquired - Block 510	0d		29-Jan-19	203d
ROW.PREP.510	ROW Prepared - Block 510	0d		05-Feb-19	619d
Block 511 - WB I-70 Bridge Over Monaco		0d	01-Jun-18	01-Jun-18	617d
ROW.PREP.511	ROW Prepared - Block 511	0d		01-Jun-18	617d
ROW.ACQ.511	ROW Acquired - Block 511	0d		01-Jun-18	376d
Block 512 - EB I-70 Bridge Over Monaco		0d	01-Jun-18	01-Jun-18	618d
ROW.PREP.512	ROW Prepared - Block 512	0d		01-Jun-18	618d
ROW.ACQ.512	ROW Acquired - Block 512	0d		01-Jun-18	376d
Block 515 - WB I-70 Bridge Over DRIR		0d	01-Jun-18	01-Jun-18	612d
ROW.PREP.515	ROW Prepared - Block 515	0d		01-Jun-18	612d
ROW.ACQ.515	ROW Acquired - Block 515	0d		01-Jun-18	612d
Block 516 - EB I-70 Bridge Over DRIR		0d	01-Jun-18	01-Jun-18	620d
ROW.PREP.516	ROW Prepared - Block 516	0d		01-Jun-18	620d
ROW.ACQ.516	ROW Acquired - Block 516	0d		01-Jun-18	620d
Block 519 - Quebec St.		0d	01-Jun-18	01-Jun-18	744d
ROW.PREP.519	ROW Prepared - Block 519	0d		01-Jun-18	744d
ROW.ACQ.519	ROW Acquired - Block 519	0d		01-Jun-18	376d
Block 533 - Stapleton S. Bridge Over DRIR		0d	01-Jun-18	01-Jun-18	706d
ROW.PREP.533	ROW Prepared - Block 533	0d		01-Jun-18	706d
ROW.ACQ.533	ROW Acquired - Block 533	0d		01-Jun-18	376d
East Area		0d	01-Jun-18	01-Jun-18	884d
Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)		0d	01-Jun-18	01-Jun-18	884d
Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		0d	01-Jun-18	01-Jun-18	671d
ROW.PREP.602A	ROW Prepared - Block 602A	0d		01-Jun-18	671d
ROW.ACQ.602A	ROW Acquired - Block 602A	0d		01-Jun-18	541d
Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		0d	01-Jun-18	01-Jun-18	562d
ROW.PREP.602B	ROW Prepared - Block 602B	0d		01-Jun-18	562d
ROW.ACQ.602B	ROW Acquired - Block 602B	0d		01-Jun-18	562d
Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		0d	01-Jun-18	01-Jun-18	562d
ROW.PREP.602C	ROW Prepared - Block 602C	0d		01-Jun-18	562d
ROW.ACQ.602C	ROW Acquired - Block 602C	0d		01-Jun-18	562d
Block 602D - WB I-70 - STA 2334+00 to 2353+00		0d	01-Jun-18	01-Jun-18	562d
ROW.PREP.602D	ROW Prepared - Block 602D	0d		01-Jun-18	562d
ROW.ACQ.602D	ROW Acquired - Block 602D	0d		01-Jun-18	562d
ROW.PREP.602D5	ROW Prepared - Block 602F	0d		01-Jun-18	562d
ROW.ACQ.602D5	ROW Acquired - Block 602F	0d		01-Jun-18	562d
Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		0d	01-Jun-18	01-Jun-18	562d
ROW.PREP.603A	ROW Prepared - Block 603A	0d		01-Jun-18	562d
ROW.ACQ.603	ROW Acquired - Block 603A	0d		01-Jun-18	541d
Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		0d	01-Jun-18	01-Jun-18	608d
ROW.PREP.603B	ROW Prepared - Block 603B	0d		01-Jun-18	562d
ROW.ACQ.603B	ROW Acquired - Block 603B	0d		01-Jun-18	608d
Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		0d	01-Jun-18	01-Jun-18	608d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
ROW.ACQ.603C	ROW Acquired - Block 603C	0d		01-Jun-18	608d
ROW.PREP.603C	ROW Prepared - Block 603C	0d		01-Jun-18	594d
Block 603D - EB I-70 - STA 2334+00 to 2353+00		0d	01-Jun-18	01-Jun-18	608d
ROW.ACQ.603D	ROW Acquired - Block 603D	0d		01-Jun-18	608d
ROW.PREP.603D	ROW Prepared - Block 603D	0d		01-Jun-18	608d
Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)		0d	01-Jun-18	01-Jun-18	608d
ROW.PREP.603E	ROW Prepared - Block 603E	0d		01-Jun-18	608d
Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.		0d	01-Jun-18	01-Jun-18	644d
ROW.PREP.603F	ROW Prepared - Block 603F	0d		01-Jun-18	644d
Block 605 - I-270 Bridge Over I-70		0d	01-Jun-18	01-Jun-18	482d
ROW.PREP.605	ROW Prepared - Block 605	0d		01-Jun-18	482d
ROW.ACQ.605	ROW Acquired - Block 605	0d		01-Jun-18	482d
Block 606 - EB I-270 to Central Park Blvd. Off-Ramp		0d	01-Jun-18	01-Jun-18	884d
ROW.PREP.606	ROW Prepared - Block 606	0d		01-Jun-18	741d
ROW.ACQ.606	ROW Acquired - Block 606	0d		01-Jun-18	884d
Block 617 - Havana St. Under I-70		0d	01-Jun-18	01-Jun-18	884d
ROW.PREP.617	ROW Prepared - Block 617	0d		01-Jun-18	790d
ROW.ACQ.617	ROW Acquired - Block 617	0d		01-Jun-18	884d
Block 618 - WB I-70 Bridge Over Peoria St.		0d	01-Jun-18	01-Jun-18	583d
ROW.PREP.618	ROW Prepared - Block 618	0d		01-Jun-18	583d
ROW.ACQ.618	ROW Acquired - Block 618	0d		01-Jun-18	541d
Block 619 - EB I-70 Bridge Over Peoria St.		0d	01-Jun-18	01-Jun-18	608d
ROW.PREP.619	ROW Prepared - Block 619	0d		01-Jun-18	608d
ROW.ACQ.619	ROW Acquired - Block 619	0d		01-Jun-18	541d
Block 624 - Peoria St. Under I-70		0d	01-Jun-18	01-Jun-18	806d
ROW.PREP.624	ROW Prepared - Block 624	0d		01-Jun-18	806d
ROW.ACQ.624	ROW Acquired - Block 624	0d		01-Jun-18	541d
Procure Right-of-Way		792d	30-Nov-17	31-Jan-20	621d
ROW.PRO.RW-206	Procure ROW Parcel RW-206 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-207	Procure ROW Parcel RW-207 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-183	Procure ROW Parcel RP-183 (Partial)	426d	30-Nov-17	29-Jan-19	211d
ROW.PRO.RW-103	Procure ROW Parcel RW-103 (Partial)	426d	30-Nov-17	29-Jan-19	372d
ROW.PRO.RW-104	Procure ROW Parcel RW-104 (Partial)	426d	30-Nov-17	29-Jan-19	58d
ROW.PRO.RW-105	Procure ROW Parcel RW-105 (Partial)	426d	30-Nov-17	29-Jan-19	83d
ROW.PRO.RW-106	Procure ROW Parcel RW-106 (Partial)	426d	30-Nov-17	29-Jan-19	260d
ROW.PRO.RW-111	Procure ROW Parcel RW-111 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-112	Procure ROW Parcel RW-112 (Partial)	426d	30-Nov-17	29-Jan-19	260d
ROW.PRO.RW-114	Procure ROW Parcel RW-114 (Partial)	426d	30-Nov-17	29-Jan-19	260d
ROW.PRO.RW-115	Procure ROW Parcel RW-115 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-116	Procure ROW Parcel RW-116 (Partial)	426d	30-Nov-17	29-Jan-19	260d
ROW.PRO.RW-117	Procure ROW Parcel RW-117 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-118	Procure ROW Parcel RW-118 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-119	Procure ROW Parcel RW-119 (Partial)	426d	30-Nov-17	29-Jan-19	260d
ROW.PRO.RW-121	Procure ROW Parcel RW-121 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-123	Procure ROW Parcel RW-123 (Partial)	426d	30-Nov-17	29-Jan-19	260d
ROW.PRO.RW-125	Procure ROW Parcel RW-125 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-126	Procure ROW Parcel RW-126 (Partial)	426d	30-Nov-17	29-Jan-19	260d
ROW.PRO.RW-127	Procure ROW Parcel RW-127 (Partial)	426d	30-Nov-17	29-Jan-19	260d
ROW.PRO.RW-130	Procure ROW Parcel RW-130 (Partial)	426d	30-Nov-17	29-Jan-19	260d
ROW.PRO.RW-130A	Procure ROW Parcel RW-130A (Partial)	426d	30-Nov-17	29-Jan-19	310d
ROW.PRO.RW-132	Procure ROW Parcel RW-132 (Partial)	426d	30-Nov-17	29-Jan-19	260d
ROW.PRO.RW-134	Procure ROW Parcel RW-134 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-135	Procure ROW Parcel RW-135 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-137	Procure ROW Parcel RW-137 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-138	Procure ROW Parcel RW-138 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-196	Procure ROW Parcel RW-196 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-198	Procure ROW Parcel RW-198 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-2	Procure ROW Parcel RW-2 (Partial)	426d	30-Nov-17	29-Jan-19	527d
ROW.PRO.RW-82	Procure ROW Parcel RW-82 (Partial)	426d	30-Nov-17	29-Jan-19	940d
ROW.PRO.RW-84	Procure ROW Parcel RW-84 (Partial)	426d	30-Nov-17	29-Jan-19	976d
ROW.PRO.RW-85	Procure ROW Parcel RW-85 (Partial)	426d	30-Nov-17	29-Jan-19	182d
ROW.PRO.RW-87	Procure ROW Parcel RW-87 (Partial)	426d	30-Nov-17	29-Jan-19	219d
ROW.PRO.RW-133	Procure ROW Parcel RW-133 (Partial)	426d	30-Nov-17	29-Jan-19	351d
ROW.PRO.RW-1L	Procure ROW Parcel RW-1L (Partial)	426d	30-Nov-17	29-Jan-19	217d
ROW.PRO.RW-211	Procure ROW Parcel RW-211 (Partial)	426d	30-Nov-17	29-Jan-19	196d
ROW.PRO.AP-PE-90	Procure ROW Parcel AP-PE-90 (Partial)	0d	28-Feb-18		260d
ROW.PRO.AP- 182A	Procure ROW Parcel AP-182A	0d	28-Feb-18		287d
ROW.PRO.AP-89	Procure ROW Parcel AP-89 (Partial) and AP-TE-89	0d	28-Feb-18		825d
ROW.PRO.AP- 182	Procure ROW Parcel AP-182	0d	28-Feb-18		1210d
ROW.PRO.AP-PE-25	Procure ROW Parcel AP-PE-25 (Partial) and AP-TE-25	0d	28-Feb-18		260d
ROW.PRO.PE-26	Procure ROW Parcel PE-26 (Partial)	0d	28-Feb-18		150d
ROW.PRO.PE-26B	Procure ROW Parcel PE-26B	0d	28-Feb-18		106d
ROW.PRO.AP-PE-26I	Procure ROW Parcel AP-PE-26I (Partial)	0d	28-Feb-18		150d
ROW.PRO.AP-PE-90A	Procure ROW Parcel AP-PE-90A (Partial)	0d	28-Feb-18		255d
ROW.PRO.AP- 136	Procure ROW Parcel AP-136 (Partial)	0d	28-Feb-18		749d
ROW.PRO.AP-PE-136A	Procure ROW Parcel AP-PE-136A (Partial)	0d	28-Feb-18		596d
ROW.PRO.AP- 136B	Procure ROW Parcel AP-136B (Partial)	0d	28-Feb-18		721d
ROW.PRO.AP-TE-192	Procure ROW Parcel AP-TE-192	0d	28-Feb-18		216d
ROW.PRO.AP-26	Procure Construction License (Formerly TE-26)	0d	28-Feb-18		150d
ROW.PRO.AP-TE-90	Procure ROW Parcel AP-TE-90	0d	28-Feb-18		255d
ROW.PRO.AP-TE-90A	Procure ROW Parcel AP-TE-90A	0d	28-Feb-18		1288d
ROW.PRO.AP-26A	Procure Construction License (Formerly TE-26A)	0d	28-Feb-18		150d



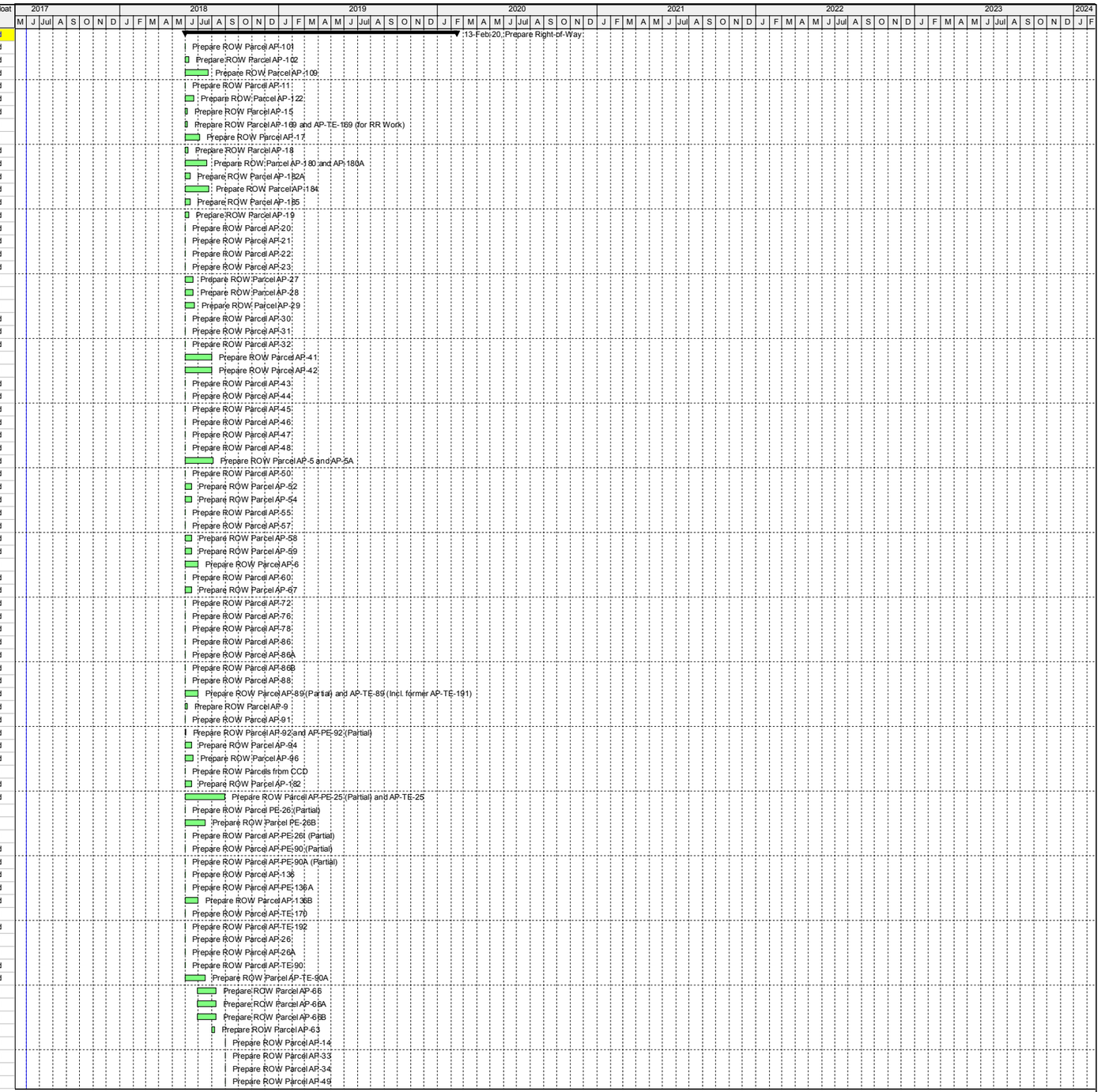
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
ROW.PRO.AP-42	Procure ROW Parcel AP-42	0d	31-May-18		106d
ROW.PRO.AP-101	Procure ROW Parcel AP-101	0d	01-Jun-18		162d
ROW.PRO.AP-102	Procure ROW Parcel AP-102	0d	01-Jun-18		162d
ROW.PRO.AP-109	Procure ROW Parcel AP-109	0d	01-Jun-18		503d
ROW.PRO.AP-11	Procure ROW Parcel AP-11	0d	01-Jun-18		130d
ROW.PRO.AP-15	Procure ROW Parcel AP-15	0d	01-Jun-18		130d
ROW.PRO.AP-169	Procure ROW Parcel AP-169 and AP-TE-169 (for RR Work)	0d	01-Jun-18		55d
ROW.PRO.AP-17	Procure ROW Parcel AP-17	0d	01-Jun-18		130d
ROW.PRO.AP-18	Procure ROW Parcel AP-18	0d	01-Jun-18		130d
ROW.PRO.AP-180	Procure ROW Parcel AP-180 and AP-180A	0d	01-Jun-18		123d
ROW.PRO.AP-184	Procure ROW Parcel AP-184	0d	01-Jun-18		123d
ROW.PRO.AP-185	Procure ROW Parcel AP-185	0d	01-Jun-18		1230d
ROW.PRO.AP-19	Procure ROW Parcel AP-19	0d	01-Jun-18		130d
ROW.PRO.AP-20	Procure ROW Parcel AP-20	0d	01-Jun-18		130d
ROW.PRO.AP-21	Procure ROW Parcel AP-21	0d	01-Jun-18		130d
ROW.PRO.AP-22	Procure ROW Parcel AP-22	0d	01-Jun-18		130d
ROW.PRO.AP-23	Procure ROW Parcel AP-23	0d	01-Jun-18		130d
ROW.PRO.AP-27	Procure ROW Parcel AP-27	0d	01-Jun-18		41d
ROW.PRO.AP-28	Procure ROW Parcel AP-28	0d	01-Jun-18		41d
ROW.PRO.AP-29	Procure ROW Parcel AP-29	0d	01-Jun-18		35d
ROW.PRO.AP-30	Procure ROW Parcel AP-30	0d	01-Jun-18		130d
ROW.PRO.AP-31	Procure ROW Parcel AP-31	0d	01-Jun-18		130d
ROW.PRO.AP-32	Procure ROW Parcel AP-32	0d	01-Jun-18		130d
ROW.PRO.AP-41	Procure ROW Parcel AP-41	0d	01-Jun-18		105d
ROW.PRO.AP-43	Procure ROW Parcel AP-43	0d	01-Jun-18		130d
ROW.PRO.AP-44	Procure ROW Parcel AP-44	0d	01-Jun-18		130d
ROW.PRO.AP-45	Procure ROW Parcel AP-45	0d	01-Jun-18		167d
ROW.PRO.AP-46	Procure ROW Parcel AP-46	0d	01-Jun-18		123d
ROW.PRO.AP-47	Procure ROW Parcel AP-47	0d	01-Jun-18		123d
ROW.PRO.AP-48	Procure ROW Parcel AP-48	0d	01-Jun-18		123d
ROW.PRO.AP-5	Procure ROW Parcel AP-5 and AP-5A	0d	01-Jun-18		180d
ROW.PRO.AP-50	Procure ROW Parcel AP-50	0d	01-Jun-18		123d
ROW.PRO.AP-52	Procure ROW Parcel AP-52	0d	01-Jun-18		123d
ROW.PRO.AP-54	Procure ROW Parcel AP-54	0d	01-Jun-18		123d
ROW.PRO.AP-55	Procure ROW Parcel AP-55	0d	01-Jun-18		123d
ROW.PRO.AP-57	Procure ROW Parcel AP-57	0d	01-Jun-18		123d
ROW.PRO.AP-58	Procure ROW Parcel AP-58	0d	01-Jun-18		123d
ROW.PRO.AP-59	Procure ROW Parcel AP-59	0d	01-Jun-18		123d
ROW.PRO.AP-6	Procure ROW Parcel AP-6	0d	01-Jun-18		130d
ROW.PRO.AP-60	Procure ROW Parcel AP-60	0d	01-Jun-18		123d
ROW.PRO.AP-67	Procure ROW Parcel AP-67	0d	01-Jun-18		123d
ROW.PRO.AP-72	Procure ROW Parcel AP-72	0d	01-Jun-18		123d
ROW.PRO.AP-76	Procure ROW Parcel AP-76	0d	01-Jun-18		123d
ROW.PRO.AP-78	Procure ROW Parcel AP-78	0d	01-Jun-18		123d
ROW.PRO.AP-86	Procure ROW Parcel AP-86	0d	01-Jun-18		123d
ROW.PRO.AP-86A	Procure ROW Parcel AP-86A	0d	01-Jun-18		123d
ROW.PRO.AP-86B	Procure ROW Parcel AP-86B	0d	01-Jun-18		123d
ROW.PRO.AP-88	Procure ROW Parcel AP-88	0d	01-Jun-18		123d
ROW.PRO.AP-9	Procure ROW Parcel AP-9	0d	01-Jun-18		130d
ROW.PRO.AP-91	Procure ROW Parcel AP-91	0d	01-Jun-18		167d
ROW.PRO.AP-PE-92	Procure ROW Parcel AP-PE-92 (Partial)	0d	01-Jun-18		167d
ROW.PRO.AP-94	Procure ROW Parcel AP-94	0d	01-Jun-18		162d
ROW.PRO.AP-96	Procure ROW Parcel AP-96	0d	01-Jun-18		162d
ROW.PRO.CCD	Procure ROW Parcels from CCD	0d	01-Jun-18		57d
ROW.PRO.AP-TE-170	Procure ROW Parcel AP-TE-170	0d	01-Jun-18		57d
ROW.PRO.AP-122	Procure ROW Parcel AP-122	0d	01-Jun-18		503d
ROW.PRO.AP-66	Procure ROW Parcel AP-66	0d	28-Jun-18		40d
ROW.PRO.AP-66A	Procure ROW Parcel AP-66A	0d	28-Jun-18		96d
ROW.PRO.AP-66B	Procure ROW Parcel AP-66B	0d	28-Jun-18		96d
ROW.PRO.AP-63	Procure ROW Parce AP-63 (Partial)	0d	31-Jul-18		44d
ROW.PRO.AP-14	Procure ROW Parcel AP-14	0d	31-Aug-18		39d
ROW.PRO.AP-33	Procure ROW Parcel AP-33	0d	31-Aug-18		39d
ROW.PRO.AP-34	Procure ROW Parcel AP-34	0d	31-Aug-18		39d
ROW.PRO.AP-49	Procure ROW Parcel AP-49	0d	31-Aug-18		32d
ROW.PRO.AP-49A	Procure ROW Parcel AP-49A	0d	31-Aug-18		32d
ROW.PRO.AP-53	Procure ROW Parcel AP-53	0d	31-Aug-18		32d
ROW.PRO.AP-68	Procure ROW Parcel AP-68	0d	31-Aug-18		20d
ROW.PRO.AP-69	Procure ROW Parcel AP-69	0d	31-Aug-18		20d
ROW.PRO.AP-70	Procure ROW Parcel AP-70	0d	31-Aug-18		20d
ROW.PRO.AP-73	Procure ROW Parcel AP-73	0d	31-Aug-18		32d
ROW.PRO.AP-74	Procure ROW Parcel AP-74	0d	31-Aug-18		32d
ROW.PRO.AP-75	Procure ROW Parcel AP-75	0d	31-Aug-18		32d
ROW.PRO.AP-77	Procure ROW Parcel AP-77	0d	31-Aug-18		32d
ROW.PRO.AP-79	Procure ROW Parcel AP-79	0d	31-Aug-18		32d
ROW.PRO.AP-8	Procure ROW Parcel AP-8	0d	31-Aug-18		39d
ROW.PRO.AP-80	Procure ROW Parcel AP-80	0d	31-Aug-18		32d
ROW.PRO.AP-81	Procure ROW Parcel AP-81	0d	31-Aug-18		32d
ROW.PRO.AP-83	Procure ROW Parcel AP-83	0d	31-Aug-18		1128d
ROW.PREP.RW-1L	Prepare ROW Parcel RW-1L (Partial)	0d	30-Jan-19	30-Jan-19	217d
ROW.PREP.RW-211	Prepare ROW Parcel RW-211 (Partial)	21d	30-Jan-19	19-Feb-19	196d
ROW.PRO.AP-93	Procure ROW Parcel AP-93	0d	31-Jan-20		80d
ROW.PRO.AP-93A	Procure ROW Parcel AP-93A	0d	31-Jan-20		80d

Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

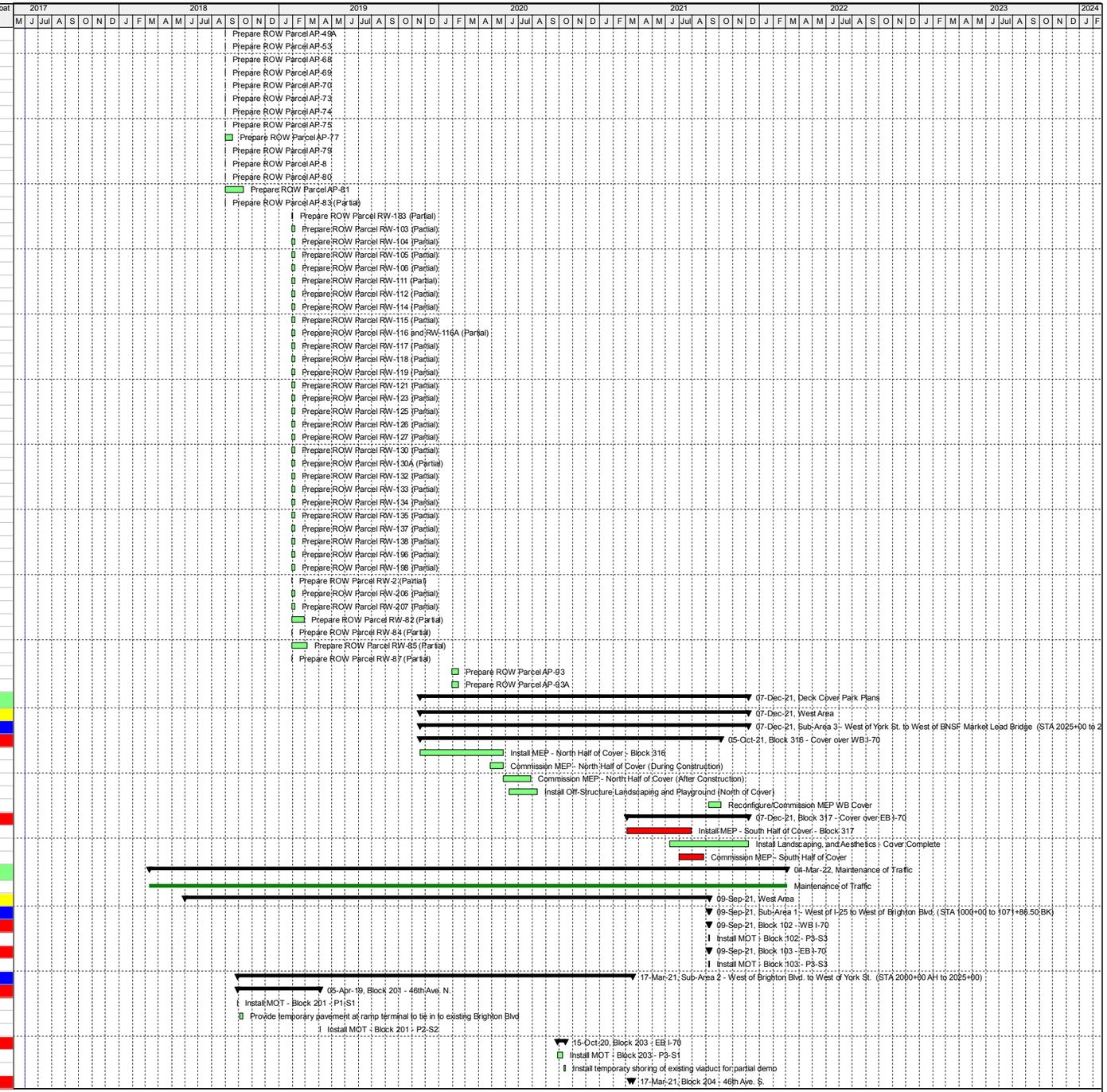
Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Prepare Right-of-Way		**397d**	**01-Jun-18**	**13-Feb-20**	**406d**
ROW.PREP.AP-101	Prepare ROW Parcel AP-101	0d	01-Jun-18	01-Jun-18	191d
ROW.PREP.AP-102	Prepare ROW Parcel AP-102	5d	01-Jun-18	08-Jun-18	186d
ROW.PREP.AP-109	Prepare ROW Parcel AP-109	35d	01-Jun-18	23-Jul-18	341d
ROW.PREP.AP-11	Prepare ROW Parcel AP-11	0d	01-Jun-18	01-Jun-18	110d
ROW.PREP.AP-122	Prepare ROW Parcel AP-122	13d	01-Jun-18	20-Jun-18	363d
ROW.PREP.AP-15	Prepare ROW Parcel AP-15	2d	01-Jun-18	04-Jun-18	108d
ROW.PREP.AP-169	Prepare ROW Parcel AP-169 and AP-TE-169 (for RR Work)	2d	01-Jun-18	04-Jun-18	36d
ROW.PREP.AP-17	Prepare ROW Parcel AP-17	21d	01-Jun-18	02-Jul-18	89d
ROW.PREP.AP-18	Prepare ROW Parcel AP-18	3d	01-Jun-18	06-Jun-18	107d
ROW.PREP.AP-180	Prepare ROW Parcel AP-180 and AP-180A	34d	01-Jun-18	20-Jul-18	220d
ROW.PREP.AP-182A	Prepare ROW Parcel AP-182A	7d	01-Jun-18	12-Jun-18	722d
ROW.PREP.AP-184	Prepare ROW Parcel AP-184	36d	01-Jun-18	25-Jul-18	664d
ROW.PREP.AP-185	Prepare ROW Parcel AP-185	6d	01-Jun-18	11-Jun-18	797d
ROW.PREP.AP-19	Prepare ROW Parcel AP-19	5d	01-Jun-18	08-Jun-18	105d
ROW.PREP.AP-20	Prepare ROW Parcel AP-20	0d	01-Jun-18	01-Jun-18	110d
ROW.PREP.AP-21	Prepare ROW Parcel AP-21	0d	01-Jun-18	01-Jun-18	110d
ROW.PREP.AP-22	Prepare ROW Parcel AP-22	0d	01-Jun-18	01-Jun-18	110d
ROW.PREP.AP-23	Prepare ROW Parcel AP-23	0d	01-Jun-18	01-Jun-18	110d
ROW.PREP.AP-27	Prepare ROW Parcel AP-27	11d	01-Jun-18	18-Jun-18	27d
ROW.PREP.AP-28	Prepare ROW Parcel AP-28	11d	01-Jun-18	18-Jun-18	27d
ROW.PREP.AP-29	Prepare ROW Parcel AP-29	15d	01-Jun-18	22-Jun-18	23d
ROW.PREP.AP-30	Prepare ROW Parcel AP-30	0d	01-Jun-18	01-Jun-18	110d
ROW.PREP.AP-31	Prepare ROW Parcel AP-31	0d	01-Jun-18	01-Jun-18	110d
ROW.PREP.AP-32	Prepare ROW Parcel AP-32	0d	01-Jun-18	01-Jun-18	110d
ROW.PREP.AP-41	Prepare ROW Parcel AP-41	40d	01-Jun-18	31-Jul-18	70d
ROW.PREP.AP-42	Prepare ROW Parcel AP-42	40d	01-Jun-18	31-Jul-18	70d
ROW.PREP.AP-43	Prepare ROW Parcel AP-43	0d	01-Jun-18	01-Jun-18	110d
ROW.PREP.AP-44	Prepare ROW Parcel AP-44	0d	01-Jun-18	01-Jun-18	110d
ROW.PREP.AP-45	Prepare ROW Parcel AP-45	0d	01-Jun-18	01-Jun-18	760d
ROW.PREP.AP-46	Prepare ROW Parcel AP-46	0d	01-Jun-18	01-Jun-18	119d
ROW.PREP.AP-47	Prepare ROW Parcel AP-47	0d	01-Jun-18	01-Jun-18	119d
ROW.PREP.AP-48	Prepare ROW Parcel AP-48	0d	01-Jun-18	01-Jun-18	119d
ROW.PREP.AP-5	Prepare ROW Parcel AP-5 and AP-5A	43d	01-Jun-18	03-Aug-18	245d
ROW.PREP.AP-50	Prepare ROW Parcel AP-50	0d	01-Jun-18	01-Jun-18	119d
ROW.PREP.AP-52	Prepare ROW Parcel AP-52	10d	01-Jun-18	15-Jun-18	109d
ROW.PREP.AP-54	Prepare ROW Parcel AP-54	10d	01-Jun-18	15-Jun-18	244d
ROW.PREP.AP-55	Prepare ROW Parcel AP-55	0d	01-Jun-18	01-Jun-18	119d
ROW.PREP.AP-57	Prepare ROW Parcel AP-57	0d	01-Jun-18	01-Jun-18	254d
ROW.PREP.AP-58	Prepare ROW Parcel AP-58	10d	01-Jun-18	15-Jun-18	244d
ROW.PREP.AP-59	Prepare ROW Parcel AP-59	10d	01-Jun-18	15-Jun-18	244d
ROW.PREP.AP-6	Prepare ROW Parcel AP-6	20d	01-Jun-18	29-Jun-18	90d
ROW.PREP.AP-60	Prepare ROW Parcel AP-60	0d	01-Jun-18	01-Jun-18	119d
ROW.PREP.AP-67	Prepare ROW Parcel AP-67	10d	01-Jun-18	15-Jun-18	690d
ROW.PREP.AP-72	Prepare ROW Parcel AP-72	0d	01-Jun-18	01-Jun-18	700d
ROW.PREP.AP-76	Prepare ROW Parcel AP-76	0d	01-Jun-18	01-Jun-18	119d
ROW.PREP.AP-78	Prepare ROW Parcel AP-78	0d	01-Jun-18	01-Jun-18	119d
ROW.PREP.AP-86	Prepare ROW Parcel AP-86	0d	01-Jun-18	01-Jun-18	206d
ROW.PREP.AP-86A	Prepare ROW Parcel AP-86A	0d	01-Jun-18	01-Jun-18	206d
ROW.PREP.AP-86B	Prepare ROW Parcel AP-86B	0d	01-Jun-18	01-Jun-18	206d
ROW.PREP.AP-88	Prepare ROW Parcel AP-88	0d	01-Jun-18	01-Jun-18	206d
ROW.PREP.AP-89	Prepare ROW Parcel AP-89 (Partial) and AP-TE-89 (Incl. former AP-TE-191)	20d	01-Jun-18	29-Jun-18	690d
ROW.PREP.AP-9	Prepare ROW Parcel AP-9	2d	01-Jun-18	04-Jun-18	108d
ROW.PREP.AP-91	Prepare ROW Parcel AP-91	0d	01-Jun-18	01-Jun-18	452d
ROW.PREP.AP-92	Prepare ROW Parcel AP-92 and AP-PE-92 (Partial)	1d	01-Jun-18	01-Jun-18	451d
ROW.PREP.AP-94	Prepare ROW Parcel AP-94	10d	01-Jun-18	15-Jun-18	181d
ROW.PREP.AP-96	Prepare ROW Parcel AP-96	11d	01-Jun-18	18-Jun-18	180d
ROW.PREP.CCD	Prepare ROW Parcels from CCD	0d	01-Jun-18	01-Jun-18	38d
ROW.PREP.AP-182	Prepare ROW Parcel AP-182	10d	01-Jun-18	15-Jun-18	719d
ROW.PREP.AP-PE-25	Prepare ROW Parcel AP-PE-25 (Partial) and AP-TE-25	60d	01-Jun-18	29-Aug-18	228d
ROW.PREP.PE-26	Prepare ROW Parcel PE-26 (Partial)	0d	01-Jun-18	01-Jun-18	38d
ROW.PREP.PE-26B	Prepare ROW Parcel PE-26B	30d	01-Jun-18	16-Jul-18	8d
ROW.PREP.AP-PE-26I	Prepare ROW Parcel AP-PE-26I (Partial)	0d	01-Jun-18	01-Jun-18	38d
ROW.PREP.AP-PE-90	Prepare ROW Parcel AP-PE-90 (Partial)	0d	01-Jun-18	01-Jun-18	452d
ROW.PREP.AP-PE-90A	Prepare ROW Parcel AP-PE-90A (Partial)	0d	01-Jun-18	01-Jun-18	191d
ROW.PREP.AP-136	Prepare ROW Parcel AP-136	0d	01-Jun-18	01-Jun-18	420d
ROW.PREP.AP-PE-136A	Prepare ROW Parcel AP-PE-136A	0d	01-Jun-18	01-Jun-18	420d
ROW.PREP.AP-136B	Prepare ROW Parcel AP-136B	20d	01-Jun-18	29-Jun-18	400d
ROW.PREP.AP-TE-170	Prepare ROW Parcel AP-TE-170	0d	01-Jun-18	01-Jun-18	38d
ROW.PREP.AP-TE-192	Prepare ROW Parcel AP-TE-192	0d	01-Jun-18	01-Jun-18	700d
ROW.PREP.AP-26	Prepare ROW Parcel AP-26	0d	01-Jun-18	01-Jun-18	38d
ROW.PREP.AP-26A	Prepare ROW Parcel AP-26A	0d	01-Jun-18	01-Jun-18	38d
ROW.PREP.AP-TE-90	Prepare ROW Parcel AP-TE-90	0d	01-Jun-18	01-Jun-18	191d
ROW.PREP.AP-TE-90A	Prepare ROW Parcel AP-TE-90A	30d	01-Jun-18	16-Jul-18	773d
ROW.PREP.AP-66	Prepare ROW Parcel AP-66	30d	28-Jun-18	10-Aug-18	26d
ROW.PREP.AP-66A	Prepare ROW Parcel AP-66A	30d	28-Jun-18	10-Aug-18	71d
ROW.PREP.AP-66B	Prepare ROW Parcel AP-66B	30d	28-Jun-18	10-Aug-18	71d
ROW.PREP.AP-63	Prepare ROW Parcel AP-63	5d	31-Jul-18	06-Aug-18	30d
ROW.PREP.AP-14	Prepare ROW Parcel AP-14	0d	31-Aug-18	31-Aug-18	49d
ROW.PREP.AP-33	Prepare ROW Parcel AP-33	0d	31-Aug-18	31-Aug-18	49d
ROW.PREP.AP-34	Prepare ROW Parcel AP-34	0d	31-Aug-18	31-Aug-18	49d
ROW.PREP.AP-49	Prepare ROW Parcel AP-49	0d	31-Aug-18	31-Aug-18	58d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

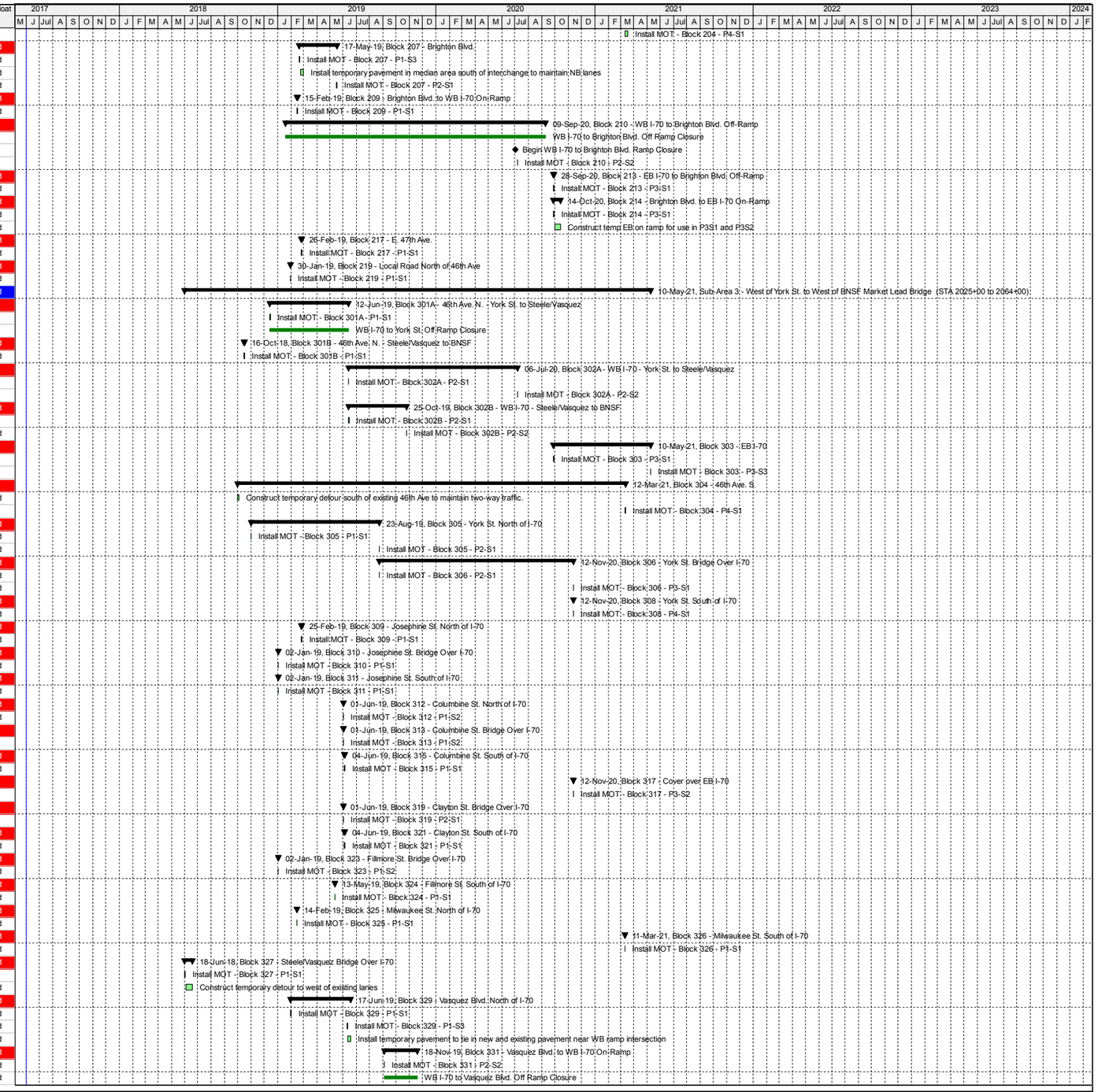
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
ROW.PREP.AP-49A	Prepare ROW Parcel AP-49A	0d	31-Aug-18	31-Aug-18	58d
ROW.PREP.AP-53	Prepare ROW Parcel AP-53	0d	31-Aug-18	31-Aug-18	193d
ROW.PREP.AP-68	Prepare ROW Parcel AP-68	0d	31-Aug-18	31-Aug-18	13d
ROW.PREP.AP-69	Prepare ROW Parcel AP-69	0d	31-Aug-18	31-Aug-18	13d
ROW.PREP.AP-70	Prepare ROW Parcel AP-70	0d	31-Aug-18	31-Aug-18	13d
ROW.PREP.AP-73	Prepare ROW Parcel AP-73	0d	31-Aug-18	31-Aug-18	58d
ROW.PREP.AP-74	Prepare ROW Parcel AP-74	0d	31-Aug-18	31-Aug-18	58d
ROW.PREP.AP-75	Prepare ROW Parcel AP-75	0d	31-Aug-18	31-Aug-18	58d
ROW.PREP.AP-77	Prepare ROW Parcel AP-77	11d	31-Aug-18	17-Sep-18	47d
ROW.PREP.AP-79	Prepare ROW Parcel AP-79	0d	31-Aug-18	31-Aug-18	58d
ROW.PREP.AP-8	Prepare ROW Parcel AP-8	0d	31-Aug-18	31-Aug-18	49d
ROW.PREP.AP-80	Prepare ROW Parcel AP-80	0d	31-Aug-18	31-Aug-18	58d
ROW.PREP.AP-81	Prepare ROW Parcel AP-81	30d	31-Aug-18	12-Oct-18	28d
ROW.PREP.AP-83	Prepare ROW Parcel AP-83 (Partial)	0d	31-Aug-18	31-Aug-18	739d
ROW.PREP.RW-183	Prepare ROW Parcel RW-183 (Partial)	3d	30-Jan-19	01-Feb-19	139d
ROW.PREP.RW-103	Prepare ROW Parcel RW-103 (Partial)	5d	30-Jan-19	05-Feb-19	369d
ROW.PREP.RW-104	Prepare ROW Parcel RW-104 (Partial)	5d	30-Jan-19	05-Feb-19	54d
ROW.PREP.RW-105	Prepare ROW Parcel RW-105 (Partial)	5d	30-Jan-19	05-Feb-19	54d
ROW.PREP.RW-106	Prepare ROW Parcel RW-106 (Partial)	5d	30-Jan-19	05-Feb-19	218d
ROW.PREP.RW-111	Prepare ROW Parcel RW-111 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-112	Prepare ROW Parcel RW-112 (Partial)	5d	30-Jan-19	05-Feb-19	218d
ROW.PREP.RW-114	Prepare ROW Parcel RW-114 (Partial)	5d	30-Jan-19	05-Feb-19	218d
ROW.PREP.RW-115	Prepare ROW Parcel RW-115 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-116	Prepare ROW Parcel RW-116 and RW-116A (Partial)	5d	30-Jan-19	05-Feb-19	218d
ROW.PREP.RW-117	Prepare ROW Parcel RW-117 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-118	Prepare ROW Parcel RW-118 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-119	Prepare ROW Parcel RW-119 (Partial)	5d	30-Jan-19	05-Feb-19	218d
ROW.PREP.RW-121	Prepare ROW Parcel RW-121 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-123	Prepare ROW Parcel RW-123 (Partial)	5d	30-Jan-19	05-Feb-19	218d
ROW.PREP.RW-125	Prepare ROW Parcel RW-125 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-126	Prepare ROW Parcel RW-126 (Partial)	5d	30-Jan-19	05-Feb-19	218d
ROW.PREP.RW-127	Prepare ROW Parcel RW-127 (Partial)	5d	30-Jan-19	05-Feb-19	218d
ROW.PREP.RW-130	Prepare ROW Parcel RW-130 (Partial)	5d	30-Jan-19	05-Feb-19	218d
ROW.PREP.RW-130A	Prepare ROW Parcel RW-130A (Partial)	5d	30-Jan-19	05-Feb-19	262d
ROW.PREP.RW-132	Prepare ROW Parcel RW-132 (Partial)	5d	30-Jan-19	05-Feb-19	218d
ROW.PREP.RW-133	Prepare ROW Parcel RW-133 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-134	Prepare ROW Parcel RW-134 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-135	Prepare ROW Parcel RW-135 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-137	Prepare ROW Parcel RW-137 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-138	Prepare ROW Parcel RW-138 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-196	Prepare ROW Parcel RW-196 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-198	Prepare ROW Parcel RW-198 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-2	Prepare ROW Parcel RW-2 (Partial)	0d	30-Jan-19	30-Jan-19	343d
ROW.PREP.RW-206	Prepare ROW Parcel RW-206 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-207	Prepare ROW Parcel RW-207 (Partial)	5d	30-Jan-19	05-Feb-19	273d
ROW.PREP.RW-82	Prepare ROW Parcel RW-82 (Partial)	20d	30-Jan-19	27-Feb-19	613d
ROW.PREP.RW-84	Prepare ROW Parcel RW-84 (Partial)	0d	30-Jan-19	30-Jan-19	647d
ROW.PREP.RW-85	Prepare ROW Parcel RW-85 (Partial)	25d	30-Jan-19	06-Mar-19	119d
ROW.PREP.RW-87	Prepare ROW Parcel RW-87 (Partial)	0d	30-Jan-19	30-Jan-19	144d
ROW.PREP.AP-93	Prepare ROW Parcel AP-93	10d	31-Jan-20	13-Feb-20	55d
ROW.PREP.AP-93A	Prepare ROW Parcel AP-93A	10d	31-Jan-20	13-Feb-20	55d
Deck Cover Park Plans		484d	19-Nov-19	07-Dec-21	53d
West Area		484d	19-Nov-19	07-Dec-21	53d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		484d	19-Nov-19	07-Dec-21	53d
Block 316 - Cover over WB I-70		445d	19-Nov-19	05-Oct-21	92d
CON.DEK.316.025	Install MEP - North Half of Cover - Block 316	120d	19-Nov-19	26-May-20	76d
CON.DEK.316.030	Commission MEP - North Half of Cover (During Construction)	20d	27-Apr-20	26-May-20	259d
CON.DEK.316.035	Commission MEP - North Half of Cover (After Construction)	40d	27-May-20	27-Jul-20	259d
CON.DEK.316.015	Install Off-Structure Landscaping and Playground (North of Cover)	45d	08-Jun-20	11-Aug-20	48d
CON.DEK.316.020	Reconfigure/Commission MEP WB Cover	20d	07-Sep-21	05-Oct-21	92d
Block 317 - Cover over EB I-70		185d	05-Mar-21	07-Dec-21	53d
CON.DEK.317.020	Install MEP - South Half of Cover - Block 317	100d	05-Mar-21	29-Jul-21	0d
CON.DEK.317.015	Install Landscaping, and Aesthetics - Cover Complete	120d	10-Jun-21	07-Dec-21	53d
CON.DEK.317.025	Commission MEP - South Half of Cover	40d	01-Jul-21	26-Aug-21	0d
Maintenance of Traffic		937d	12-Mar-18	04-Mar-22	0d
CON.MOT.JW.005	Maintenance of Traffic	937d	12-Mar-18	04-Mar-22	0d
West Area		775d	01-Jun-18	09-Sep-21	104d
Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)		3d	07-Sep-21	09-Sep-21	104d
Block 102 - WB I-70		3d	07-Sep-21	09-Sep-21	104d
CON.MOT.102.005	Install MOT - Block 102 - P3-S3	3d	07-Sep-21	09-Sep-21	104d
Block 103 - EB I-70		3d	07-Sep-21	09-Sep-21	104d
CON.MOT.103.010	Install MOT - Block 103 - P3-S3	3d	07-Sep-21	09-Sep-21	104d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		575d	28-Sep-18	17-Mar-21	150d
Block 201 - 46th Ave. N.		118d	28-Sep-18	05-Apr-19	592d
CON.MOT.201.035	Install MOT - Block 201 - P1-S1	1d	28-Sep-18	28-Sep-18	49d
CON.MOT.201.140	Provide temporary pavement at ramp terminal to tie in to existing Brighton Blvd	5d	04-Oct-18	10-Oct-18	49d
CON.MOT.201.040	Install MOT - Block 201 - P2-S2	1d	05-Apr-19	05-Apr-19	592d
Block 203 - EB I-70		14d	28-Sep-20	15-Oct-20	24d
CON.MOT.203.045	Install MOT - Block 203 - P3-S1	10d	28-Sep-20	09-Oct-20	22d
CON.MOT.203.130	Install temporary shoring of existing viaduct for partial demo	4d	12-Oct-20	15-Oct-20	24d
Block 204 - 46th Ave. S.		5d	11-Mar-21	17-Mar-21	6d



Remaining Work | Remaining Level of Effort | Summary
Critical Remaining Work | Milestone

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.MOT.204.065	Install MOT - Block 204 - P4-S1	5d	11-Mar-21	17-Mar-21	6d
Block 207 - Brighton Blvd.		**58d**	**20-Feb-19**	**17-May-19**	**126d**
CON.MOT.207.045	Install MOT - Block 207 - P1-S3	2d	20-Feb-19	21-Feb-19	127d
CON.MOT.207.130	Install temporary pavement in median area south of interchange to maintain NB lanes	5d	22-Feb-19	28-Feb-19	127d
CON.MOT.207.050	Install MOT - Block 207 - P2-S1	2d	16-May-19	17-May-19	126d
Block 209 - Brighton Blvd. to WB I-70 On-Ramp		**2d**	**14-Feb-19**	**15-Feb-19**	**198d**
CON.MOT.209.025	Install MOT - Block 209 - P1-S1	2d	14-Feb-19	15-Feb-19	198d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		**390d**	**19-Jan-19**	**09-Sep-20**	**6d**
CON.MOT.210.035	WB I-70 to Brighton Blvd. Off Ramp Closure	600d	19-Jan-19	09-Sep-20	8d
CON.MOT.210.025	Begin WB I-70 to Brighton Blvd. Ramp Closure	0d		02-Jul-20	4d
CON.MOT.210.030	Install MOT - Block 210 - P2-S2	1d	06-Jul-20	06-Jul-20	4d
Block 213 - EB I-70 to Brighton Blvd. Off-Ramp		**1d**	**28-Sep-20**	**28-Sep-20**	**158d**
CON.MOT.213.025	Install MOT - Block 213 - P3-S1	1d	28-Sep-20	28-Sep-20	158d
Block 214 - Brighton Blvd. to EB I-70 On-Ramp		**12d**	**28-Sep-20**	**14-Oct-20**	**152d**
CON.MOT.214.025	Install MOT - Block 214 - P3-S1	2d	28-Sep-20	29-Sep-20	152d
CON.MOT.214.055	Construct temp EB on ramp for use in P3S1 and P3S2	10d	30-Sep-20	14-Oct-20	152d
Block 217 - E. 47th Ave.		**2d**	**25-Feb-19**	**26-Feb-19**	**586d**
CON.MOT.217.030	Install MOT - Block 217 - P1-S1	2d	25-Feb-19	26-Feb-19	586d
Block 219 - Local Road North of 46th Ave		**1d**	**30-Jan-19**	**30-Jan-19**	**618d**
CON.MOT.219.025	Install MOT - Block 219 - P1-S1	1d	30-Jan-19	30-Jan-19	618d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		**692d**	**01-Jun-18**	**10-May-21**	**114d**
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		**112d**	**13-Dec-18**	**12-Jun-19**	**13d**
CON.MOT.301A.025	Install MOT - Block 301A - P1-S1	2d	13-Dec-18	14-Dec-18	13d
CON.MOT.301A.030	WB I-70 to York St. Off Ramp Closure	182d	13-Dec-18	12-Jun-19	19d
Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF		**2d**	**15-Oct-18**	**16-Oct-18**	**115d**
CON.MOT.301B.025	Install MOT - Block 301B - P1-S1	2d	15-Oct-18	16-Oct-18	115d
Block 302A - WB I-70 - York St. to Steele/Vasquez		**251d**	**13-Jun-19**	**06-Jul-20**	**13d**
CON.MOT.302A.035	Install MOT - Block 302A - P2-S1	0d	13-Jun-19	13-Jun-19	13d
CON.MOT.302A.040	Install MOT - Block 302A - P2-S2	0d	06-Jul-20	06-Jul-20	13d
Block 302B - WB I-70 - Steele/Vasquez to BNSF		**89d**	**13-Jun-19**	**25-Oct-19**	**166d**
CON.MOT.302B.030	Install MOT - Block 302B - P2-S1	2d	13-Jun-19	14-Jun-19	99d
CON.MOT.302B.035	Install MOT - Block 302B - P2-S2	0d	25-Oct-19	25-Oct-19	166d
Block 303 - EB I-70		**144d**	**28-Sep-20**	**10-May-21**	**31d**
CON.MOT.303.035	Install MOT - Block 303 - P3-S1	2d	28-Sep-20	29-Sep-20	0d
CON.MOT.303.040	Install MOT - Block 303 - P3-S3	1d	10-May-21	10-May-21	31d
Block 304 - 46th Ave. S.		**571d**	**01-Oct-18**	**12-Mar-21**	**50d**
CON.MOT.304.080	Construct temporary detour south of existing 46th Ave to maintain two-way traffic.	4d	01-Oct-18	04-Oct-18	615d
CON.MOT.304.035	Install MOT - Block 304 - P4-S1	2d	11-Mar-21	12-Mar-21	50d
Block 305 - York St. North of I-70		**188d**	**31-Oct-18**	**23-Aug-19**	**503d**
CON.MOT.305.040	Install MOT - Block 305 - P1-S1	2d	31-Oct-18	01-Nov-18	659d
CON.MOT.305.035	Install MOT - Block 305 - P2-S1	1d	23-Aug-19	23-Aug-19	503d
Block 306 - York St. Bridge Over I-70		**293d**	**23-Aug-19**	**12-Nov-20**	**191d**
CON.MOT.306.025	Install MOT - Block 306 - P2-S1	1d	23-Aug-19	23-Aug-19	413d
CON.MOT.306.030	Install MOT - Block 306 - P3-S1	1d	12-Nov-20	12-Nov-20	191d
Block 308 - York St. South of I-70		**1d**	**12-Nov-20**	**12-Nov-20**	**213d**
CON.MOT.308.030	Install MOT - Block 308 - P4-S1	1d	12-Nov-20	12-Nov-20	213d
Block 309 - Josephine St. North of I-70		**1d**	**25-Feb-19**	**25-Feb-19**	**631d**
CON.MOT.309.025	Install MOT - Block 309 - P1-S1	1d	25-Feb-19	25-Feb-19	631d
Block 310 - Josephine St. Bridge Over I-70		**1d**	**02-Jan-19**	**02-Jan-19**	**503d**
CON.MOT.310.015	Install MOT - Block 310 - P1-S1	1d	02-Jan-19	02-Jan-19	503d
Block 311 - Josephine St. South of I-70		**1d**	**02-Jan-19**	**02-Jan-19**	**663d**
CON.MOT.311.025	Install MOT - Block 311 - P1-S1	1d	02-Jan-19	02-Jan-19	663d
Block 312 - Columbine St. North of I-70		**1d**	**01-Jun-19**	**01-Jun-19**	**133d**
CON.MOT.312.020	Install MOT - Block 312 - P1-S2	1d	01-Jun-19	01-Jun-19	133d
Block 313 - Columbine St. Bridge Over I-70		**1d**	**01-Jun-19**	**01-Jun-19**	**48d**
CON.MOT.313.020	Install MOT - Block 313 - P1-S2	1d	01-Jun-19	01-Jun-19	48d
Block 315 - Columbine St. South of I-70		**1d**	**04-Jun-19**	**04-Jun-19**	**570d**
CON.MOT.315.025	Install MOT - Block 315 - P1-S1	1d	04-Jun-19	04-Jun-19	570d
Block 317 - Cover over EB I-70		**1d**	**12-Nov-20**	**12-Nov-20**	**0d**
CON.MOT.317.030	Install MOT - Block 317 - P3-S2	1d	12-Nov-20	12-Nov-20	0d
Block 319 - Clayton St. Bridge Over I-70		**1d**	**01-Jun-19**	**01-Jun-19**	**46d**
CON.MOT.319.015	Install MOT - Block 319 - P2-S1	1d	01-Jun-19	01-Jun-19	46d
Block 321 - Clayton St. South of I-70		**1d**	**04-Jun-19**	**04-Jun-19**	**568d**
CON.MOT.321.025	Install MOT - Block 321 - P1-S1	1d	04-Jun-19	04-Jun-19	568d
Block 323 - Fillmore St. Bridge Over I-70		**1d**	**02-Jan-19**	**02-Jan-19**	**173d**
CON.MOT.323.020	Install MOT - Block 323 - P1-S2	1d	02-Jan-19	02-Jan-19	173d
Block 324 - Fillmore St. South of I-70		**1d**	**13-May-19**	**13-May-19**	**198d**
CON.MOT.324.025	Install MOT - Block 324 - P1-S1	1d	13-May-19	13-May-19	198d
Block 325 - Milwaukee St. North of I-70		**1d**	**14-Feb-19**	**14-Feb-19**	**637d**
CON.MOT.325.020	Install MOT - Block 325 - P1-S1	1d	14-Feb-19	14-Feb-19	637d
Block 326 - Milwaukee St. South of I-70		**1d**	**11-Mar-21**	**11-Mar-21**	**136d**
CON.MOT.326.025	Install MOT - Block 326 - P1-S1	1d	11-Mar-21	11-Mar-21	136d
Block 327 - Steele/Vasquez Bridge Over I-70		**11d**	**01-Jun-18**	**18-Jun-18**	**445d**
CON.MOT.327.015	Install MOT - Block 327 - P1-S1	1d	01-Jun-18	01-Jun-18	73d
CON.MOT.327.100	Construct temporary detour to west of existing lanes	10d	04-Jun-18	18-Jun-18	445d
Block 329 - Vasquez Blvd. North of I-70		**91d**	**30-Jan-19**	**17-Jun-19**	**517d**
CON.MOT.329.040	Install MOT - Block 329 - P1-S1	2d	30-Jan-19	31-Jan-19	541d
CON.MOT.329.045	Install MOT - Block 329 - P1-S3	2d	10-Jun-19	11-Jun-19	517d
CON.MOT.329.120	Install temporary pavement to tie in new and existing pavement near WB ramp intersection	4d	12-Jun-19	17-Jun-19	517d
Block 331 - Vasquez Blvd. to WB I-70 On-Ramp		**53d**	**03-Sep-19**	**18-Nov-19**	**419d**
CON.MOT.331.030	Install MOT - Block 331 - P2-S2	1d	03-Sep-19	03-Sep-19	131d
CON.MOT.331.035	WB I-70 to Vasquez Blvd. Off Ramp Closure	77d	03-Sep-19	18-Nov-19	647d



Remaining Work
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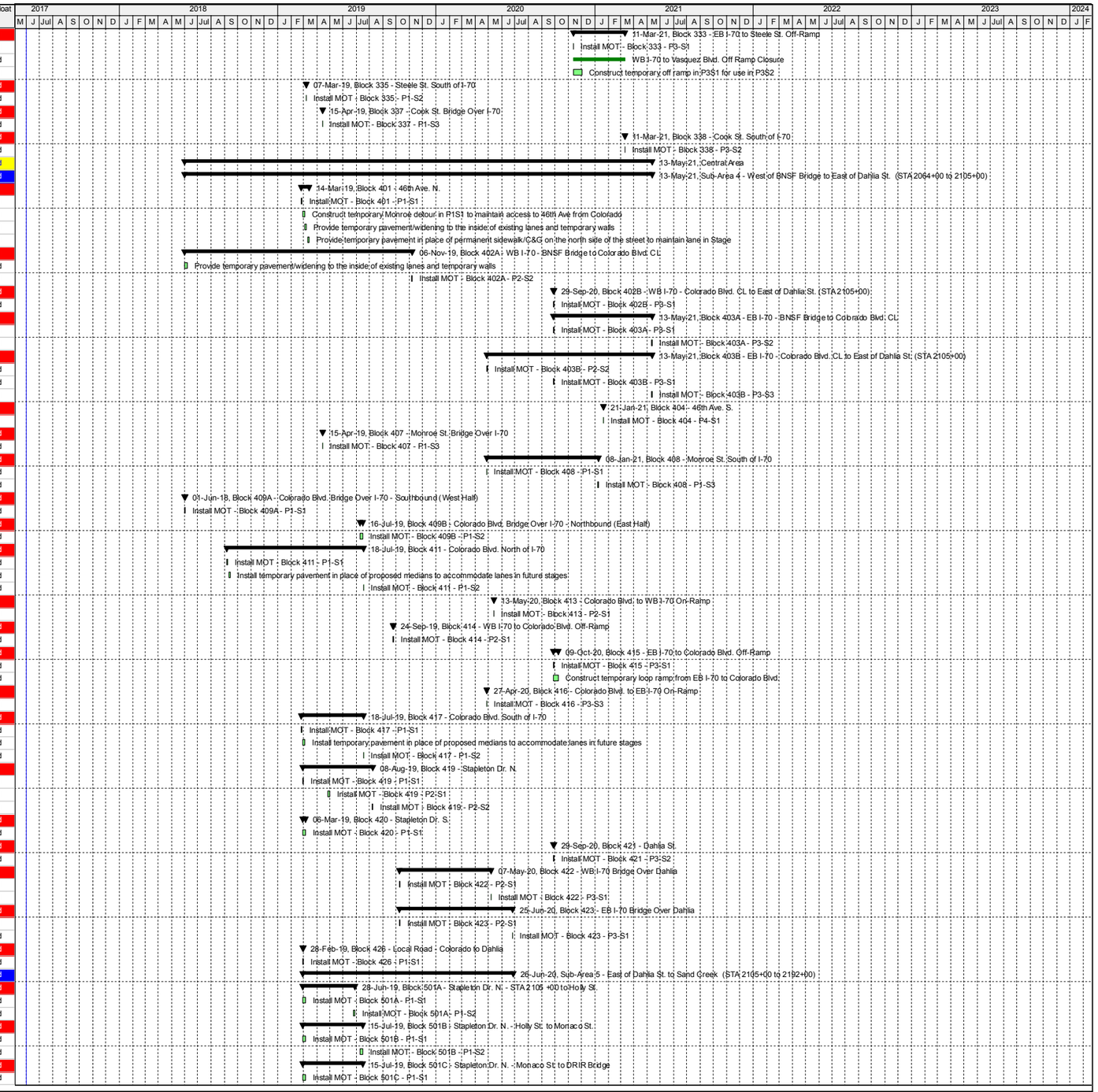
Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Block 333 - EB I-70 to Steele St. Off-Ramp		**71d**	**12-Nov-20**	**11-Mar-21**	**71d**
CON.MOT.333.030	Install MOT - Block 333 - P3-S1	1d	12-Nov-20	12-Nov-20	88d
CON.MOT.333.065	WB I-70 to Vasquez Blvd. Off Ramp Closure	120d	12-Nov-20	11-Mar-21	105d
CON.MOT.333.060	Construct temporary off ramp in P3S1 for use in P3S2	10d	13-Nov-20	01-Dec-20	88d
Block 335 - Steele St. South of I-70		**1d**	**07-Mar-19**	**07-Mar-19**	**517d**
CON.MOT.335.025	Install MOT - Block 335 - P1-S2	1d	07-Mar-19	07-Mar-19	517d
Block 337 - Cook St. Bridge Over I-70		**1d**	**15-Apr-19**	**15-Apr-19**	**525d**
CON.MOT.337.015	Install MOT - Block 337 - P1-S3	1d	15-Apr-19	15-Apr-19	525d
Block 338 - Cook St. South of I-70		**1d**	**11-Mar-21**	**11-Mar-21**	**153d**
CON.MOT.338.025	Install MOT - Block 338 - P3-S2	1d	11-Mar-21	11-Mar-21	153d
Central Area		**695d**	**01-Jun-18**	**13-May-21**	**116d**
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		**695d**	**01-Jun-18**	**13-May-21**	**116d**
Block 401 - 46th Ave. N.		**14d**	**25-Feb-19**	**14-Mar-19**	**21d**
CON.MOT.401.030	Install MOT - Block 401 - P1-S1	2d	25-Feb-19	26-Feb-19	21d
CON.MOT.401.090	Construct temporary Monroe detour in P1S1 to maintain access to 46th Ave from Colorado	4d	27-Feb-19	04-Mar-19	21d
CON.MOT.401.080	Provide temporary pavement/widening to the inside of existing lanes and temporary walls	4d	05-Mar-19	08-Mar-19	21d
CON.MOT.401.085	Provide temporary pavement in place of permanent sidewalk/C&G on the north side of the street to maintain lane in Stage	4d	11-Mar-19	14-Mar-19	21d
Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL		**339d**	**01-Jun-18**	**06-Nov-19**	**70d**
CON.MOT.402A.090	Provide temporary pavement/widening to the inside of existing lanes and temporary walls	4d	01-Jun-18	07-Jun-18	405d
CON.MOT.402A.025	Install MOT - Block 402A - P2-S2	2d	05-Nov-19	06-Nov-19	51d
Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		**2d**	**28-Sep-20**	**29-Sep-20**	**192d**
CON.MOT.402B.150	Install MOT - Block 402B - P3-S1	2d	28-Sep-20	29-Sep-20	192d
Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL		**147d**	**28-Sep-20**	**13-May-21**	**38d**
CON.MOT.403A.035	Install MOT - Block 403A - P3-S1	2d	28-Sep-20	29-Sep-20	60d
CON.MOT.403A.040	Install MOT - Block 403A - P3-S2	2d	12-May-21	13-May-21	38d
Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		**248d**	**27-Apr-20**	**13-May-21**	**47d**
CON.MOT.403B.035	Install MOT - Block 403B - P2-S2	2d	27-Apr-20	28-Apr-20	175d
CON.MOT.403B.040	Install MOT - Block 403B - P3-S1	2d	28-Sep-20	29-Sep-20	147d
CON.MOT.403B.045	Install MOT - Block 403B - P3-S3	2d	12-May-21	13-May-21	47d
Block 404 - 46th Ave. S.		**2d**	**20-Jan-21**	**21-Jan-21**	**93d**
CON.MOT.404.030	Install MOT - Block 404 - P4-S1	2d	20-Jan-21	21-Jan-21	93d
Block 407 - Monroe St. Bridge Over I-70		**1d**	**15-Apr-19**	**15-Apr-19**	**227d**
CON.MOT.407.015	Install MOT - Block 407 - P1-S3	1d	15-Apr-19*	15-Apr-19	227d
Block 408 - Monroe St. South of I-70		**163d**	**27-Apr-20**	**08-Jan-21**	**201d**
CON.MOT.408.035	Install MOT - Block 408 - P1-S1	1d	27-Apr-20	27-Apr-20	244d
CON.MOT.408.040	Install MOT - Block 408 - P1-S3	1d	08-Jan-21	08-Jan-21	201d
Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)		**1d**	**01-Jun-18**	**01-Jun-18**	**429d**
CON.MOT.409A.015	Install MOT - Block 409A - P1-S1	1d	01-Jun-18	01-Jun-18	429d
Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)		**5d**	**10-Jul-19**	**16-Jul-19**	**259d**
CON.MOT.409B.005	Install MOT - Block 409B - P1-S2	5d	10-Jul-19	16-Jul-19	259d
Block 411 - Colorado Blvd. North of I-70		**201d**	**06-Sep-18**	**18-Jul-19**	**498d**
CON.MOT.411.035	Install MOT - Block 411 - P1-S1	2d	06-Sep-18	07-Sep-18	353d
CON.MOT.411.120	Install temporary pavement in place of proposed medians to accommodate lanes in future stages	4d	10-Sep-18	13-Sep-18	353d
CON.MOT.411.040	Install MOT - Block 411 - P1-S2	2d	17-Jul-19	18-Jul-19	498d
Block 413 - Colorado Blvd. to WB I-70 On-Ramp		**1d**	**13-May-20**	**13-May-20**	**55d**
CON.MOT.413.025	Install MOT - Block 413 - P2-S1	1d	13-May-20	13-May-20	55d
Block 414 - WB I-70 to Colorado Blvd. Off-Ramp		**1d**	**24-Sep-19**	**24-Sep-19**	**203d**
CON.MOT.414.025	Install MOT - Block 414 - P2-S1	1d	24-Sep-19	24-Sep-19	203d
Block 415 - EB I-70 to Colorado Blvd. Off-Ramp		**10d**	**28-Sep-20**	**09-Oct-20**	**118d**
CON.MOT.415.030	Install MOT - Block 415 - P3-S1	1d	28-Sep-20	28-Sep-20	127d
CON.MOT.415.075	Construct temporary loop ramp from EB I-70 to Colorado Blvd.	10d	28-Sep-20	09-Oct-20	118d
Block 416 - Colorado Blvd. to EB I-70 On-Ramp		**1d**	**27-Apr-20**	**27-Apr-20**	**84d**
CON.MOT.416.030	Install MOT - Block 416 - P3-S3	1d	27-Apr-20	27-Apr-20	84d
Block 417 - Colorado Blvd. South of I-70		**95d**	**25-Feb-19**	**18-Jul-19**	**259d**
CON.MOT.417.035	Install MOT - Block 417 - P1-S1	2d	25-Feb-19	26-Feb-19	259d
CON.MOT.417.120	Install temporary pavement in place of proposed medians to accommodate lanes in future stages	4d	27-Feb-19	04-Mar-19	259d
CON.MOT.417.040	Install MOT - Block 417 - P1-S2	2d	17-Jul-19	18-Jul-19	259d
Block 419 - Stapleton Dr. N.		**106d**	**28-Feb-19**	**08-Aug-19**	**39d**
CON.MOT.419.040	Install MOT - Block 419 - P1-S1	1d	28-Feb-19	28-Feb-19	39d
CON.MOT.419.045	Install MOT - Block 419 - P2-S1	3d	26-Apr-19	30-Apr-19	39d
CON.MOT.419.050	Install MOT - Block 419 - P2-S2	3d	06-Aug-19	08-Aug-19	39d
Block 420 - Stapleton Dr. S.		**5d**	**28-Feb-19**	**06-Mar-19**	**354d**
CON.MOT.420.030	Install MOT - Block 420 - P1-S1	5d	28-Feb-19	06-Mar-19	354d
Block 421 - Dahlia St.		**2d**	**28-Sep-20**	**29-Sep-20**	**247d**
CON.MOT.421.025	Install MOT - Block 421 - P3-S2	2d	28-Sep-20	29-Sep-20	247d
Block 422 - WB I-70 Bridge Over Dahlia		**137d**	**09-Oct-19**	**07-May-20**	**14d**
CON.MOT.422.015	Install MOT - Block 422 - P2-S1	1d	09-Oct-19	09-Oct-19	74d
CON.MOT.422.020	Install MOT - Block 422 - P3-S1	1d	07-May-20	07-May-20	14d
Block 423 - EB I-70 Bridge Over Dahlia		**168d**	**09-Oct-19**	**25-Jun-20**	**206d**
CON.MOT.423.015	Install MOT - Block 423 - P2-S1	1d	09-Oct-19	09-Oct-19	81d
CON.MOT.423.020	Install MOT - Block 423 - P3-S1	1d	25-Jun-20	25-Jun-20	206d
Block 426 - Local Road - Colorado to Dahlia		**1d**	**28-Feb-19**	**28-Feb-19**	**580d**
CON.MOT.426.030	Install MOT - Block 426 - P1-S1	1d	28-Feb-19	28-Feb-19	580d
Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)		**315d**	**28-Feb-19**	**26-Jun-20**	**298d**
Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.		**80d**	**28-Feb-19**	**28-Jun-19**	**212d**
CON.MOT.501A.035	Install MOT - Block 501A - P1-S1	5d	28-Feb-19	06-Mar-19	203d
CON.MOT.501A.040	Install MOT - Block 501A - P1-S2	5d	24-Jun-19	28-Jun-19	212d
Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.		**89d**	**28-Feb-19**	**15-Jul-19**	**203d**
CON.MOT.501B.030	Install MOT - Block 501B - P1-S1	5d	28-Feb-19	06-Mar-19	203d
CON.MOT.501B.035	Install MOT - Block 501B - P1-S2	5d	09-Jul-19	15-Jul-19	203d
Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge		**89d**	**28-Feb-19**	**15-Jul-19**	**247d**
CON.MOT.501C.030	Install MOT - Block 501C - P1-S1	5d	28-Feb-19	06-Mar-19	247d



Remaining Work
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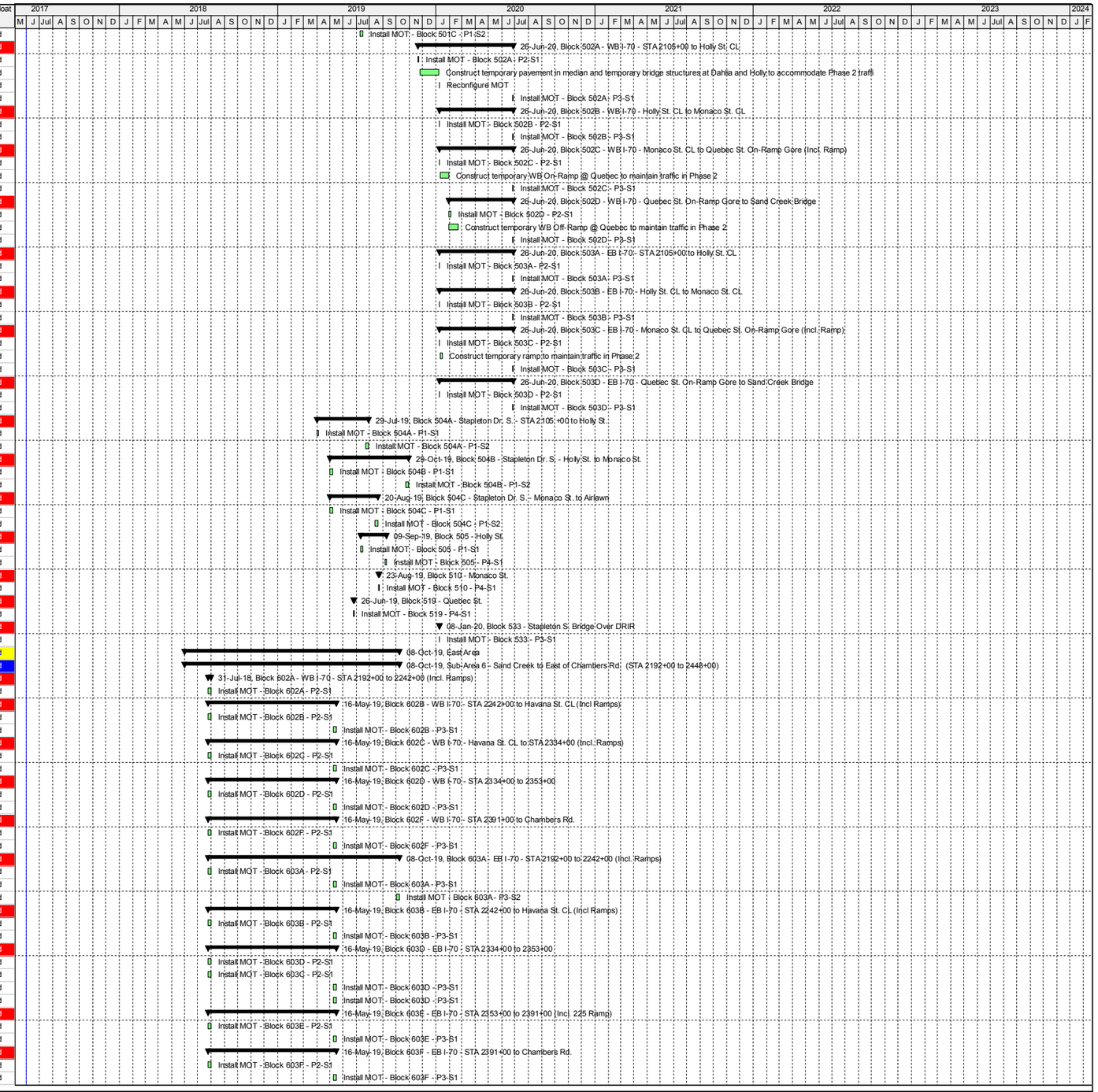
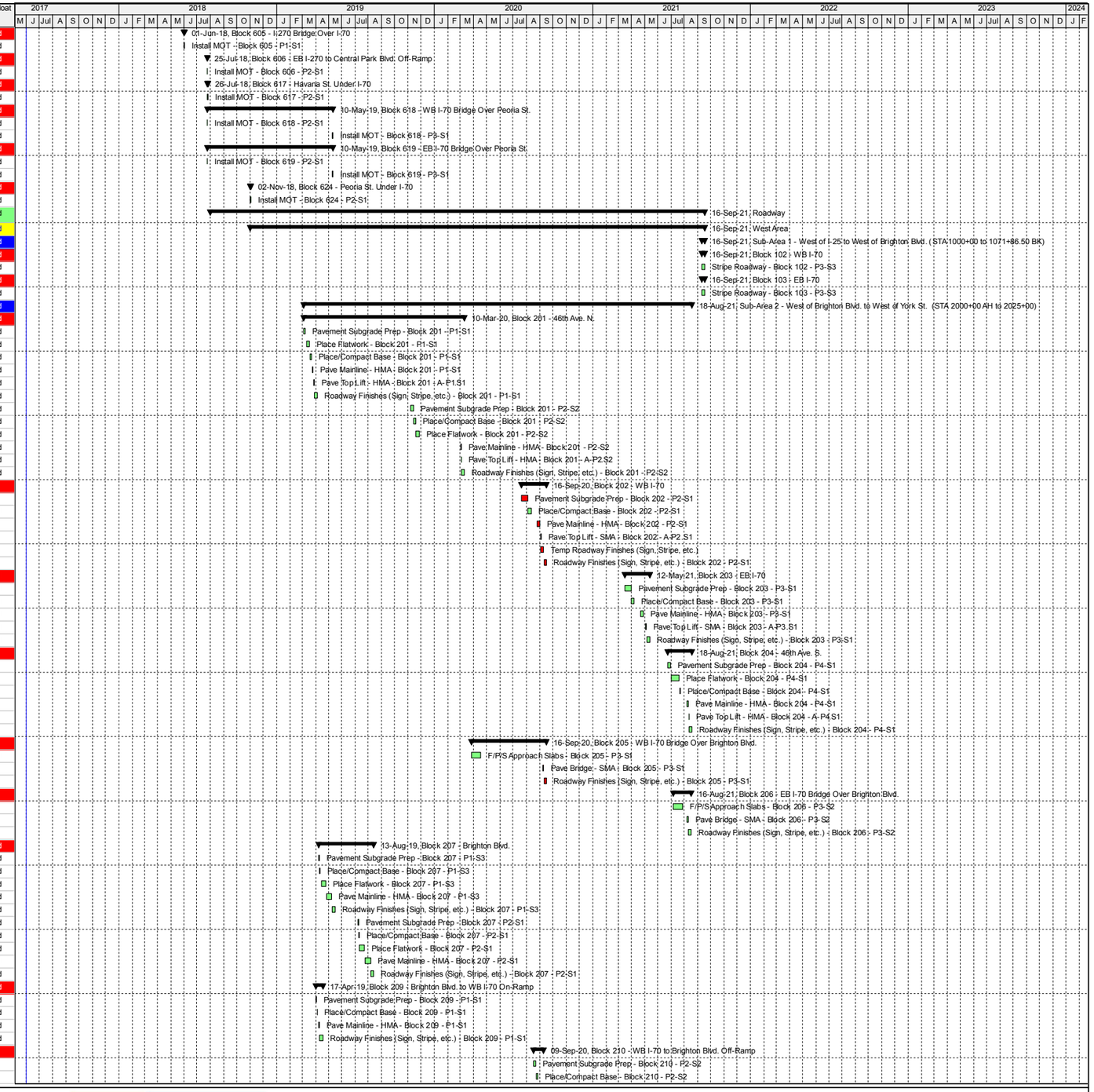
Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.MOT.501C.035	Install MOT - Block 501C - P1-S2	5d	09-Jul-19	15-Jul-19	247d
Block 502A - WB I-70 - STA 2105+00 to Holly St. CL		140d	20-Nov-19	26-Jun-20	289d
CON.MOT.502A.035	Install MOT - Block 502A - P2-S1	2d	20-Nov-19	21-Nov-19	206d
CON.MOT.502A.120	Construct temporary pavement in median and temporary bridge structures at Dahlia and Holly to accommodate Phase 2 tr	20d	25-Nov-19	07-Jan-20	206d
CON.MOT.502A.045	Reconfigure MOT	2d	08-Jan-20	09-Jan-20	206d
CON.MOT.502A.040	Install MOT - Block 502A - P3-S1	2d	25-Jun-20	26-Jun-20	289d
Block 502B - WB I-70 - Holly St. CL to Monaco St. CL		118d	08-Jan-20	26-Jun-20	289d
CON.MOT.502B.025	Install MOT - Block 502B - P2-S1	2d	08-Jan-20	09-Jan-20	206d
CON.MOT.502B.030	Install MOT - Block 502B - P3-S1	2d	25-Jun-20	26-Jun-20	289d
Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		118d	08-Jan-20	26-Jun-20	282d
CON.MOT.502C.025	Install MOT - Block 502C - P2-S1	2d	08-Jan-20	09-Jan-20	206d
CON.MOT.502C.110	Construct temporary WB On-Ramp @ Quebec to maintain traffic in Phase 2	15d	10-Jan-20	30-Jan-20	206d
CON.MOT.502C.030	Install MOT - Block 502C - P3-S1	2d	25-Jun-20	26-Jun-20	282d
Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		101d	31-Jan-20	26-Jun-20	298d
CON.MOT.502D.025	Install MOT - Block 502D - P2-S1	2d	31-Jan-20	03-Feb-20	219d
CON.MOT.502D.115	Construct temporary WB Off-Ramp @ Quebec to maintain traffic in Phase 2	15d	31-Jan-20	20-Feb-20	219d
CON.MOT.502D.030	Install MOT - Block 502D - P3-S1	2d	25-Jun-20	26-Jun-20	298d
Block 503A - EB I-70 - STA 2105+00 to Holly St. CL		118d	08-Jan-20	26-Jun-20	290d
CON.MOT.503A.030	Install MOT - Block 503A - P2-S1	2d	08-Jan-20	09-Jan-20	222d
CON.MOT.503A.035	Install MOT - Block 503A - P3-S1	2d	25-Jun-20	26-Jun-20	290d
Block 503B - EB I-70 - Holly St. CL to Monaco St. CL		118d	08-Jan-20	26-Jun-20	279d
CON.MOT.503B.020	Install MOT - Block 503B - P2-S1	2d	08-Jan-20	09-Jan-20	228d
CON.MOT.503B.025	Install MOT - Block 503B - P3-S1	2d	25-Jun-20	26-Jun-20	279d
Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		118d	08-Jan-20	26-Jun-20	280d
CON.MOT.503C.020	Install MOT - Block 503C - P2-S1	2d	08-Jan-20	09-Jan-20	222d
CON.MOT.503C.110	Construct temporary ramp to maintain traffic in Phase 2	4d	10-Jan-20	15-Jan-20	232d
CON.MOT.503C.025	Install MOT - Block 503C - P3-S1	2d	25-Jun-20	26-Jun-20	280d
Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		118d	08-Jan-20	26-Jun-20	265d
CON.MOT.503D.025	Install MOT - Block 503D - P2-S1	2d	08-Jan-20	09-Jan-20	222d
CON.MOT.503D.030	Install MOT - Block 503D - P3-S1	2d	25-Jun-20	26-Jun-20	265d
Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.		78d	01-Apr-19	29-Jul-19	238d
CON.MOT.504A.040	Install MOT - Block 504A - P1-S1	5d	01-Apr-19	05-Apr-19	238d
CON.MOT.504A.045	Install MOT - Block 504A - P1-S2	5d	22-Jul-19	29-Jul-19	238d
Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.		120d	01-May-19	29-Oct-19	230d
CON.MOT.504B.030	Install MOT - Block 504B - P1-S1	5d	01-May-19	07-May-19	265d
CON.MOT.504B.035	Install MOT - Block 504B - P1-S2	5d	23-Oct-19	29-Oct-19	230d
Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn		73d	01-May-19	20-Aug-19	252d
CON.MOT.504C.025	Install MOT - Block 504C - P1-S1	5d	01-May-19	07-May-19	252d
CON.MOT.504C.030	Install MOT - Block 504C - P1-S2	5d	13-Aug-19	20-Aug-19	252d
Block 505 - Holly St.		39d	12-Jul-19	09-Sep-19	487d
CON.MOT.505.035	Install MOT - Block 505 - P1-S1	2d	12-Jul-19	15-Jul-19	487d
CON.MOT.505.040	Install MOT - Block 505 - P4-S1	2d	06-Sep-19	09-Sep-19	487d
Block 510 - Monaco St.		2d	22-Aug-19	23-Aug-19	490d
CON.MOT.510.025	Install MOT - Block 510 - P4-S1	2d	22-Aug-19	23-Aug-19	490d
Block 519 - Quebec St.		2d	25-Jun-19	26-Jun-19	495d
CON.MOT.519.025	Install MOT - Block 519 - P4-S1	2d	25-Jun-19	26-Jun-19	495d
Block 533 - Stapleton S. Bridge Over DRIR		1d	08-Jan-20	08-Jan-20	336d
CON.MOT.533.015	Install MOT - Block 533 - P3-S1	1d	08-Jan-20	08-Jan-20	336d
East Area		319d	01-Jun-18	08-Oct-19	492d
Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)		319d	01-Jun-18	08-Oct-19	492d
Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		5d	25-Jul-18	31-Jul-18	636d
CON.MOT.602A.020	Install MOT - Block 602A - P2-S1	5d	25-Jul-18	31-Jul-18	636d
Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		190d	25-Jul-18	16-May-19	566d
CON.MOT.602B.020	Install MOT - Block 602B - P2-S1	5d	25-Jul-18	31-Jul-18	527d
CON.MOT.602B.025	Install MOT - Block 602B - P3-S1	5d	10-May-19	16-May-19	566d
Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		190d	25-Jul-18	16-May-19	566d
CON.MOT.602C.015	Install MOT - Block 602C - P2-S1	5d	25-Jul-18	31-Jul-18	527d
CON.MOT.602C.020	Install MOT - Block 602C - P3-S1	5d	10-May-19	16-May-19	566d
Block 602D - WB I-70 - STA 2334+00 to 2353+00		190d	25-Jul-18	16-May-19	574d
CON.MOT.602D.020	Install MOT - Block 602D - P2-S1	5d	25-Jul-18	31-Jul-18	527d
CON.MOT.602D.025	Install MOT - Block 602D - P3-S1	5d	10-May-19	16-May-19	574d
Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.		190d	25-Jul-18	16-May-19	586d
CON.MOT.602F.010	Install MOT - Block 602F - P2-S1	5d	25-Jul-18	31-Jul-18	527d
CON.MOT.602F.015	Install MOT - Block 602F - P3-S1	5d	10-May-19	16-May-19	586d
Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		284d	25-Jul-18	08-Oct-19	472d
CON.MOT.603A.025	Install MOT - Block 603A - P2-S1	5d	25-Jul-18	31-Jul-18	527d
CON.MOT.603A.030	Install MOT - Block 603A - P3-S1	5d	10-May-19	16-May-19	515d
CON.MOT.603A.035	Install MOT - Block 603A - P3-S2	5d	02-Oct-19	08-Oct-19	472d
Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		190d	25-Jul-18	16-May-19	525d
CON.MOT.603B.025	Install MOT - Block 603B - P2-S1	5d	25-Jul-18	31-Jul-18	527d
CON.MOT.603B.030	Install MOT - Block 603B - P3-S1	5d	10-May-19	16-May-19	525d
Block 603D - EB I-70 - STA 2334+00 to 2353+00		190d	25-Jul-18	16-May-19	552d
CON.MOT.603D.030	Install MOT - Block 603D - P2-S1	5d	25-Jul-18	31-Jul-18	573d
CON.MOT.603C.025	Install MOT - Block 603C - P2-S1	5d	25-Jul-18	31-Jul-18	559d
CON.MOT.603D.025	Install MOT - Block 603D - P3-S1	5d	10-May-19	16-May-19	543d
CON.MOT.603D.035	Install MOT - Block 603D - P3-S1	5d	10-May-19	16-May-19	552d
Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)		190d	25-Jul-18	16-May-19	561d
CON.MOT.603E.020	Install MOT - Block 603E - P2-S1	5d	25-Jul-18	31-Jul-18	573d
CON.MOT.603E.025	Install MOT - Block 603E - P3-S1	5d	10-May-19	16-May-19	561d
Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.		190d	25-Jul-18	16-May-19	575d
CON.MOT.603F.020	Install MOT - Block 603F - P2-S1	5d	25-Jul-18	31-Jul-18	609d
CON.MOT.603F.025	Install MOT - Block 603F - P3-S1	5d	10-May-19	16-May-19	575d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Block 605 - I-270 Bridge Over I-70		**1d**	**01-Jun-18**	**01-Jun-18**	**482d**
CON.MOT.605.020	Install MOT - Block 605 - P1-S1	1d	01-Jun-18	01-Jun-18	482d
Block 606 - EB I-270 to Central Park Blvd. Off-Ramp		**1d**	**25-Jul-18**	**25-Jul-18**	**706d**
CON.MOT.606.025	Install MOT - Block 606 - P2-S1	1d	25-Jul-18	25-Jul-18	706d
Block 617 - Havana St. Under I-70		**2d**	**25-Jul-18**	**26-Jul-18**	**755d**
CON.MOT.617.020	Install MOT - Block 617 - P2-S1	2d	25-Jul-18	26-Jul-18	755d
Block 618 - WB I-70 Bridge Over Peoria St.		**186d**	**25-Jul-18**	**10-May-19**	**481d**
CON.MOT.618.015	Install MOT - Block 618 - P2-S1	1d	25-Jul-18	25-Jul-18	548d
CON.MOT.618.020	Install MOT - Block 618 - P3-S1	1d	10-May-19	10-May-19	481d
Block 619 - EB I-70 Bridge Over Peoria St.		**186d**	**25-Jul-18**	**10-May-19**	**493d**
CON.MOT.619.015	Install MOT - Block 619 - P2-S1	1d	25-Jul-18	25-Jul-18	573d
CON.MOT.619.020	Install MOT - Block 619 - P3-S1	1d	10-May-19	10-May-19	493d
Block 624 - Peoria St. Under I-70		**2d**	**01-Nov-18**	**02-Nov-18**	**704d**
CON.MOT.624.020	Install MOT - Block 624 - P2-S1	2d	01-Nov-18	02-Nov-18	704d
Roadway		**740d**	**01-Aug-18**	**16-Sep-21**	**104d**
West Area		**679d**	**31-Oct-18**	**16-Sep-21**	**104d**
Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)		**5d**	**10-Sep-21**	**16-Sep-21**	**104d**
Block 102 - WB I-70		**5d**	**10-Sep-21**	**16-Sep-21**	**104d**
CON.RD.102.010	Stripe Roadway - Block 102 - P3-S3	5d	10-Sep-21	16-Sep-21	104d
Block 103 - EB I-70		**5d**	**10-Sep-21**	**16-Sep-21**	**104d**
CON.RD.103.015	Stripe Roadway - Block 103 - P3-S3	5d	10-Sep-21	16-Sep-21	104d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		**585d**	**04-Mar-19**	**18-Aug-21**	**124d**
Block 201 - 46th Ave. N.		**240d**	**04-Mar-19**	**10-Mar-20**	**469d**
CON.RD.201.095	Pavement Subgrade Prep - Block 201 - P1-S1	5d	04-Mar-19	08-Mar-19	592d
CON.RD.201.065	Place Flatwork - Block 201 - P1-S1	6d	11-Mar-19	18-Mar-19	592d
CON.RD.201.045	Place/Compact Base - Block 201 - P1-S1	3d	19-Mar-19	22-Mar-19	592d
CON.RD.201.085	Pave Mainline - HMA - Block 201 - P1-S1	2d	25-Mar-19	26-Mar-19	484d
CON.RD.201.075	Pave Top Lift - HMA - Block 201 - A-P1.S1	1d	28-Mar-19	28-Mar-19	484d
CON.RD.201.055	Roadway Finishes (Sign, Stripe, etc.) - Block 201 - P1-S1	5d	29-Mar-19	04-Apr-19	592d
CON.RD.201.100	Pavement Subgrade Prep - Block 201 - P2-S2	5d	07-Nov-19	13-Nov-19	471d
CON.RD.201.050	Place/Compact Base - Block 201 - P2-S2	3d	14-Nov-19	18-Nov-19	471d
CON.RD.201.070	Place Flatwork - Block 201 - P2-S2	6d	19-Nov-19	27-Nov-19	471d
CON.RD.201.090	Pave Mainline - HMA - Block 201 - P2-S2	2d	02-Mar-20	03-Mar-20	363d
CON.RD.201.080	Pave Top Lift - HMA - Block 201 - A-P2.S2	0d	04-Mar-20	04-Mar-20	363d
CON.RD.201.060	Roadway Finishes (Sign, Stripe, etc.) - Block 201 - P2-S2	5d	04-Mar-20	10-Mar-20	469d
Block 202 - WB I-70		**40d**	**20-Jul-20**	**16-Sep-20**	**1d**
CON.RD.202.075	Pavement Subgrade Prep - Block 202 - P2-S1	10d	20-Jul-20	03-Aug-20	1d
CON.RD.202.055	Place/Compact Base - Block 202 - P2-S1	6d	04-Aug-20	11-Aug-20	10d
CON.RD.202.070	Pave Mainline - HMA - Block 202 - P2-S1	5d	26-Aug-20	01-Sep-20	1d
CON.RD.202.080	Pave Top Lift - SMA - Block 202 - A-P2.S1	3d	02-Sep-20	04-Sep-20	1d
CON.RD.202.065	Temp Roadway Finishes (Sign, Stripe, etc.)	5d	02-Sep-20	09-Sep-20	1d
CON.RD.202.060	Roadway Finishes (Sign, Stripe, etc.) - Block 202 - P2-S1	5d	10-Sep-20	16-Sep-20	1d
Block 203 - EB I-70		**40d**	**17-Mar-21**	**12-May-21**	**72d**
CON.RD.203.065	Pavement Subgrade Prep - Block 203 - P3-S1	10d	17-Mar-21	30-Mar-21	74d
CON.RD.203.050	Place/Compact Base - Block 203 - P3-S1	6d	31-Mar-21	07-Apr-21	83d
CON.RD.203.060	Pave Mainline - HMA - Block 203 - P3-S1	5d	22-Apr-21	28-Apr-21	74d
CON.RD.203.070	Pave Top Lift - SMA - Block 203 - A-P3.S1	3d	03-May-21	05-May-21	70d
CON.RD.203.055	Roadway Finishes (Sign, Stripe, etc.) - Block 203 - P3-S1	5d	06-May-21	12-May-21	72d
Block 204 - 46th Ave. S.		**39d**	**24-Jun-21**	**18-Aug-21**	**6d**
CON.RD.204.095	Pavement Subgrade Prep - Block 204 - P4-S1	5d	24-Jun-21	30-Jun-21	6d
CON.RD.204.080	Place Flatwork - Block 204 - P4-S1	13d	01-Jul-21	20-Jul-21	6d
CON.RD.204.070	Place/Compact Base - Block 204 - P4-S1	2d	21-Jul-21	22-Jul-21	6d
CON.RD.204.090	Pave Mainline - HMA - Block 204 - P4-S1	3d	06-Aug-21	10-Aug-21	6d
CON.RD.204.085	Pave Top Lift - HMA - Block 204 - A-P4.S1	1d	11-Aug-21	11-Aug-21	6d
CON.RD.204.075	Roadway Finishes (Sign, Stripe, etc.) - Block 204 - P4-S1	5d	12-Aug-21	18-Aug-21	6d
Block 205 - WB I-70 Bridge Over Brighton Blvd.		**116d**	**26-Mar-20**	**16-Sep-20**	**1d**
CON.RD.205.030	F/P/S Approach Slabs - Block 205 - P3-S1	15d	26-Mar-20	16-Apr-20	83d
CON.RD.205.020	Pave Bridge - SMA - Block 205 - P3-S1	2d	08-Sep-20	09-Sep-20	1d
CON.RD.205.015	Roadway Finishes (Sign, Stripe, etc.) - Block 205 - P3-S1	5d	10-Sep-20	16-Sep-20	1d
Block 206 - EB I-70 Bridge Over Brighton Blvd.		**29d**	**07-Jul-21**	**16-Aug-21**	**8d**
CON.RD.206.030	F/P/S Approach Slabs - Block 206 - P3-S2	15d	07-Jul-21	27-Jul-21	8d
CON.RD.206.020	Pave Bridge - SMA - Block 206 - P3-S2	2d	06-Aug-21	09-Aug-21	8d
CON.RD.206.015	Roadway Finishes (Sign, Stripe, etc.) - Block 206 - P3-S2	5d	10-Aug-21	16-Aug-21	8d
Block 207 - Brighton Blvd.		**84d**	**08-Apr-19**	**13-Aug-19**	**148d**
CON.RD.207.095	Pavement Subgrade Prep - Block 207 - P1-S3	2d	08-Apr-19	09-Apr-19	127d
CON.RD.207.055	Place/Compact Base - Block 207 - P1-S3	2d	10-Apr-19	11-Apr-19	128d
CON.RD.207.075	Place Flatwork - Block 207 - P1-S3	8d	15-Apr-19	25-Apr-19	127d
CON.RD.207.085	Pave Mainline - HMA - Block 207 - P1-S3	9d	26-Apr-19	08-May-19	128d
CON.RD.207.065	Roadway Finishes (Sign, Stripe, etc.) - Block 207 - P1-S3	5d	09-May-19	15-May-19	126d
CON.RD.207.100	Pavement Subgrade Prep - Block 207 - P2-S1	2d	08-Jul-19	09-Jul-19	126d
CON.RD.207.060	Place/Compact Base - Block 207 - P2-S1	2d	10-Jul-19	11-Jul-19	126d
CON.RD.207.080	Place Flatwork - Block 207 - P2-S1	8d	12-Jul-19	23-Jul-19	126d
CON.RD.207.090	Pave Mainline - HMA - Block 207 - P2-S1	9d	25-Jul-19	06-Aug-19	92d
CON.RD.207.070	Roadway Finishes (Sign, Stripe, etc.) - Block 207 - P2-S1	5d	07-Aug-19	13-Aug-19	126d
Block 209 - Brighton Blvd. to WB I-70 On-Ramp		**11d**	**02-Apr-19**	**17-Apr-19**	**338d**
CON.RD.209.045	Pavement Subgrade Prep - Block 209 - P1-S1	2d	02-Apr-19	03-Apr-19	316d
CON.RD.209.030	Place/Compact Base - Block 209 - P1-S1	2d	04-Apr-19	05-Apr-19	316d
CON.RD.209.040	Pave Mainline - HMA - Block 209 - P1-S1	2d	08-Apr-19	09-Apr-19	283d
CON.RD.209.035	Roadway Finishes (Sign, Stripe, etc.) - Block 209 - P1-S1	5d	10-Apr-19	17-Apr-19	338d
Block 210 - WB I-70 to Brighton Blvd. Off-Ramp		**17d**	**17-Aug-20**	**09-Sep-20**	**6d**
CON.RD.210.055	Pavement Subgrade Prep - Block 210 - P2-S2	5d	17-Aug-20	21-Aug-20	4d
CON.RD.210.035	Place/Compact Base - Block 210 - P2-S2	3d	24-Aug-20	26-Aug-20	4d



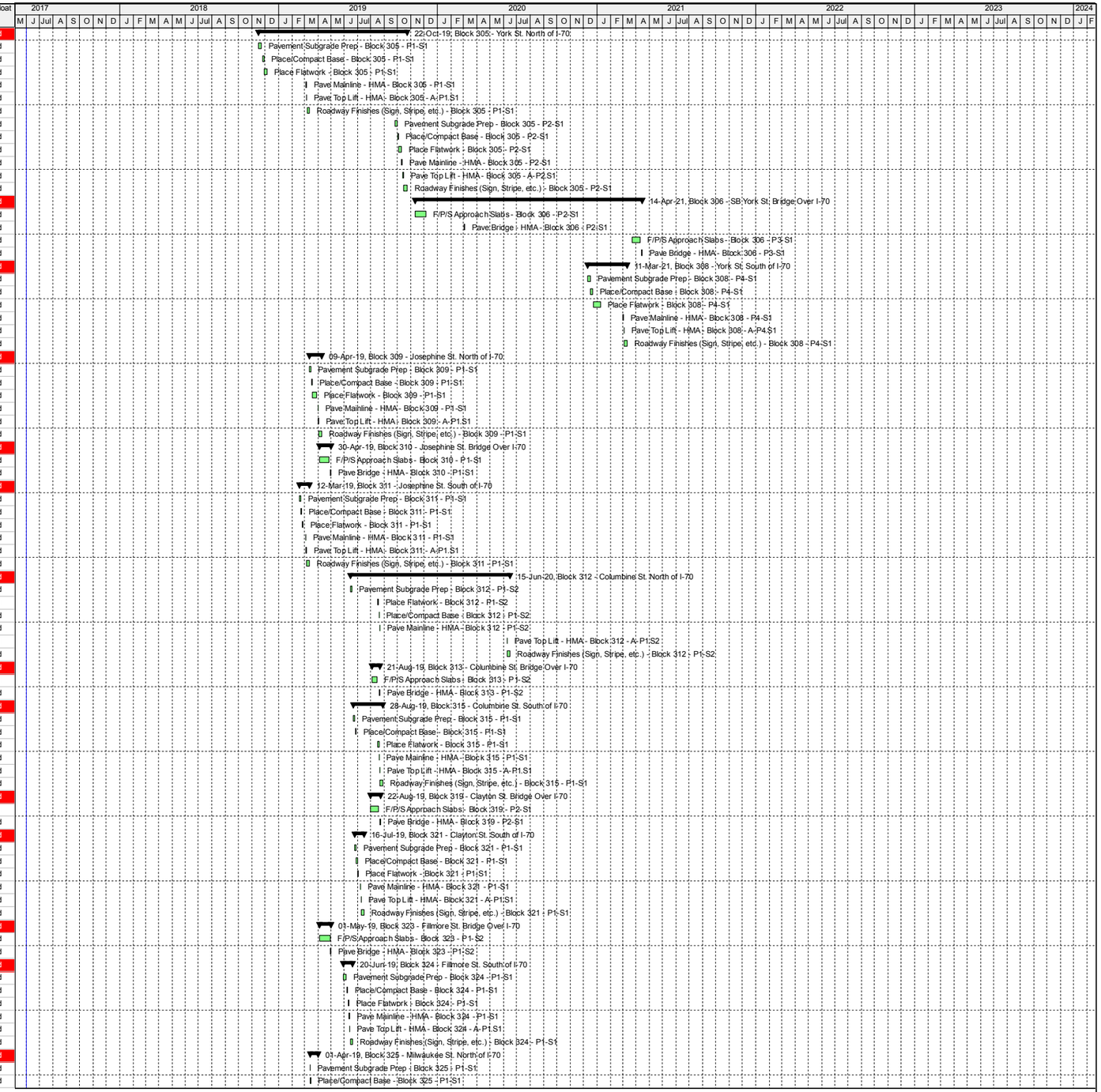
Remaining Work | Remaining Level of Effort | Summary
Critical Remaining Work | Milestone

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.RD.210.050	Pave Mainline - HMA - Block 210 - P2-S2	3d	27-Aug-20	31-Aug-20	4d
CON.RD.210.045	Pave Top Lift - HMA - Block 210 - A-P2.S2	1d	01-Sep-20	01-Sep-20	4d
CON.RD.210.040	Roadway Finishes (Sign, Stripe, etc.) - Block 210 - P2-S2	5d	02-Sep-20	09-Sep-20	6d
Block 213 - EB I-70 to Brighton Blvd. Off-Ramp		10d	09-Nov-20	23-Nov-20	179d
CON.RD.213.045	Pavement Subgrade Prep - Block 213 - P3-S1	2d	09-Nov-20	10-Nov-20	158d
CON.RD.213.030	Place/Compact Base - Block 213 - P3-S1	1d	12-Nov-20	12-Nov-20	158d
CON.RD.213.040	Pave Mainline - HMA - Block 213 - P3-S1	1d	13-Nov-20	13-Nov-20	126d
CON.RD.213.035	Roadway Finishes (Sign, Stripe, etc.) - Block 213 - P3-S1	5d	16-Nov-20	23-Nov-20	158d
Block 214 - Brighton Blvd. to EB I-70 On-Ramp		11d	16-Nov-20	03-Dec-20	173d
CON.RD.214.045	Pavement Subgrade Prep - Block 214 - P3-S1	2d	16-Nov-20	18-Nov-20	152d
CON.RD.214.030	Place/Compact Base - Block 214 - P3-S1	1d	19-Nov-20	19-Nov-20	152d
CON.RD.214.040	Pave Mainline - HMA - Block 214 - P3-S1	3d	20-Nov-20	24-Nov-20	120d
CON.RD.214.035	Roadway Finishes (Sign, Stripe, etc.) - Block 214 - P3-S1	5d	25-Nov-20	03-Dec-20	152d
Block 217 - E. 47th Ave.		15d	13-Mar-19	04-Apr-19	687d
CON.RD.217.060	Pavement Subgrade Prep - Block 217 - P1-S1	2d	13-Mar-19	14-Mar-19	586d
CON.RD.217.035	Place/Compact Base - Block 217 - P1-S1	1d	15-Mar-19	15-Mar-19	586d
CON.RD.217.045	Place Flatwork - Block 217 - P1-S1	5d	18-Mar-19	25-Mar-19	586d
CON.RD.217.055	Pave Mainline - HMA - Block 217 - P1-S1	1d	26-Mar-19	26-Mar-19	526d
CON.RD.217.050	Pave Top Lift - HMA - Block 217 - A-P1.S1	1d	28-Mar-19	28-Mar-19	526d
CON.RD.217.040	Roadway Finishes (Sign, Stripe, etc.) - Block 217 - P1-S1	5d	29-Mar-19	04-Apr-19	687d
Block 219 - Local Road North of 46th Ave		28d	18-Mar-19	30-Apr-19	671d
CON.RD.219.055	Pavement Subgrade Prep - Block 219 - P1-S1	6d	18-Mar-19	26-Mar-19	618d
CON.RD.219.030	Place/Compact Base - Block 219 - P1-S1	3d	28-Mar-19	01-Apr-19	618d
CON.RD.219.040	Place Flatwork - Block 219 - P1-S1	10d	02-Apr-19	16-Apr-19	618d
CON.RD.219.050	Pave Mainline - HMA - Block 219 - P1-S1	3d	17-Apr-19	22-Apr-19	510d
CON.RD.219.045	Pave Top Lift - HMA - Block 219 - A-P1.S1	1d	23-Apr-19	23-Apr-19	510d
CON.RD.219.035	Roadway Finishes (Sign, Stripe, etc.) - Block 219 - P1-S1	5d	24-Apr-19	30-Apr-19	671d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		638d	31-Oct-18	20-Jul-21	145d
Block 301A - 46th Ave. N. - York St. to Steele/Vasquez		40d	11-Apr-19	12-Jun-19	13d
CON.RD.301A.055	Pavement Subgrade Prep - Block 301A - P1-S1	10d	11-Apr-19	26-Apr-19	13d
CON.RD.301A.030	Place/Compact Base - Block 301A - P1-S1	7d	29-Apr-19	07-May-19	13d
CON.RD.301A.040	Place Flatwork - Block 301A - P1-S1	10d	08-May-19	21-May-19	13d
CON.RD.301A.050	Pave Mainline - HMA - Block 301A - P1-S1	6d	22-May-19	30-May-19	13d
CON.RD.301A.045	Pave Top Lift - HMA - Block 301A - A-P1.S1	2d	31-May-19	04-Jun-19	13d
CON.RD.301A.035	Roadway Finishes (Sign, Stripe, etc.) - Block 301A - P1-S1	5d	06-Jun-19	12-Jun-19	13d
Block 301B - 46th Ave. N. - Steele/Vasquez to BNSF		74d	13-Nov-18	14-Mar-19	70d
CON.RD.301B.055	Pavement Subgrade Prep - Block 301B - P1-S1	6d	13-Nov-18	20-Nov-18	115d
CON.RD.301B.030	Place/Compact Base - Block 301B - P1-S1	4d	21-Nov-18	28-Nov-18	115d
CON.RD.301B.040	Place Flatwork - Block 301B - P1-S1	10d	29-Nov-18	13-Dec-18	115d
CON.RD.301B.050	Pave Mainline - HMA - Block 301B - P1-S1	3d	04-Mar-19	06-Mar-19	70d
CON.RD.301B.045	Pave Top Lift - HMA - Block 301B - A-P1.S1	1d	07-Mar-19	07-Mar-19	70d
CON.RD.301B.035	Roadway Finishes (Sign, Stripe, etc.) - Block 301B - P1-S1	5d	08-Mar-19	14-Mar-19	70d
Block 302A - WB I-70 - York St. to Steele/Vasquez		90d	16-Apr-20	28-Aug-20	13d
CON.RD.302A.075	Pavement Subgrade Prep - Block 302A - P2-S1	23d	16-Apr-20	19-May-20	13d
CON.RD.302A.045	Place/Compact Base - Block 302A - P2-S1	11d	20-May-20	08-Jun-20	13d
CON.RD.302A.065	Pave Mainline - HMA - Block 302A - P2-S1	9d	09-Jun-20	19-Jun-20	13d
CON.RD.302A.085	Pave Top Lift - SMA - Block 302A - A-P2.S1	4d	22-Jun-20	25-Jun-20	13d
CON.RD.302A.055	Roadway Finishes (Sign, Stripe, etc.) - Block 302A - P2-S1	5d	26-Jun-20	02-Jul-20	13d
CON.RD.302A.080	Pavement Subgrade Prep - Block 302A - P2-S2	3d	11-Aug-20	13-Aug-20	13d
CON.RD.302A.050	Place/Compact Base - Block 302A - P2-S2	2d	17-Aug-20	18-Aug-20	13d
CON.RD.302A.070	Pave Mainline - HMA - Block 302A - P2-S2	2d	19-Aug-20	20-Aug-20	13d
CON.RD.302A.090	Pave Top Lift - SMA - Block 302A - A-P2.S2	1d	21-Aug-20	21-Aug-20	13d
CON.RD.302A.060	Roadway Finishes (Sign, Stripe, etc.) - Block 302A - P2-S2	5d	24-Aug-20	28-Aug-20	13d
Block 302B - WB I-70 - Steele/Vasquez to BNSF		150d	24-Sep-19	11-May-20	85d
CON.RD.302B.070	Pavement Subgrade Prep - Block 302B - P2-S1	9d	24-Sep-19	04-Oct-19	166d
CON.RD.302B.040	Place/Compact Base - Block 302B - P2-S1	4d	07-Oct-19	10-Oct-19	166d
CON.RD.302B.060	Pave Mainline - HMA - Block 302B - P2-S1	3d	11-Oct-19	15-Oct-19	111d
CON.RD.302B.080	Pave Top Lift - SMA - Block 302B - A-P2.S1	1d	16-Oct-19	16-Oct-19	46d
CON.RD.302B.050	Roadway Finishes (Sign, Stripe, etc.) - Block 302B - P2-S1	5d	17-Oct-19	24-Oct-19	166d
CON.RD.302B.075	Pavement Subgrade Prep - Block 302B - P2-S2	3d	19-Dec-19	02-Jan-20	166d
CON.RD.302B.045	Place/Compact Base - Block 302B - P2-S2	2d	03-Jan-20	06-Jan-20	166d
CON.RD.302B.065	Pave Mainline - HMA - Block 302B - P2-S2	2d	02-Mar-20	03-Mar-20	127d
CON.RD.302B.085	Pave Top Lift - SMA - Block 302B - A-P2.S2	1d	04-May-20	04-May-20	83d
CON.RD.302B.055	Roadway Finishes (Sign, Stripe, etc.) - Block 302B - P2-S2	5d	05-May-20	11-May-20	85d
Block 303 - EB I-70		74d	01-Apr-21	20-Jul-21	27d
CON.RD.303.075	Pavement Subgrade Prep - Block 303 - P3-S1	32d	01-Apr-21	17-May-21	27d
CON.RD.303.045	Place/Compact Base - Block 303 - P3-S1	15d	19-May-21	10-Jun-21	27d
CON.RD.303.065	Pave Mainline - HMA - Block 303 - P3-S1	12d	11-Jun-21	28-Jun-21	27d
CON.RD.303.080	Pavement Subgrade Prep - Block 303 - P3-S3	5d	16-Jun-21	22-Jun-21	31d
CON.RD.303.050	Place/Compact Base - Block 303 - P3-S3	2d	23-Jun-21	24-Jun-21	31d
CON.RD.303.070	Pave Mainline - HMA - Block 303 - P3-S3	2d	25-Jun-21	28-Jun-21	31d
CON.RD.303.085	Pave Top Lift - SMA - Block 303 - A-P3.S1	5d	29-Jun-21	06-Jul-21	27d
CON.RD.303.090	Pave Top Lift - SMA - Block 303 - A-P3.S3	1d	29-Jun-21	29-Jun-21	31d
CON.RD.303.055	Roadway Finishes (Sign, Stripe, etc.) - Block 303 - P3-S1	10d	07-Jul-21	20-Jul-21	27d
CON.RD.303.060	Roadway Finishes (Sign, Stripe, etc.) - Block 303 - P3-S3	10d	07-Jul-21	20-Jul-21	27d
Block 304 - 46th Ave. S.		39d	24-May-21	20-Jul-21	27d
CON.RD.304.065	Pavement Subgrade Prep - Block 304 - P4-S1	5d	24-May-21	28-May-21	27d
CON.RD.304.040	Place/Compact Base - Block 304 - P4-S1	4d	01-Jun-21	07-Jun-21	27d
CON.RD.304.050	Place Flatwork - Block 304 - P4-S1	17d	08-Jun-21	30-Jun-21	27d
CON.RD.304.060	Pave Mainline - HMA - Block 304 - P4-S1	6d	01-Jul-21	09-Jul-21	27d
CON.RD.304.055	Pave Top Lift - HMA - Block 304 - A-P4.S1	2d	12-Jul-21	13-Jul-21	27d
CON.RD.304.045	Roadway Finishes (Sign, Stripe, etc.) - Block 304 - P4-S1	5d	14-Jul-21	20-Jul-21	27d

Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Block 305 - York St. North of I-70		**215d**	**16-Nov-18**	**22-Oct-19**	**556d**
CON.RD.305.100	Pavement Subgrade Prep - Block 305 - P1-S1	4d	16-Nov-18	21-Nov-18	659d
CON.RD.305.050	Place/Compact Base - Block 305 - P1-S1	3d	26-Nov-18	28-Nov-18	659d
CON.RD.305.070	Place Flatwork - Block 305 - P1-S1	4d	29-Nov-18	05-Dec-18	659d
CON.RD.305.090	Pave Mainline - HMA - Block 305 - P1-S1	2d	04-Mar-19	05-Mar-19	500d
CON.RD.305.080	Pave Top Lift - HMA - Block 305 - A-P1.S1	1d	06-Mar-19	06-Mar-19	500d
CON.RD.305.060	Roadway Finishes (Sign, Stripe, etc.) - Block 305 - P1-S1	5d	07-Mar-19	13-Mar-19	608d
CON.RD.305.095	Pavement Subgrade Prep - Block 305 - P2-S1	4d	25-Sep-19	30-Sep-19	503d
CON.RD.305.045	Place/Compact Base - Block 305 - P2-S1	3d	01-Oct-19	03-Oct-19	503d
CON.RD.305.065	Place Flatwork - Block 305 - P2-S1	4d	04-Oct-19	09-Oct-19	503d
CON.RD.305.085	Pave Mainline - HMA - Block 305 - P2-S1	2d	10-Oct-19	11-Oct-19	395d
CON.RD.305.075	Pave Top Lift - HMA - Block 305 - A-P2.S1	1d	14-Oct-19	14-Oct-19	395d
CON.RD.305.055	Roadway Finishes (Sign, Stripe, etc.) - Block 305 - P2-S1	5d	15-Oct-19	22-Oct-19	556d
Block 306 - SB York St. Bridge Over I-70		**333d**	**11-Nov-19**	**14-Apr-21**	**210d**
CON.RD.306.045	F/P/S Approach Slabs - Block 306 - P2-S1	15d	11-Nov-19	05-Dec-19	413d
CON.RD.306.035	Pave Bridge - HMA - Block 306 - P2-S1	2d	02-Mar-20	03-Mar-20	308d
CON.RD.306.050	F/P/S Approach Slabs - Block 306 - P3-S1	15d	22-Mar-21	09-Apr-21	210d
CON.RD.306.040	Pave Bridge - HMA - Block 306 - P3-S1	2d	13-Apr-21	14-Apr-21	155d
Block 308 - York St. South of I-70		**55d**	**10-Dec-20**	**11-Mar-21**	**233d**
CON.RD.308.060	Pavement Subgrade Prep - Block 308 - P4-S1	5d	10-Dec-20	16-Dec-20	213d
CON.RD.308.035	Place/Compact Base - Block 308 - P4-S1	3d	17-Dec-20	22-Dec-20	213d
CON.RD.308.045	Place Flatwork - Block 308 - P4-S1	6d	23-Dec-20	08-Jan-21	213d
CON.RD.308.055	Pave Mainline - HMA - Block 308 - P4-S1	2d	02-Mar-21	03-Mar-21	180d
CON.RD.308.050	Pave Top Lift - HMA - Block 308 - A-P4.S1	1d	04-Mar-21	04-Mar-21	180d
CON.RD.308.040	Roadway Finishes (Sign, Stripe, etc.) - Block 308 - P4-S1	5d	05-Mar-21	11-Mar-21	233d
Block 309 - Josephine St. North of I-70		**18d**	**13-Mar-19**	**09-Apr-19**	**684d**
CON.RD.309.055	Pavement Subgrade Prep - Block 309 - P1-S1	3d	13-Mar-19	15-Mar-19	631d
CON.RD.309.030	Place/Compact Base - Block 309 - P1-S1	2d	18-Mar-19	19-Mar-19	631d
CON.RD.309.040	Place Flatwork - Block 309 - P1-S1	6d	20-Mar-19	29-Mar-19	631d
CON.RD.309.050	Pave Mainline - HMA - Block 309 - P1-S1	1d	01-Apr-19	01-Apr-19	523d
CON.RD.309.045	Pave Top Lift - HMA - Block 309 - A-P1.S1	1d	02-Apr-19	02-Apr-19	523d
CON.RD.309.035	Roadway Finishes (Sign, Stripe, etc.) - Block 309 - P1-S1	5d	03-Apr-19	09-Apr-19	684d
Block 310 - Josephine St. Bridge Over I-70		**17d**	**04-Apr-19**	**30-Apr-19**	**671d**
CON.RD.310.025	F/P/S Approach Slabs - Block 310 - P1-S1	15d	04-Apr-19	26-Apr-19	671d
CON.RD.310.020	Pave Bridge - HMA - Block 310 - P1-S1	2d	29-Apr-19	30-Apr-19	508d
Block 311 - Josephine St. South of I-70		**17d**	**18-Feb-19**	**12-Mar-19**	**702d**
CON.RD.311.055	Pavement Subgrade Prep - Block 311 - P1-S1	3d	18-Feb-19	20-Feb-19	652d
CON.RD.311.030	Place/Compact Base - Block 311 - P1-S1	2d	21-Feb-19	22-Feb-19	652d
CON.RD.311.040	Place Flatwork - Block 311 - P1-S1	2d	25-Feb-19	26-Feb-19	652d
CON.RD.311.050	Pave Mainline - HMA - Block 311 - P1-S1	1d	04-Mar-19	04-Mar-19	541d
CON.RD.311.045	Pave Top Lift - HMA - Block 311 - A-P1.S1	1d	05-Mar-19	05-Mar-19	541d
CON.RD.311.035	Roadway Finishes (Sign, Stripe, etc.) - Block 311 - P1-S1	5d	06-Mar-19	12-Mar-19	702d
Block 312 - Columbine St. North of I-70		**236d**	**15-Jun-19**	**15-Jun-20**	**405d**
CON.RD.312.050	Pavement Subgrade Prep - Block 312 - P1-S2	3d	15-Jun-19	18-Jun-19	132d
CON.RD.312.035	Place Flatwork - Block 312 - P1-S2	2d	16-Aug-19	17-Aug-19	89d
CON.RD.312.025	Place/Compact Base - Block 312 - P1-S2	2d	19-Aug-19	20-Aug-19	467d
CON.RD.312.045	Pave Mainline - HMA - Block 312 - P1-S2	1d	21-Aug-19	21-Aug-19	359d
CON.RD.312.040	Pave Top Lift - HMA - Block 312 - A-P1.S2	1d	08-Jun-20	08-Jun-20	92d
CON.RD.312.030	Roadway Finishes (Sign, Stripe, etc.) - Block 312 - P1-S2	5d	09-Jun-20	15-Jun-20	405d
Block 313 - Columbine St. Bridge Over I-70		**12d**	**03-Aug-19**	**21-Aug-19**	**414d**
CON.RD.313.030	F/P/S Approach Slabs - Block 313 - P1-S2	10d	03-Aug-19	15-Aug-19	48d
CON.RD.313.025	Pave Bridge - HMA - Block 313 - P1-S2	2d	20-Aug-19	21-Aug-19	306d
Block 315 - Columbine St. South of I-70		**45d**	**21-Jun-19**	**28-Aug-19**	**592d**
CON.RD.315.055	Pavement Subgrade Prep - Block 315 - P1-S1	3d	21-Jun-19	25-Jun-19	570d
CON.RD.315.030	Place/Compact Base - Block 315 - P1-S1	2d	26-Jun-19	27-Jun-19	570d
CON.RD.315.040	Place Flatwork - Block 315 - P1-S1	2d	16-Aug-19	19-Aug-19	539d
CON.RD.315.050	Pave Mainline - HMA - Block 315 - P1-S1	1d	20-Aug-19	20-Aug-19	431d
CON.RD.315.045	Pave Top Lift - HMA - Block 315 - A-P1.S1	1d	21-Aug-19	21-Aug-19	431d
CON.RD.315.035	Roadway Finishes (Sign, Stripe, etc.) - Block 315 - P1-S1	5d	22-Aug-19	28-Aug-19	592d
Block 319 - Clayton St. Bridge Over I-70		**16d**	**31-Jul-19**	**22-Aug-19**	**413d**
CON.RD.319.025	F/P/S Approach Slabs - Block 319 - P2-S1	15d	31-Jul-19	17-Aug-19	46d
CON.RD.319.020	Pave Bridge - HMA - Block 319 - P2-S1	2d	21-Aug-19	22-Aug-19	305d
Block 321 - Clayton St. South of I-70		**14d**	**25-Jun-19**	**16-Jul-19**	**621d**
CON.RD.321.055	Pavement Subgrade Prep - Block 321 - P1-S1	3d	25-Jun-19	27-Jun-19	568d
CON.RD.321.030	Place/Compact Base - Block 321 - P1-S1	2d	28-Jun-19	01-Jul-19	568d
CON.RD.321.040	Place Flatwork - Block 321 - P1-S1	2d	02-Jul-19	03-Jul-19	568d
CON.RD.321.050	Pave Mainline - HMA - Block 321 - P1-S1	1d	08-Jul-19	08-Jul-19	460d
CON.RD.321.045	Pave Top Lift - HMA - Block 321 - A-P1.S1	1d	09-Jul-19	09-Jul-19	460d
CON.RD.321.035	Roadway Finishes (Sign, Stripe, etc.) - Block 321 - P1-S1	5d	10-Jul-19	16-Jul-19	621d
Block 323 - Fillmore St. Bridge Over I-70		**17d**	**05-Apr-19**	**01-May-19**	**670d**
CON.RD.323.030	F/P/S Approach Slabs - Block 323 - P1-S2	15d	05-Apr-19	29-Apr-19	670d
CON.RD.323.025	Pave Bridge - HMA - Block 323 - P1-S2	2d	30-Apr-19	01-May-19	507d
Block 324 - Fillmore St. South of I-70		**14d**	**30-May-19**	**20-Jun-19**	**637d**
CON.RD.324.055	Pavement Subgrade Prep - Block 324 - P1-S1	3d	30-May-19	04-Jun-19	584d
CON.RD.324.030	Place/Compact Base - Block 324 - P1-S1	2d	06-Jun-19	07-Jun-19	584d
CON.RD.324.040	Place Flatwork - Block 324 - P1-S1	2d	10-Jun-19	11-Jun-19	584d
CON.RD.324.050	Pave Mainline - HMA - Block 324 - P1-S1	1d	12-Jun-19	12-Jun-19	476d
CON.RD.324.045	Pave Top Lift - HMA - Block 324 - A-P1.S1	1d	13-Jun-19	13-Jun-19	476d
CON.RD.324.035	Roadway Finishes (Sign, Stripe, etc.) - Block 324 - P1-S1	5d	14-Jun-19	20-Jun-19	637d
Block 325 - Milwaukee St. North of I-70		**11d**	**14-Mar-19**	**01-Apr-19**	**690d**
CON.RD.325.050	Pavement Subgrade Prep - Block 325 - P1-S1	1d	14-Mar-19	14-Mar-19	637d
CON.RD.325.025	Place/Compact Base - Block 325 - P1-S1	1d	15-Mar-19	15-Mar-19	637d

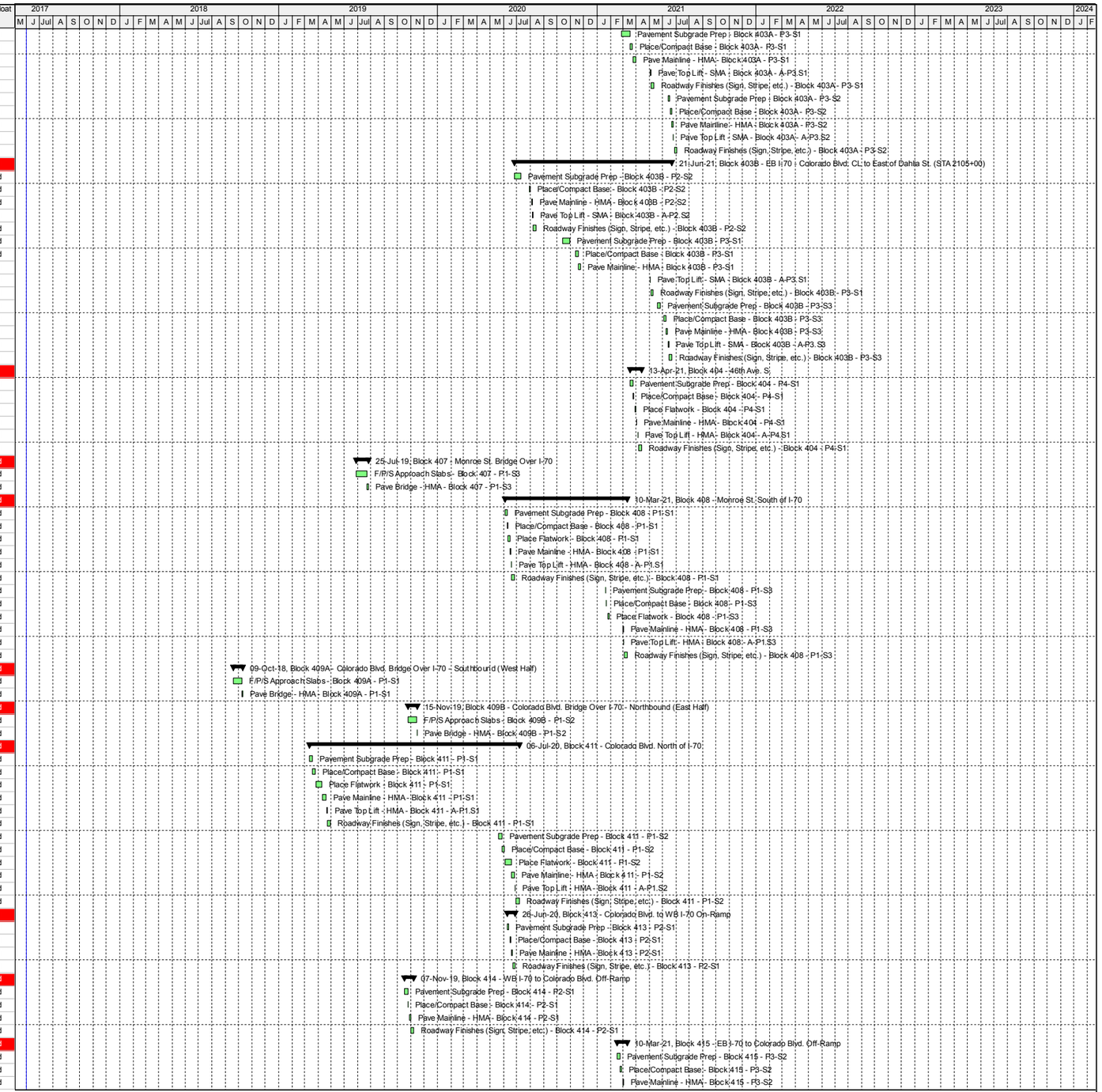


Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.RD.325.035	Place Flatwork - Block 325 - P1-S1	2d	18-Mar-19	19-Mar-19	637d
CON.RD.325.045	Pave Mainline - HMA - Block 325 - P1-S1	1d	20-Mar-19	20-Mar-19	529d
CON.RD.325.040	Pave Top Lift - HMA - Block 325 - A-P1.S1	1d	22-Mar-19	22-Mar-19	529d
CON.RD.325.030	Roadway Finishes (Sign, Stripe, etc.) - Block 325 - P1-S1	5d	25-Mar-19	01-Apr-19	690d
Block 326 - Milwaukee St. South of I-70		14d	26-Apr-21	13-May-21	189d
CON.RD.326.055	Pavement Subgrade Prep - Block 326 - P1-S1	3d	26-Apr-21	28-Apr-21	136d
CON.RD.326.030	Place/Compact Base - Block 326 - P1-S1	2d	29-Apr-21	30-Apr-21	136d
CON.RD.326.040	Place Flatwork - Block 326 - P1-S1	2d	03-May-21	04-May-21	136d
CON.RD.326.050	Pave Mainline - HMA - Block 326 - P1-S1	1d	05-May-21	05-May-21	136d
CON.RD.326.045	Pave Top Lift - HMA - Block 326 - A-P1.S1	1d	06-May-21	06-May-21	136d
CON.RD.326.035	Roadway Finishes (Sign, Stripe, etc.) - Block 326 - P1-S1	5d	07-May-21	13-May-21	189d
Block 327 - Steele/Vasquez Bridge Over I-70		17d	31-Oct-18	26-Nov-18	425d
CON.RD.327.025	F/P/S Approach Slabs - Block 327 - P1-S1	15d	31-Oct-18	20-Nov-18	425d
CON.RD.327.020	Pave Bridge - HMA - Block 327 - P1-S1	2d	21-Nov-18	26-Nov-18	317d
Block 329 - Vasquez Blvd. North of I-70		127d	20-Mar-19	01-Oct-19	570d
CON.RD.329.100	Pavement Subgrade Prep - Block 329 - P1-S1	6d	20-Mar-19	29-Mar-19	533d
CON.RD.329.050	Place/Compact Base - Block 329 - P1-S1	4d	01-Apr-19	04-Apr-19	533d
CON.RD.329.070	Place Flatwork - Block 329 - P1-S1	16d	05-Apr-19	30-Apr-19	533d
CON.RD.329.090	Pave Mainline - HMA - Block 329 - P1-S1	2d	01-May-19	02-May-19	425d
CON.RD.329.080	Pave Top Lift - HMA - Block 329 - A-P1.S1	2d	03-May-19	06-May-19	425d
CON.RD.329.060	Roadway Finishes (Sign, Stripe, etc.) - Block 329 - P1-S1	5d	07-May-19	13-May-19	533d
CON.RD.329.105	Pavement Subgrade Prep - Block 329 - P1-S3	8d	13-Aug-19	23-Aug-19	517d
CON.RD.329.055	Place/Compact Base - Block 329 - P1-S3	5d	26-Aug-19	30-Aug-19	517d
CON.RD.329.075	Place Flatwork - Block 329 - P1-S3	11d	03-Sep-19	17-Sep-19	517d
CON.RD.329.095	Pave Mainline - HMA - Block 329 - P1-S3	3d	18-Sep-19	20-Sep-19	409d
CON.RD.329.085	Pave Top Lift - HMA - Block 329 - A-P1.S3	1d	24-Sep-19	24-Sep-19	409d
CON.RD.329.065	Roadway Finishes (Sign, Stripe, etc.) - Block 329 - P1-S3	5d	25-Sep-19	01-Oct-19	570d
Block 331 - Vasquez Blvd. to WB I-70 On-Ramp		15d	29-Oct-19	18-Nov-19	419d
CON.RD.331.060	Pavement Subgrade Prep - Block 331 - P2-S2	3d	29-Oct-19	31-Oct-19	419d
CON.RD.331.035	Place/Compact Base - Block 331 - P2-S2	2d	01-Nov-19	04-Nov-19	419d
CON.RD.331.045	Place Flatwork - Block 331 - P2-S2	3d	05-Nov-19	07-Nov-19	419d
CON.RD.331.055	Pave Mainline - HMA - Block 331 - P2-S2	1d	08-Nov-19	08-Nov-19	311d
CON.RD.331.050	Pave Top Lift - HMA - Block 331 - A-P2.S2	1d	11-Nov-19	11-Nov-19	311d
CON.RD.331.040	Roadway Finishes (Sign, Stripe, etc.) - Block 331 - P2-S2	5d	12-Nov-19	18-Nov-19	419d
Block 333 - EB I-70 to Steele St. Off-Ramp		27d	01-Feb-21	11-Mar-21	71d
CON.RD.333.035	Place/Compact Base - Block 333 - P3-S2	2d	01-Feb-21	03-Feb-21	88d
CON.RD.333.045	Pave Mainline - HMA - Block 333 - P3-S2	3d	02-Mar-21	04-Mar-21	71d
CON.RD.333.040	Roadway Finishes (Sign, Stripe, etc.) - Block 333 - P3-S2	5d	05-Mar-21	11-Mar-21	71d
Block 335 - Steele St. South of I-70		23d	03-May-19	07-Jun-19	517d
CON.RD.335.055	Pavement Subgrade Prep - Block 335 - P1-S2	4d	03-May-19	08-May-19	517d
CON.RD.335.030	Place/Compact Base - Block 335 - P1-S2	3d	09-May-19	13-May-19	517d
CON.RD.335.040	Place Flatwork - Block 335 - P1-S2	6d	14-May-19	21-May-19	517d
CON.RD.335.050	Pave Mainline - HMA - Block 335 - P1-S2	3d	22-May-19	24-May-19	409d
CON.RD.335.045	Pave Top Lift - HMA - Block 335 - A-P1.S2	2d	28-May-19	29-May-19	409d
CON.RD.335.035	Roadway Finishes (Sign, Stripe, etc.) - Block 335 - P1-S2	5d	30-May-19	07-Jun-19	517d
Block 337 - Cook St. Bridge Over I-70		17d	12-Sep-19	07-Oct-19	485d
CON.RD.337.025	F/P/S Approach Slabs - Block 337 - P1-S3	15d	12-Sep-19	03-Oct-19	485d
CON.RD.337.020	Pave Bridge - HMA - Block 337 - P1-S3	2d	04-Oct-19	07-Oct-19	377d
Block 338 - Cook St. South of I-70		13d	01-Apr-21	20-Apr-21	206d
CON.RD.338.055	Pavement Subgrade Prep - Block 338 - P3-S2	2d	01-Apr-21	02-Apr-21	153d
CON.RD.338.030	Place/Compact Base - Block 338 - P3-S2	1d	05-Apr-21	05-Apr-21	153d
CON.RD.338.040	Place Flatwork - Block 338 - P3-S2	3d	06-Apr-21	08-Apr-21	153d
CON.RD.338.050	Pave Mainline - HMA - Block 338 - P3-S2	1d	09-Apr-21	09-Apr-21	153d
CON.RD.338.045	Pave Top Lift - HMA - Block 338 - A-P3.S2	1d	13-Apr-21	13-Apr-21	153d
CON.RD.338.035	Roadway Finishes (Sign, Stripe, etc.) - Block 338 - P3-S2	5d	14-Apr-21	20-Apr-21	206d
Central Area		656d	18-Sep-18	02-Jul-21	156d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		656d	18-Sep-18	02-Jul-21	156d
Block 401 - 46th Ave. N.		38d	10-Sep-19	04-Nov-19	51d
CON.RD.401.060	Pavement Subgrade Prep - Block 401 - P1-S1	6d	10-Sep-19	17-Sep-19	21d
CON.RD.401.035	Place/Compact Base - Block 401 - P1-S1	3d	18-Sep-19	20-Sep-19	21d
CON.RD.401.045	Place Flatwork - Block 401 - P1-S1	18d	24-Sep-19	17-Oct-19	21d
CON.RD.401.055	Pave Mainline - HMA - Block 401 - P1-S1	5d	21-Oct-19	25-Oct-19	21d
CON.RD.401.050	Pave Top Lift - HMA - Block 401 - A-P1.S1	1d	28-Oct-19	28-Oct-19	21d
CON.RD.401.040	Roadway Finishes (Sign, Stripe, etc.) - Block 401 - P1-S1	5d	29-Oct-19	04-Nov-19	51d
Block 402A - WB I-70 - BNSF Bridge to Colorado Blvd. CL		42d	27-Apr-20	29-Jun-20	54d
CON.RD.402A.045	Pavement Subgrade Prep - Block 402A - P2-S2	14d	27-Apr-20	14-May-20	54d
CON.RD.402A.030	Place/Compact Base - Block 402A - P2-S2	4d	08-Jun-20	11-Jun-20	54d
CON.RD.402A.040	Pave Mainline - HMA - Block 402A - P2-S2	5d	12-Jun-20	18-Jun-20	54d
CON.RD.402A.050	Pave Top Lift - SMA - Block 402A - A-P2.S2	2d	19-Jun-20	22-Jun-20	54d
CON.RD.402A.035	Roadway Finishes (Sign, Stripe, etc.) - Block 402A - P2-S2	5d	23-Jun-20	29-Jun-20	54d
Block 402B - WB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		120d	06-May-20	03-Nov-20	192d
CON.RD.402B.040	Pavement Subgrade Prep - Block 402B - P2-S2	11d	06-May-20	21-May-20	51d
CON.RD.402B.025	Place/Compact Base - Block 402B - P2-S2	3d	17-Jun-20	19-Jun-20	51d
CON.RD.402B.035	Pave Mainline - HMA - Block 402B - P2-S2	3d	22-Jun-20	24-Jun-20	51d
CON.RD.402B.045	Pave Top Lift - SMA - Block 402B - A-P2.S2	1d	25-Jun-20	25-Jun-20	51d
CON.RD.402B.030	Roadway Finishes (Sign, Stripe, etc.) - Block 402B - P2-S2	5d	26-Jun-20	02-Jul-20	51d
CON.RD.402B.125	Pavement Subgrade Prep - Block 402B - P3-S1	5d	02-Oct-20	08-Oct-20	192d
CON.RD.402B.130	Place/Compact Base - Block 402B - P3-S1	3d	16-Oct-20	21-Oct-20	192d
CON.RD.402B.135	Pave Mainline - HMA - Block 402B - P3-S1	3d	22-Oct-20	26-Oct-20	139d
CON.RD.402B.140	Pave Top Lift - SMA - Block 402B - A-P3.S1	1d	27-Oct-20	27-Oct-20	75d
CON.RD.402B.145	Roadway Finishes (Sign, Stripe, etc.) - Block 402B - P3-S1	5d	28-Oct-20	03-Nov-20	192d
Block 403A - EB I-70 - BNSF Bridge to Colorado Blvd. CL		87d	26-Feb-21	02-Jul-21	38d

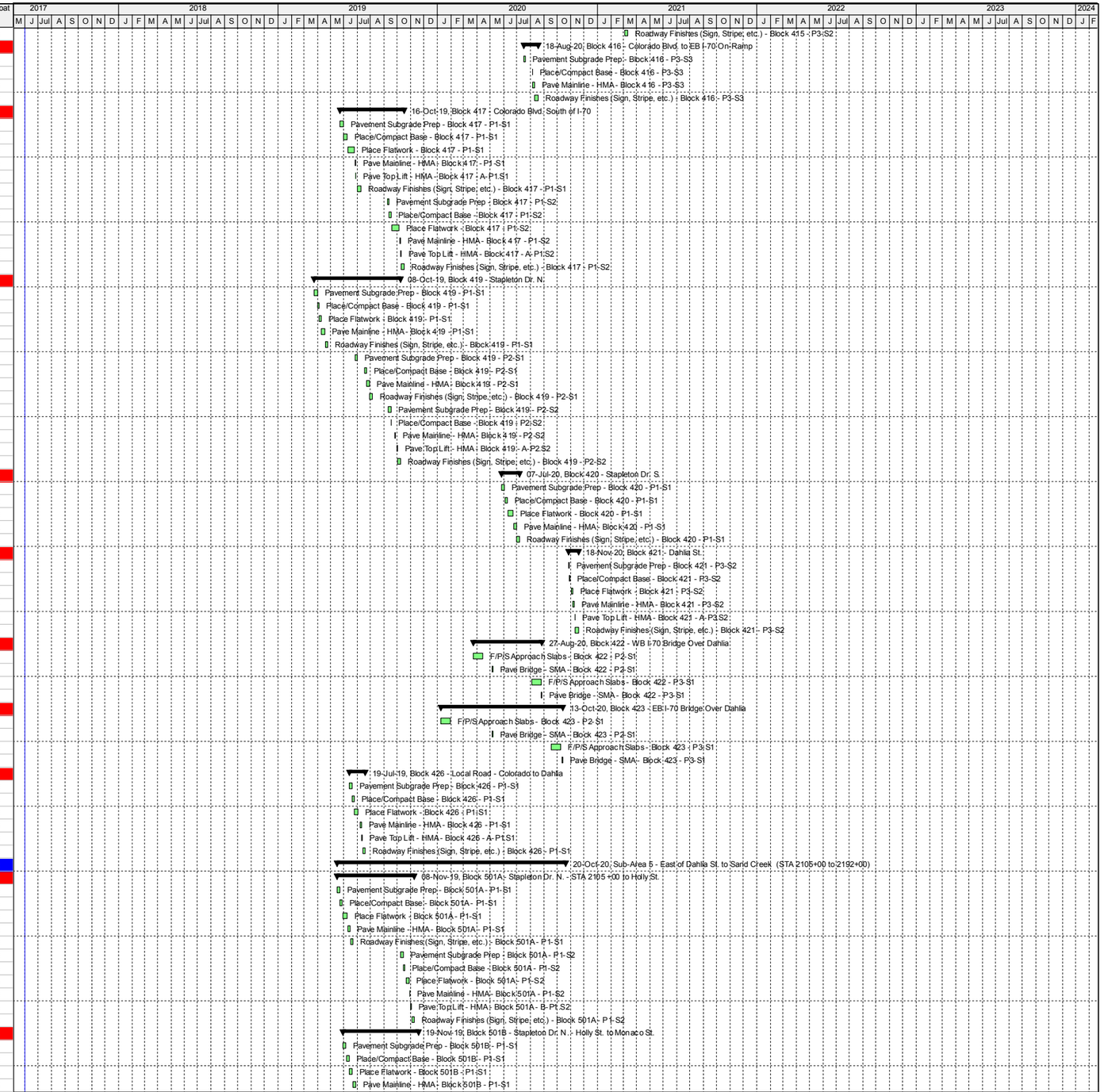
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.RD.403A.075	Pavement Subgrade Prep - Block 403A - P3-S1	14d	26-Feb-21	17-Mar-21	60d
CON.RD.403A.045	Place/Compact Base - Block 403A - P3-S1	4d	18-Mar-21	23-Mar-21	60d
CON.RD.403A.065	Pave Mainline - HMA - Block 403A - P3-S1	5d	24-Mar-21	30-Mar-21	60d
CON.RD.403A.085	Pave Top Lift - SMA - Block 403A - A-P3.S1	2d	03-May-21	04-May-21	36d
CON.RD.403A.055	Roadway Finishes (Sign, Stripe, etc.) - Block 403A - P3-S1	5d	05-May-21	11-May-21	38d
CON.RD.403A.080	Pavement Subgrade Prep - Block 403A - P3-S2	4d	14-Jun-21	17-Jun-21	38d
CON.RD.403A.050	Place/Compact Base - Block 403A - P3-S2	2d	18-Jun-21	21-Jun-21	38d
CON.RD.403A.070	Pave Mainline - HMA - Block 403A - P3-S2	3d	22-Jun-21	24-Jun-21	38d
CON.RD.403A.090	Pave Top Lift - SMA - Block 403A - A-P3.S2	1d	25-Jun-21	25-Jun-21	38d
CON.RD.403A.060	Roadway Finishes (Sign, Stripe, etc.) - Block 403A - P3-S2	5d	28-Jun-21	02-Jul-21	38d
Block 403B - EB I-70 - Colorado Blvd. CL to East of Dahlia St. (STA 2105+00)		**233d**	**25-Jun-20**	**21-Jun-21**	**47d**
CON.RD.403B.095	Pavement Subgrade Prep - Block 403B - P2-S2	11d	25-Jun-20	10-Jul-20	175d
CON.RD.403B.050	Place/Compact Base - Block 403B - P2-S2	3d	29-Jul-20	31-Jul-20	175d
CON.RD.403B.080	Pave Mainline - HMA - Block 403B - P2-S2	3d	03-Aug-20	05-Aug-20	122d
CON.RD.403B.110	Pave Top Lift - SMA - Block 403B - A-P2.S2	1d	06-Aug-20	06-Aug-20	57d
CON.RD.403B.065	Roadway Finishes (Sign, Stripe, etc.) - Block 403B - P2-S2	5d	07-Aug-20	13-Aug-20	175d
CON.RD.403B.100	Pavement Subgrade Prep - Block 403B - P3-S1	11d	14-Oct-20	29-Oct-20	147d
CON.RD.403B.055	Place/Compact Base - Block 403B - P3-S1	3d	13-Nov-20	18-Nov-20	147d
CON.RD.403B.085	Pave Mainline - HMA - Block 403B - P3-S1	3d	19-Nov-20	23-Nov-20	94d
CON.RD.403B.115	Pave Top Lift - SMA - Block 403B - A-P3.S1	1d	03-May-21	03-May-21	46d
CON.RD.403B.070	Roadway Finishes (Sign, Stripe, etc.) - Block 403B - P3-S1	5d	04-May-21	10-May-21	48d
CON.RD.403B.105	Pavement Subgrade Prep - Block 403B - P3-S3	5d	19-May-21	25-May-21	47d
CON.RD.403B.060	Place/Compact Base - Block 403B - P3-S3	3d	04-Jun-21	08-Jun-21	47d
CON.RD.403B.090	Pave Mainline - HMA - Block 403B - P3-S3	3d	09-Jun-21	11-Jun-21	47d
CON.RD.403B.120	Pave Top Lift - SMA - Block 403B - A-P3.S3	1d	14-Jun-21	14-Jun-21	47d
CON.RD.403B.075	Roadway Finishes (Sign, Stripe, etc.) - Block 403B - P3-S3	5d	15-Jun-21	21-Jun-21	47d
Block 404 - 46th Ave. S.		**18d**	**18-Mar-21**	**13-Apr-21**	**93d**
CON.RD.404.060	Pavement Subgrade Prep - Block 404 - P4-S1	5d	18-Mar-21	24-Mar-21	93d
CON.RD.404.035	Place/Compact Base - Block 404 - P4-S1	2d	25-Mar-21	26-Mar-21	93d
CON.RD.404.045	Place Flatwork - Block 404 - P4-S1	3d	29-Mar-21	31-Mar-21	93d
CON.RD.404.055	Pave Mainline - HMA - Block 404 - P4-S1	2d	01-Apr-21	02-Apr-21	93d
CON.RD.404.050	Pave Top Lift - HMA - Block 404 - A-P4.S1	1d	05-Apr-21	05-Apr-21	93d
CON.RD.404.040	Roadway Finishes (Sign, Stripe, etc.) - Block 404 - P4-S1	5d	06-Apr-21	13-Apr-21	93d
Block 407 - Monroe St. Bridge Over I-70		**17d**	**28-Jun-19**	**25-Jul-19**	**615d**
CON.RD.407.025	F/P/S Approach Slabs - Block 407 - P1-S3	15d	28-Jun-19	22-Jul-19	615d
CON.RD.407.020	Pave Bridge - HMA - Block 407 - P1-S3	2d	23-Jul-19	25-Jul-19	452d
Block 408 - Monroe St. South of I-70		**178d**	**04-Jun-20**	**10-Mar-21**	**234d**
CON.RD.408.095	Pavement Subgrade Prep - Block 408 - P1-S1	2d	04-Jun-20	08-Jun-20	323d
CON.RD.408.045	Place/Compact Base - Block 408 - P1-S1	2d	09-Jun-20	10-Jun-20	323d
CON.RD.408.065	Place Flatwork - Block 408 - P1-S1	3d	11-Jun-20	15-Jun-20	323d
CON.RD.408.085	Pave Mainline - HMA - Block 408 - P1-S1	2d	16-Jun-20	17-Jun-20	270d
CON.RD.408.075	Pave Top Lift - HMA - Block 408 - A-P1.S1	1d	18-Jun-20	18-Jun-20	270d
CON.RD.408.055	Roadway Finishes (Sign, Stripe, etc.) - Block 408 - P1-S1	5d	19-Jun-20	25-Jun-20	323d
CON.RD.408.100	Pavement Subgrade Prep - Block 408 - P1-S3	2d	20-Jan-21	21-Jan-21	201d
CON.RD.408.050	Place/Compact Base - Block 408 - P1-S3	1d	22-Jan-21	22-Jan-21	201d
CON.RD.408.070	Place Flatwork - Block 408 - P1-S3	3d	26-Jan-21	28-Jan-21	201d
CON.RD.408.090	Pave Mainline - HMA - Block 408 - P1-S3	1d	02-Mar-21	02-Mar-21	181d
CON.RD.408.080	Pave Top Lift - HMA - Block 408 - A-P1.S3	1d	03-Mar-21	03-Mar-21	181d
CON.RD.408.060	Roadway Finishes (Sign, Stripe, etc.) - Block 408 - P1-S3	5d	04-Mar-21	10-Mar-21	234d
Block 409A - Colorado Blvd. Bridge Over I-70 - Southbound (West Half)		**16d**	**18-Sep-18**	**09-Oct-18**	**429d**
CON.RD.409A.025	F/P/S Approach Slabs - Block 409A - P1-S1	15d	18-Sep-18	08-Oct-18	429d
CON.RD.409A.020	Pave Bridge - HMA - Block 409A - P1-S1	1d	09-Oct-18	09-Oct-18	321d
Block 409B - Colorado Blvd. Bridge Over I-70 - Northbound (East Half)		**16d**	**25-Oct-19**	**15-Nov-19**	**538d**
CON.RD.409B.020	F/P/S Approach Slabs - Block 409B - P1-S2	15d	25-Oct-19	14-Nov-19	538d
CON.RD.409B.010	Pave Bridge - HMA - Block 409B - P1-S2	1d	15-Nov-19	15-Nov-19	375d
Block 411 - Colorado Blvd. North of I-70		**311d**	**13-Mar-19**	**06-Jul-20**	**391d**
CON.RD.411.095	Pavement Subgrade Prep - Block 411 - P1-S1	5d	13-Mar-19	19-Mar-19	549d
CON.RD.411.045	Place/Compact Base - Block 411 - P1-S1	4d	20-Mar-19	26-Mar-19	549d
CON.RD.411.065	Place Flatwork - Block 411 - P1-S1	10d	28-Mar-19	10-Apr-19	549d
CON.RD.411.085	Pave Mainline - HMA - Block 411 - P1-S1	5d	11-Apr-19	19-Apr-19	441d
CON.RD.411.075	Pave Top Lift - HMA - Block 411 - A-P1.S1	1d	22-Apr-19	22-Apr-19	441d
CON.RD.411.055	Roadway Finishes (Sign, Stripe, etc.) - Block 411 - P1-S1	5d	23-Apr-19	29-Apr-19	549d
CON.RD.411.100	Pavement Subgrade Prep - Block 411 - P1-S2	5d	20-May-20	27-May-20	338d
CON.RD.411.050	Place/Compact Base - Block 411 - P1-S2	4d	28-May-20	02-Jun-20	338d
CON.RD.411.070	Place Flatwork - Block 411 - P1-S2	10d	04-Jun-20	18-Jun-20	338d
CON.RD.411.090	Pave Mainline - HMA - Block 411 - P1-S2	5d	19-Jun-20	25-Jun-20	285d
CON.RD.411.080	Pave Top Lift - HMA - Block 411 - A-P1.S2	1d	26-Jun-20	26-Jun-20	285d
CON.RD.411.060	Roadway Finishes (Sign, Stripe, etc.) - Block 411 - P1-S2	5d	29-Jun-20	06-Jul-20	391d
Block 413 - Colorado Blvd. to WB I-70 On-Ramp		**15d**	**08-Jun-20**	**26-Jun-20**	**55d**
CON.RD.413.045	Pavement Subgrade Prep - Block 413 - P2-S1	5d	08-Jun-20	12-Jun-20	55d
CON.RD.413.030	Place/Compact Base - Block 413 - P2-S1	3d	15-Jun-20	17-Jun-20	55d
CON.RD.413.040	Pave Mainline - HMA - Block 413 - P2-S1	2d	18-Jun-20	19-Jun-20	55d
CON.RD.413.035	Roadway Finishes (Sign, Stripe, etc.) - Block 413 - P2-S1	5d	22-Jun-20	26-Jun-20	55d
Block 414 - WB I-70 to Colorado Blvd. Off-Ramp		**15d**	**17-Oct-19**	**07-Nov-19**	**203d**
CON.RD.414.045	Pavement Subgrade Prep - Block 414 - P2-S1	5d	17-Oct-19	24-Oct-19	203d
CON.RD.414.030	Place/Compact Base - Block 414 - P2-S1	1d	25-Oct-19	25-Oct-19	203d
CON.RD.414.040	Pave Mainline - HMA - Block 414 - P2-S1	4d	28-Oct-19	31-Oct-19	148d
CON.RD.414.035	Roadway Finishes (Sign, Stripe, etc.) - Block 414 - P2-S1	5d	01-Nov-19	07-Nov-19	203d
Block 415 - EB I-70 to Colorado Blvd. Off-Ramp		**17d**	**16-Feb-21**	**10-Mar-21**	**116d**
CON.RD.415.050	Pavement Subgrade Prep - Block 415 - P3-S2	5d	16-Feb-21	22-Feb-21	118d
CON.RD.415.035	Place/Compact Base - Block 415 - P3-S2	3d	23-Feb-21	25-Feb-21	118d
CON.RD.415.045	Pave Mainline - HMA - Block 415 - P3-S2	2d	02-Mar-21	03-Mar-21	116d



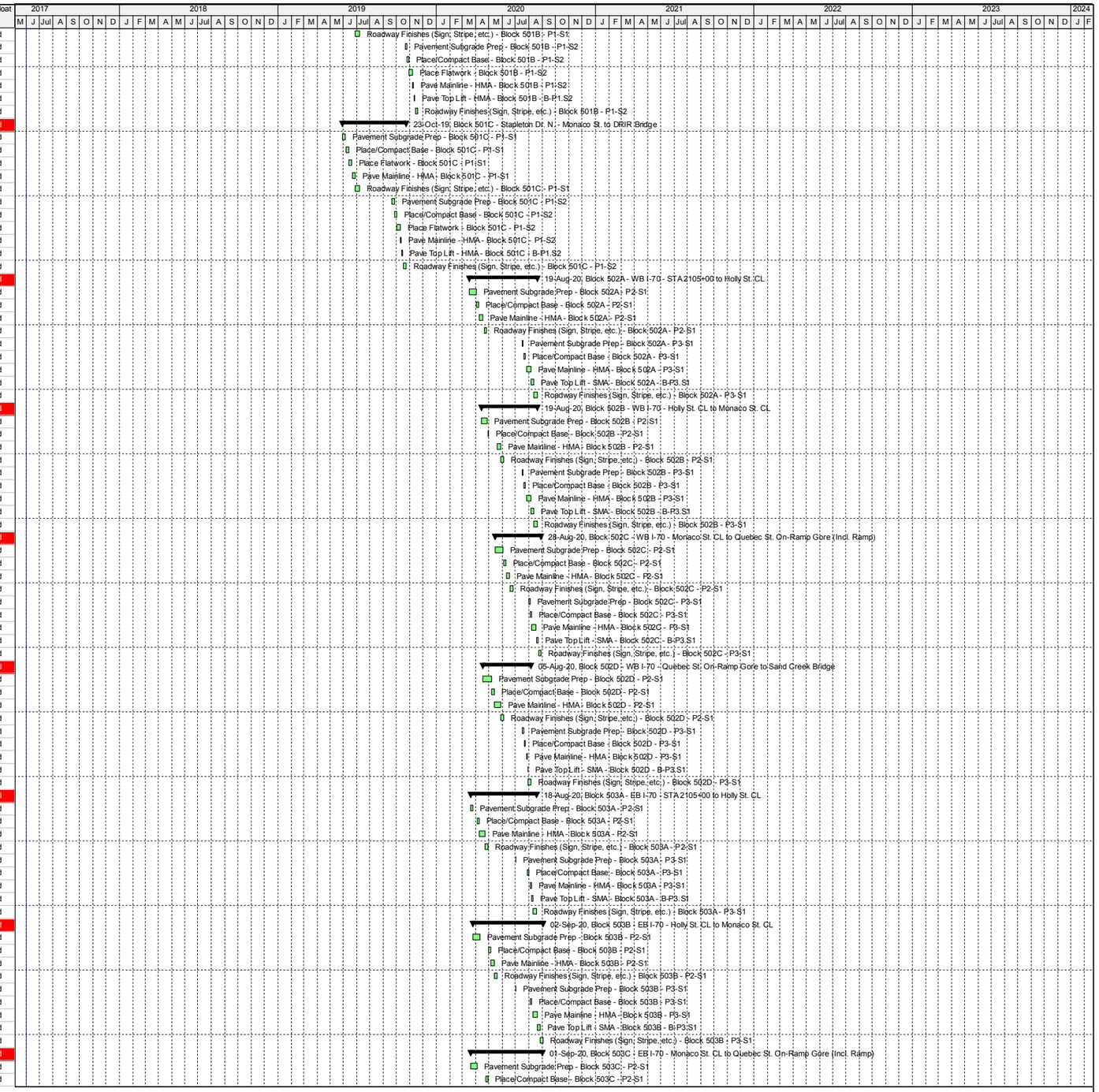
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.RD.415.040	Roadway Finishes (Sign, Stripe, etc.) - Block 415 - P3-S2	5d	04-Mar-21	10-Mar-21	116d
Block 416 - Colorado Blvd. to EB I-70 On-Ramp		22d	16-Jul-20	18-Aug-20	244d
CON.RD.416.050	Pavement Subgrade Prep - Block 416 - P3-S3	3d	16-Jul-20	20-Jul-20	244d
CON.RD.416.035	Place/Compact Base - Block 416 - P3-S3	1d	05-Aug-20	05-Aug-20	244d
CON.RD.416.045	Pave Mainline - HMA - Block 416 - P3-S3	3d	06-Aug-20	10-Aug-20	191d
CON.RD.416.040	Roadway Finishes (Sign, Stripe, etc.) - Block 416 - P3-S3	5d	11-Aug-20	18-Aug-20	244d
Block 417 - Colorado Blvd. South of I-70		96d	23-May-19	16-Oct-19	559d
CON.RD.417.095	Pavement Subgrade Prep - Block 417 - P1-S1	5d	23-May-19	30-May-19	259d
CON.RD.417.045	Place/Compact Base - Block 417 - P1-S1	4d	31-May-19	07-Jun-19	259d
CON.RD.417.065	Place Flatwork - Block 417 - P1-S1	12d	10-Jun-19	25-Jun-19	259d
CON.RD.417.085	Pave Mainline - HMA - Block 417 - P1-S1	2d	26-Jun-19	27-Jun-19	204d
CON.RD.417.075	Pave Top Lift - HMA - Block 417 - A-P1.S1	1d	28-Jun-19	28-Jun-19	204d
CON.RD.417.055	Roadway Finishes (Sign, Stripe, etc.) - Block 417 - P1-S1	5d	01-Jul-19	09-Jul-19	259d
CON.RD.417.100	Pavement Subgrade Prep - Block 417 - P1-S2	3d	09-Sep-19	11-Sep-19	506d
CON.RD.417.050	Place/Compact Base - Block 417 - P1-S2	4d	12-Sep-19	17-Sep-19	506d
CON.RD.417.070	Place Flatwork - Block 417 - P1-S2	12d	18-Sep-19	04-Oct-19	506d
CON.RD.417.090	Pave Mainline - HMA - Block 417 - P1-S2	2d	07-Oct-19	08-Oct-19	398d
CON.RD.417.080	Pave Top Lift - HMA - Block 417 - A-P1.S2	1d	09-Oct-19	09-Oct-19	398d
CON.RD.417.060	Roadway Finishes (Sign, Stripe, etc.) - Block 417 - P1-S2	5d	10-Oct-19	16-Oct-19	559d
Block 419 - Stapleton Dr. N.		130d	25-Mar-19	08-Oct-19	74d
CON.RD.419.110	Pavement Subgrade Prep - Block 419 - P1-S1	5d	25-Mar-19	01-Apr-19	39d
CON.RD.419.055	Place/Compact Base - Block 419 - P1-S1	3d	02-Apr-19	04-Apr-19	39d
CON.RD.419.085	Place Flatwork - Block 419 - P1-S1	3d	05-Apr-19	09-Apr-19	39d
CON.RD.419.095	Pave Mainline - HMA - Block 419 - P1-S1	5d	10-Apr-19	17-Apr-19	39d
CON.RD.419.070	Roadway Finishes (Sign, Stripe, etc.) - Block 419 - P1-S1	5d	19-Apr-19	25-Apr-19	39d
CON.RD.419.115	Pavement Subgrade Prep - Block 419 - P2-S1	4d	26-Jun-19	01-Jul-19	39d
CON.RD.419.060	Place/Compact Base - Block 419 - P2-S1	3d	18-Jul-19	22-Jul-19	39d
CON.RD.419.100	Pave Mainline - HMA - Block 419 - P2-S1	4d	23-Jul-19	29-Jul-19	39d
CON.RD.419.075	Roadway Finishes (Sign, Stripe, etc.) - Block 419 - P2-S1	5d	30-Jul-19	05-Aug-19	39d
CON.RD.419.120	Pavement Subgrade Prep - Block 419 - P2-S2	4d	11-Sep-19	16-Sep-19	39d
CON.RD.419.065	Place/Compact Base - Block 419 - P2-S2	0d	17-Sep-19	17-Sep-19	39d
CON.RD.419.105	Pave Mainline - HMA - Block 419 - P2-S2	3d	25-Sep-19	27-Sep-19	39d
CON.RD.419.090	Pave Top Lift - HMA - Block 419 - A-P2.S2	2d	30-Sep-19	01-Oct-19	39d
CON.RD.419.080	Roadway Finishes (Sign, Stripe, etc.) - Block 419 - P2-S2	5d	02-Oct-19	08-Oct-19	74d
Block 420 - Stapleton Dr. S.		27d	27-May-20	07-Jul-20	390d
CON.RD.420.055	Pavement Subgrade Prep - Block 420 - P1-S1	5d	27-May-20	02-Jun-20	337d
CON.RD.420.035	Place/Compact Base - Block 420 - P1-S1	3d	04-Jun-20	09-Jun-20	337d
CON.RD.420.045	Place Flatwork - Block 420 - P1-S1	9d	10-Jun-20	22-Jun-20	284d
CON.RD.420.050	Pave Mainline - HMA - Block 420 - P1-S1	5d	23-Jun-20	29-Jun-20	284d
CON.RD.420.040	Roadway Finishes (Sign, Stripe, etc.) - Block 420 - P1-S1	5d	30-Jun-20	07-Jul-20	390d
Block 421 - Dahlia St.		16d	27-Oct-20	18-Nov-20	300d
CON.RD.421.055	Pavement Subgrade Prep - Block 421 - P3-S2	2d	27-Oct-20	28-Oct-20	247d
CON.RD.421.030	Place/Compact Base - Block 421 - P3-S2	2d	29-Oct-20	30-Oct-20	247d
CON.RD.421.040	Place Flatwork - Block 421 - P3-S2	4d	02-Nov-20	05-Nov-20	247d
CON.RD.421.050	Pave Mainline - HMA - Block 421 - P3-S2	2d	06-Nov-20	09-Nov-20	194d
CON.RD.421.045	Pave Top Lift - HMA - Block 421 - A-P3.S2	1d	10-Nov-20	10-Nov-20	194d
CON.RD.421.035	Roadway Finishes (Sign, Stripe, etc.) - Block 421 - P3-S2	5d	11-Nov-20	18-Nov-20	300d
Block 422 - WB I-70 Bridge Over Dahlia		106d	23-Mar-20	27-Aug-20	14d
CON.RD.422.045	F/P/S Approach Slabs - Block 422 - P2-S1	15d	23-Mar-20	13-Apr-20	29d
CON.RD.422.025	Pave Bridge - SMA - Block 422 - P2-S1	2d	05-May-20	06-May-20	13d
CON.RD.422.050	F/P/S Approach Slabs - Block 422 - P3-S1	15d	04-Aug-20	25-Aug-20	14d
CON.RD.422.030	Pave Bridge - SMA - Block 422 - P3-S1	2d	26-Aug-20	27-Aug-20	14d
Block 423 - EB I-70 Bridge Over Dahlia		189d	09-Jan-20	13-Oct-20	206d
CON.RD.423.040	F/P/S Approach Slabs - Block 423 - P2-S1	15d	09-Jan-20	29-Jan-20	81d
CON.RD.423.025	Pave Bridge - SMA - Block 423 - P2-S1	2d	05-May-20	06-May-20	13d
CON.RD.423.045	F/P/S Approach Slabs - Block 423 - P3-S1	15d	18-Sep-20	09-Oct-20	206d
CON.RD.423.030	Pave Bridge - SMA - Block 423 - P3-S1	2d	12-Oct-20	13-Oct-20	88d
Block 426 - Local Road - Colorado to Dahlia		25d	13-Jun-19	19-Jul-19	618d
CON.RD.426.060	Pavement Subgrade Prep - Block 426 - P1-S1	5d	13-Jun-19	19-Jun-19	565d
CON.RD.426.035	Place/Compact Base - Block 426 - P1-S1	3d	20-Jun-19	24-Jun-19	565d
CON.RD.426.045	Place Flatwork - Block 426 - P1-S1	7d	25-Jun-19	03-Jul-19	565d
CON.RD.426.055	Pave Mainline - HMA - Block 426 - P1-S1	4d	08-Jul-19	11-Jul-19	457d
CON.RD.426.050	Pave Top Lift - HMA - Block 426 - A-P1.S1	1d	12-Jul-19	12-Jul-19	457d
CON.RD.426.040	Roadway Finishes (Sign, Stripe, etc.) - Block 426 - P1-S1	5d	15-Jul-19	19-Jul-19	618d
Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)		340d	16-May-19	20-Oct-20	320d
Block 501A - Stapleton Dr. N. - STA 2105 +00 to Holly St.		117d	16-May-19	08-Nov-19	235d
CON.RD.501A.090	Pavement Subgrade Prep - Block 501A - P1-S1	5d	16-May-19	22-May-19	212d
CON.RD.501A.045	Place/Compact Base - Block 501A - P1-S1	3d	23-May-19	28-May-19	212d
CON.RD.501A.065	Place Flatwork - Block 501A - P1-S1	6d	29-May-19	07-Jun-19	212d
CON.RD.501A.080	Pave Mainline - HMA - Block 501A - P1-S1	5d	10-Jun-19	14-Jun-19	157d
CON.RD.501A.055	Roadway Finishes (Sign, Stripe, etc.) - Block 501A - P1-S1	5d	17-Jun-19	21-Jun-19	212d
CON.RD.501A.095	Pavement Subgrade Prep - Block 501A - P1-S2	4d	09-Oct-19	14-Oct-19	235d
CON.RD.501A.050	Place/Compact Base - Block 501A - P1-S2	3d	15-Oct-19	17-Oct-19	235d
CON.RD.501A.070	Place Flatwork - Block 501A - P1-S2	6d	21-Oct-19	28-Oct-19	235d
CON.RD.501A.085	Pave Mainline - HMA - Block 501A - P1-S2	2d	29-Oct-19	30-Oct-19	180d
CON.RD.501A.075	Pave Top Lift - HMA - Block 501A - B-P1.S2	2d	31-Oct-19	01-Nov-19	180d
CON.RD.501A.060	Roadway Finishes (Sign, Stripe, etc.) - Block 501A - P1-S2	5d	04-Nov-19	08-Nov-19	235d
Block 501B - Stapleton Dr. N. - Holly St. to Monaco St.		116d	29-May-19	19-Nov-19	206d
CON.RD.501B.085	Pavement Subgrade Prep - Block 501B - P1-S1	4d	29-May-19	04-Jun-19	203d
CON.RD.501B.040	Place/Compact Base - Block 501B - P1-S1	5d	06-Jun-19	12-Jun-19	203d
CON.RD.501B.060	Place Flatwork - Block 501B - P1-S1	6d	13-Jun-19	20-Jun-19	203d
CON.RD.501B.075	Pave Mainline - HMA - Block 501B - P1-S1	5d	21-Jun-19	27-Jun-19	148d



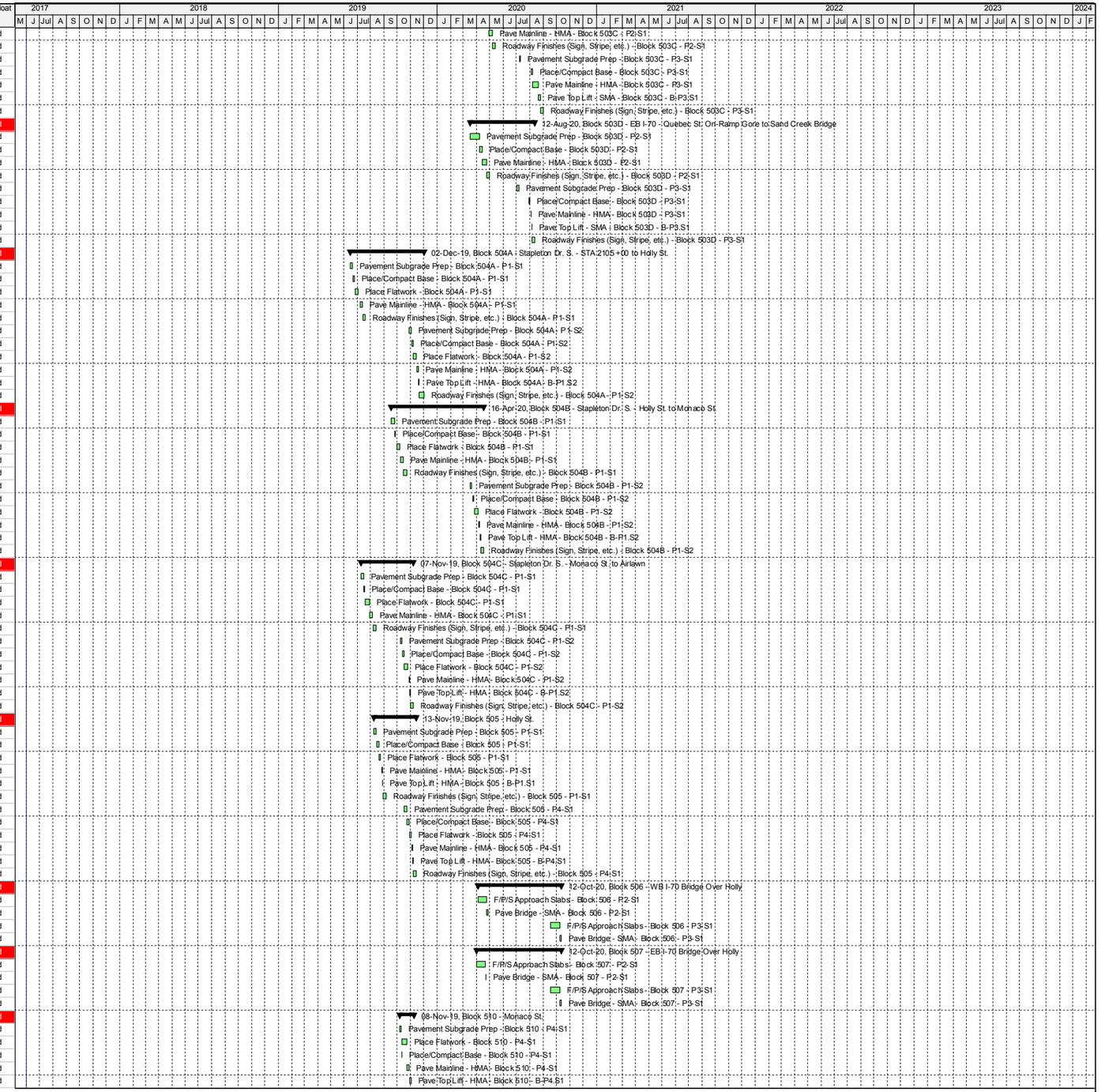
Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.RD.501B.050	Roadway Finishes (Sign, Stripe, etc.) - Block 501B - P1-S1	5d	28-Jun-19	08-Jul-19	203d
CON.RD.501B.090	Pavement Subgrade Prep - Block 501B - P1-S2	4d	21-Oct-19	24-Oct-19	206d
CON.RD.501B.045	Place/Compact Base - Block 501B - P1-S2	3d	25-Oct-19	29-Oct-19	206d
CON.RD.501B.065	Place Flatwork - Block 501B - P1-S2	6d	30-Oct-19	06-Nov-19	206d
CON.RD.501B.080	Pave Mainline - HMA - Block 501B - P1-S2	2d	07-Nov-19	08-Nov-19	151d
CON.RD.501B.070	Pave Top Lift - HMA - Block 501B - B-P1.S2	2d	11-Nov-19	12-Nov-19	151d
CON.RD.501B.055	Roadway Finishes (Sign, Stripe, etc.) - Block 501B - P1-S2	5d	13-Nov-19	19-Nov-19	206d
Block 501C - Stapleton Dr. N. - Monaco St. to DRIR Bridge		**97d**	**29-May-19**	**23-Oct-19**	**247d**
CON.RD.501C.085	Pavement Subgrade Prep - Block 501C - P1-S1	4d	29-May-19	04-Jun-19	247d
CON.RD.501C.040	Place/Compact Base - Block 501C - P1-S1	5d	06-Jun-19	12-Jun-19	247d
CON.RD.501C.060	Place Flatwork - Block 501C - P1-S1	6d	13-Jun-19	20-Jun-19	247d
CON.RD.501C.075	Pave Mainline - HMA - Block 501C - P1-S1	5d	21-Jun-19	27-Jun-19	192d
CON.RD.501C.050	Roadway Finishes (Sign, Stripe, etc.) - Block 501C - P1-S1	5d	28-Jun-19	08-Jul-19	247d
CON.RD.501C.090	Pavement Subgrade Prep - Block 501C - P1-S2	4d	20-Sep-19	26-Sep-19	247d
CON.RD.501C.045	Place/Compact Base - Block 501C - P1-S2	3d	27-Sep-19	01-Oct-19	247d
CON.RD.501C.065	Place Flatwork - Block 501C - P1-S2	6d	02-Oct-19	09-Oct-19	247d
CON.RD.501C.080	Pave Mainline - HMA - Block 501C - P1-S2	2d	10-Oct-19	11-Oct-19	192d
CON.RD.501C.070	Pave Top Lift - HMA - Block 501C - B-P1.S2	2d	14-Oct-19	15-Oct-19	192d
CON.RD.501C.055	Roadway Finishes (Sign, Stripe, etc.) - Block 501C - P1-S2	5d	16-Oct-19	23-Oct-19	247d
Block 502A - WB I-70 - STA 2105+00 to Holly St. CL		**104d**	**17-Mar-20**	**19-Aug-20**	**361d**
CON.RD.502A.080	Pavement Subgrade Prep - Block 502A - P2-S1	11d	17-Mar-20	01-Apr-20	245d
CON.RD.502A.050	Place/Compact Base - Block 502A - P2-S1	4d	02-Apr-20	07-Apr-20	245d
CON.RD.502A.075	Pave Mainline - HMA - Block 502A - P2-S1	8d	08-Apr-20	17-Apr-20	192d
CON.RD.502A.060	Roadway Finishes (Sign, Stripe, etc.) - Block 502A - P2-S1	5d	20-Apr-20	24-Apr-20	245d
CON.RD.502A.085	Pavement Subgrade Prep - Block 502A - P3-S1	2d	16-Jul-20	17-Jul-20	289d
CON.RD.502A.055	Place/Compact Base - Block 502A - P3-S1	4d	20-Jul-20	23-Jul-20	289d
CON.RD.502A.070	Pave Mainline - HMA - Block 502A - P3-S1	8d	27-Jul-20	05-Aug-20	236d
CON.RD.502A.090	Pave Top Lift - SMA - Block 502A - B-P3.S1	4d	06-Aug-20	11-Aug-20	167d
CON.RD.502A.065	Roadway Finishes (Sign, Stripe, etc.) - Block 502A - P3-S1	5d	12-Aug-20	19-Aug-20	361d
Block 502B - WB I-70 - Holly St. CL to Monaco St. CL		**86d**	**13-Apr-20**	**19-Aug-20**	**361d**
CON.RD.502B.065	Pavement Subgrade Prep - Block 502B - P2-S1	11d	13-Apr-20	27-Apr-20	230d
CON.RD.502B.035	Place/Compact Base - Block 502B - P2-S1	3d	28-Apr-20	30-Apr-20	230d
CON.RD.502B.060	Pave Mainline - HMA - Block 502B - P2-S1	6d	19-May-20	27-May-20	166d
CON.RD.502B.045	Roadway Finishes (Sign, Stripe, etc.) - Block 502B - P2-S1	5d	28-May-20	04-Jun-20	219d
CON.RD.502B.070	Pavement Subgrade Prep - Block 502B - P3-S1	2d	16-Jul-20	17-Jul-20	289d
CON.RD.502B.040	Place/Compact Base - Block 502B - P3-S1	4d	20-Jul-20	23-Jul-20	289d
CON.RD.502B.055	Pave Mainline - HMA - Block 502B - P3-S1	8d	27-Jul-20	05-Aug-20	236d
CON.RD.502B.075	Pave Top Lift - SMA - Block 502B - B-P3.S1	4d	06-Aug-20	11-Aug-20	167d
CON.RD.502B.050	Roadway Finishes (Sign, Stripe, etc.) - Block 502B - P3-S1	5d	12-Aug-20	19-Aug-20	361d
Block 502C - WB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		**69d**	**15-May-20**	**28-Aug-20**	**354d**
CON.RD.502C.065	Pavement Subgrade Prep - Block 502C - P2-S1	11d	15-May-20	02-Jun-20	206d
CON.RD.502C.035	Place/Compact Base - Block 502C - P2-S1	3d	04-Jun-20	09-Jun-20	206d
CON.RD.502C.060	Pave Mainline - HMA - Block 502C - P2-S1	6d	10-Jun-20	17-Jun-20	153d
CON.RD.502C.045	Roadway Finishes (Sign, Stripe, etc.) - Block 502C - P2-S1	5d	18-Jun-20	24-Jun-20	206d
CON.RD.502C.070	Pavement Subgrade Prep - Block 502C - P3-S1	2d	31-Jul-20	03-Aug-20	282d
CON.RD.502C.040	Place/Compact Base - Block 502C - P3-S1	3d	04-Aug-20	06-Aug-20	282d
CON.RD.502C.055	Pave Mainline - HMA - Block 502C - P3-S1	6d	07-Aug-20	17-Aug-20	229d
CON.RD.502C.075	Pave Top Lift - SMA - Block 502C - B-P3.S1	4d	18-Aug-20	21-Aug-20	160d
CON.RD.502C.050	Roadway Finishes (Sign, Stripe, etc.) - Block 502C - P3-S1	5d	24-Aug-20	28-Aug-20	354d
Block 502D - WB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		**74d**	**16-Apr-20**	**05-Aug-20**	**370d**
CON.RD.502D.065	Pavement Subgrade Prep - Block 502D - P2-S1	15d	16-Apr-20	06-May-20	219d
CON.RD.502D.035	Place/Compact Base - Block 502D - P2-S1	5d	07-May-20	13-May-20	219d
CON.RD.502D.060	Pave Mainline - HMA - Block 502D - P2-S1	8d	14-May-20	27-May-20	166d
CON.RD.502D.045	Roadway Finishes (Sign, Stripe, etc.) - Block 502D - P2-S1	5d	28-May-20	04-Jun-20	219d
CON.RD.502D.070	Pavement Subgrade Prep - Block 502D - P3-S1	3d	16-Jul-20	20-Jul-20	298d
CON.RD.502D.040	Place/Compact Base - Block 502D - P3-S1	3d	21-Jul-20	23-Jul-20	298d
CON.RD.502D.055	Pave Mainline - HMA - Block 502D - P3-S1	2d	27-Jul-20	28-Jul-20	245d
CON.RD.502D.075	Pave Top Lift - SMA - Block 502D - B-P3.S1	1d	29-Jul-20	29-Jul-20	176d
CON.RD.502D.050	Roadway Finishes (Sign, Stripe, etc.) - Block 502D - P3-S1	5d	30-Jul-20	05-Aug-20	370d
Block 503A - EB I-70 - STA 2105+00 to Holly St. CL		**101d**	**19-Mar-20**	**18-Aug-20**	**362d**
CON.RD.503A.070	Pavement Subgrade Prep - Block 503A - P2-S1	4d	19-Mar-20	24-Mar-20	249d
CON.RD.503A.040	Place/Compact Base - Block 503A - P2-S1	4d	03-Apr-20	08-Apr-20	243d
CON.RD.503A.065	Pave Mainline - HMA - Block 503A - P2-S1	9d	09-Apr-20	21-Apr-20	190d
CON.RD.503A.050	Roadway Finishes (Sign, Stripe, etc.) - Block 503A - P2-S1	5d	22-Apr-20	28-Apr-20	243d
CON.RD.503A.075	Pavement Subgrade Prep - Block 503A - P3-S1	2d	01-Jul-20	02-Jul-20	290d
CON.RD.503A.045	Place/Compact Base - Block 503A - P3-S1	4d	28-Jul-20	31-Jul-20	290d
CON.RD.503A.060	Pave Mainline - HMA - Block 503A - P3-S1	4d	03-Aug-20	06-Aug-20	237d
CON.RD.503A.080	Pave Top Lift - SMA - Block 503A - B-P3.S1	2d	07-Aug-20	10-Aug-20	168d
CON.RD.503A.055	Roadway Finishes (Sign, Stripe, etc.) - Block 503A - P3-S1	5d	11-Aug-20	18-Aug-20	362d
Block 503B - EB I-70 - Holly St. CL to Monaco St. CL		**108d**	**25-Mar-20**	**02-Sep-20**	**351d**
CON.RD.503B.060	Pavement Subgrade Prep - Block 503B - P2-S1	11d	25-Mar-20	09-Apr-20	242d
CON.RD.503B.030	Place/Compact Base - Block 503B - P2-S1	3d	30-Apr-20	04-May-20	228d
CON.RD.503B.055	Pave Mainline - HMA - Block 503B - P2-S1	6d	05-May-20	12-May-20	175d
CON.RD.503B.040	Roadway Finishes (Sign, Stripe, etc.) - Block 503B - P2-S1	5d	13-May-20	20-May-20	228d
CON.RD.503B.065	Pavement Subgrade Prep - Block 503B - P3-S1	2d	01-Jul-20	02-Jul-20	279d
CON.RD.503B.035	Place/Compact Base - Block 503B - P3-S1	4d	04-Aug-20	07-Aug-20	279d
CON.RD.503B.050	Pave Mainline - HMA - Block 503B - P3-S1	8d	10-Aug-20	20-Aug-20	226d
CON.RD.503B.070	Pave Top Lift - SMA - Block 503B - B-P3.S1	4d	21-Aug-20	26-Aug-20	157d
CON.RD.503B.045	Roadway Finishes (Sign, Stripe, etc.) - Block 503B - P3-S1	5d	27-Aug-20	02-Sep-20	351d
Block 503C - EB I-70 - Monaco St. CL to Quebec St. On-Ramp Gore (Incl. Ramp)		**111d**	**19-Mar-20**	**01-Sep-20**	**352d**
CON.RD.503C.060	Pavement Subgrade Prep - Block 503C - P2-S1	11d	19-Mar-20	03-Apr-20	246d
CON.RD.503C.030	Place/Compact Base - Block 503C - P2-S1	3d	24-Apr-20	28-Apr-20	232d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

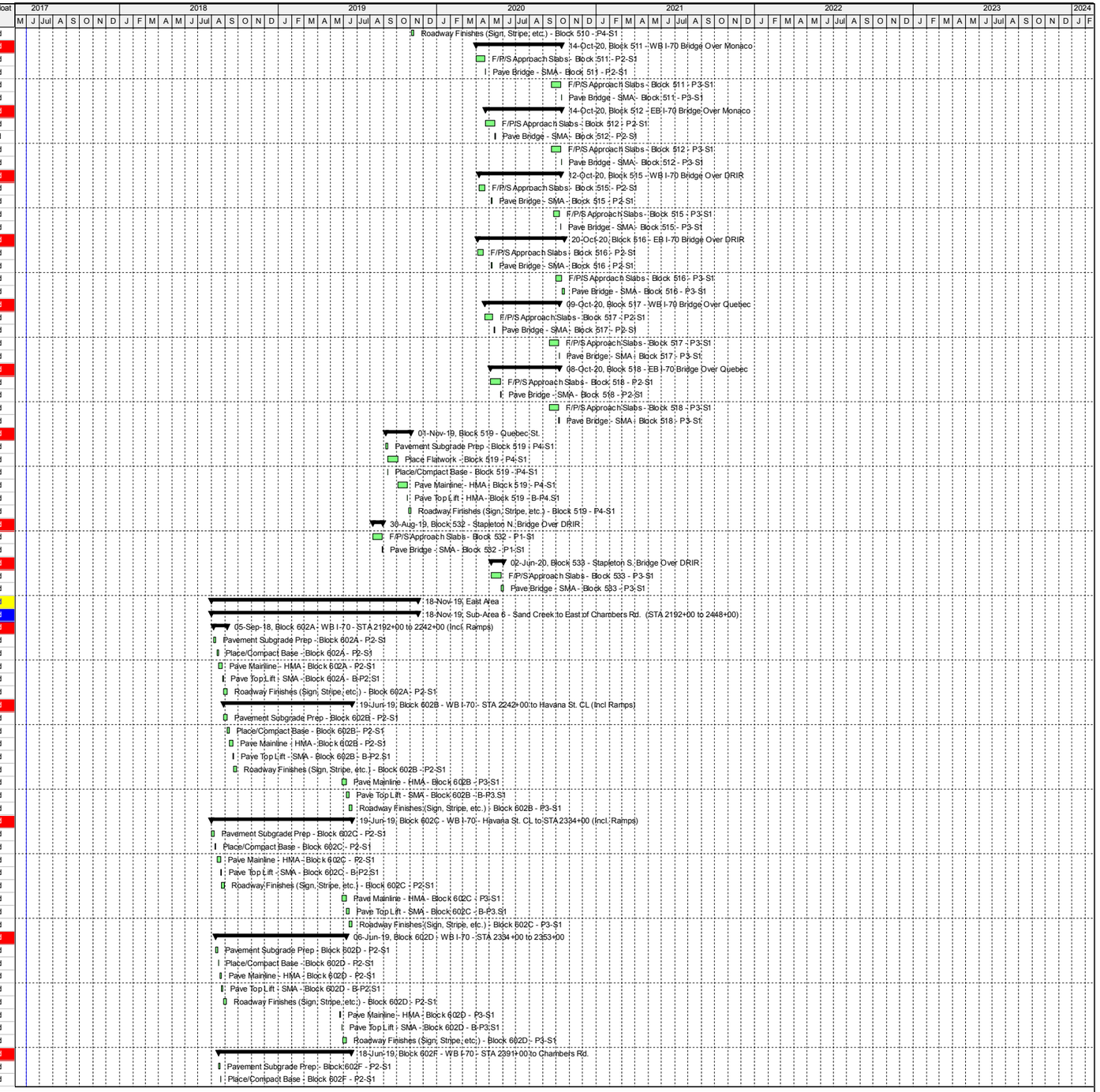
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.RD.503C.055	Pave Mainline - HMA - Block 503C - P2-S1	6d	29-Apr-20	06-May-20	179d
CON.RD.503C.040	Roadway Finishes (Sign, Stripe, etc.) - Block 503C - P2-S1	5d	07-May-20	13-May-20	232d
CON.RD.503C.065	Pavement Subgrade Prep - Block 503C - P3-S1	2d	09-Jul-20	10-Jul-20	280d
CON.RD.503C.035	Place/Compact Base - Block 503C - P3-S1	3d	04-Aug-20	06-Aug-20	280d
CON.RD.503C.050	Pave Mainline - HMA - Block 503C - P3-S1	8d	07-Aug-20	19-Aug-20	227d
CON.RD.503C.070	Pave Top Lift - SMA - Block 503C - B-P3.S1	4d	20-Aug-20	25-Aug-20	158d
CON.RD.503C.045	Roadway Finishes (Sign, Stripe, etc.) - Block 503C - P3-S1	5d	26-Aug-20	01-Sep-20	352d
Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		**101d**	**16-Mar-20**	**12-Aug-20**	**365d**
CON.RD.503D.065	Pavement Subgrade Prep - Block 503D - P2-S1	15d	16-Mar-20	06-Apr-20	241d
CON.RD.503D.035	Place/Compact Base - Block 503D - P2-S1	5d	07-Apr-20	13-Apr-20	241d
CON.RD.503D.060	Pave Mainline - HMA - Block 503D - P2-S1	8d	14-Apr-20	23-Apr-20	188d
CON.RD.503D.045	Roadway Finishes (Sign, Stripe, etc.) - Block 503D - P2-S1	5d	24-Apr-20	30-Apr-20	241d
CON.RD.503D.070	Pavement Subgrade Prep - Block 503D - P3-S1	3d	01-Jul-20	06-Jul-20	293d
CON.RD.503D.040	Place/Compact Base - Block 503D - P3-S1	3d	29-Jul-20	31-Jul-20	293d
CON.RD.503D.055	Pave Mainline - HMA - Block 503D - P3-S1	2d	03-Aug-20	04-Aug-20	240d
CON.RD.503D.075	Pave Top Lift - SMA - Block 503D - B-P3.S1	1d	05-Aug-20	05-Aug-20	171d
CON.RD.503D.050	Roadway Finishes (Sign, Stripe, etc.) - Block 503D - P3-S1	5d	06-Aug-20	12-Aug-20	365d
Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.		**112d**	**14-Jun-19**	**02-Dec-19**	**238d**
CON.RD.504A.095	Pavement Subgrade Prep - Block 504A - P1-S1	5d	14-Jun-19	20-Jun-19	238d
CON.RD.504A.050	Place/Compact Base - Block 504A - P1-S1	3d	21-Jun-19	25-Jun-19	238d
CON.RD.504A.070	Place Flatwork - Block 504A - P1-S1	6d	26-Jun-19	03-Jul-19	238d
CON.RD.504A.085	Pave Mainline - HMA - Block 504A - P1-S1	5d	08-Jul-19	12-Jul-19	183d
CON.RD.504A.060	Roadway Finishes (Sign, Stripe, etc.) - Block 504A - P1-S1	5d	15-Jul-19	19-Jul-19	238d
CON.RD.504A.100	Pavement Subgrade Prep - Block 504A - P1-S2	5d	28-Oct-19	01-Nov-19	238d
CON.RD.504A.055	Place/Compact Base - Block 504A - P1-S2	3d	04-Nov-19	06-Nov-19	238d
CON.RD.504A.075	Place Flatwork - Block 504A - P1-S2	6d	07-Nov-19	14-Nov-19	238d
CON.RD.504A.090	Pave Mainline - HMA - Block 504A - P1-S2	2d	15-Nov-19	18-Nov-19	183d
CON.RD.504A.080	Pave Top Lift - HMA - Block 504A - B-P1.S2	2d	19-Nov-19	20-Nov-19	183d
CON.RD.504A.065	Roadway Finishes (Sign, Stripe, etc.) - Block 504A - P1-S2	5d	21-Nov-19	02-Dec-19	238d
Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.		**137d**	**17-Sep-19**	**16-Apr-20**	**443d**
CON.RD.504B.085	Pavement Subgrade Prep - Block 504B - P1-S1	5d	17-Sep-19	24-Sep-19	230d
CON.RD.504B.040	Place/Compact Base - Block 504B - P1-S1	3d	25-Sep-19	27-Sep-19	230d
CON.RD.504B.060	Place Flatwork - Block 504B - P1-S1	6d	30-Sep-19	07-Oct-19	230d
CON.RD.504B.075	Pave Mainline - HMA - Block 504B - P1-S1	5d	08-Oct-19	14-Oct-19	175d
CON.RD.504B.050	Roadway Finishes (Sign, Stripe, etc.) - Block 504B - P1-S1	5d	15-Oct-19	22-Oct-19	230d
CON.RD.504B.090	Pavement Subgrade Prep - Block 504B - P1-S2	5d	16-Mar-20	20-Mar-20	392d
CON.RD.504B.045	Place/Compact Base - Block 504B - P1-S2	3d	23-Mar-20	25-Mar-20	392d
CON.RD.504B.065	Place Flatwork - Block 504B - P1-S2	6d	26-Mar-20	03-Apr-20	392d
CON.RD.504B.080	Pave Mainline - HMA - Block 504B - P1-S2	2d	06-Apr-20	07-Apr-20	339d
CON.RD.504B.070	Pave Top Lift - HMA - Block 504B - B-P1.S2	2d	08-Apr-20	09-Apr-20	443d
CON.RD.504B.055	Roadway Finishes (Sign, Stripe, etc.) - Block 504B - P1-S2	5d	10-Apr-20	16-Apr-20	443d
Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn		**83d**	**09-Jul-19**	**07-Nov-19**	**252d**
CON.RD.504C.080	Pavement Subgrade Prep - Block 504C - P1-S1	5d	09-Jul-19	15-Jul-19	252d
CON.RD.504C.035	Place/Compact Base - Block 504C - P1-S1	3d	16-Jul-19	18-Jul-19	252d
CON.RD.504C.055	Place Flatwork - Block 504C - P1-S1	6d	19-Jul-19	29-Jul-19	252d
CON.RD.504C.070	Pave Mainline - HMA - Block 504C - P1-S1	5d	30-Jul-19	05-Aug-19	197d
CON.RD.504C.045	Roadway Finishes (Sign, Stripe, etc.) - Block 504C - P1-S1	5d	06-Aug-19	12-Aug-19	252d
CON.RD.504C.085	Pavement Subgrade Prep - Block 504C - P1-S2	3d	09-Oct-19	11-Oct-19	252d
CON.RD.504C.040	Place/Compact Base - Block 504C - P1-S2	3d	14-Oct-19	16-Oct-19	252d
CON.RD.504C.060	Place Flatwork - Block 504C - P1-S2	6d	17-Oct-19	25-Oct-19	252d
CON.RD.504C.075	Pave Mainline - HMA - Block 504C - P1-S2	2d	28-Oct-19	29-Oct-19	197d
CON.RD.504C.065	Pave Top Lift - HMA - Block 504C - B-P1.S2	2d	30-Oct-19	31-Oct-19	252d
CON.RD.504C.050	Roadway Finishes (Sign, Stripe, etc.) - Block 504C - P1-S2	5d	01-Nov-19	07-Nov-19	252d
Block 505 - Holly St.		**66d**	**08-Aug-19**	**13-Nov-19**	**540d**
CON.RD.505.095	Pavement Subgrade Prep - Block 505 - P1-S1	4d	08-Aug-19	13-Aug-19	487d
CON.RD.505.045	Place/Compact Base - Block 505 - P1-S1	3d	15-Aug-19	19-Aug-19	487d
CON.RD.505.065	Place Flatwork - Block 505 - P1-S1	4d	20-Aug-19	23-Aug-19	487d
CON.RD.505.085	Pave Mainline - HMA - Block 505 - P1-S1	2d	26-Aug-19	27-Aug-19	379d
CON.RD.505.075	Pave Top Lift - HMA - Block 505 - B-P1.S1	1d	28-Aug-19	28-Aug-19	379d
CON.RD.505.055	Roadway Finishes (Sign, Stripe, etc.) - Block 505 - P1-S1	5d	29-Aug-19	05-Sep-19	487d
CON.RD.505.100	Pavement Subgrade Prep - Block 505 - P4-S1	4d	17-Oct-19	23-Oct-19	487d
CON.RD.505.050	Place/Compact Base - Block 505 - P4-S1	3d	24-Oct-19	28-Oct-19	487d
CON.RD.505.070	Place Flatwork - Block 505 - P4-S1	4d	29-Oct-19	01-Nov-19	487d
CON.RD.505.090	Pave Mainline - HMA - Block 505 - P4-S1	2d	04-Nov-19	05-Nov-19	379d
CON.RD.505.080	Pave Top Lift - HMA - Block 505 - B-P4.S1	1d	06-Nov-19	06-Nov-19	379d
CON.RD.505.060	Roadway Finishes (Sign, Stripe, etc.) - Block 505 - P4-S1	5d	07-Nov-19	13-Nov-19	540d
Block 506 - WB I-70 Bridge Over Holly		**128d**	**03-Apr-20**	**12-Oct-20**	**325d**
CON.RD.506.035	F/P/S Approach Slabs - Block 506 - P2-S1	15d	03-Apr-20	23-Apr-20	244d
CON.RD.506.020	Pave Bridge - SMA - Block 506 - P2-S1	2d	24-Apr-20	27-Apr-20	191d
CON.RD.506.040	F/P/S Approach Slabs - Block 506 - P3-S1	15d	17-Sep-20	08-Oct-20	325d
CON.RD.506.015	Pave Bridge - SMA - Block 506 - P3-S1	2d	09-Oct-20	12-Oct-20	217d
Block 507 - EB I-70 Bridge Over Holly		**131d**	**31-Mar-20**	**12-Oct-20**	**325d**
CON.RD.507.035	F/P/S Approach Slabs - Block 507 - P2-S1	15d	31-Mar-20	20-Apr-20	247d
CON.RD.507.020	Pave Bridge - SMA - Block 507 - P2-S1	2d	21-Apr-20	22-Apr-20	194d
CON.RD.507.040	F/P/S Approach Slabs - Block 507 - P3-S1	15d	17-Sep-20	08-Oct-20	325d
CON.RD.507.015	Pave Bridge - SMA - Block 507 - P3-S1	2d	09-Oct-20	12-Oct-20	217d
Block 510 - Monaco St.		**24d**	**07-Oct-19**	**08-Nov-19**	**543d**
CON.RD.510.055	Pavement Subgrade Prep - Block 510 - P4-S1	4d	07-Oct-19	10-Oct-19	490d
CON.RD.510.040	Place Flatwork - Block 510 - P4-S1	8d	11-Oct-19	23-Oct-19	490d
CON.RD.510.030	Place/Compact Base - Block 510 - P4-S1	0d	11-Oct-19	11-Oct-19	490d
CON.RD.510.050	Pave Mainline - HMA - Block 510 - P4-S1	3d	24-Oct-19	28-Oct-19	382d
CON.RD.510.045	Pave Top Lift - HMA - Block 510 - B-P4.S1	4d	29-Oct-19	01-Nov-19	382d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

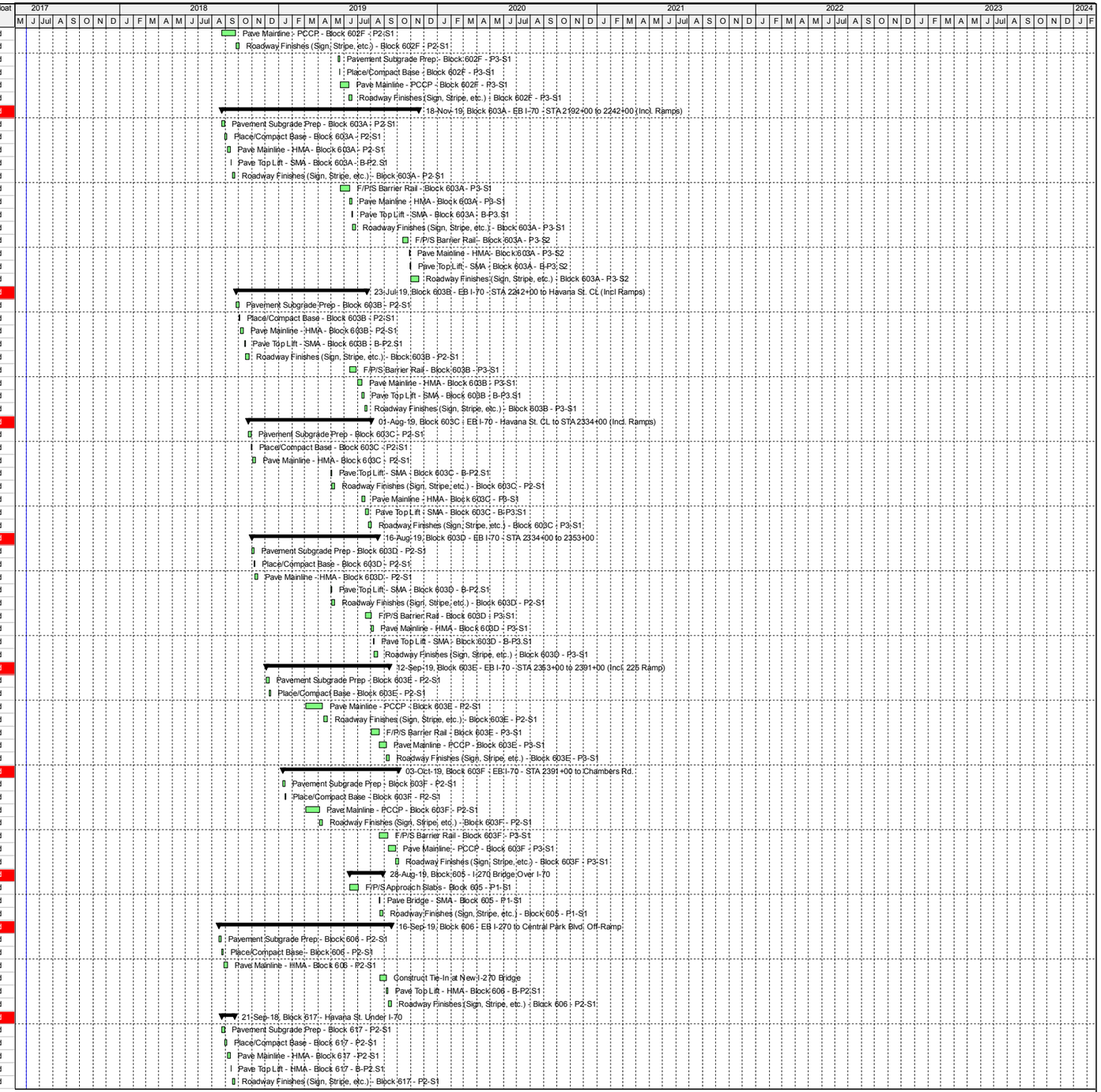
Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.RD.510.035	Roadway Finishes (Sign, Stripe, etc.) - Block 510 - P4-S1	5d	04-Nov-19	08-Nov-19	543d
Block 511 - WB I-70 Bridge Over Monaco		**133d**	**31-Mar-20**	**14-Oct-20**	**323d**
CON.RD.511.030	F/P/S Approach Slabs - Block 511 - P2-S1	15d	31-Mar-20	20-Apr-20	247d
CON.RD.511.020	Pave Bridge - SMA - Block 511 - P2-S1	2d	21-Apr-20	22-Apr-20	194d
CON.RD.511.035	F/P/S Approach Slabs - Block 511 - P3-S1	15d	21-Sep-20	12-Oct-20	323d
CON.RD.511.015	Pave Bridge - SMA - Block 511 - P3-S1	2d	13-Oct-20	14-Oct-20	215d
Block 512 - EB I-70 Bridge Over Monaco		**117d**	**22-Apr-20**	**14-Oct-20**	**323d**
CON.RD.512.030	F/P/S Approach Slabs - Block 512 - P2-S1	15d	22-Apr-20	12-May-20	230d
CON.RD.512.020	Pave Bridge - SMA - Block 512 - P2-S1	2d	13-May-20	14-May-20	111d
CON.RD.512.035	F/P/S Approach Slabs - Block 512 - P3-S1	15d	21-Sep-20	12-Oct-20	323d
CON.RD.512.015	Pave Bridge - SMA - Block 512 - P3-S1	2d	13-Oct-20	14-Oct-20	215d
Block 515 - WB I-70 Bridge Over DRIR		**126d**	**07-Apr-20**	**12-Oct-20**	**325d**
CON.RD.515.035	F/P/S Approach Slabs - Block 515 - P2-S1	10d	07-Apr-20	20-Apr-20	246d
CON.RD.515.020	Pave Bridge - SMA - Block 515 - P2-S1	2d	05-May-20	06-May-20	116d
CON.RD.515.040	F/P/S Approach Slabs - Block 515 - P3-S1	10d	25-Sep-20	08-Oct-20	326d
CON.RD.515.015	Pave Bridge - SMA - Block 515 - P3-S1	1d	12-Oct-20	12-Oct-20	217d
Block 516 - EB I-70 Bridge Over DRIR		**133d**	**03-Apr-20**	**20-Oct-20**	**320d**
CON.RD.516.035	F/P/S Approach Slabs - Block 516 - P2-S1	10d	03-Apr-20	16-Apr-20	248d
CON.RD.516.020	Pave Bridge - SMA - Block 516 - P2-S1	2d	05-May-20	06-May-20	116d
CON.RD.516.040	F/P/S Approach Slabs - Block 516 - P3-S1	10d	30-Sep-20	13-Oct-20	321d
CON.RD.516.015	Pave Bridge - SMA - Block 516 - P3-S1	3d	15-Oct-20	20-Oct-20	212d
Block 517 - WB I-70 Bridge Over Quebec		**116d**	**20-Apr-20**	**09-Oct-20**	**326d**
CON.RD.517.025	F/P/S Approach Slabs - Block 517 - P2-S1	15d	20-Apr-20	08-May-20	232d
CON.RD.517.010	Pave Bridge - SMA - Block 517 - P2-S1	2d	11-May-20	12-May-20	113d
CON.RD.517.030	F/P/S Approach Slabs - Block 517 - P3-S1	15d	16-Sep-20	07-Oct-20	326d
CON.RD.517.005	Pave Bridge - SMA - Block 517 - P3-S1	2d	08-Oct-20	09-Oct-20	218d
Block 518 - EB I-70 Bridge Over Quebec		**105d**	**04-May-20**	**08-Oct-20**	**327d**
CON.RD.518.025	F/P/S Approach Slabs - Block 518 - P2-S1	15d	04-May-20	26-May-20	222d
CON.RD.518.010	Pave Bridge - SMA - Block 518 - P2-S1	2d	27-May-20	28-May-20	103d
CON.RD.518.030	F/P/S Approach Slabs - Block 518 - P3-S1	15d	15-Sep-20	06-Oct-20	327d
CON.RD.518.005	Pave Bridge - SMA - Block 518 - P3-S1	2d	07-Oct-20	08-Oct-20	219d
Block 519 - Quebec St.		**40d**	**05-Sep-19**	**01-Nov-19**	**548d**
CON.RD.519.055	Pavement Subgrade Prep - Block 519 - P4-S1	4d	05-Sep-19	10-Sep-19	495d
CON.RD.519.040	Place Flatwork - Block 519 - P4-S1	16d	11-Sep-19	03-Oct-19	495d
CON.RD.519.030	Place/Compact Base - Block 519 - P4-S1	0d	11-Sep-19	11-Sep-19	495d
CON.RD.519.050	Pave Mainline - HMA - Block 519 - P4-S1	14d	04-Oct-19	24-Oct-19	387d
CON.RD.519.045	Pave Top Lift - HMA - Block 519 - B-P4.S1	1d	25-Oct-19	25-Oct-19	387d
CON.RD.519.035	Roadway Finishes (Sign, Stripe, etc.) - Block 519 - P4-S1	5d	28-Oct-19	01-Nov-19	548d
Block 532 - Stapleton N. Bridge Over DRIR		**18d**	**06-Aug-19**	**30-Aug-19**	**513d**
CON.RD.532.015	F/P/S Approach Slabs - Block 532 - P1-S1	15d	06-Aug-19	27-Aug-19	513d
CON.RD.532.010	Pave Bridge - SMA - Block 532 - P1-S1	3d	28-Aug-19	30-Aug-19	269d
Block 533 - Stapleton S. Bridge Over DRIR		**19d**	**05-May-20**	**02-Jun-20**	**335d**
CON.RD.533.025	F/P/S Approach Slabs - Block 533 - P3-S1	15d	05-May-20	27-May-20	336d
CON.RD.533.020	Pave Bridge - SMA - Block 533 - P3-S1	3d	28-May-20	02-Jun-20	213d
East Area		**307d**	**01-Aug-18**	**18-Nov-19**	**537d**
Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)		**307d**	**01-Aug-18**	**18-Nov-19**	**537d**
Block 602A - WB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		**21d**	**06-Aug-18**	**05-Sep-18**	**637d**
CON.RD.602A.040	Pavement Subgrade Prep - Block 602A - P2-S1	5d	06-Aug-18	10-Aug-18	636d
CON.RD.602A.025	Place/Compact Base - Block 602A - P2-S1	3d	13-Aug-18	16-Aug-18	636d
CON.RD.602A.035	Pave Mainline - HMA - Block 602A - P2-S1	6d	17-Aug-18	24-Aug-18	475d
CON.RD.602A.045	Pave Top Lift - SMA - Block 602A - B-P2.S1	2d	27-Aug-18	28-Aug-18	278d
CON.RD.602A.030	Roadway Finishes (Sign, Stripe, etc.) - Block 602A - P2-S1	5d	29-Aug-18	05-Sep-18	637d
Block 602B - WB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		**187d**	**29-Aug-18**	**19-Jun-19**	**638d**
CON.RD.602B.055	Pavement Subgrade Prep - Block 602B - P2-S1	5d	29-Aug-18	05-Sep-18	620d
CON.RD.602B.030	Place/Compact Base - Block 602B - P2-S1	3d	06-Sep-18	10-Sep-18	620d
CON.RD.602B.045	Pave Mainline - HMA - Block 602B - P2-S1	6d	11-Sep-18	18-Sep-18	459d
CON.RD.602B.060	Pave Top Lift - SMA - Block 602B - B-P2.S1	2d	19-Sep-18	20-Sep-18	262d
CON.RD.602B.035	Roadway Finishes (Sign, Stripe, etc.) - Block 602B - P2-S1	5d	21-Sep-18	27-Sep-18	621d
CON.RD.602B.050	Pave Mainline - HMA - Block 602B - P3-S1	6d	28-May-19	06-Jun-19	458d
CON.RD.602B.065	Pave Top Lift - SMA - Block 602B - B-P3.S1	4d	07-Jun-19	12-Jun-19	322d
CON.RD.602B.040	Roadway Finishes (Sign, Stripe, etc.) - Block 602B - P3-S1	5d	13-Jun-19	19-Jun-19	638d
Block 602C - WB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		**206d**	**01-Aug-18**	**19-Jun-19**	**638d**
CON.RD.602C.050	Pavement Subgrade Prep - Block 602C - P2-S1	5d	01-Aug-18	07-Aug-18	639d
CON.RD.602C.025	Place/Compact Base - Block 602C - P2-S1	3d	08-Aug-18	10-Aug-18	639d
CON.RD.602C.040	Pave Mainline - HMA - Block 602C - P2-S1	6d	13-Aug-18	21-Aug-18	478d
CON.RD.602C.055	Pave Top Lift - SMA - Block 602C - B-P2.S1	2d	22-Aug-18	23-Aug-18	281d
CON.RD.602C.030	Roadway Finishes (Sign, Stripe, etc.) - Block 602C - P2-S1	5d	24-Aug-18	30-Aug-18	640d
CON.RD.602C.045	Pave Mainline - HMA - Block 602C - P3-S1	6d	28-May-19	06-Jun-19	458d
CON.RD.602C.060	Pave Top Lift - SMA - Block 602C - B-P3.S1	4d	07-Jun-19	12-Jun-19	322d
CON.RD.602C.035	Roadway Finishes (Sign, Stripe, etc.) - Block 602C - P3-S1	5d	13-Jun-19	19-Jun-19	638d
Block 602D - WB I-70 - STA 2334+00 to 2353+00		**190d**	**10-Aug-18**	**06-Jun-19**	**647d**
CON.RD.602D.055	Pavement Subgrade Prep - Block 602D - P2-S1	3d	10-Aug-18	15-Aug-18	637d
CON.RD.602D.030	Place/Compact Base - Block 602D - P2-S1	2d	16-Aug-18	17-Aug-18	637d
CON.RD.602D.045	Pave Mainline - HMA - Block 602D - P2-S1	4d	20-Aug-18	23-Aug-18	476d
CON.RD.602D.060	Pave Top Lift - SMA - Block 602D - B-P2.S1	2d	24-Aug-18	27-Aug-18	279d
CON.RD.602D.035	Roadway Finishes (Sign, Stripe, etc.) - Block 602D - P2-S1	5d	28-Aug-18	04-Sep-18	638d
CON.RD.602D.050	Pave Mainline - HMA - Block 602D - P3-S1	3d	22-May-19	24-May-19	466d
CON.RD.602D.065	Pave Top Lift - SMA - Block 602D - B-P3.S1	2d	27-May-19	28-May-19	330d
CON.RD.602D.040	Roadway Finishes (Sign, Stripe, etc.) - Block 602D - P3-S1	5d	29-May-19	06-Jun-19	647d
Block 602F - WB I-70 - STA 2391+00 to Chambers Rd.		**195d**	**16-Aug-18**	**18-Jun-19**	**639d**
CON.RD.602F.050	Pavement Subgrade Prep - Block 602F - P2-S1	3d	16-Aug-18	20-Aug-18	619d
CON.RD.602F.020	Place/Compact Base - Block 602F - P2-S1	2d	21-Aug-18	22-Aug-18	619d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

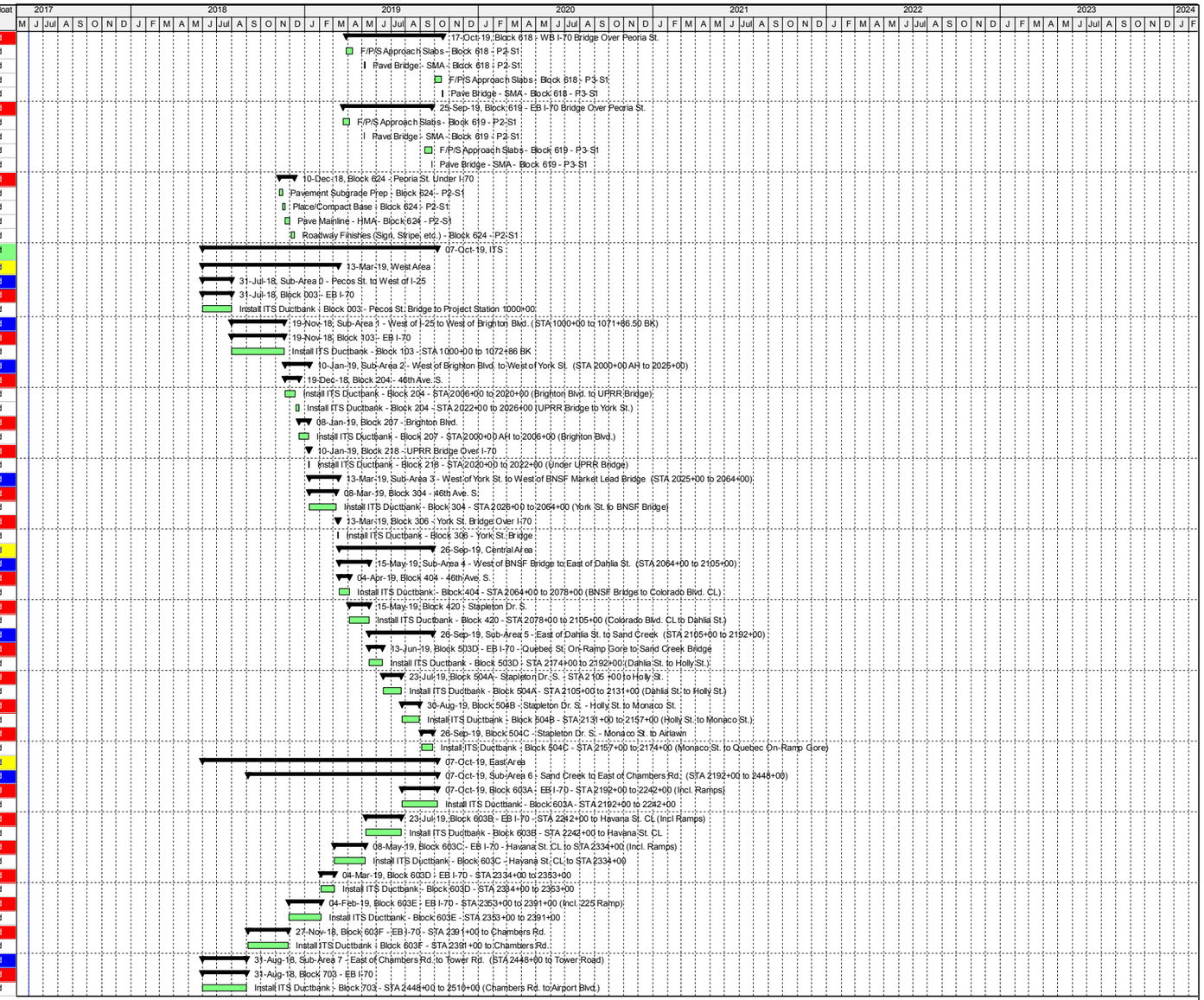
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
CON.RD.602F.040	Pave Mainline - PCCP - Block 602F - P2-S1	22d	23-Aug-18	24-Sep-18	458d
CON.RD.602F.030	Roadway Finishes (Sign, Stripe, etc.) - Block 602F - P2-S1	5d	25-Sep-18	01-Oct-18	619d
CON.RD.602F.055	Pavement Subgrade Prep - Block 602F - P3-S1	2d	17-May-19	20-May-19	586d
CON.RD.602F.025	Place/Compact Base - Block 602F - P3-S1	1d	21-May-19	21-May-19	586d
CON.RD.602F.045	Pave Mainline - PCCP - Block 602F - P3-S1	12d	22-May-19	11-Jun-19	478d
CON.RD.602F.035	Roadway Finishes (Sign, Stripe, etc.) - Block 602F - P3-S1	5d	12-Jun-19	18-Jun-19	639d
Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		**292d**	**23-Aug-18**	**18-Nov-19**	**537d**
CON.RD.603A.075	Pavement Subgrade Prep - Block 603A - P2-S1	5d	23-Aug-18	29-Aug-18	624d
CON.RD.603A.040	Place/Compact Base - Block 603A - P2-S1	3d	30-Aug-18	04-Sep-18	624d
CON.RD.603A.060	Pave Mainline - HMA - Block 603A - P2-S1	6d	05-Sep-18	12-Sep-18	463d
CON.RD.603A.080	Pave Top Lift - SMA - Block 603A - B-P2.S1	2d	13-Sep-18	14-Sep-18	266d
CON.RD.603A.045	Roadway Finishes (Sign, Stripe, etc.) - Block 603A - P2-S1	5d	17-Sep-18	21-Sep-18	625d
CON.STR.603A.110	F/P/S Barrier Rail - Block 603A - P3-S1	13d	22-May-19	12-Jun-19	515d
CON.RD.603A.065	Pave Mainline - HMA - Block 603A - P3-S1	3d	13-Jun-19	17-Jun-19	535d
CON.RD.603A.085	Pave Top Lift - SMA - Block 603A - B-P3.S1	2d	18-Jun-19	19-Jun-19	293d
CON.RD.603A.050	Roadway Finishes (Sign, Stripe, etc.) - Block 603A - P3-S1	5d	20-Jun-19	26-Jun-19	535d
CON.STR.603A.115	F/P/S Barrier Rail - Block 603A - P3-S2	9d	14-Oct-19	25-Oct-19	472d
CON.RD.603A.070	Pave Mainline - HMA - Block 603A - P3-S2	2d	28-Oct-19	29-Oct-19	472d
CON.RD.603A.090	Pave Top Lift - SMA - Block 603A - B-P3.S2	2d	30-Oct-19	31-Oct-19	231d
CON.RD.603A.055	Roadway Finishes (Sign, Stripe, etc.) - Block 603A - P3-S2	12d	01-Nov-19	18-Nov-19	537d
Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		**191d**	**25-Sep-18**	**23-Jul-19**	**616d**
CON.RD.603B.060	Pavement Subgrade Prep - Block 603B - P2-S1	5d	25-Sep-18	01-Oct-18	602d
CON.RD.603B.035	Place/Compact Base - Block 603B - P2-S1	3d	02-Oct-18	04-Oct-18	602d
CON.RD.603B.050	Pave Mainline - HMA - Block 603B - P2-S1	6d	05-Oct-18	12-Oct-18	441d
CON.RD.603B.065	Pave Top Lift - SMA - Block 603B - B-P2.S1	2d	15-Oct-18	16-Oct-18	246d
CON.RD.603B.040	Roadway Finishes (Sign, Stripe, etc.) - Block 603B - P2-S1	5d	17-Oct-18	25-Oct-18	603d
CON.STR.603B.080	F/P/S Barrier Rail - Block 603B - P3-S1	12d	13-Jun-19	28-Jun-19	515d
CON.RD.603B.055	Pave Mainline - HMA - Block 603B - P3-S1	6d	01-Jul-19	10-Jul-19	436d
CON.RD.603B.070	Pave Top Lift - SMA - Block 603B - B-P3.S1	4d	11-Jul-19	16-Jul-19	300d
CON.RD.603B.045	Roadway Finishes (Sign, Stripe, etc.) - Block 603B - P3-S1	5d	17-Jul-19	23-Jul-19	616d
Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		**179d**	**23-Oct-18**	**01-Aug-19**	**610d**
CON.RD.603C.055	Pavement Subgrade Prep - Block 603C - P2-S1	5d	23-Oct-18	29-Oct-18	584d
CON.RD.603C.030	Place/Compact Base - Block 603C - P2-S1	3d	30-Oct-18	01-Nov-18	584d
CON.RD.603C.045	Pave Mainline - HMA - Block 603C - P2-S1	6d	02-Nov-18	09-Nov-18	423d
CON.RD.603C.060	Pave Top Lift - SMA - Block 603C - B-P2.S1	2d	01-May-19	02-May-19	235d
CON.RD.603C.035	Roadway Finishes (Sign, Stripe, etc.) - Block 603C - P2-S1	5d	03-May-19	09-May-19	481d
CON.RD.603C.050	Pave Mainline - HMA - Block 603C - P3-S1	6d	11-Jul-19	18-Jul-19	430d
CON.RD.603C.065	Pave Top Lift - SMA - Block 603C - B-P3.S1	4d	19-Jul-19	25-Jul-19	294d
CON.RD.603C.040	Roadway Finishes (Sign, Stripe, etc.) - Block 603C - P3-S1	5d	26-Jul-19	01-Aug-19	610d
Block 603D - EB I-70 - STA 2334+00 to 2353+00		**182d**	**01-Nov-18**	**16-Aug-19**	**600d**
CON.RD.603D.065	Pavement Subgrade Prep - Block 603D - P2-S1	3d	01-Nov-18	05-Nov-18	582d
CON.RD.603D.040	Place/Compact Base - Block 603D - P2-S1	2d	06-Nov-18	07-Nov-18	582d
CON.RD.603D.055	Pave Mainline - HMA - Block 603D - P2-S1	4d	08-Nov-18	13-Nov-18	421d
CON.RD.603D.070	Pave Top Lift - SMA - Block 603D - B-P2.S1	2d	01-May-19	02-May-19	235d
CON.RD.603D.045	Roadway Finishes (Sign, Stripe, etc.) - Block 603D - P2-S1	5d	03-May-19	09-May-19	481d
CON.STR.603D.085	F/P/S Barrier Rail - Block 603D - P3-S1	9d	19-Jul-19	01-Aug-19	515d
CON.RD.603D.060	Pave Mainline - HMA - Block 603D - P3-S1	3d	02-Aug-19	06-Aug-19	420d
CON.RD.603D.075	Pave Top Lift - SMA - Block 603D - B-P3.S1	2d	07-Aug-19	08-Aug-19	284d
CON.RD.603D.050	Roadway Finishes (Sign, Stripe, etc.) - Block 603D - P3-S1	5d	09-Aug-19	16-Aug-19	600d
Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)		**180d**	**03-Dec-18**	**12-Sep-19**	**582d**
CON.RD.603E.055	Pavement Subgrade Prep - Block 603E - P2-S1	5d	03-Dec-18	10-Dec-18	539d
CON.RD.603E.030	Place/Compact Base - Block 603E - P2-S1	3d	11-Dec-18	13-Dec-18	539d
CON.RD.603E.045	Pave Mainline - PCCP - Block 603E - P2-S1	27d	04-Mar-19	11-Apr-19	386d
CON.RD.603E.035	Roadway Finishes (Sign, Stripe, etc.) - Block 603E - P2-S1	5d	15-Apr-19	22-Apr-19	494d
CON.STR.603E.065	F/P/S Barrier Rail - Block 603E - P3-S1	11d	02-Aug-19	19-Aug-19	515d
CON.RD.603E.050	Pave Mainline - PCCP - Block 603E - P3-S1	12d	20-Aug-19	05-Sep-19	421d
CON.RD.603E.040	Roadway Finishes (Sign, Stripe, etc.) - Block 603E - P3-S1	5d	06-Sep-19	12-Sep-19	582d
Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.		**174d**	**11-Jan-19**	**03-Oct-19**	**568d**
CON.RD.603F.055	Pavement Subgrade Prep - Block 603F - P2-S1	3d	11-Jan-19	15-Jan-19	527d
CON.RD.603F.030	Place/Compact Base - Block 603F - P2-S1	2d	16-Jan-19	17-Jan-19	527d
CON.RD.603F.045	Pave Mainline - PCCP - Block 603F - P2-S1	22d	04-Mar-19	04-Apr-19	391d
CON.RD.603F.035	Roadway Finishes (Sign, Stripe, etc.) - Block 603F - P2-S1	5d	05-Apr-19	11-Apr-19	499d
CON.STR.603F.060	F/P/S Barrier Rail - Block 603F - P3-S1	14d	20-Aug-19	09-Sep-19	515d
CON.RD.603F.050	Pave Mainline - PCCP - Block 603F - P3-S1	12d	10-Sep-19	26-Sep-19	407d
CON.RD.603F.040	Roadway Finishes (Sign, Stripe, etc.) - Block 603F - P3-S1	5d	27-Sep-19	03-Oct-19	568d
Block 605 - I-270 Bridge Over I-70		**51d**	**13-Jun-19**	**28-Aug-19**	**484d**
CON.RD.605.040	F/P/S Approach Slabs - Block 605 - P1-S1	15d	13-Jun-19	03-Jul-19	472d
CON.RD.605.030	Pave Bridge - SMA - Block 605 - P1-S1	2d	20-Aug-19	21-Aug-19	230d
CON.RD.605.025	Roadway Finishes (Sign, Stripe, etc.) - Block 605 - P1-S1	5d	22-Aug-19	28-Aug-19	484d
Block 606 - EB I-270 to Central Park Blvd. Off-Ramp		**254d**	**16-Aug-18**	**16-Sep-19**	**472d**
CON.RD.606.055	Pavement Subgrade Prep - Block 606 - P2-S1	6d	16-Aug-18	22-Aug-18	852d
CON.RD.606.030	Place/Compact Base - Block 606 - P2-S1	3d	23-Aug-18	27-Aug-18	707d
CON.RD.606.050	Pave Mainline - HMA - Block 606 - P2-S1	6d	28-Aug-18	05-Sep-18	546d
CON.RD.606.040	Construct Tie-In at New I-270 Bridge	10d	22-Aug-19	05-Sep-19	364d
CON.RD.606.045	Pave Top Lift - HMA - Block 606 - B-P2.S1	2d	06-Sep-19	09-Sep-19	364d
CON.RD.606.035	Roadway Finishes (Sign, Stripe, etc.) - Block 606 - P2-S1	5d	10-Sep-19	16-Sep-19	472d
Block 617 - Havana St. Under I-70		**21d**	**23-Aug-18**	**21-Sep-18**	**808d**
CON.RD.617.045	Pavement Subgrade Prep - Block 617 - P2-S1	5d	23-Aug-18	29-Aug-18	755d
CON.RD.617.025	Place/Compact Base - Block 617 - P2-S1	3d	30-Aug-18	04-Sep-18	755d
CON.RD.617.040	Pave Mainline - HMA - Block 617 - P2-S1	6d	05-Sep-18	12-Sep-18	594d
CON.RD.617.035	Pave Top Lift - HMA - Block 617 - B-P2.S1	2d	13-Sep-18	14-Sep-18	594d
CON.RD.617.030	Roadway Finishes (Sign, Stripe, etc.) - Block 617 - P2-S1	5d	17-Sep-18	21-Sep-18	808d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Kiewit meridiam PARTNERS

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
Block 618 - WB I-70 Bridge Over Peoria St.		134d	29-Mar-19	17-Oct-19	481d
CON.RD.618.035	F/P/S Approach Slabs - Block 618 - P2-S1	10d	29-Mar-19	11-Apr-19	496d
CON.RD.618.025	Pave Bridge - SMA - Block 618 - P2-S1	2d	06-May-19	07-May-19	238d
CON.RD.618.040	F/P/S Approach Slabs - Block 618 - P3-S1	10d	02-Oct-19	15-Oct-19	481d
CON.RD.618.030	Pave Bridge - SMA - Block 618 - P3-S1	2d	16-Oct-19	17-Oct-19	239d
Block 619 - EB I-70 Bridge Over Peoria St.		122d	22-Mar-19	25-Sep-19	497d
CON.RD.619.035	F/P/S Approach Slabs - Block 619 - P2-S1	10d	22-Mar-19	05-Apr-19	499d
CON.RD.619.025	Pave Bridge - SMA - Block 619 - P2-S1	1d	06-May-19	06-May-19	239d
CON.RD.619.040	F/P/S Approach Slabs - Block 619 - P3-S1	10d	10-Sep-19	24-Sep-19	497d
CON.RD.619.030	Pave Bridge - SMA - Block 619 - P3-S1	1d	25-Sep-19	25-Sep-19	253d
Block 624 - Peoria St. Under I-70		19d	09-Nov-18	10-Dec-18	757d
CON.RD.624.040	Pavement Subgrade Prep - Block 624 - P2-S1	5d	09-Nov-18	15-Nov-18	704d
CON.RD.624.025	Place/Compact Base - Block 624 - P2-S1	3d	16-Nov-18	20-Nov-18	704d
CON.RD.624.035	Pave Mainline - HMA - Block 624 - P2-S1	6d	21-Nov-18	30-Nov-18	543d
CON.RD.624.030	Roadway Finishes (Sign, Stripe, etc.) - Block 624 - P2-S1	5d	03-Dec-18	10-Dec-18	757d
ITS		318d	01-Jun-18	07-Oct-19	454d
West Area		183d	01-Jun-18	13-Mar-19	461d
Sub-Area 0 - Pecos St. to West of I-25		40d	01-Jun-18	31-Jul-18	461d
Block 003 - EB I-70		40d	01-Jun-18	31-Jul-18	461d
CON.ITS.003.005	Install ITS Ductbank - Block 003 - Pecos St. Bridge to Project Station 1000+00	40d	01-Jun-18	31-Jul-18	461d
Sub-Area 1 - West of I-25 to West of Brighton Blvd. (STA 1000+00 to 1071+86.50 BK)		75d	01-Aug-18	19-Nov-18	461d
Block 103 - EB I-70		75d	01-Aug-18	19-Nov-18	461d
CON.ITS.103.005	Install ITS Ductbank - Block 103 - STA 1000+00 to 1072+86 BK	75d	01-Aug-18	19-Nov-18	461d
Sub-Area 2 - West of Brighton Blvd. to West of York St. (STA 2000+00 AH to 2025+00)		27d	20-Nov-18	10-Jan-19	461d
Block 204 - 46th Ave. S.		18d	20-Nov-18	19-Dec-18	461d
CON.ITS.204.055	Install ITS Ductbank - Block 204 - STA 2006+00 to 2020+00 (Brighton Blvd. to UPRR Bridge)	14d	20-Nov-18	12-Dec-18	461d
CON.ITS.204.060	Install ITS Ductbank - Block 204 - STA 2022+00 to 2026+00 (UPRR Bridge to York St.)	4d	13-Dec-18	19-Dec-18	461d
Block 207 - Brighton Blvd.		7d	20-Dec-18	08-Jan-19	461d
CON.ITS.207.040	Install ITS Ductbank - Block 207 - STA 2000+00 AH to 2006+00 (Brighton Blvd.)	7d	20-Dec-18	08-Jan-19	461d
Block 218 - UPRR Bridge Over I-70		2d	09-Jan-19	10-Jan-19	461d
CON.ITS.218.020	Install ITS Ductbank - Block 218 - STA 2020+00 to 2022+00 (Under UPRR Bridge)	2d	09-Jan-19	10-Jan-19	461d
Sub-Area 3 - West of York St. to West of BNSF Market Lead Bridge (STA 2025+00 to 2064+00)		41d	11-Jan-19	13-Mar-19	461d
Block 304 - 46th Ave. S.		38d	11-Jan-19	08-Mar-19	461d
CON.ITS.304.030	Install ITS Ductbank - Block 304 - STA 2026+00 to 2064+00 (York St. to BNSF Bridge)	38d	11-Jan-19	08-Mar-19	461d
Block 306 - York St. Bridge Over I-70		3d	11-Mar-19	13-Mar-19	461d
CON.ITS.306.020	Install ITS Ductbank - Block 306 - York St. Bridge	3d	11-Mar-19	13-Mar-19	461d
Central Area		128d	14-Mar-19	26-Sep-19	461d
Sub-Area 4 - West of BNSF Bridge to East of Dahlia St. (STA 2064+00 to 2105+00)		41d	14-Mar-19	15-May-19	461d
Block 404 - 46th Ave. S.		14d	14-Mar-19	04-Apr-19	461d
CON.ITS.404.025	Install ITS Ductbank - Block 404 - STA 2064+00 to 2078+00 (BNSF Bridge to Colorado Blvd. CL)	14d	14-Mar-19	04-Apr-19	461d
Block 420 - Stapleton Dr. S.		27d	05-Apr-19	15-May-19	461d
CON.ITS.420.025	Install ITS Ductbank - Block 420 - STA 2078+00 to 2105+00 (Colorado Blvd. CL to Dahlia St.)	27d	05-Apr-19	15-May-19	461d
Sub-Area 5 - East of Dahlia St. to Sand Creek (STA 2105+00 to 2192+00)		87d	16-May-19	26-Sep-19	461d
Block 503D - EB I-70 - Quebec St. On-Ramp Gore to Sand Creek Bridge		18d	16-May-19	13-Jun-19	461d
CON.ITS.503D.020	Install ITS Ductbank - Block 503D - STA 2174+00 to 2192+00 (Dahlia St. to Holly St.)	18d	16-May-19	13-Jun-19	461d
Block 504A - Stapleton Dr. S. - STA 2105 +00 to Holly St.		26d	14-Jun-19	23-Jul-19	461d
CON.ITS.504A.035	Install ITS Ductbank - Block 504A - STA 2105+00 to 2131+00 (Dahlia St. to Holly St.)	26d	14-Jun-19	23-Jul-19	461d
Block 504B - Stapleton Dr. S. - Holly St. to Monaco St.		26d	25-Jul-19	30-Aug-19	461d
CON.ITS.504B.025	Install ITS Ductbank - Block 504B - STA 2131+00 to 2157+00 (Holly St. to Monaco St.)	26d	25-Jul-19	30-Aug-19	461d
Block 504C - Stapleton Dr. S. - Monaco St. to Airlawn		17d	03-Sep-19	26-Sep-19	461d
CON.ITS.504C.020	Install ITS Ductbank - Block 504C - STA 2157+00 to 2174+00 (Monaco St. to Quebec On-Ramp Gore)	17d	03-Sep-19	26-Sep-19	461d
East Area		318d	01-Jun-18	07-Oct-19	454d
Sub-Area 6 - Sand Creek to East of Chambers Rd. (STA 2192+00 to 2448+00)		256d	04-Sep-18	07-Oct-19	454d
Block 603A - EB I-70 - STA 2192+00 to 2242+00 (Incl. Ramps)		50d	25-Jul-19	07-Oct-19	454d
CON.ITS.603A.020	Install ITS Ductbank - Block 603A - STA 2192+00 to 2242+00	50d	25-Jul-19	07-Oct-19	454d
Block 603B - EB I-70 - STA 2242+00 to Havana St. CL (Incl Ramps)		49d	09-May-19	23-Jul-19	454d
CON.ITS.603B.020	Install ITS Ductbank - Block 603B - STA 2242+00 to Havana St. CL	49d	09-May-19	23-Jul-19	454d
Block 603C - EB I-70 - Havana St. CL to STA 2334+00 (Incl. Ramps)		43d	05-Mar-19	08-May-19	454d
CON.ITS.603C.020	Install ITS Ductbank - Block 603C - Havana St. CL to STA 2334+00	43d	05-Mar-19	08-May-19	454d
Block 603D - EB I-70 - STA 2334+00 to 2353+00		19d	05-Feb-19	04-Mar-19	454d
CON.ITS.603D.020	Install ITS Ductbank - Block 603D - STA 2334+00 to 2353+00	19d	05-Feb-19	04-Mar-19	454d
Block 603E - EB I-70 - STA 2353+00 to 2391+00 (Incl. 225 Ramp)		38d	28-Nov-18	04-Feb-19	454d
CON.ITS.603E.015	Install ITS Ductbank - Block 603E - STA 2353+00 to 2391+00	38d	28-Nov-18	04-Feb-19	454d
Block 603F - EB I-70 - STA 2391+00 to Chambers Rd.		57d	04-Sep-18	27-Nov-18	454d
CON.ITS.603F.015	Install ITS Ductbank - Block 603F - STA 2391+00 to Chambers Rd.	57d	04-Sep-18	27-Nov-18	454d
Sub-Area 7 - East of Chambers Rd. to Tower Rd. (STA 2448+00 to Tower Road)		62d	01-Jun-18	31-Aug-18	454d
Block 703 - EB I-70		62d	01-Jun-18	31-Aug-18	454d
CON.ITS.703.005	Install ITS Ductbank - Block 703 - STA 2448+00 to 2510+00 (Chambers Rd. to Airport Blvd.)	62d	01-Jun-18	31-Aug-18	454d



Remaining Work
Critical Remaining Work
Remaining Level of Effort
Milestone
Summary

Kiewit meridiam PARTNERS

APPENDIX D

Relates to Part 2, Volume 2

Kiewit meridiam PARTNERS

Draft Stage 1 Quality Management Plan

SUBMITTED TO:

Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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SIGNATURE PAGE: APPENDIX D

PROJECT QUALITY MANAGER DATE

INDEPENDENT QUALITY CONTROL MANAGER DATE

INDEPENDENT DESIGN QUALITY MANAGER DATE

CONSTRUCTION PROCESS CONTROL MANAGER DATE

DESIGN MANAGER DATE

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RECORD OF REVISIONS

Revision number	Date issued	Pages affected	Comments
0	5/18/2017	All	Proposal Draft Submittal

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ATTACHMENTS

- **Attachment 1:** Sample Materials Testing and Inspection Plan (MTIP)
- **Attachment 2:** Controlled/Uncontrolled Documents
- **Attachment 3:** Quality Management ATC Submissions and Responses

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EVALUATION CRITERIA – APPENDIX D: STAGE 1 QMP

KMP has provided a full Evaluation Criteria Matrix to align the requirements of the Quality Management Plan (QMP) per the Project Agreement with the sections of the Quality Management Plan, the Design Quality Management Plan, and the Construction Quality Management Plan (Appendices D and E).

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.1.2	The QMP shall delineate how the Developer will ensure that all disciplines, aspects, and elements of the Work shall comply with the requirements of the Project Agreement.	QMP	2.0	Quality Program	☐
6.1.3	The QMP shall cover temporary and permanent components of the Work	QMP	2.0	Quality Program	☐
6.1.5	**The QMP shall describe the Developer's:**				☐
	• Quality policy	QMP	3.2	KMP Quality Policy	☐
		DQMP	2.1	Quality Policy	☐
		CQMP	3.1	Quality Policy	☐
	• Approach to PC and IQC relative to design, construction, and Work Management	QMP	5.1	Quality Department	☐
	• Quality Improvement	QMP	7.2	Quality Improvement	☐
	• Quality Personnel	QMP	5.2	Responsibility and Authority	☐
	• Training	QMP	7.3	Training	☐
		DQMP	13.0	Training	☐
	The QMP shall list procedures for meeting all requirements of the Project Agreement	QMP	2.0	Quality Program	☐
6.2.1. f	**The following list of procedures (items i through xxi) shall serve as the starting point for defining Developer's quality management system:**				
	i. Procedure for the preparation, control, and distribution of the Quality Management Plan;	QMP	4.0	Quality Management Plan	☐

Sch. 8 Section	Item		Document	Section	Section Name	Check
	ii.	Scope;	QMP	1.3	Overview	☐
	iii.	Key Personnel;	QMP	1.5	Key Personnel and Critical Staff	☐
	iv.	Organizational/technical interfaces;	QMP	4.2	Quality Management Plan Organization	☐
	v.	Design input requirements;	DQMP	6.1	Design Input	☐
	vi.	Design output requirements (deliverables);	DQMP	6.3	Design Phases	☐
	vii.	Design Reviews;	DQMP	6.5	Design Reviews	☐
	viii.	Department participation;	QMP	6.0	Department Communication	☐
	ix.	Levels of responsibility and authority;	QMP	5.2	Responsibility and Authority	☐
	x.	Procedure to control, verify, and validate the design;	DQMP	12.0	Quality Audits	☐
	xi.	Procedure for document issue, approval, and revision;	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
				6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
	xii.	Procedure for the identification of, and where required by Project Agreement, the traceability of, deliverable items such as Release for Construction Documents and As-Builts;	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
				6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
	xiii.	Procedure for the verification and control of computer programs used in design;	DQMP	6.2	Computer Programs	☐
	xiv.	Procedures for inspecting, testing, and calibrating equipment;	CQMP	6.3.7	Inspection, Measurement, and Testing of Equipment	☐
	xv.	Procedures for handling Nonconforming Work;	QMP	9.0	Nonconforming Work	☐

Sch. 8 Section	Item		Document	Section	Section Name	Check
	xvi.	Procedures for environmental compliance;	QMP	7.1.5	Quality Planning for Administrative Processes	☐
	xvii.	Procedures for corrective/preventive actions;	QMP	7.2.6	Corrective Action Plans	☐
				7.2.7	Preventive Action	☐
				9.3.5	Corrective Action Plan	☐
			DQMP	10.0	Corrective and Preventive Action	☐
	xviii.	Procedures for handling, storing, packaging, tracking and submitting Deliverables;	DQMP	Attachment 1	Design Quality Procedures (DQPs)	☐
				Attachment 2	Design Quality Process	☐
	xix.	Training processes;	QMP	7.3	Training	☐
			DQMP	13.0	Training	☐
	xx.	Procedures for internal quality audits; and	QMP	7.2.3	Internal Audit	☐
			DQMP	12.0	Quality Audits	☐
	xxi.	Procedure for management review.	QMP	4.2.2	Quality Management Plan Review	☐
6.2.2.d	The QMP shall include the Developer's executive management's quality policy. The QMP shall delineate the procedure used by the Developer's executive management to implement the Developer's quality policy.		QMP	3.2	KMP Quality Policy	☐
6.2.3.c	**The Developer shall include in the QMP its planning methods to meet the requirements of the Project Agreement. The Developer shall include, at a minimum, the activities below in its quality planning efforts to meet the Project Agreement requirements for the Work:**					☐
	i.	Define and develop quality objectives for the Work;	QMP	3.2	Quality Policy	☐
			DQMP	2.1	Quality Policy	☐
			CQMP	3.1	Quality Policy	☐

Sch. 8 Section	Item		Document	Section	Section Name	Check
	ii.	Identify the necessary processes, resources, and IQC personnel that are needed to assure that Developer obligations meet the requirements of the Project Agreement including, but not limited to, design, construction, Environmental Compliance, Strategic Communications requirements, maintenance of traffic requirements, safety, Disadvantaged Business Enterprise (DBE), Emerging Small Business (ESB), Workforce Development, training, project management processes, and the QMP;	QMP	7.1.5	Quality Planning for Administrative Processes	☐
	iii.	Ensure the compatibility of design, construction, installation, public information, inspection, and testing procedures;	QMP	7.1	Quality Planning	☐
	iv.	Develop and maintain up-to-date procedures for PC, IQC, and quality improvement;	QMP	5.1.1	Independent Quality Control (IQC) Program	☐
			QMP	5.1.2	Process Control (PC) Program	☐
			QMP	7.2	Quality Improvement	☐
	v.	Identify and define all measurable Project Agreement requirements;	QMP	4.0	Quality Management Plan	☐
	vi.	Identify quality hold points for Developer IQC testing and inspection and to allow the Department the opportunity to perform its owner verification responsibilities;	CQMP	6.3.9	Establish and Document Quality Hold Points	☐
	vii.	Identify, define, and implement standards of workmanship for all applicable work features (e.g., concrete finishing);	CQMP	6.3	Field Execution	☐
	viii.	Identify, define, prepare, and maintain quality records and quality plans for all elements of design including, but not limited to, wet and dry utilities, architectural, civil, structural, geotechnical, survey, hydraulic, environmental, traffic, safety, Right-of-Way (ROW), Railroad Work, ITS Work, and temporary Work;	DQMP	11.0	Quality Records	☐
	ix.	Develop a procedure for preparation, control, Approval, and distribution of the QMP;	QMP	4.0	Quality Management Plan	☐

Sch. 8 Section	Item		Document	Section	Section Name	Check
	x.	Develop a procedure for IQC auditing to ensure the Developer, Subcontractors, and Suppliers of material understand and are effectively implementing the QMP;	QMP	5.1.1	Independent Quality Control (IQC) Program	☐
				7.2.3	Internal Audit	☐
	xi.	Develop a procedure for corrective and preventative actions regarding quality compliance and implement the quality improvement plan to address corrective Work;	QMP	7.2.6	Corrective Action Plans	☐
			QMP	7.2.7	Preventive Action	☐
			QMP	9.3.5	Corrective Action Plan	☐
			DQMP	10.0	Corrective and Preventive Action	☐
	xii.	Develop a procedure and ensure the Developer's executive management reviews the QMP at planned intervals to ensure its continued suitability, adequacy and effectiveness. Such reviews should include PC/IQC results, owner verification results, status of corrective/preventive actions, follow-up items from previous management reviews, changes to the QMP, and recommendations for improvement;	QMP	7.2.2	Executive Review of QMP	☐
	xiii.	A systemic process for ensuring quality regardless of production or scheduling needs.	QMP	5.2	Responsibility and Authority	☐
6.2.4.a	The PC program shall be described in the QMP and shall include all procedures necessary for the Developer to control the quality of its production processes to meet the requirements of the Project Agreement.		QMP	5.1.2	Process Control (PC) Program	☐
6.2.5.c	The Developer shall include in the QMP the methods and procedures by which the Work will be Certified by the Developer as complying with the requirements of the Project Agreement.		QMP	11.2	Certification of Compliance	☐
			DQMP	6.3.3.1	Certification of Compliance	☐
			CQMP	6.3.6.1	Certification of Compliance	☐
6.2.6.a	The Developer shall establish, document, and implement a program for quality improvement. The Developer shall include in the QMP the methods for identifying, analyzing, evaluating, and implementing solutions to continuously improve quality. The QMP shall establish and maintain specific procedures to ensure a successful Quality Improvement Program.		QMP	7.2	Quality Improvement	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.3.1	The QMP shall state the Developer's commitment to quality and provide a clear definition of the scope of activities and detail the methods to ensure the Work meets the requirements of the Project Agreement. The QMP shall list all deliverables to the Department, as required by the Project Agreement and this Section.	QMP	11.1	Deliverables to the Department	☐
6.3.2.a	The Developer shall include in the QMP an organizational chart that illustrates a commitment to an effective quality program to ensure all Work meets the requirements of the Project Agreement. The QMP shall describe the hierarchy of the Developer's organization. The QMP shall graphically depict the principal quality participants, showing lines of responsibility, authority, communication, and interfaces with the Department; other involved agencies; and any other team members having a significant quality role, including subconsultants, Subcontractors, and Suppliers. The PQM, IDQM, DPCM, CPCM (and PC staff) and IQCM (and IQC staff) shall be shown on the organization chart to report to the Developer's executive management and be independent of the Developer's Project Manager. The Developer shall update the organization charts and distribute those charts to the Department when any changes to the organization are made.	QMP	3.1	Project Quality Management Team	☐
			5.2	Responsibility and Authority	☐
6.3.2.b	The QMP shall describe the roles and responsibilities of the PQM, IDQM, DPCM, CPCM, IQCM, PC and IQC staff, and other key personnel; and shall describe their authority to implement quality improvements for the Work.	QMP	5.2	Responsibility and Authority	☐
6.4.1.a	The Developer shall establish, document, and implement an IQC program. The Developer shall include in the QMP the methods and procedures by which the Work shall be certified by the Developer as complying with the requirements of the Project Agreement.	QMP	5.1.1	Independent Quality Control (IQC) Program	☐
6.4.1.b	The QMP shall establish procedures for procuring services. The procedures shall include a review and approval process by the Developer for adequacy of specified technical requirements and the adherence to quality requirements.	QMP	7.1.2	Selecting Subcontractors, Subconsultants, and Permanent Material Suppliers	☐
6.4.1.c	The QMP shall describe the measures to be taken to ensure that Subcontractors, Suppliers and subconsultants meet, implement, document, and maintain the QMP requirements.	QMP	7.1.2	Selecting Subcontractors, Subconsultants, and Permanent Material Suppliers	☐

EVALUATION CRITERIA – APPENDIX D: STAGE 1 QMP

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.4.2.a	The QMP shall include procedures that address all elements of design including, but not limited to, wet and dry utilities, architectural, civil, structural, geotechnical, survey, hydraulic, landscaping, aesthetics, environmental, traffic, safety, ROW, and temporary Work. The Developer shall identify in the QMP all applicable computer programs to develop and check designs.	DQMP	2.3	Design Quality Management Plan	☐
			6.2	Computer Programs	☐
6.4.2.b	The QMP shall describe how the design team plans and schedules the design efforts, including task force meetings, design reviews, constructability reviews, design meetings, independent design checks, and discuss how these activities are accounted for in the overall Project Schedule.	DQMP	4.0	Project Quality Communication/Interfaces	☐
6.4.2.c	The Developer shall identify in the QMP design input requirements. The Developer shall perform ongoing audits of the design input requirements. The Developer shall maintain an accessible, centrally controlled design manual, database, or list that contains all relevant design inputs to be used by design personnel for the Work. The Developer shall provide a process in the QMP to ensure that the design inputs are communicated to, and accessible by, the relevant designers responsible for incorporating design inputs into the design. The Developer shall include in the QMP how changes to design inputs are identified, reviewed, and approved by authorized personnel prior to their implementation. The QMP shall also include:	DQMP	6.1	Design Input	☐
	• Procedures to control and independently ensure that the design meets the requirements of the Project Agreement, including provisions for subconsultant's designs and configuration management activities;	DQMP	6.3.3.1	Certification of Compliance	☐
	• Procedures to identify and track design document deliverables;	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
			6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
	• Procedures for Developer approval, tracking and recording revisions to Release for Construction (RFC) Documents. The Developer shall have a formal procedure for comment resolution included in the QMP;	DQMP	6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
			4.4.2	Department Comment Resolution Meetings	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
	• Procedures for Developer approval of RFC Documents; and	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
	• Procedures for approval of supplier-provided design drawings (e.g., shop drawings), including opportunity for the Department to perform audits.	DQMP	7.0	Supplier Provided Drawings	☐
6.4.2.d	The Developer shall include in the QMP a process for a licensed engineer in responsible charge for the design to prepare, review, and approve all changes, including field design changes, RFC Documents, and As-Built documents. The Developer shall maintain a master list of approved design changes. The QMP shall include a process to communicate design changes to those completing the Work on a timely basis consistent with the progress of construction activities.	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
			6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
			6.6.9	As-Built Documents	☐
	Environmental review: The Developer shall include in the QMP a process for Environmental review prior to submission of final (100% level) plan packages showing how the Developer's design meets the Environmental Requirements, including the Developer's obligations under Schedule 17 Environmental Requirements.	DQMP	6.5	Design Reviews	☐
6.4.3.a	The QMP shall extend to both permanent and temporary Work (erosion control, traffic control, drainage, etc.).	QMP	2.0	Quality Program	☐
6.4.3.b	**Certification:** The Developer shall include in the QMP a process to submit certificates to the Department at the following times that the Work performed meets the requirements of the Project Agreement (such certificates to be in the form set out in Appendix B to this Schedule 8, amended as appropriate in the case of certificates required to be submitted pursuant to Section 6.4.3.b.i.D)	QMP	11.2	Certification of Compliance	☐
	Inspection: The Developer shall include in the QMP, and submit to the Department for Approval, an MTIP that shall include detailed inspection procedures to be used in cases where inspections are to serve as the basis for verifying compliance with the requirements of the Project Agreement.	CQMP	6.3.6.2	Inspection	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.4.3.b.iv	**Certificate of Compliance, Certified Test Report and Buy America documentation:**				☐
	The Developer shall include in the QMP a method of handling and documenting work/products accepted in the Work by Certificate of Compliance (COC) or Certified Test Report (CTR).	CQMP	6.3.6.4	Certificate of Compliance and Certificated Test Reports	☐
	The Developer shall include in the QMP a method for documenting and tracking, on a basis consistent with Developer's Progress Reporting, compliance with Buy America Requirements of 23 CFR 635.410, and at a minimum shall address the following obligations of the Developer:	CQMP	6.3.6.5	Buy America Documentation	☐
6.4.3.b.vi	**Environmental Compliance in Construction:** The Developer shall include in the QMP a Section detailing the IQC activities that will be performed to ensure compliance during construction of all environmental requirements. IQC staff oversight of all Schedule 17 Environmental Requirements elements that apply to construction is required. These elements include but are not limited to: construction air quality, construction noise, noxious weed management, landscape planting and establishment, water quality, protection of wetlands and other sensitive areas, hazardous materials and environmental hardscape elements such as noise walls.	CQMP	6.3.6.7	Environmental Compliance	☐
6.4.4.a	The Developer shall prepare and implement a MTIP as part of the QMP that includes the appropriate criteria, tests, and inspection requirements identified in CDOT's *Standard Specifications*, *Field Materials Manual, CDOT Staff Bridge Fabrication Inspection Manual*; Developer-prepared inspection checklists; and requirements as set forth herein.	CQMP	6.2.2	Prepare Materials Testing and Inspection Plan	☐
		QMP	Attachment 1	Sample Materials Testing and Inspection Plan	☐
6.5.1	The QMP shall include procedures to develop and maintain a system to identify, control, remedy and report Nonconforming Work, including Nonconforming Work identified through the issuance of a NCN by the Department. The Developer shall remedy Nonconforming Work in accordance with the Approved QMP. The responsibility for review and authority for the disposition of Nonconforming Work shall be defined in the QMP. The Developer shall document the identification of Nonconforming Work by completing and submitting a NCR to the Department as soon as reasonably practicable, and in any event within 24 hours, after the Developer first becomes aware of the Nonconforming Work.	QMP	9.0	Nonconforming Work	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.5.5	The QMP shall include procedures for controlling the use of Nonconforming Work including the tagging of Nonconforming Work products.	QMP	9.2	Isolation of Nonconforming Work	☐
6.5.8	The QMP shall describe corrective and preventative action ("Corrective Action") procedures that the Developer shall use to identify and improve processes and remedy issues that produce, or may produce, systemic Nonconforming Work.	QMP	9.3.4	Root Cause Analysis	☐
			9.3.5	Corrective Action Plan	☐

1. Project Summary

1.1 KIEWIT-MERIDIAM PARTNERS CORE VALUES

Kiewit-Meridiam Partners (KMP) is committed to delivering the Central 70 Project (Project) with a focus on client relations, achieving the Project goals, and maintaining transparency with the Department. To achieve these objectives, the KMP Team has adopted the following core values:

1.2 PLAN MANAGEMENT

This Project summary is presented at the start of each Appendix to serve as a quick reference to our core values, the Project overview, our Team's composition, and our Key Personnel and Critical Staff. We developed each Appendix to demonstrate our understanding of the Project requirements and facilitate timely Approval by the Department after award.

This document describes KMP's approach for the Work. KMP will resubmit this Plan, including an updated Project summary, to the Department as required per the Project Agreement.

All Project plans, including this document, are stored electronically per KMP's Document Control System (DCS) Plan. Revisions to these documents may be required as the Project progresses, and annual updates are completed in accordance with Section 4.2 of the Project Management Plan (PMP). The latest revision of all Management Plans will be stored per KMP's DCS and submitted to the Department through Aconex.

1.3 OVERVIEW

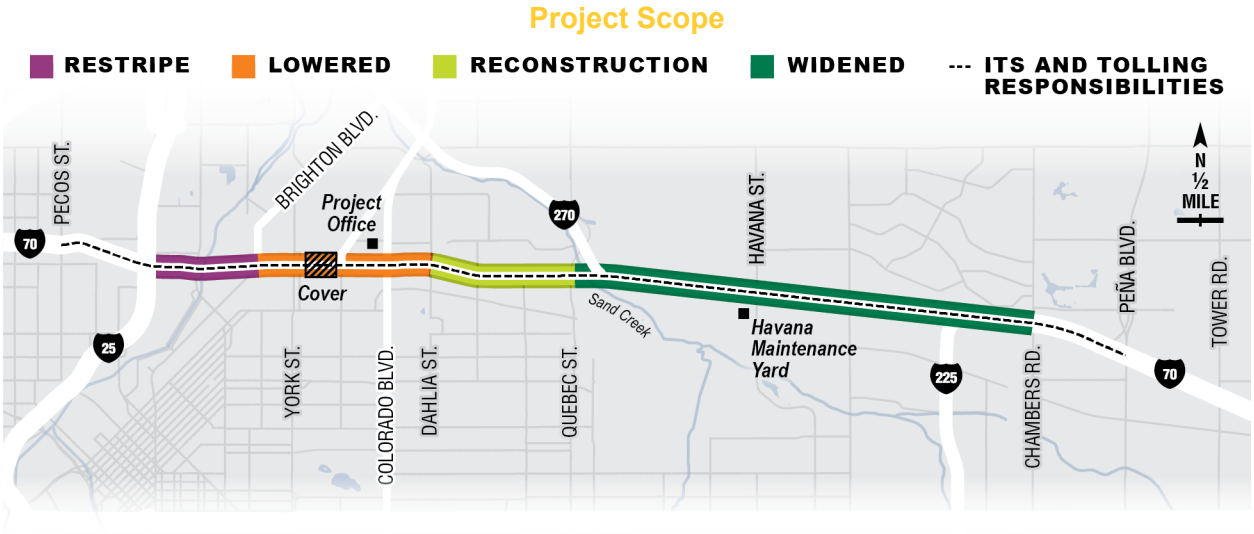
The Project is a Public-Private Partnership to design, build, finance, operate, and maintain planned improvements to the I-70 corridor between I-25 and Tower Road.

The Project's scope is broken down into the following timeframes:

Project Time Frames

Time Frame	Period	Description	Estimated Duration
Notice of Award to NTP1	Submittals	Plan development, submittals, and mobilization of Quality Management staff	3 months
NTP1 to NTP2	Construction	Financial Close and Design	6 months
NTP2 to Substantial Completion	Construction	Construction and O&M During Construction (other than snow and ice control services)	45 months
Pre-Substantial Completion to Substantial Completion	Transition	Transition from Construction to Operating Period, and O&M submittals	8 months
Substantial Completion to Final Acceptance	Operating	Final submissions and inspections	4 months
Substantial Completion to Expiry Date	Operating	Operations and Maintenance (including Renewal Work)	30 years
NTP3 to Term	Construction, Operating	KMP snow and ice control services	33-34 years
62-68 months prior to Expiry Date	Operating	Handback Inspections, Handback Work, and Department training to facilitate seamless handover at Expiry Date	62-68 months

Improvements made by KMP during the Construction Period, highlighted in the figure, are described below.



1.3.1 RESTRIPE: I-25 TO BRIGHTON BOULEVARD

Restriping I-70 from I-25 to Brighton Boulevard to accommodate one managed lane in each direction, including:

- Design and Construction for improvements to associated drainage infrastructure

1.3.2 LOWERED: BRIGHTON BOULEVARD TO DAHLIA STREET

Full reconstruction of I-70 between Brighton Boulevard and Dahlia Street, including:

- Removing the viaduct between Brighton Boulevard and Colorado Boulevard, and reconstructing the Interstate below grade to accommodate the Ultimate Project roadway configuration and associated elements
- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the Interstate structures over Brighton Boulevard
- Constructing the Cover and associated elements over the Interstate between Columbine Street and Clayton Street
- Constructing cross-street structures at York Street, Josephine Street, Columbine Street, Clayton Street, Fillmore Street, Steele Street/Vasquez Boulevard, Cook Street, Monroe Street, and Colorado Boulevard
- Constructing I-70 Mainline structures at Dahlia Street
- Removing one Railroad structure, and Constructing two Railroad structures at Union Pacific Railroad (UPRR) and BNSF Railway (BNSF)

1.3.3 RECONSTRUCTION: DAHLIA STREET TO SAND CREEK

Full reconstruction of I-70 Mainline between Dahlia Street and Sand Creek, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing Interstate structures over Holly Street, Monaco Street, Denver Rock Island Railroad, and Quebec Street

1.3.4 WIDENED: SAND CREEK TO CHAMBERS ROAD

Widening I-70 from Sand Creek to Chambers Road with associated elements, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the I-270 flyover structure to I-70 eastbound
- Removing and replacing Interstate structures over Peoria Street

1.3.5 INTELLIGENT TRANSPORTATION SYSTEMS (ITS) AND TOLLING RESPONSIBILITIES

Additional ITS and tolling responsibilities, including:

- Closed circuit television (CCTV) camera coverage for I-70 corridor, including interchanges between Pecos Street and Airport Boulevard
- Microwave vehicle radar detection between Pecos Street and Tower Road
- Travel time indicators between Pecos Street and Tower Road
- Lane use signals between Pecos Street and Chambers Road
- Dedicated short range communications radios between Pecos Street and Tower Road

1.3.6 OPERATIONS AND MAINTENANCE (O&M) WORK DURING CONSTRUCTION

Operations and maintenance of existing infrastructure within the O&M Limits During Construction as defined by the Project Agreement, including:

- I-70 Mainline and associated infrastructure
- Local Agency infrastructure
- Drainage
- Water quality
- ITS and electronic toll collection facilities
- Utility services
- Traffic signals and lighting
- Railway structures
- Fencing
- Snow and ice control services (following NTP3)

1.3.7 OPERATIONS AND MAINTENANCE WORK DURING THE OPERATING PERIOD

Operations and maintenance of I-70 within the limits defined by Schedule 11 of the Project Agreement for the Operating Period (dashed line in figure above), including:

- Providing resources to safely maintain the roadway throughout the Term

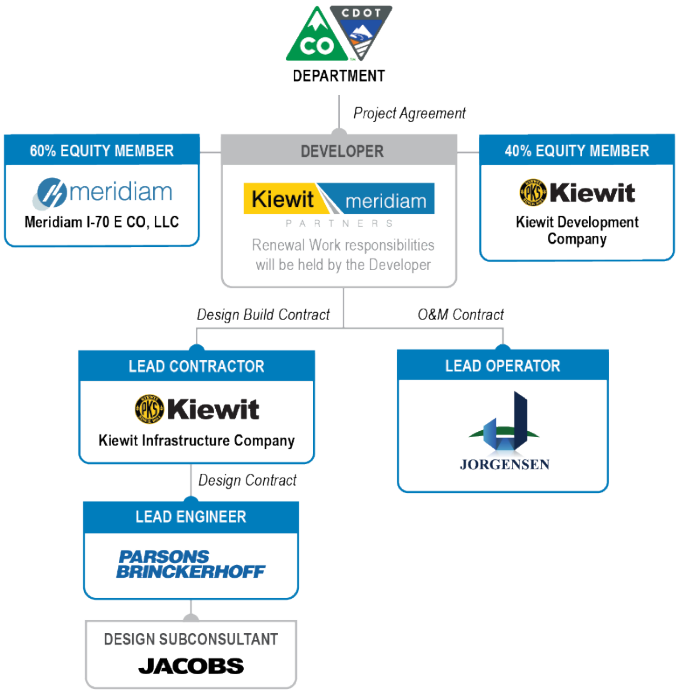
- Asset preservation including repair and Renewal
- Snow and ice control services
- Courtesy patrols
- Incident response
- Meet Handback requirements

1.4 KIEWIT-MERIDIAM PARTNERS COMPOSITION

KMP organized a streamlined Team to successfully deliver the Central 70 Project. The Core Proposer Team Members of Meridiam, Kiewit, Parsons Brinckerhoff, and Jorgenson are united by a commitment to Project success under a common project management system. KMP's lean approach has been cultivated from a history of working together, and by our shared cultures of safety, quality, environmental stewardship, and community service. The KMP Team needs no learning curve to start working together, and is positioned to execute on our joint Project delivery commitments from day one.

KMP's equity members—Meridiam and Kiewit Development Company—formed KMP for the sole purpose of developing this Project. KMP's Core Proposer Team Members, shown below, include Kiewit Infrastructure Company (KIC) as the Lead Contractor, Roy Jorgensen Associates (Jorgensen) as Lead Operator, and Parsons Brinckerhoff (PB) as Lead Engineer. Our Team is supported by the expertise of subconsultants and subcontractors who possess additional local knowledge and experience, including Jacobs as PB's main Design subconsultant. KMP is committed to identifying opportunities to maximize the involvement of small and disadvantaged businesses. Throughout the Project, KMP will remain the single point of responsibility for meeting all Project Agreement requirements.

KMP will co-locate with the Department in both the Project Office and the Colorado Transportation Management Center (CTMC) to foster a collaborative approach that ensures we meet the Department's Project goals throughout the Project.



1.5 KEY PERSONNEL AND CRITICAL STAFF

The table below shows KMP's Key Personnel who will be overseeing the Project. KMP has also identified positions, and individuals, as Critical Staff who will be instrumental in the successful delivery of the Project.

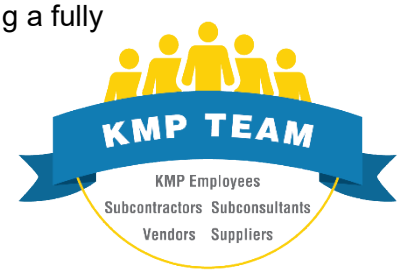
Key Personnel and Critical Staff

Staff Type	Title	Name	Employed by	Seconded to
KEY PERSONNEL	**Project Manager**	Chris Hodgkins	Meridiam	KMP
	Design-Build Manager	Tom Howell	KIC	
	Construction Manager	Barry Thoendel	KIC	
	Design Manager	Doug Andrew, PE	PB	
	O&M Manager	Abraham Henningsgaard, PE	Jorgensen	
	Project Quality Manager	Gordon Peterson, PE	KIC	KMP
	Independent Design Quality Manager	James Rozek, PE	PB*	
	Construction Process Control Manager	Sean McAfee	KIC	
	Independent Quality Control Manager	Tracy Martin, PE	KIC*	
	Environmental Manager	Jenn Bradtmueller, PE	KIC	KMP
	Utilities Manager	Kevin Custy	Jacobs	KIC
	Project Communications Manager	Hunter Sydnor	KIC	KMP
CRITICAL STAFF	**Technical Manager**	Martin Currie	KDC	KMP
	Financial Manager	Christopher Couallier	Meridiam	KMP
	Safety Manager	Ben Snow	KIC	KMP
	Construction Safety Manager	Kenyon Manley	KIC	
	Civil Rights Program Manager	Matt Christensen	KIC	
	DBE/ESB Program Manager and Outreach Training Manager	Colean Bembry	KIC	
	Lead Scheduler	Mauricio Solano	KIC	
	Design Integration Manager	Tim Nelson	KIC	
	Deputy Design Manager	Mark Talvite, PE	Jacobs	
	Cover Design Manager	Heath Therrien, PE	PB	
	Commercial Manager	Jamie Harvey, PE	KIC	

**Per Approved ATC 9.1 (see Attachment to the Quality Management Plan), KMP shall use in-house personnel in lieu of employees from an Independent Quality Control Firm*

2. Quality Program

KMP's quality management approach emphasizes full compliance with the quality requirements of the Project Agreement to address the specific challenges and opportunities throughout the design, construction, and operational phases of the Project. With International Organization for Standardization (ISO) certified firms as the Lead Engineer and Lead Contractor, our Team is excited, energetic, and enthusiastic about our quality management system, aware that careful implementation at each phase contributes to the larger goal of delivering a fully compliant Project.



Protecting the interests of the Department is integral to any quality model. To achieve this, KMP has submitted and the Department has approved ATC 9 (Attachment 3). Under this agreement, KMP's Independent Quality Control (IQC) group will be completely independent of Construction and Design operations.

This Quality Management Plan (QMP) has been prepared specifically for the Central 70 Project. The QMP is a living document and will be revised, as necessary, to clarify current information, add new information, or improve procedures. Revisions will be made according to the procedures specified in the QMP.

The entire KMP Team, which includes all parties contracted with KMP or its subcontractors, are required to follow the QMP as related to the Work. KMP is committed to instilling an emphasis on quality at all Project levels, integrating quality into all Work performed by KMP and its subcontractors, and into all tiers for both permanent and temporary Construction.

This QMP describes KMP's quality management approach, and focuses on what is required to achieve quality in the context of Project requirements and ISO international standards for quality systems. The QMP provides for implementing and maintaining KMP's plan to manage, control, document, and assure all obligations under the Project Agreement are met, and has been designed to be compliant with all Project Agreement quality requirements. KMP's QMP is also compliant with the International Organization for Standardization (ISO) 9001:2015 international standard for quality management systems, and, once implemented, KMP will pursue ISO certification of the QMP.

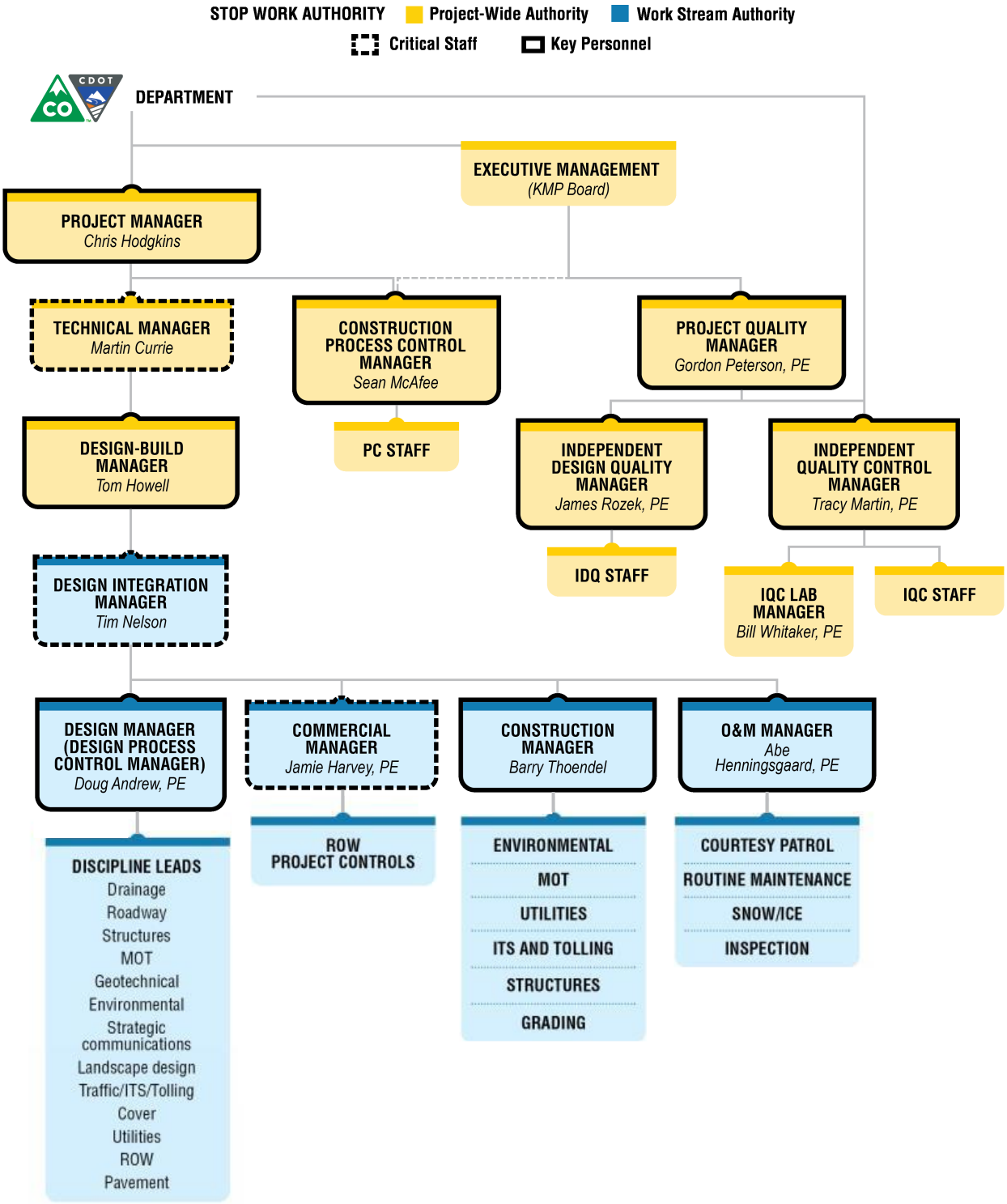
KMP's QMP incorporates ATC 9 which received unconditional approval for KMP to self-perform the Independent Quality Control (IQC) activities in lieu of utilizing an Independent Quality Control Firm. KMP Team Members have successfully managed and delivered quality on prior projects using self-performed IQC.

3. Management Commitment

3.1 PROJECT QUALITY MANAGEMENT TEAM

KMP's Management Team is committed to providing quality service in accordance with the Project Agreement and this QMP. Quality personnel during the Construction Period are identified in the Quality Organizational Chart below, along with supporting staff. Details regarding quality personnel are provided in later sections of this QMP.

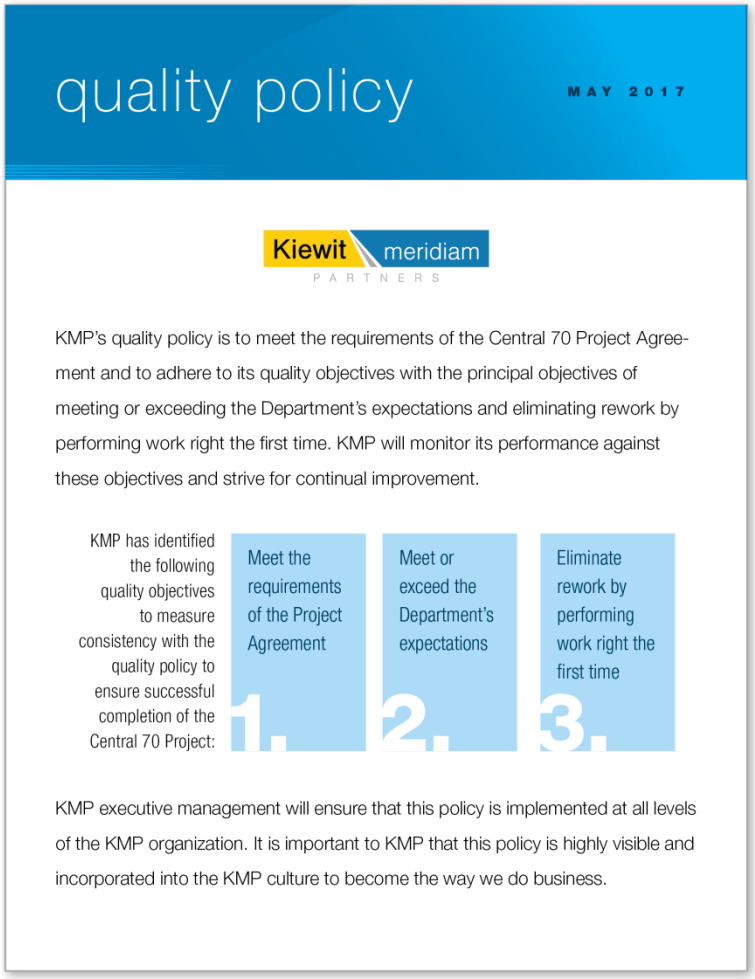
Construction Period Quality Organizational Chart



3.2 KMP QUALITY POLICY

KMP's Quality Policy is to meet or exceed the Project Agreement requirements, with the principal objectives of meeting or exceeding the Department's expectations, and eliminating rework by performing work *Right First Time*. KMP monitors its performance against these objectives and strives for continual improvement throughout the Project.

KMP Executive Management will ensure that this policy is implemented at all levels of the KMP organization. The Quality Policy (figure below) will be published and posted throughout the Project, both in the Project Office and throughout the Site. It is important to KMP that this policy is highly visible and thoroughly incorporated into the KMP culture as the way we do business.



quality policy

MAY 2017

Kiewit meridiam PARTNERS

KMP's quality policy is to meet the requirements of the Central 70 Project Agreement and to adhere to its quality objectives with the principal objectives of meeting or exceeding the Department's expectations and eliminating rework by performing work right the first time. KMP will monitor its performance against these objectives and strive for continual improvement.

KMP has identified the following quality objectives to measure consistency with the quality policy to ensure successful completion of the Central 70 Project:

1. Meet the requirements of the Project Agreement
2. Meet or exceed the Department's expectations
3. Eliminate rework by performing work right the first time

KMP executive management will ensure that this policy is implemented at all levels of the KMP organization. It is important to KMP that this policy is highly visible and incorporated into the KMP culture to become the way we do business.

All KMP Team members will abide by the KMP Quality Policy and QMP. The KMP Quality Policy will be reviewed by the entire KMP Team, including KMP employees, subconsultants, subcontractors, and suppliers, during their training as part of the QMP review. In addition, the QMP and Quality Policy are part of all contracts executed for the Project.

3.3 DEPARTMENT FOCUS

It is KMP's responsibility to communicate to the Project Team the importance of meeting the requirements of the Project Agreement and of the Department. KMP Executive Management will hold a Quality Summit with the Department within 30 days of Award to ensure that KMP's and the Department's Quality Policy and objectives align, and to clearly address any Department concerns. KMP Executive Management will establish a *Project First* environment that promotes transparency and a common focus on the Department's satisfaction with the overall Project.

A Quality Kick-Off Meeting will be held following the Approval of both the Stage 1 and Stage 2 QMP submittals to discuss the QMP, clarify requirements, establish clear lines of communication and counterparts, identify the Department's expectations, and review quality plans and procedures. Other approaches to our Department-centered approach include:

- Starting the Project with a strong quality organization
- Performing internal quality assessments and Department interviews at intervals that will ensure compliance with the QMP
- Holding regularly-scheduled meetings with the Department to review and resolve quality-related issues and mitigate risks throughout the project, providing a forum for KMP Executive Management to demonstrate its commitment to and involvement in quality
- Involving the Department in pre-activity meetings, progress meetings, weekly and quarterly quality meetings, weekly quality tours, client engagement surveys, and quality recognition events
- Holding periodic partnering meetings to develop the best client relationship possible

KMP will provide accommodation and consideration for Department personnel and programs throughout the Term of the Project.

4. Quality Management Plan

4.1 GENERAL

KMP will establish, document, implement, and maintain a Quality Management Plan and continually improve its effectiveness in accordance with the Project Agreement and the requirements of ISO 9001:2015 by:

- Determining the approach to Process Control (PC) and Independent Quality Control (IQC) relative to:
    - Design (See DQMP)
    - Construction (See CQMP)
    - Work Management (see Section 7.1 of this QMP)
    - Quality Improvement (see Section 7.2 of this QMP)
    - Quality Personnel (see Section 5.1 of this QMP)
    - Training (see Section 7.3 of this QMP)
- Defining the processes needed for the QMP, and their application throughout the organization
- Ensuring the availability of resources and information necessary to support the operation and monitoring of these processes
- Monitoring, measuring (where applicable), and analyzing these processes
- Risk analysis related to internal (people and processes) and external influences
- Implementing actions necessary to achieve planned results and continual improvement of these processes

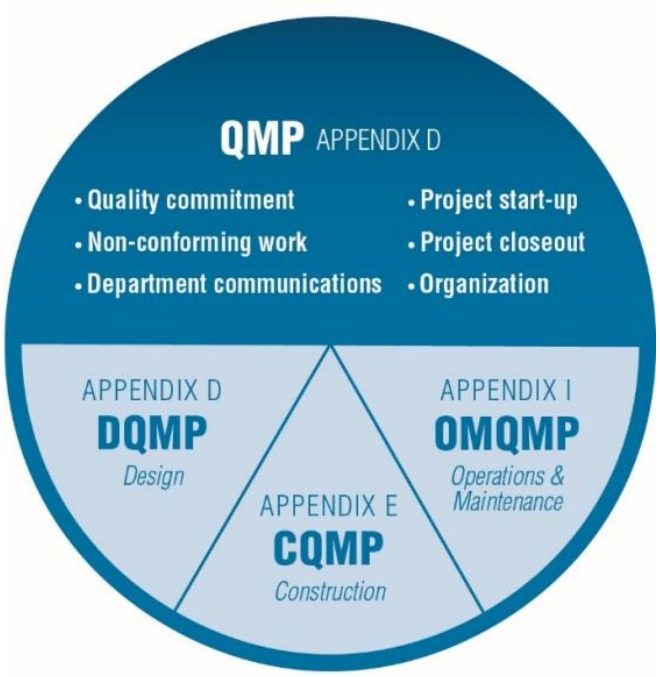
4.2 QUALITY MANAGEMENT PLAN ORGANIZATION

The QMP serves to document KMP's quality policy, processes, and procedures. The QMP will be submitted to the Department for Approval in two stages:

- **Stage 1** QMP for non-Construction-related Work, submitted prior to issuance of Notice to Proceed 1 (NTP1)
- **Stage 2** QMP for all Construction-related Work, submitted prior to issuance of Notice to Proceed 2 (NTP2)

The Stage 1 and Stage 2 submittals include the QMP, Design Quality Management Plan (DQMP), and Construction Quality Management Plan (CQMP), which, along with the Operations and Maintenance Quality Management Plan (OMQMP), combine to make up KMP's Quality Management Plan, as indicated in the figure below. This QMP is the overarching Plan for all QMP documents and will be followed for all Work throughout the full Term of the Project.

KMP Quality Management Plan



The QMP describes the processes and procedures that are needed to meet the Project Agreement requirements and the ISO 9001:2015 standard for quality management systems. This manual includes what is required to achieve quality, who is responsible, and describes how to fulfill the requirements to achieve quality. The QMP, DQMP, CQMP, and OMQMP work together to specify how KMP will fulfill the quality requirements of the Quality Management Plan and the Project Agreement. Additional information regarding the QMP documents is provided below.

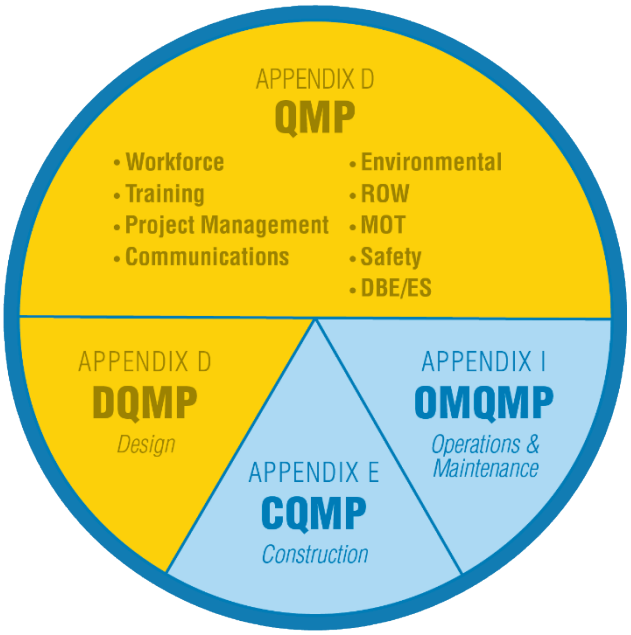
4.2.1 QUALITY MANAGEMENT PLAN SUBMITTALS

The Project Quality Manager is responsible for the preparation, control, submittal, and distribution of the QMP.

4.2.1.1 STAGE 1 (QMP and DQMP)

The Stage 1 submittal (Appendix D) includes both the QMP and DQMP. The QMP is KMP's overarching Quality Management Plan that covers all Work on the Project, including, but not limited to, quality processes for Design, Construction, project administration (per Schedule 8 of the Project Agreement), Strategic Communications (per Schedule 14), DBE/ESB (per Schedule 15), Workforce Development (per Schedule 15), Environmental Compliance (per Schedule 17), and Right-of-Way (per Schedule 18).

Stage 1 Quality Management Plan



The DQMP is the quality plan to be followed by KMP's Lead Designer (PB and subconsultants) for all Design-related activities. The DQMP is implemented in accordance with the Project's QMP, and ensures that Design activities will be carried out in accordance with the Project Agreement and ISO requirements.

4.2.1.2 STAGE 2 (CQMP)

The Stage 2 submittal (Appendix E) is composed solely of the CQMP. This plan will be followed for all Construction-related Work performed by Kiewit and subcontractors, including safety and Maintenance of Traffic (MOT). The CQMP complies with all items within the Project's QMP and assures compliance with the Project Agreement and ISO requirements.

4.2.2 QUALITY MANAGEMENT PLAN REVIEW

Once the QMP is complete, it is reviewed and approved by the Project Quality Manager (PQM), Independent Quality Control Manager (IQCM), Independent Design Quality Manager (IDQM), Construction Process Control Manager (CPCM), and Design Manager prior to submittal to the Department. Once approved, all employees on the Project receive training on the QMP as part of their new employee training. Specific trainings are conducted as needed and are outlined in Section 7.3. KMP will conduct a Quality Kick-Off Meeting and a QMP review with the Project Team, including the Department, following Approval of both the Stage 1 and 2 QMP submittals.

4.2.3 QUALITY MANAGEMENT PLAN REVISION

Our PQM, Gordon Peterson, is the primary point of contact to the Department for all issues relating to KMP's QMP, including updates. Gordon will review updates, revisions, and addenda to the QMP before submittal to the Department for Approval, and prior to implementation. KMP updates the QMP when:

- The QMP contains systemic or fundamental breaches of the Project Agreement
- The QMP reflects deficiencies in inspecting or testing the Work, including breaches or deficiencies that have caused, or may cause, Nonconforming Work
- The Department advises KMP of a problem
- The QMP no longer adequately addresses relevant issues
- The QMP or a procedure within the QMP does not conform with the Project Agreement
- An audit by KMP or the Department identifies a deficiency in the QMP
- Organizational changes require KMP to revise the QMP
- KMP undertakes activities not covered in the current QMP
- The Department requests that KMP update the QMP

5. KMP Quality Organization

5.1 QUALITY DEPARTMENT

5.1.1 INDEPENDENT QUALITY CONTROL (IQC) PROGRAM

The IQC program is separate from the PC program; IQC personnel do not participate in any PC activities and are independent of the PC personnel. IQC managers and IQC staff have no responsibilities in the management and production of the Construction Work or in the development of the Design. IQC personnel are responsible for administering and managing the IQC inspection, sampling, and testing. IQC testing/auditing includes the observations, measurements, and documentation specified in the CDOT *Field Materials Manual* and the *Frequency Guide Schedule* for minimum materials sampling, testing, and inspection for all quality acceptance tests required. IQC staff document the results and show if the test passed or failed based on the "pass/fail criteria" established in the Project Agreement. KMP's IQC process includes all test results in the test documentation, including any failing results.

IQC inspections are performed through all phases of the Work from NTP1 through Final Acceptance to ensure that all Work meets the Project Agreement requirements.

5.1.2 PROCESS CONTROL (PC) PROGRAM

PC's main function is to control the processes, including Construction and Design, to ensure products conform with the Project Agreement requirements. The CPCM is responsible for working with the Construction Team to ensure that Work plans and Pre-Activity Meetings are occurring, the crews understand the Project Agreement requirements, and Project personnel are trained properly. The CPCM or PC staff perform testing and inspection of Construction Work per the Materials Testing and Inspection Plan (MTIP) to control production processes (see also, the CQMP). The testing performed by Construction Process Control is completely independent of the IQC requirements. Construction Process Control also analyzes nonconformances for trends to identify how to improve Work plans and other processes to minimize the recurrence of Nonconformance Reporting (NCR) events.

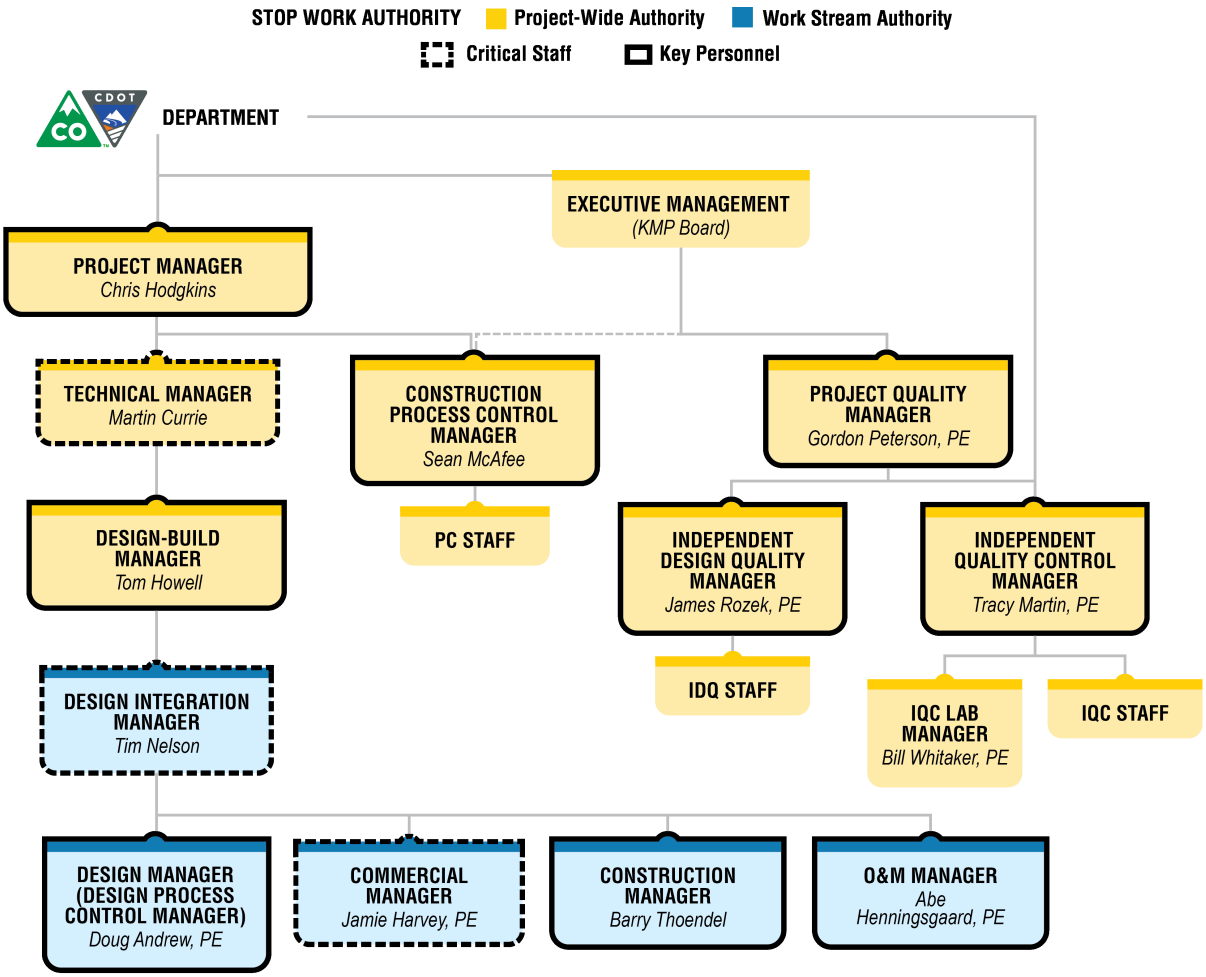
For the Design Work, the Design Manager is responsible to work with the Lead Engineer to ensure that PC processes are set up to follow the requirements of the Project Agreement. The Design Manager analyzes nonconformance for trends and identifies how to improve Design processes to minimize the recurrence of NCRs. PC functions include the following to identify potential nonconformities before they become Nonconformance Notices (NCNs) or NCRs:

- Identify top quality risks in Work planning
- Review lessons learned from other projects identified by the Department or internally
- Review observations made during initial inspections to avoid potential nonconformities and improve future Work plans
- Analyze results from audits, and data from management reviews
- Perform audits of the KMP processes to ensure compliance with the Project Agreement requirements and KMP's plans
- Perform examinations of the quality of workmanship to confirm that all Work meets the Project Agreement requirements

5.2 RESPONSIBILITY AND AUTHORITY

KMP's PC and IQC are completely independent of each other and neither have any responsibilities in managing and producing the Construction Work. The independence of these quality personnel from Production ensures that Work quality will be verified and achieved regardless of production or scheduling needs. The primary duties of Key Personnel and other project personnel are described below.

Quality Organizational Chart



5.2.1 KMP EXECUTIVE MANAGEMENT

KMP's commitment to quality begins at the highest level with our Executive Management. It is KMP's duty to oversee Project Design, Construction, and O&M, and to ensure that our Quality Policy is followed, and the Project Agreement requirements are met. Responsibilities of KMP Executive Management include:

- Ensure the overall success of the QMP
- Designate the PQM, who reports directly to KMP Executive Management
- Ensure that personnel performing PC and IQC activities have the appropriate education, training, skills, and experience to meet the Project Agreement requirements
- Review the QMP annually to ensure its continued suitability, adequacy, and effectiveness
- Communicate the importance of meeting the Project Agreement, regulatory, and specified requirements to the Project Team

- Communicate the KMP Quality Policy to all project employees and assign the necessary resources to meet the Quality Policy objectives and the Project Agreement requirements
- Support quality objectives independent from production
- Promote quality recognition
- Create a *Project First* environment where employees feel safe to self-report quality issues

5.2.2 PROJECT QUALITY MANAGER (KEY PERSONNEL)

Gordon Peterson, KMP's PQM, is responsible for overall quality management of the Project, and has the authority to suspend Work. The PQM reports directly to KMP Executive Management and will be completely independent of all Construction and Design activities. The duties of the PQM, or designee where appropriate, include, but are not limited to, the following:

- Review and approve the QMP prior to submittal to the Department
- Provide final checks, approvals, and certifications for quality
- Be responsible for assuring, certifying, and providing documented evidence that the Work meets the Project Agreement requirements
- Provide monthly certification that Work is being performed in compliance with Law and the Project
- Prepare, update, control, and distribute the QMP, DQMP, CQMP, and OMQMP to all project staff by web-based access per the Document Control System (DCS) Plan
- Maintain the authority and responsibility for the success of the KMP quality program, and ensure that authority and responsibilities are clearly defined and effectively communicated within the organization
- Be the primary point of contact to the Department for all issues relating to the QMP, including preparation, review, implementation, and updates
- Ensure that a quality system is established, implemented, and maintained
- Report quarterly on the performance of the quality system to KMP Executive Management and the Department, both for review and as a basis for improvement of the quality system
- Provide direct supervision of the Independent Design Quality Manager and the Independent Quality Control Manager, and their respective staffs
- Report the status of the Work's quality to the Department at least monthly
- Lead the Weekly Quality Meeting and Quality Kick-Off Meeting; attend Pre-Activity Meetings and other quality meetings as required
- Ensure the Plan-the-Plan matrix (refer to Section 7.1.1) is completed at Project Start-Up, and maintained throughout the Project
- Evaluate the need for training, as well as evaluate its effectiveness by monitoring the quality performance
- Maintain appropriate personnel records, including training and certifications, to be available to the Department upon request
- Facilitate compliance of Work with the Project Agreement requirements and the Approved QMP
- Approve KMP quality processes and procedures
- Provide adequate resources and trained personnel for PC and IQC activities

- Ensure the adequacy and enforcement of quality procedures, processes, inspections, and tests for all Work
- Establish and implement procedures to control and ensure the Work performed by subconsultants, subcontractors, and suppliers meets the Project Agreement requirements
- Ensure the QMP is being implemented, and report in writing regularly to the KMP Executive Management regarding the status of the implementation of the QMP
- Ensure that quality records are properly prepared, completed, maintained, and delivered to the Department, as required by the Project Agreement, to provide evidence of PC and IQC activities performed and quality results achieved
- Ensure that IQC staff is independent of KMP's Project Manager and regularly report to KMP Executive Management
- Continually promote awareness of the requirements of the Project Agreement throughout KMP's entire Project organization
- Participate in the Environmental Compliance and Mitigation Training Program

Gordon is a licensed PE in the state of Colorado.

5.2.3 INDEPENDENT QUALITY CONTROL MANAGER (KEY PERSONNEL)

Tracy Martin, KMP's IQCM, is responsible for managing all independent QC aspects contained in the Approved Stage 2 QMP. The IQCM maintains complete independence from production activities, and has authority to suspend Work. The IQCM reports directly to the PQM and the Department. The IQCM does not report to any person or party directly responsible for Design or Construction production.

The IQCM, or designee where appropriate, has the following duties:

- Review and approve the QMP prior to submittal to the Department
- Manage the IQC aspect of the QMP
- Work with the PQM to develop and maintain a Materials Testing and Inspection Plan (MTIP) for the project
- Track actual testing frequency separately from the MTIP
- Prepare a summary of material quantities and verify that IQC staff are meeting minimum sampling, testing and inspection requirements
- Perform source inspections per the project audit process
- Exercise authority to stop Work that does not comply with Project Agreement requirements
- Establish, audit, update, and oversee the implementation and management of the Project CQMP
- Verify compliance of equipment calibration before use
- Attend the Quality Kick-Off Meeting, weekly task force meetings, and other meetings as required
- Facilitate compliance of Work with the Project Agreement requirements and the Approved QMP
- Approve KMP quality processes and procedures
- Provide adequate resources and trained personnel for IQC activities
- Ensure the adequacy and enforcement of quality procedures, processes, inspections, and tests for all Work

- Establish and implement procedures to control and ensure the Work performed by subconsultants, subcontractors, and suppliers meet the Project Agreement requirements
- Ensure the QMP is being implemented, and report in writing regularly to the KMP Executive Management regarding the status of the QMP implementation
- Ensure that quality records are properly prepared, completed, maintained, and delivered to the Department, as required by the Project Agreement, to provide evidence of IQC activities performed and quality results achieved
- Ensure that IQC staff is independent of KMP's Project Manager and regularly reports to KMP Executive Management
- Continually promote awareness of the Project Agreement requirements throughout KMP's entire Project organization
- Participate in the Environmental Compliance and Mitigation Training Program

Tracy is a licensed PE and will be licensed in the state of Colorado prior to NTP1, he will obtain the American Society for Quality (ASQ) certification as Quality Inspector, Quality Engineer, or Manager of Quality prior to NTP2.

5.2.4 INDEPENDENT DESIGN QUALITY MANAGER (KEY PERSONNEL)

James Rozek, KMP's IDQM, is responsible for ensuring quality on all Design Work carried out on the Project, and has the authority to suspend Design Work. The IDQM reports directly to the PQM and is not involved with scheduling or production activities.

The IDQM, or designee where appropriate, has the following duties:

- Review and approve the QMP prior to submittal to the Department
- Be responsible for all Design quality control activities for the Work
- Establish, audit, update, and oversee the implementation and management of the DQMP
- Develop project quality procedures, circulate the procedures for review by applicable project staff, and submit the procedures to the PQM for approval
- Conduct QA/QC training classes for Project staff, including subconsultants' Design staff
- Ensure that the DQMP is understood, implemented, and maintained at all levels of the Project Design organization
- Ensure that internal Design Team checks of drawings, specifications, reports, calculations, and other Design documents prepared for prosecution of the Work are performed in accordance with the DQMP
- Oversee auditing of the QC process for Design, utilities, and survey to the degree required by the DQMP
- Schedule and perform audits to verify compliance with the DQMP
- Perform conformance review or audit of Preliminary and Final Design packages
- Approve and implement Corrective Action Plans
- Issue audit reports to the audited organization, and track audit responses and follow up actions
- Provide Certificate of Compliance (COC) for all Final Design documents and Release for Construction plans, following a formal Department review and verification of approval from applicable third parties

- Maintain records of quality activities, and prepare a monthly progress report to summarize quality activities for auditing purposes
- Compile and maintain documentation of oversight reviews and comment reconciliation necessary for any submittals
- Conduct over the shoulder oversight reviews as deemed necessary
- Assess subconsultants' understanding of the QMP through formal PC audits
- Chair the submittal reviews/Comment Resolution Meetings for the Department.
- Prepare quality procedures for unique design features, methods, or products not previously used by the Department
- Verify that the shop drawing reviews are conducted in accordance with the QMP
- Certify in writing that design changes are designed in accordance with the QMP
- Process Field Design Changes (FDCs) and Notice of Design Changes (NDCs), including preparation, distribution, and coordination of review
- Conduct an audit during the review cycle of a Design package to ensure environmental compliance has been considered and/or incorporated in the Design
- Monitor disciplinary and interdisciplinary review processes
- Chair and conduct interdisciplinary review meetings on major Design submittals prior to submission to the Department
- Ensure that the methods and procedures contained in the QMP/DQMP are implemented and followed by KMP and subconsultants in performance of the Design Work
- Verify compliance of equipment calibration before use
- Attend the Quality Kick-Off Meeting, weekly task force meetings, and other meetings as required
- Facilitate Work compliance with the Project Agreement requirements and the Approved QMP
- Approve KMP Design quality processes and procedures
- Provide adequate resources and trained personnel for IQC activities
- Ensure the adequacy and enforcement of quality procedures, processes, inspections, and tests for all Work
- Establish and implement procedures to control and ensure the Work performed by subconsultants, subcontractors, and suppliers meets the Project Agreement requirements
- Ensure the QMP is being implemented, and report in writing regularly to KMP Executive Management regarding the status of the implementation of the QMP
- Ensure quality records are properly prepared, completed, maintained, and delivered to the Department, as required by the Project Agreement, to provide evidence of IQC activities performed and quality results achieved
- Ensure that IQC staff is independent of KMP's Project Manager and regularly report to KMP Executive Management
- Continually promote awareness of the Project Agreement requirements throughout KMP's entire Project organization
- Participate in the Environmental Compliance and Mitigation Training Program

James will be a licensed PE in the state of Colorado prior to NTP1.

5.2.5 CONSTRUCTION PROCESS CONTROL MANAGER (KEY PERSONNEL)

Sean McAfee, KMP's CPCM, is responsible for ensuring all methods and procedures contained in the approved Stage 2 QMP are carried out on the Project. The CPCM has the authority to suspend Work. The CPCM reports directly to the Project Manager and is is not involved with scheduling or production activities.

The CPCM, or designee where appropriate, has the following duties:

- Review and approve the QMP prior to submittal to the Department
- Be responsible for management of the Process Control (PC) aspect of the QMP
- Maintain current list of subcontractors and suppliers
- Ensure that the methods and procedures contained in the Approved QMP/CQMP are implemented and followed by KMP, subcontractors, fabricators, suppliers, and vendors in performance of the Work
- Maintain Buy America documentation
- Ensure that Kiewit Construction personnel are implementing the Plan-the-Plan matrix, Work plans, Pre-Activity Meetings, initial inspections, and material receiving
- Attend the Quality Kick-Off Meeting, weekly task force meetings, and other meetings as required
- Participate in the specification review process
- Be responsible for document control and training of staff in the Document Control System Plan
- Work with the Construction Team to perform a quality risk assessment for all subcontractors and suppliers
- Facilitate Work compliance with the Project Agreement requirements and the Approved QMP
- Approve KMP quality processes and procedures
- Provide adequate resources and trained personnel for PC activities
- Ensure the adequacy and enforcement of quality procedures, processes, inspections, and tests for all Work
- Establish and implement procedures to control the Work performed by subcontractors and suppliers, and ensure the Work meets the Project Agreement requirements.
- Ensure the QMP is being implemented and report in writing regularly to the KMP Executive Management regarding the status of the implementation of the QMP
- Ensure that quality records are properly prepared, completed, maintained, and delivered to the Department, as required by the Project Agreement, to provide evidence of PC activities performed and quality results achieved
- Continually promote awareness of the Project Agreement requirements throughout KMP's entire project organization
- Participate in the Environmental Compliance and Mitigation Training Program

Sean will obtain a NICET Level III Certificate in Highway Materials or Construction Materials with soil, concrete, and asphalt sub-fields, and ASQ certification as Quality Inspector, Quality Engineer, or Manager of Quality prior to NTP2.

5.2.6 DESIGN MANAGER (KEY PERSONNEL)

Doug Andrew, KMP's Design Manager, is responsible for ensuring that the overall Project Design is completed and Design criteria requirements are met. The Design Manager has the authority to suspend Design Work. The Design Manager reports to the Design Integration Manager and collaborates with the Construction Manager. As pertains to the Quality Management Plan, the Design Manager, or designee where appropriate, has the following duties regarding Process Control:

- Review and approve the QMP prior to submittal to the Department
- Be responsible for all Design PC activities
- Manage Design Team personnel
- Administer all Design requirements in the Project Agreement
- Ensure the Design Team is on schedule for delivery of submittals
- Be responsible for document control and training of Design staff in the Document Control System Plan
- Maintain current list of subconsultants
- Work with the Design Team to perform a quality risk assessment for all subconsultants
- Identify QC Reviewers and provide a list of reviewers with their credentials to the IDQM for approval
- Attend the Quality Kick-Off Meeting, weekly task force meetings, and other meetings as required
- Coordinate reviews and approvals of plans
- Verify that all agreed upon comments are incorporated into the Design, and that Design packages are complete
- Participate in the specification review process
- Facilitate Work compliance with the Project Agreement and the Approved DQMP
- Approve KMP quality processes and procedures
- Provide adequate resources and trained personnel for Design PC activities
- Ensure the adequacy and enforcement of quality procedures, processes, inspections, and tests for Design
- Establish and implement procedures to control the Work performed by subconsultants, and ensure the Work meets the Project Agreement requirements
- Ensure the QMP is being implemented and report in writing regularly to the KMP Executive Management regarding the status of the implementation of the QMP
- Ensure that Design quality records are properly prepared, completed, and maintained, as required by the Project Agreement
- Continually promote awareness of the Project Agreement requirements throughout KMP's entire Project organization
- Participate in the Environmental Compliance and Mitigation Training Program

Doug is a licensed PE in the state of Colorado.

5.2.7 INDEPENDENT QUALITY CONTROL STAFF

The purpose and function of the IQC program is described in Section 5.1.1. IQC managers and staff do not have any responsibilities related to management and production of Construction Work or Design activities; they do have the authority to stop Work that does not comply with Project Agreement requirements.

The primary duty of IQC staff is to perform all of the testing required by the *Frequency Guide Schedule* (asphalt, concrete, aggregates, soil, etc.) They are responsible for inspection and verification that all Work meets requirements.

IQC staff must be qualified in accordance with Section 3.0 of the CDOT *Staff Bridge Fabrication Inspection Manual, Fabrication Inspection of Pre-stressed and Precast Concrete Products* if performing inspections and tests for pre-stressed and precast concrete products.

IQC staff performing fabrication inspection of structural steel elements must be qualified in accordance with Section 4.0 of the CDOT *Staff Bridge Fabrication Inspection Manual, Fabrication Inspection of Structural Steel Items for CDOT Road and Bridge Projects*.

5.2.8 PROCESS CONTROL STAFF

The purpose and function of the PC program is described in Section 5.1.2.

Responsibilities of PC testing and inspection personnel include, but are not necessarily limited to, the following:

- Support CPCM and Design Manager to execute Project Process Control functions
- Perform audit functions per the Quality Management Plan

Responsibilities of Construction PC testing and inspection personnel include, but are not necessarily limited to, the following:

- Perform concrete and hot bituminous pavement process control tests that meet the standards established in Section CP-10 of the CDOT *Field Materials Manual*

Responsibilities of Design PC personnel (i.e., QC Reviewers) include, but are not necessarily limited to, the following:

- Perform complete checks of all calculations, plans, special provisions, standards, special specifications, and estimates
- Evaluate appropriate engineering practice, conformance with the Project Agreement and project criteria, and overall completeness for implementation in the field

5.2.9 PROJECT PERSONNEL

Quality is the responsibility of all personnel on the Project, not just those within the quality group. All KMP, subconsultant, subcontractor, and supplier personnel are obliged to:

- Initiate action to prevent the occurrence of Nonconforming Work
- Identify, evaluate, and document quality problems
- Recommend or initiate quality improvement solutions through established organizational channels
- Ensure the implementation of quality improvement solutions
- Stop all Work that is affected by any identified Nonconforming Work until the deficiency is corrected

5.3 PROJECT QUALITY COMMUNICATION/INTERFACES

Although the PC and IQC are independent of each other, and of the Design and Construction activities, lines of communication among all these groups will be continuously maintained. The PQM is the liaison between the quality organization and the Design and Construction organizations. The IDQM, Design Manager, CPCM, and IQCM will interface with the Design and Construction organizations informally, as well as at the following quality meetings, which are designed to serve as the venues for communication:

Communications Table

Meeting	Parties in Attendance	Purpose/Benefit
Quality Kick-Off Meetings (Post Stage 1 and Stage 2 Approval)	KMP Team, all subcontractors and subconsultants working at time of meeting, Department	Discuss the QMP, clarify requirements, establish clear lines of communication and counterparts, and review quality plans and procedures
Daily Play-of-the-Day Meetings	Construction Process Control staff, IQC staff, foreman, field engineers, and Discipline Superintendents	Coordinate daily Schedules for Construction, testing, and inspections
Weekly Quality Tour Review	Varies but may include: KMP personnel, subcontractors and suppliers, Department	Review results of that week's quality tour to identify positive quality recognition and areas for improvement
Weekly Schedule Meetings	KMP staff, subcontractors, and suppliers	Coordinate Work and personnel needs for the upcoming weeks, and outline needs for the start of new activities
Weekly Quality Meetings	Design-Build Manager (DBM), PQM, Construction Manager (CM), Design Integration Manager, Design Manager, Department, and others as needed	Discuss open NCNs, NCRs, and quality issues
Pre-Activity Meetings	Operation Superintendent, Department, subcontractors and suppliers involved in the activity being discussed, PQM, and other quality personnel as needed	Held before the start of each definable feature of Work, to explain the scope of work and review the Work plan, hold points, and inspections and testing to be performed. These meetings provide an opportunity to ensure that the quality requirements are understood, and to verify the Work plan before the start of Work.
Task Force Meetings	Department, Design Team, O&M Review Team, Construction Discipline Leads, and additional project staff as appropriate	Discuss the advancement of the Design and resolution of technical aspects of the Project
Design Process Review Meeting	DBM, CM, Design Integration Manager, Design Manager, PQM, Department, among others	Review the development of the Design and communicate status and vision to the Project Team

Meeting	Parties in Attendance	Purpose/Benefit
Progress Status Meetings	PQM, Department, among others	The quality portion of this meeting will review the status of outstanding Nonconforming Work and ensure all parties are on the same page
Quarterly Quality Meetings	Executive Management, Department, PQM	Review QMP performance and identify opportunities for improvement
Annual Executive Management Reviews	Executive Management, PQM	Review to ensure continued suitability, adequacy, and effectiveness of the QMP. This review will include PC and IQC results, Department verification results, status of corrective/preventive actions, follow-up items from previous management reviews, changes to the QMP, and recommendations for improvement.

6. Department Communication

KMP is committed to communicating openly with the Department and being transparent whenever issues arise. KMP will ensure the Project Team is kept up-to-date on the Department's concerns and expectations for meeting Project Agreement obligations. This proactive communication allows Project Team members to respond to concerns before they can develop into major problems.

KMP will use the following processes to capture and address Department expectations:

6.1 PROJECT STATUS MEETINGS

Project status meetings will be held weekly between the Department and KMP management, including quality personnel when needed. KMP requires that quality be the second agenda item (after safety) at all project status meetings. Project-wide quality concerns and comments will be addressed with this agenda item. The status of quality items will be tracked in the meeting minutes. Meeting minutes will be documented and submitted to the Department within four Working Days after each meeting.

6.2 WEEKLY QUALITY MEETINGS

KMP will hold a weekly quality meeting with the Department, the KMP Quality Team, the Design Manager, and Kiewit Construction leads to discuss open NCNs, NCRs, and quality issues. This meeting will be led by the PQM. Meeting minutes will be recorded and submitted to the Department within four Working Days following the meeting.

6.3 FOUR SQUARE MATRIX

KMP's four square matrix, as shown below, will be used to visually depict Project issues. This matrix indicates current issues, on-going issues, good trends, and steady performers. The issues shall be jointly agreed upon by KMP, the Department, and the IDQM. Jointly developing the matrix quarterly facilitates communication between Project Team members, and promotes awareness of the Department's needs. This tool allows top management to focus resources where needed to improve the project quality.

During the update process, all current processes, activities, and Department "hot buttons" and expectations will be evaluated and assigned to the appropriate box. As shown in the figure below, arrows will be used to indicate the direction in which the item moved from the previous square and notes will be made as to whether other items are new or how long they have been in that current box. Items that are no longer current will be removed from the matrix.

Issues assigned to the "Current Issues" and "Ongoing Issues" boxes receive the direct attention of the Project Management Team.

Example Four Square Matrix

EXAMPLE *UPRR Review Comments (2 months)* **Issues that have continued on a recurring basis or remain unresolved** **ONGOING ISSUES**	**EXAMPLE** *Communication among upper management (2 months)* ↑ *Safety culture* ↑ *Reduction of design comments* ↑ *Coordination with toll operations division* **Areas of performance that have continually met expectations** **STEADY PERFORMANCE**
CURRENT ISSUES **Issues that have recently developed or have been identified as looming** **EXAMPLE** *Level 3 SWPPP (2 months)* ↓ *Lane closure requests*	**GOOD TRENDS** **Issues that were classified as either ongoing or current that are trending toward quick resolutions or have shown marked improvement** **EXAMPLE** *Teamwork between Department and Design (New)* *First month showing production ramp-up (New)* *Project audits (New)* → *Timely resolution of NCRs* *Potholes (2 months)* ↘ *MOT signage*

Note: Arrows reflect which sector items were previously in; the parenthesis reflect how long an item has been in its current sector.

6.4 QUARTERLY QUALITY MEETINGS

KMP will hold quarterly quality-only meetings with the Department and KMP Executive Management, providing an open and transparent forum to review the quality program without the influence of Design or Construction staff. This meeting will be led by the PQM. Meeting minutes will be recorded and submitted to the Department within four Working Days following the meeting.

6.5 WEEKLY QUALITY TOURS

Quality tours will be performed weekly by KMP personnel, subcontractors, and suppliers. The Department is invited and encouraged to attend as well. These tours ensure that good quality work is recognized and acknowledged. They also ensure that poor quality work is discovered by our own forces and steps are taken to prevent reoccurrence.

KMP will maintain records of quality tours, and present the results of the tour at the weekly schedule meeting. Observations requiring correction will be assigned in the meeting. The PQM follows up on all issues to ensure prompt correction.

6.6 CLIENT ENGAGEMENT SURVEYS

To ensure that KMP continually meets or exceeds the Department's expectations, client engagement surveys will be used to obtain measurable feedback from the Department regarding its satisfaction with KMP's overall performance. KMP's Project Manager will conduct this survey annually with the Department. A minimum of seven Department personnel will be invited to participate in the interview, with a goal of getting a broad range of participation from Department staff at all levels (such as from Offsite executive to field personnel) to ensure the results are as valid as possible. A record of the survey will be maintained.

KMP's Project Manager and PQM will review the responses to identify areas of consistent success and areas needing improvement. The results will be communicated to the Project Team to ensure that concerns are addressed.

7. Administration

7.1 QUALITY PLANNING

KMP is responsible for assuring that all Work meets the Project Agreement requirements. KMP will use our standard practices described below to ensure that these requirements are clearly defined and met for all aspects of the Project.

7.1.1 PLAN-THE-PLAN MATRIX

Following execution of the Project Agreement, Discipline Superintendents for each work area develop the Plan-the-Plan matrix, which outlines the steps needed to plan work activities. The CPCM and Design Manager play an integral part in this process, and the PQM is responsible to ensure the Plan-the-Plan matrix is completed.

The Plan-the-Plan matrix identifies each definable feature of work and outlines the steps needed to plan work activities by identifying requirements, and assigning due dates and responsibilities for each item.

The Plan-the-Plan matrix includes the following information:

- List of definable features of work on the project
- Anticipated start date for each operation
- Due date for specification review
- Due date for the submittals, shop drawings, and work plans
- Date the Pre-Activity Meeting needs to be completed by, typically seven days in advance of the operation beginning
- Check boxes to verify that material receiving, material testing data, and other checklist items have been completed
- Check boxes to track the Department's Acceptance and confirmation that all documentation for each definable feature of work is complete
- Name of person responsible for the operation who will ensure that the items listed above are completed on time

The Plan-the-Plan matrix for each work area is posted in the Project Office and updated as needed by the Discipline Superintendents, but quarterly at a minimum and upon any major revisions to the Project Schedule. The PQM is responsible for ensuring that he Plan-the-Plan matrix is maintained with information provided by the Discipline Superintendents.

7.1.1.1 Job Start-Up

At the start of the Project, the Project staff (including Discipline Superintendents and field engineers) will populate the Plan-the-Plan matrix with the following:

- Definable features of work (any activity listed on the Project Schedule that the Project staff determines will require a work plan)
- Superintendent responsible for each definable feature of work
- Start date of the operation as listed on the Project Schedule
- Planned dates to complete the specification review, work plan, shop drawings, and submittal approvals
- Scheduled date for the Pre-Activity Meeting

All items above must be completed before work on a definable feature of work can begin. The PQM will ensure that this process is followed.

7.1.1.2 Specification Review

Following execution of the Project Agreement, KMP personnel perform a specification review of the Project Agreement and all contract documents to identify and define all the measurable Project Agreement requirements. These requirements are captured in the MTIP. (An example MTIP is provided as Attachment 1.) Several members of the KMP staff will review the specifications, including Discipline Superintendents, CPCM, and the Design Manager. The Plan-the-Plan matrix will then be updated with the date that the specification review has been completed.

7.1.2 SELECTING SUBCONTRACTORS, SUBCONSULTANTS, AND PERMANENT MATERIAL SUPPLIERS

All subcontractors, subconsultants, and suppliers are required to follow the QMP. Process Control (PC) staff evaluate all subcontracts (subcontractors, subconsultants, and suppliers) working on the Project to manage the risk and provide a proactive plan to eliminate potential risks.

As subcontractor, subconsultant, and supplier contracts are executed on the Project, the PC managers (CPCM or Design Manager) add them to the Project list of Subcontracts. This list is maintained electronically in InEight Project Suite, per the DCS plan. The CPCM maintains the current list of subcontractors and suppliers, and the Design Manager maintains the current list of subconsultants.

The CPCM and Design Manager work with the Construction and Design Teams to perform a quality risk assessment for all subcontractors, subconsultants, and suppliers. A rating system is used to determine the contract risk as low, moderate, or high. Subcontractors are required to take risk mitigation measures that are appropriate for their risk level.

The CPCM/Design Manager and Discipline Superintendent evaluate the subcontractors against the following criteria:

Subcontractor Risk Mitigation Scoring

	Criteria	Weight (C)	Risk (D)	Score (C*D)
1.	Technical Difficulty	2.0		
2.	Schedule Critical	1.5		
3.	Rework Potential	3.0		
4.	Previous Known Experience	0.5		
5.	Visibility	0.5		
6.	Financial Risk	1.5		
7.	Contract Value	1.0		
	TOTAL	**10.0**		

Each criteria receives a rating of:

- **Low Risk** = 1 point
- **Moderate Risk** = 2 points
- **High Risk** = 3 Points

The subcontractor is then scored the sum of the weighted scores. Based on the weighted score, the subcontractors are classified as:

- **Low Risk** = score of 14 points or less
- **Moderate Risk** = score of 15 to 21 points
- **High Risk** = score of 22 points or more

The following actions are taken based on the risk score:

1. Low Risk (required for all subcontractors)

- The subcontractor will complete a Work plan for the activities they will be performing (reviewed by KMP)
- KMP to assign a subcontract monitor to each subcontractor
- subcontractor to provide written acknowledgement that they will follow KMP's QMP as required in the subcontract
- Attend new hire training
- Attend monthly mass meeting (described in Section 7.3.5 below)

2. Moderate Risk

- All Low Risk requirements above
- Attend pre-activity meeting with KMP(not required for material suppliers)
- Complete self-inspection checklists

3. High Risk

- All Low and Moderate Risk requirements above
- Complete specific training on Construction Quality Manual

- Attend subcontractor expectation meeting with KMP
- Perform supplier source inspection
- Attend Play-of-the-Day meetings (daily coordination meetings described in Appendix E, CQMP)
- Attend weekly foreman meetings
- Complete weekly foreman quality toolbox meeting (described in Section 7.3.3)

7.1.3 CONTROL OF DOCUMENTS

The proper control of documents used to construct the Project is critical in ensuring that the Work is built *Right First Time*. To facilitate this quality objective, documents will be controlled to ensure the latest revisions are used during Design and Construction. The CPCM and Design Manager are responsible for ensuring controlled documents are stored correctly, tracked, and completed. The Commercial Manager will be responsible for control of the Project Agreement and other contract documentation, construction plans, and specifications. The CPCM and Design Manager train the Project staff as needed on the control of documents.

The project Document Control System (DCS) Plan will list controlled documents and the approval, distribution, and change control process for each. The DCS Plan will incorporate the use of InEight Project Suite, the industry leading software for total control of project documentation and management control. InEight Project Suite is fully compatible with the Department's Aconex program, and will provide seamless transfer of data, reports, records, and other project related needs.

All documents are maintained through InEight Project Suite and, as required, documents are transmitted to the Department through Aconex as outlined in the Project DCS Plan. The DCS Plan will be developed as described in Section 5.18 of the Project Management Plan (PMP).

The following requirements will apply to all quality documents:

- **Approval prior to use:** The CPCM, Design Manager, or designee has the authority and is responsible to approve quality forms.
- **Review, update, and approval:** Reviews will be performed as necessary by the CPCM, Design Manager, or designee. Reviews, updates, and approval will be based on findings from quality audits, NCN/NCR trending and analysis, Department feedback, or employee feedback.
- **Current revision status:** The revision number and/or date of revision will be located in the document header or footer. The latest version of all documents will be stored electronically; printed or downloaded files are considered uncontrolled.
- **Access to documents:** Documents are stored per KMP's DCS and are available to the Department and to all KMP Team members for viewing. This also includes all workflows such as NCN and NCR tracking, which will be transmitted to Aconex.
- **Documents of external origin:** Documents of external origin, such as subcontractor and supplier quality plans, will be managed by the CPCM and Design Manager to ensure that the most current revisions are stored per the DCS.

7.1.4 CONTROL OF QUALITY RECORDS

Quality records provide evidence that the completed Work meets the Project Agreement requirements. Quality records state the achieved results, provide evidence of activities performed, and demonstrate the effective operation of the QMP. Quality records will remain legible, readily identifiable, and retrievable. All IQC test measurements and test results will be submitted to the Department for information through the Department's Quality Records Database (QRD) within 24 hours of inspection or test completion. Inspection records will be submitted to the Department via Aconex, in accordance with the Project's DCS.

Attachment 2 shows the files that are considered controlled quality records; these will be maintained and stored in accordance with the Project's DCS.

7.1.5 QUALITY PLANNING FOR ADMINISTRATIVE PROCESSES

As part of the initial MTIP submittal within the QMP, KMP will identify the requirements and processes needed to comply with the Project Agreement and KMP's management plans for the following administrative items:

- Environmental
- Strategic Communication
- Maintenance of Traffic
- Safety
- Disadvantaged Business Enterprise (DBE)/Emerging Small Business (ESB)
- Workforce Development
- Training
- Project Management
- Right-of-Way

For the administrative items listed above, the MTIP will identify the necessary processes, resources, and IQC personnel that are need to assure that KMP meets the requirements of the Project Agreement. The MTIP for administrative items will also identify which items are linked to noncompliance events (NCNs or NCRs). KMP's IQCM, CPCM, and the managers identified in the table below will be responsible for developing the administrative MTIP in conjunction with the items listed above. The PC staff will perform audits of these items per KMP's audit procedure (Section 7.2.3 of this Plan).

The table below shows the manager responsible for each administrative function. These individuals will ensure that the Work complies with the Project Agreement requirements, as well as the associated management plan.

Administrative Responsible Managers

Admin. Function	Responsible Manager	Management Plan
Environmental	Environmental Manager	Environmental Compliance Work Plan
Strategic Communication	Project Communications Manager	Strategic Communications Plan
Maintenance of Traffic	MOT Manager	Transportation Management Plan
Safety	Safety Manager	Safety Management Plan

Admin. Function	Responsible Manager	Management Plan
DBE/ESB	DBE/ESB Program Manager	Small and Disadvantaged Business Participation Plan
Workforce Development	Workforce Development/Community Development Manager	Workforce Development Plan
Training	Commercial Manager	Project Management Plan
Project Management	Project Manager	Project Management Plan
Right-of-Way	ROW Manager	Property Management Plan

A similar process is followed with all responsible managers and their corresponding management plan. The IQCM, the CPCM, and the responsible manager review the management plan to determine the portions of the documents required for audit and inspection. All identified items will be included in the MTIP and will be marked as requiring PC or IQC review.

7.2 QUALITY IMPROVEMENT

Continuous improvement of KMP's QMP is essential to meeting the Project's quality objectives:

- Meet or exceed the requirements of the Project Agreement
- Meet or exceed the Department's expectations
- Eliminate rework by performing work *Right First Time*

Our procedures for ensuring continuous improvement of the QMP are described below, along with information on where the records of these procedures will be kept.

7.2.1 CLIENT ENGAGEMENT SURVEYS

In addition to our daily communication, weekly progress meetings, and quarterly reviews, KMP's Project Manager will conduct an annual client engagement survey per Section 6.6. The results are communicated to the Project Team to ensure that all concerns are addressed.

Records of these surveys will be maintained:

- Client engagement survey (uncontrolled document)

7.2.2 EXECUTIVE REVIEW OF QMP

KMP Executive Management will review the QMP annually, or more frequently if needed, with the PQM and Project Manager. This review will be performed to ensure continued stability, adequacy, and effectiveness of the QMP throughout the Construction Period. The review will include assessing opportunities for improvement and the need for changes to the QMP.

The meeting agenda for this review will be based on the results from internal/external audits, quality related issues discussed in weekly meetings, NCNs and NCRs, client engagement surveys, and changes in the scope of work.

The following items will be available for review in regards to the effectiveness of the QMP:

- Results of internal/external audits
- Materials testing results
- Department verification audit results
- Department feedback from quality meetings, the Four Square matrix, and client engagement surveys
- Status and results of quality objectives and improvement activities
- Performance and conformity to the Project Agreement
- Status of Corrective Action Plans
- Records of reviews, including published agendas, meeting minutes, and action items with corresponding completion dates
- Follow-up actions from previous management reviews
- Recommendations for implementation of new technology

KMP Executive Management will issue recommendations for improvement to the QMP based on its findings. These recommendations will become the action list, and appropriate personnel will be identified to be responsible for each item. The PQM will track the action items to ensure all items are complete, and provide a follow-up to Executive Management once all items are addressed.

Records of the QMP reviews will be maintained, including:

- Executive review meeting agenda (controlled document)
- Executive review meeting minutes, including action items with corresponding completion dates (controlled document)

7.2.3 INTERNAL AUDIT

Internal audits are used to ensure the quality program is effectively implemented and maintained, and to identify where improvements are needed. KMP will conduct internal quality audits to determine whether the quality program conforms to the requirements of ISO 9001:2015 and the Project Agreement. An audit schedule will be created to track quality audits. Individuals performing audits will not audit their own work.

Internal QC audits of Design packages will be conducted as described in the DQMP. The Design Manager is responsible for making sure QC audits are conducted and nonconformances are properly addressed.

7.2.3.1 Internal Audits

KMP's CPCM and Design Manager or specified personnel will perform audits on all KMP processes and plans as outlined in the QMP. Internal audits will be scheduled at least annually, but may occur more frequently based on the results of the Department's verification audits and/or the overall project goals. Corrective Action Plans per these audits will be implemented as needed. Auditors will be independent and will not have direct responsibly for the discipline being audited.

7.2.3.2 Quality Improvement Audits

KMP will perform quality improvement audits targeting the highest risk performance areas as defined by the PQM, CPCM, Design Manager, and other KMP Management. These audits will be scheduled at least annually or more frequently based on the results of the Department's verification audits and the overall project goals. Corrective Action Plans per these audits will be developed and implemented as needed. Auditors will be independent and will not have direct responsibility for the discipline being audited.

7.2.3.3 IQC Audit

IQC will perform audits as required by the PQM's audit schedule to ensure KMP, subcontractors, and suppliers are effectively implementing the QMP.

7.2.3.4 Project Quality Assessment

Project quality assessments are a cultural/operational assessment and will be completed annually by an Offsite representative of Kiewit, typically an Offsite manager, to ensure the Project Team is implementing and following the QMP as outlined.

7.2.3.5 Scheduling and Conducting Internal Audits

The three types of internal audits described above are conducted according to the phase of implementation and core operational process. The PQM will develop an audit schedule for the following phases and processes:

- Overall program requirements
- Project start-up
- Work planning
- Field execution
- Project completion
- Continual improvement

Prior to conducting an audit, the auditor will:

- Review the previous audit or assessment results
- Create an audit agenda
- Compete the audit checklist
- Notify the auditee of the audit scope and agenda

All audits will include the following:

- An opening meeting to review the agenda, checklist, and schedule
- Interview of personnel, including superintendents, engineers, foreman, and craftsmen
- Review of records and observation of activities
- Closing meeting to review preliminary audit report

The manager responsible for the audited area will be responsible for addressing all findings and any nonconformance. The QMP ensures timely implementation of the necessary Corrective Actions to improve any nonconformance found during an audit. Based on the audit findings, the auditor may perform a follow-up audit to ensure the implementation and effectiveness of the Corrective Action taken.

Records of these audits/assessments will be maintained, including:

- Audit schedule (controlled document)
- Audit agenda (controlled document)
- Audit checklist (controlled document)
- Audit report (controlled document)

7.2.4 ISO AUDITS

KMP will include the Central 70 Project in Kiewit's Certificate of Registration No. QMS-1168b from Intertek. Intertek certifies that the quality management system (QMS) for listed projects within the group have been assessed and are registered as conforming to the requirements of ISO 9001:2015 applicable to the procurement, installation, or construction of transportation, water, wastewater, electrical, mechanical, and heavy civil projects. Intertek will perform audits every three years following certification to ensure compliance of the KMP QMS with ISO standards, and to identify any improvements that need to be made to the program.

7.2.5 ROOT CAUSE ANALYSIS

Root cause analysis is an investigation into the many causes of an issue and the identification and implementation of effective solutions to prevent recurrence of similar issues. KMP will review all nonconformities, including Department complaints, for the potential for recurrence. Corrective Action Plans will be appropriate to the effects of the nonconformities encountered.

KMP will perform a root cause analysis for the following quality incidents:

- Incident exceeds the amount of $10,000 in rework cost
- Frequency of an issue, based on trending and analysis
- Has a potential for severity (safety, environmental, equipment)
- Failure to meet specified performance requirements
- Weld reject rate over 10%
- Results in a lost time accident
- Violation of a stop Work order
- May be performed on issues identified on the Four Square matrix in the ongoing issue box

Root cause analysis is performed in five steps:

1. Define the problem
2. Determine potential causes
3. Identify potential solutions
4. Implement the most effective solutions

5. Verify solutions were effective

Corrective Action Plans may be generated as the result of nonconformance, if it is determined that a system deficiency is the cause of the nonconformance. KMP's documentation of the Corrective Action Plan process will include a root cause analysis. The implementation of Corrective Action Plans will be verified through follow-up audits of the affected processes.

Records of root cause analysis will be maintained, including:

- Root cause analysis (controlled document)
- Corrective Action Plan (controlled document)

7.2.6 CORRECTIVE ACTION PLANS

Corrective Action Plans will be developed, implemented, and tracked to prevent the recurrence of future nonconformance. Corrective Action Plans will be monitored by the CPCM and Design Manager through review of initial documents and follow-up documents, with additional actions as needed to ensure the efficacy of the Corrective Action Plans. KMP will keep all records of Corrective Action Plans together with the respective audit records or root cause analysis.

Records of Corrective Action Plans will be maintained, including:

- Corrective Action Plan (controlled document)

7.2.7 PREVENTIVE ACTION

KMP strives to eliminate nonconformities before they occur by identifying the causes of potential nonconformities. Preventing quality issues from occurring is performed through various methods, including Work planning, and collecting and disseminating best practices. The following activities will be performed by the CPCM and Design Manager to determine causes of potential nonconformities:

- Identify top quality risks in Work planning
- Review lessons learned from other projects identified by the Department or internally
- Review observations made during initial inspections to avoid potential nonconformities and improve future Work plans
- Analyze results from audits, and data from management reviews

If a potential nonconformity is of legitimate concern, Work planning will address the necessary action in one or more of the following ways:

- Revise self-inspection checklists
- Increase testing frequency (including informational testing)
- Identify additional hold points
- Engage personnel with more experience or qualifications in the affected Work
- Implement technical training
- Hold initial inspections
- Mandate operational shut-downs

7.3 TRAINING

All personnel working on the Project, including KMP employees, subconsultants, subcontractors, and suppliers, receive quality training. The content and amount of training is tailored to their role on the Project and level of responsibility. Personnel subject to the Department's oversight efforts/audit process are specifically trained to ensure they understand their roles and responsibilities for cooperating and responding to audits. It is the responsibility of the PQM to evaluate the need for training, as well as evaluate its effectiveness by monitoring the quality performance.

KMP will maintain training records, including training sign-in sheets and training agendas. The following quality trainings are provided on the Project:

7.3.1 QUALITY KICK-OFF MEETING

The Quality Kick-Off Meetings are held following Approval of both the Stage 1 and Stage 2 QMP Submittals. These meetings will train all Project personnel, including the Department, on the QMP and KMP's Quality Policy. All project staff will attend these meetings or acknowledge they have reviewed the QMP. Documentation of this training will be maintained as a quality record.

7.3.2 NEW HIRE TRAINING

Hourly craft personnel will be trained on the Quality Policy and project goals during their initial sign up. A record of the initial training meeting will be maintained. Superintendents and foremen train personnel on their specific operation and Work plan quality requirements.

Quality is addressed at every step of the training process as follows:

- PQM or designee reviews the quality training form with each employee
- The superintendent reviews the project Quality Policy and expectations
- The foreman reviews the quality requirements of the Work
- The Construction Manager follows up with the employee after 30 days to review the Quality Policy and project quality expectations

7.3.3 QUALITY TOOLBOX MEETINGS

The purpose of the quality toolbox meeting is to help educate craft employees on the importance of certain aspects of the Work, and the proper techniques and processes to ensure that the Work is built *Right First Time*. The foremen run the training with their crews weekly.

Documentation of these toolbox meetings includes the following information:

- Date
- Topic covered
- Suggestions made
- Superintendent's comments and signature indicating review and approval
- Signatures of those in attendance

The toolbox meeting documentation is submitted to the CPCM and retained as quality records. The foreman tracks the submitted documentation, and displays it on the project quality board.

7.3.4 PERIODIC TRAINING

The discipline managers and the PQM assess the Onsite training needs for the Project and develop a project-specific quality training schedule for the Project staff. Craft training is included in *Right First Time* quality topic trainings, and periodic mass meetings as described below. In addition, trending data from NCRs, Corrective Action reports, and engineering judgments are used as regular craft and staff training topics. The data are compiled in charts, graphs, and tables and presented at the regular scheduled staff meetings, posted on bulletin boards, and issued as recommended craft training topics, as applicable.

7.3.5 MASS MEETINGS

Quality is discussed at monthly mass meetings. Discussions may include topics such as:

- Results of quality issue trending, good performance, problem areas, and lessons learned
- Quality recognition
- Department hot buttons
- Technical training

7.3.6 INSPECTION AND TESTING CERTIFICATIONS

KMP enrolls staff members who may perform testing that requires certification into the courses necessary to obtain those certifications. The PQM maintains a record of certifications.

8. Independent Quality Control

8.1 RECORD KEEPING

KMP will maintain records of all construction workmanship inspections and materials quality tests performed per the QMP. These records will include factual evidence that the required inspections or tests were performed; including type and number of inspections or tests involved, results of inspections or tests, nature of Nonconforming Work and causes for rejection, proposed remedial action, and Corrective Actions taken. These records will cover both conforming and Nonconforming Work, and include a statement that all supplies and materials incorporated in the Work are in full compliance with the Project Agreement.

KMP's Quality Managers will ensure that quality records are properly prepared, completed, maintained, and delivered to the Department, as required by the Project Agreement, to provide evidence of the quality activities performed and quality results achieved.

KMP will submit all IQC test measurements and test results, including failing results and inspection records. KMP will submit test data and approved test results to the Department for information using Aconex (or, in the case of data and results related to materials testing, through the Department's QRD) within 24 hours following the inspection or test completion. The responsible technician and the technician's supervisor will sign the daily test reports.

KMP's Quality Managers will also maintain a daily log of inspections performed for both KMP and subcontractor Work. The daily inspection reports will identify inspections conducted, dates of inspections, results of inspections, locations and nature of deficiencies found, causes for rejection, and remedial or Corrective Actions taken or proposed. The responsible technician and the technician's supervisor will sign the daily inspection reports. These daily inspection reports will document the day's events, activities, and discussions in a format consistent with the requirements contained within CDOT's *Field Materials Manual* and *Construction Manual*.

To enhance coordination of the Department's Independent Assurance activities during Construction, KMP will provide the Department with a weekly look-ahead of specific scheduled Construction activities, designating location and planned quantities of materials to be placed, and protocols for identifying completed Work. KMP will also provide the Department with a summary of the actual Construction activities conducted during the previous week, designating location and quantities of materials that were placed as part of the weekly progress meeting.

9. Nonconforming Work

Nonconforming Work is any Work performed that does not meet the Project Agreement requirements. Any member of the Project Team or the Department is encouraged and has the responsibility to identify nonconformance with the Project Agreement and report the nonconformance to the KMP Quality Team.

KMP's weekly quality meeting will serve to review unresolved quality issues, including NCNs and NCRs. An updated Nonconforming Work Log will be submitted to the Department weekly, and the CPCM and Design Manager will review all NCNs and NCRs for trends to determine if Corrective Action Plans are needed.

9.1 IDENTIFYING NONCONFORMING WORK

A product or process may be identified to be in nonconformance with the Project Agreement through inspection, testing, verification, review, or audit. Nonconformance may also be identified through Department assessment or independent testing. The Department will classify any NCNs it issues as either a Level 1 or Level 2 NCN.

- **Level 1:** Nonconforming Work that represents an immediate or imminent health or safety hazard, nuisance, or other similar immediate or imminent risk to users or workers. Or an immediate or imminent risk of structural failure, damage to a third party's property or equipment, or damage to the environment
- **Level 2:** Nonconforming Work of any other category

When the Department issues an NCN, the nonconformance will be immediately brought to the attention of KMP supervision and properly reported to the PQM. NCNs will be entered and tracked as an NCR; thus, KMP's approach and methodology for resolving and responding to NCNs will follow the NCR process defined in Section 9.3. KMP will submit an NCR to the Department within 24 hours of the issuance of a Level 1 NCN, and within five Working Days of issuance of a Level 2 NCN.

9.2 ISOLATION OF NONCONFORMING WORK

KMP will immediately isolate Nonconforming Work to prevent its unintended use or delivery. The PQM or designee will verify proper isolation has occurred. If necessary, a Stop Work notice may be issued to isolate the Nonconforming Work. In the event that it is not physically possible to isolate the Work, the product will be clearly identified through the use of tags, markings, or other means. These tags or markings will be installed by the PQM or designee. Only a member of the Project Quality Team has the authority to remove the tag or marking. Authorization to remove the tag or marking requires that the nonconforming item has demonstrated it meets acceptance criteria.

For nonconforming Design products, the Design deliverable will be isolated to prevent unintended use.

9.3 REPORTING OF NONCONFORMING WORK

9.3.1 DESCRIPTION/IDENTIFICATION OF NONCONFORMING WORK

Once Nonconforming Work is identified, the supervisor of the Work will tag-out the Work to ensure that it is not used until corrected. The NCR will be completed by the supervisor responsible for the Nonconforming Work, and reviewed by the PQM or designee to confirm nonconformance. The description will be factual and clearly state the Project Agreement requirement that was not met, and include an initial evaluation of the cause of the nonconformance. Subjective comments on why the nonconformance occurred will not be included.

9.3.2 DISPOSITION

The Discipline Superintendent or lead manager overseeing the Work will prepare the type of disposition. There are four types of dispositions to request:

1. **Reject-Remove and Replace:** PQM reviews and approves
2. **Remedy-Rework to meet the Project Agreement Requirements:** PQM reviews and approves
3. **Remedy-Repair to Acceptable Standards:** requires Project Manager, O&M Manager, Design Manager, and Department Approval
4. **Remedy-Leave As-Is:** requires Project Manager, O&M Manager, Lead Designer, and Department Approval

The disposition will be identified and submitted to the parties noted above for Approval within five Working Days of the NCR being issued. In the case of a “remedy” disposition, the request will identify the proposed remedy requested.

9.3.3 DISPOSITION APPROVAL

KMP’s O&M Manager will review all NCRs to evaluate if the NCR disposition will affect the performance and measurement criteria, either during Construction or after Construction, for the Work element identified in the NCR. The O&M Manager will also review the remedy period for completion of the Work as it relates to the performance and measurement criteria.

KMP's Project Manager and PQM will review and approve the disposition prior to submitting it to the Department for Approval. The Department will approve all "remedy" dispositions for Nonconforming Work, including the schedule for completion. KMP will not commence with any Nonconforming Work remedy or progress beyond Nonconforming Work until the Department has provided its Approval. After the disposition is agreed to, action will be taken to eliminate the detected nonconformity in compliance with the remedy or replacement approved by the Department.

9.3.4 ROOT CAUSE ANALYSIS

A root cause analysis, as previously discussed in Section 7.2.5, is performed if one of the following situations applies to the detected nonconformance, or at the discretion of the PQM:

- Incident exceeds the amount of $10,000 in rework cost
- Frequency of an issue, based on trending and analysis
- Has a potential for severity (safety, environmental, equipment)
- Failure to meet contract performance requirements
- Weld reject rate over 10%
- Results in a lost time accident
- Violation of a stop Work order
- May be performed on issues identified on the Four Square matrix in the Ongoing Issue box

9.3.5 CORRECTIVE ACTION PLAN

The Corrective Action Plan will detail the proposed Corrective Action to take place in relation to the Nonconforming Work, and outline actions to prevent recurrence. It will also assign responsibility for completing the Corrective Action, and include a schedule for the corrective work. More details on the Corrective Action Plan procedures will be provided in the next submittal of this QMP.

The Corrective Action Plan will be approved by the Department prior to implementation. KMP will also submit a Corrective Action Plan to the Department if the Department issues a Corrective Action Request (CAR) to KMP for any systemic Nonconforming Work.

9.3.6 NCR CLOSEOUT

The PQM will close out an NCR when the product or process has been re-inspected and all documentation has been reviewed and approved by the PQM or designee and the Department.

Rework cost associated with Nonconforming Work will be documented in the NCR workflow.

KMP's weekly quality meeting will serve to review unresolved quality issues, including NCNs and NCRs. An updated Nonconforming Work Log will be submitted to the Department weekly, and the CPCM and Design Manager will review all NCNs and NCRs for trends to determine if Corrective Action Plans are needed.

Records of nonconformances will be maintained, including:

- Nonconforming Work Log

- Nonconformance Report (controlled record)
- Stop Work Notice (controlled record)
- Nonconformance Notice (NCN) (controlled record)

9.4 NONCOMPLIANCE POINTS

The performance mechanism will follow Schedule 6 of the Project Agreement. Information for this Section will be supplied in the next submittal of this QMP.

10. Quality Oversight by the Department

10.1 DEPARTMENT VERIFICATION REVIEWS

The Department will collect and document objective evidence for its verification reviews to determine whether the Project Agreement requirements have been met. The results will be recorded by the Department and documented with its QRD. The Department will perform the following verification reviews:

10.1.1 DESIGN VERIFICATION REVIEWS

The Department will perform Design verification reviews on the products of Design (drawings, specifications, and other Design deliverables) on an ongoing basis during the performance of the Work. KMP will submit documents for Design verification reviews to the Department for Acceptance a minimum of five Working Days in advance of a review meeting.

10.1.2 CONSTRUCTION VERIFICATION INSPECTIONS

The Department will perform construction verification inspections on Construction activities.

10.1.3 CONSTRUCTION VERIFICATION TESTING

The Department will perform sampling and testing of materials to validate KMP's IQC testing program. Verification test results will be stored in the QRD.

10.1.4 PROCESS AUDITS

The Department will perform process audits on the implementation of all KMP Work activities, excluding Design and Construction. Such activities may include the Project Agreement requirements, such as Public Information, Maintenance of Traffic, environmental compliance, safety, project management processes, and meeting the requirements of the Approved QMP.

The Department's observations will be identified either as conforming or nonconforming to the Project Agreement requirements; observations will be presented to KMP through Department Quality Oversight Verification Reports. KMP will respond to NCNs identified by the Department from a verification review electronically so that responses may be uploaded into the QRD.

11. Deliverables

11.1 DELIVERABLES TO THE DEPARTMENT

KMP's Quality Management Plan has been designed to assure the Department that all deliverables will be developed, reviewed, and submitted in accordance with Project Agreement.

11.2 CERTIFICATION OF COMPLIANCE

The PQM shall provide certifications of the Work per the Project Agreement. These certifications will be submitted to the Department prior to each Milestone Completion, prior to Substantial Completion, prior to Final Acceptance, or at time requested by the Department. The PQM will verify that KMP's Work (including Work by designers, subconsultants, subcontractors, suppliers, and fabricators) has been checked and/or inspected by PC and IQC program staff, and that all Construction Work conforms to the requirements of the Project Agreement.

ATTACHMENT 1

Relates to Appendix D, QMP

Kiewit meridiam PARTNERS

Sample Materials Testing and Inspection Plan

SUBMITTED TO:

Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

Central 70 - Example Materials Testing and Insepction Plan

SPEC	ITEM	PARAGRAPH	PROPERTY OR CHARACTERISTIC	TEST/INSP METHOD	FREQ. OF TESTS/INSP.	requirements	Responsible Person
SECTION 401	PLANT MIX PAVEMENTS – GENERAL	401.02	Composition of Mixtures	Test		Tests for cleanliness, abrasion loss, and percent of fractured faces will be made on representative samples of aggregate taken during production or from the stockpiles.	QC
		401.02		Test		Hot mix asphalt (HMA) may be tested for moisture susceptibility by RTD in accordance with Table 401-2. If a sample fails to meet the criteria shown in Table 401-2, the Contractor shall take corrective action before being permitted to continue production. If proper corrective action cannot be readily determined, the Engineer will suspend the use of such material until laboratory tests indicate that the corrective measures taken by the Contractor will provide material that is in compliance.	QC
		401.02		CP L-5109 Method B	One per 10,000 tons or fraction thereof (minimum)	Pavement samples for possible moisture susceptibility testing will be taken at a minimum frequency of once every 2000 tons throughout the Project. The Quality Department will observe the sampling, take possession of the samples, and retain these samples for possible testing. Sample size shall be a minimum of 20 pounds. If a 10,000 ton sample fails then the four 2000 ton samples from the area represented by that failing 10,000 ton sample will be tested for moisture susceptibility. The 10,000 ton result and the four 2,000 ton results will be considered a lot of five and will be evaluated according to the formulas and procedures in Subsection 105.03 of the Standard Specifications. If less than four retained samples are on hand because the 10,000 ton sample represents less than 8000 tons of hot mix asphalt, the price adjustment will be based on the test results from the retained samples on hand plus the test result from the 10,000 ton sample.	QC
SECTION 403	HOT MIX ASPHALT PAVEMENT	403.02	Mix Design	Verification		The design mix for hot mix asphalt shall conform to the following: Table 403-1 HOT MIX ASPHALT MIXTURE PROPERTIES	QC
SECTION 406	COLD ASPHALT PAVEMENT (RECYCLE)	406.03	Weather Limitations	Verification		Daily recycling operations shall not begin until the atmospheric temperature is 55 ºF and rising. Recycling operations shall be discontinued when the temperature is 60 ºF and falling. Recycling operations shall not be performed when the weather is foggy or rainy, or when weather conditions are such that the proper mixing, spreading, compacting, and curing of the recycled material cannot be accomplished. Cold recycled pavement damaged by precipitation shall be reprocessed or repaired by methods approved by the Engineer, at the Contractor's expense.	QC
		406.03		Verification		The construction of cold recycled pavement will not be allowed from September 16 through May 14 unless otherwise approved. The Contractor's Progress Schedule shall show the methods to be used to comply with this requirement.	QC
		406.04	Milling	Verification		Adjacent recycling passes shall overlap at the longitudinal joint a minimum of 4 inches. The beginning of each day's recycling operation shall overlap the end of the preceding recycling operation a minimum of 100 feet unless otherwise directed.	QC
		406.05	Mixing	Verification		An allowable tolerance of plus or minus 0.2 percent of the initial design rate or directed rate of application shall be maintained at all times.	QC
		406.07	Compacting and Finishing	CP 53		The recycled material shall be compacted to a minimum of 100 percent of the density of a laboratory specimen compacted in accordance with CP 53. If the area tested fails to meet the required density, the area shall be reworked until it attains 100 percent compaction. The frequency of density testing for project acceptance will be one per 5000 square yards. The Engineer will perform one CP 53 for calculation of the percent relative compaction with each field density taken.	QC
SECTION 408	JOINT AND CRACK SEALANT	408.01	JOINT AND CRACK SEALANT	Verification		This work consists of furnishing and placing an approved hot poured joint and crack sealant in properly prepared cracks in asphalt pavements. Cracks with a width greater than 1/8 inch and less than 1 inch are to be filled with this material.	QC
		408.03		Verification		The face of the crack shall be surface dry and the air and pavement temperatures shall both be at least 40 °F and rising at the time of sealant application.	QC
SECTION 409	SEAL COAT	409.04	Weather Limitations	Verification		Asphalt material shall not be applied on a damp surface, when either the air or pavement surface temperature is below 70 °F, or when weather conditions would prevent the proper construction of the seal coat.	QC
Section 412 Portland Cement Concrete Pavement	Concrete: Mix Design & Production	412.03	Class P	Verification		Concrete shall conform to the requirements for Class P concrete as specified in Section 601, unless it is fast track concrete pavement, which shall conform to the requirements for Class E concrete as specified in Section 601.	QC
Section 412 Portland Cement Concrete Pavement	Concrete Placement	412.07.b		Verification		The full width and depth of concrete requiring a finishing machine shall be consolidated by a single pass of an approved internal vibrator. Internal vibrators shall be operated within a frequency range of 4,000 to 8,000 vibrations per minute (VPM)	QC
		412.07.b		Verification		The use of surface vibrators shall be approved by the Engineer prior to use. Surface vibrators shall be operated within a frequency range of 3,500 to 6,000 VPM.	QC
		412.07.b		Verification		An electronic monitoring device displaying the operating frequency of each individual internal vibrator shall be required for mainline pavement exceeding 600 feet in length	QC
		412.07.b		Verification		Vibrators shall meet or exceed the following specifications at manufacturers design frequency of 10,000 VPM:(1) Amplitude (peak to peak) 0.070 inch (2) Centrifuge force 1200 pounds	QC
Section 412 Portland Cement Concrete Pavement	Concrete Placement	412.06		Visual Inspection		Mixing shall conform to the requirements of subsection 601.07	QC
Section 412 Portland Cement Concrete Pavement	Concrete Placement	412.15		Verification		The Contractor shall maintain the temperature of the pavement at or above 40 ˚F until the pavement has attained a compressive strength of at least 2000 psi. The compressive strength of the concrete shall be determined by the use of maturity meters.	QC
				Verification		The following procedures shall be followed if the temperature of the concrete pavement falls below 32 °F before the concrete reaches 2000 psi: 1.The Contractor will take cores at locations designated by the Engineer. 2.The Engineer will take immediate possession of the cores and submit the cores to a petrographer for examination in accordance with ASTM C 856. 3.All costs associated with coring, transmittal of cores, and petrographic examination shall be borne by the Contractor regardless of the outcome of the petrographic examination. 4.Pavement damaged by frost as determined by the petrographic examination, shall be removed and replaced at the Contractor's expense.	QC
Section 412 Portland Cement Concrete Pavement	Concrete Placement	412.09	Limitations			Limitations on the placing of concrete shall conform to subsections 601.12 (b) and (c), and 412.15	QC
		412.20.b	Concrete Pavement Overlays			Trimming will not be required. The Contractor shall place a bond breaker, if specified in the Contract, before placing the concrete. The Contractor shall furnish a machine to develop and establish a profile grade for the new pavement. The method used will be by dual slope laser mounted on a 30 foot ski.	QC

EXAMPLE

ATTACHMENT 2

Relates to Appendix D, QMP

Kiewit meridiam PARTNERS

Controlled/ Uncontrolled Documents

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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Quality Records	Controlled Records	Uncontrolled Records
Project Start Up		
Request for information (RFI)	X	
Department correspondence	X	
List of expectations/key quality concerns		X
Subcontractor/material supplier risk matrix	X	
Subcontracts and materials contracts	X	
Project quality plan review and Kick-Off Meeting	X	
Work Planning		
Work plans		X
Inspection and test plan	X	
Pre-activity Meeting attendees and minutes	X	
Shop drawings and submittals	X	
Field Execution		
Play-of-the-Day		X
Self-inspection checklists		X
Visibility, recognition and accountability		X
Source inspections	X	
Materials receiving inspections		X
Certificates of compliance/materials test reports	X	
Inspections and tests for the Acceptance of Work	X	
Qualifications or certifications of inspection and testing personnel and equipment	X	
Calibration of measuring and test equipment	X	
Client progress meeting minutes	X	
Schedule meeting minutes		X
Quality Task Force Meetings		X
Four Square matrix		X
Quality tours		X
Contract change orders	X	
Department inquiries, feedback, or complaints		X
Continual Quality Improvement		
Client engagement surveys	X	

Quality Records	Controlled Records	Uncontrolled Records
Nonconformance reports/deficiencies	X	
Management reviews	X	
New hire training		X
Explanation of Department expectations		X
Technical training in standards or requirements		X
Quality program training	X	
Quality toolbox meetings		X
Awareness training (tours and alerts)		X
Internal quality audits and assessments	X	
Analysis of data		X
Root cause analysis/Corrective Action Plan	X	
Preventive action/Lessons learned	X	

ATTACHMENT 3

Relates to Appendix D, QMP

Kiewit meridiam PARTNERS

Quality ATC Submissions and Responses

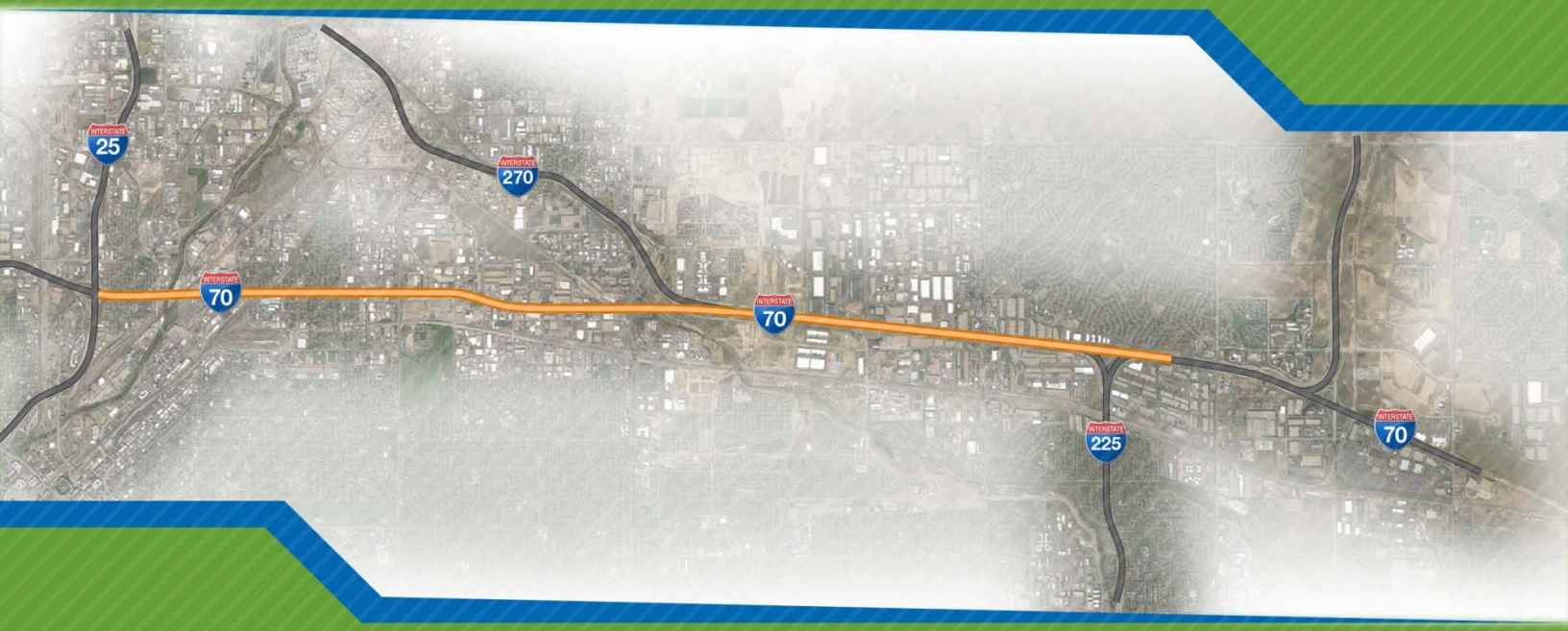
SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

Central 70

Central 70 Project

Alternative Technical Concept Submission

ATC 9.1



Submitted to:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

Kiewit meridiam PARTNERS

Detailed ATC Submission

CONFIDENTIAL

April 12, 2016

ANNEX 3: ALTERNATIVE TECHNICAL CONCEPT SUBMISSION FORM

Proposer Name: Kiewit-Meridiam Partners
Date: April 12, 2016
Central 70 Project RFP: ATC Submission No. 9.1
Independent Quality Control

ATC 9.1 Benefits

- ✓ $17,000,000 Cost Savings
- ✓ Equal or Better Performance
- ✓ Provides ISO 9001:2008 **Certification**
- ✓ Supports More Efficient Construction Scheduling
- ✓ Provides Greater Opportunity for DBE/ESB/SBE Involvement and Workforce Development

A. Background Information

1. Type of Submission
   - ☐Conceptual ATC
   - ☒Detailed ATC
2. Prior Submission
   - ☐None (initial submission of ATC)
   - ☒Previously Submitted as Conceptual ATC
   - ☐Previously Submitted as Detailed ATC
3. Explanation of Reason for Resubmission
   Response to initial submittal 9.0 was "conditional approval for re-submission as a Detailed ATC"
4. Request for Discussion at One-on-One Meeting
   - ☒Meeting Requested
   - ☐Meeting Not Requested

B. General ATC Submission Requirements

1. Overview Description

This information *has not been* amended since the submission of the previous version of this ATC.

At the December 10, 2015 technical one-on-one meeting, Kiewit-Meridiam Partners (KMP) discussed using qualified and experienced personnel internal to the KMP organization to self-perform the Independent Quality Control (IQC) activities. This ATC outlines our proposed quality approach (Proposed Quality Model) which provides a **significant cost-savings** to the Department **without loss of IQC independence**. Our approach would replace the requirement for an Independent Quality Control Firm (IQCF) with internal resources, supplemented as necessary with third party firms, to self-perform the IQC activities. Currently, Schedule 8 Paragraph 6.2.5.b of the Project Agreement (PA) requires the Developer to employ an IQCF who will be responsible for administering and managing the construction IQC inspection, sampling, and testing.

Protecting the interests of the Department is of utmost importance under any quality model. To achieve this, KMP's IQC group will be completely independent of construction and design operations. This is evidenced by comparing the two organization charts on **Attachment A**. As can be seen by comparing the two charts, equal independence is maintained between the two organizations the only difference being that under KMP's proposed quality approach personnel from within our organization perform the IQC activities in lieu of using an IQCF. KMP has access to over 300 fulltime qualified quality personnel within their organization to build a tailored and experienced IQC Group for the Central 70 Project (Project).

To ensure all applicable standards and specifications are met, all KMP personnel and laboratories will be qualified in accordance with CDOT Standard Specifications for Road and Bridge Construction 2011 Section 106.04 and Colorado Procedure 10, as referenced in 23 CFR § 637.207. Additional details regarding KMP's procedure for guaranteeing personnel and laboratories are qualified will be provided in the Draft Stage I and II Quality Management Plans.

Current RFP requirements (Schedule 8 Paragraph 6.1.1) require KMP to **comply** with International Organization for Standardization (ISO) 9001: 2008, quality management processes. To meet the most stringent quality standards, KMP's IQC Group will **certify** the Project under ISO 9001: 2008. KMP's lead contractor, Kiewit Infrastructure Co., is ISO 9001: 2008 **certified** and has strong experience certifying projects to the strict ISO standards; locally, the Denver Union Station and I-225 Light Rail Projects have been ISO 9001: 2008 certified.

KMP has extensive experience in using both the KMP Proposed Quality Model and an IQCF. It is clear, given past experience, that the KMP Proposed Quality Model provides tremendous benefits to the Project. Some of the many benefits are highlighted below:

- **Cost Savings to the Department**: The total approximate cost savings of the Proposed Quality Model is approximately $17,000,000. By allowing KMP to self-perform the IQC activities, a layer of cost multipliers is eliminated. Additionally, this allows KMP to more efficiently manage inspection and testing man-hours.
- **DBE/ESB/SBE/Workforce Development:** the KMP Proposed Quality Model provides additional opportunities to supplement KMP's IQC group with local DBEs, ESBs, SBEs, and promote workforce development in the local communities. The KMP Proposed Quality Model will also provide unique opportunities to introduce local workforce into the project through the on the job training program.
- **One Integrated Project Team:** KMP's IQC group will be fully immersed in the project. KMP's IQC group will be working solely on this Project which will ensure that all members understand the project as it progresses to ensure their safety, comprehensive understanding of the project goals, and allows for greater flexibility in scheduling.
- **Greater Familiarity with Project Requirements:** By dedicating KMP's IQC group solely to the Project, our team will have a thorough understanding of the Project's standards and specifications. This greater familiarity will help reduce common inspecting and testing errors to ensure high quality throughout the construction period.

2. Relevent RFP Requirements

This information ***has been*** amended since the submission of the previous version of this ATC.

KMP proposes amendments to Schedule 8 of the PA in the following paragraphs: 2.1.1.d, 6.1.1, 6.2.5.b, 6.2.5.e, and 6.2.7.e. Please reference **Attachment B** for the proposed revisions.

For a complete list of proposed drafting revisions see Part C Section 5 of this ATC.

3. Rationale

This information *has not been* amended since the submission of the previous version of this ATC.

KMP has a vested interest in building a high quality asset that will be easily maintained throughout the O&M period, meets the handback requirements, and exceeds the expectations of the Department, local communities, and Stakeholders. KMP is uniquely positioned to perform the Proposed Quality Model because of strong past experience and success with this approach as outlined in Section 7 of this ATC submission.

The Proposed Quality Model aligns with the Project Goals set forth in the RFP as follows:

- **Safety:** KMP's IQC group will be working onsite fulltime and will fully understand the changing conditions that take place daily throughout the course of the project which will promote a safer work environment
- **Optimizes Scope:** This ATC reduces overall cost of the Project by approximately $17,000,000
- **Lifecycle Costs:** High quality construction will reduce O&M costs throughout the life of the project and reduce future impacts to mainline traffic
- **Minimize Impacts to the Public:** Flexibility of the IQC group will allow KMP to more effectively manage operations to complete work timely and minimize impacts to the local businesses and the travelling public
- **Community Engagement:** Provides a greater opportunity to engage local businesses and workforce to supplement the IQC Group which will promote a sense of pride and ownership of the Project throughout the community

Port Mann and Highway 1 Improvements

"Kiewit's quality program was successfully implemented and helped contribute to the overall success of the project. Kiewit was responsible for both QC and QA activities, which was accomplished by utilizing a staff of internal QC and QA personnel including in house materials testing. One of the main factors that helped contribute to their ability to effectively perform this function internally was the utilization of a group of qualified quality professionals that were completely independent of all production activities. This group reported directly to the joint venture board, comprised of offsite executives and also liaised directly with our Quality Staff. This allowed the quality organization to be an independent entity, eliminating any potential influence from the individuals managing daily operations."

Ed Gohl, Quality Director, Transportation Investment Corporation

Transportation Expansion Project (TREX)

"Within the contractor's project management structure, QA and QC managers and support staff reported directly to the joint venture board, comprised of company executives. This reporting structure allowed the quality organization to be an independent entity, eliminating potential conflicts between individuals managing daily operations and those assessing quality control and assurance."

CDOT, 2007 NPHQ National Achievement Award - Transportation Expansion Project (TREX)

4. Impacts

This information *has not been* amended since the submission of the previous version of this ATC.

The KMP Proposed Quality Model will positively affect the overall quality of the Project and reduce impacts for Stakeholders.

5. Cost and Benefits Analysis

This information *has not been* amended since the submission of the previous version of this ATC.

Initial cost analyses suggest a savings to the Department of approximately $17,000,000. Additional cost savings may be realized due to early schedule delivery or under budget work.

The KMP Proposed Quality Model has produced many high quality projects on time and under budget with cost savings of approximately 1-3% of total job cost to the Clients.

Table 1, on **Attachment A**, compares the QA/QC cost of eight of KMP's Lead Contractor's projects – four projects using the Proposed Quality Model and four projects which used an IQCF. As shown on Table 1, there is considerable savings in the QA/QC cost on the projects using the KMP Proposed Quality Model instead of an IQCF.

6. Schedule Analysis

This information *has not been* amended since the submission of the previous version of this ATC.

The KMP Proposed Quality Model uses a dedicated team that can respond to construction schedule requirements and work with the KMP delivery team to develop highly efficient construction schedules. This will facilitate the prompt identification and mitigation of potential issues and help foster effective solutions, thus reducing non-conforming work.

7. Conceptual Drawings

This information *has not been* amended since the submission of the previous version of this ATC.

N/A

8. Past Use

This information *has not been* amended since the submission of the previous version of this ATC.

The KMP Proposed Quality Model has been successfully used on a number of Design-Build projects and Public Private Partnerships throughout the country, including:

- Denver Union Station, Denver, CO
- Transportation Expansion Project (TREX), Denver, CO
- Port Mann Highway 1 Project, Vancouver B.C. Canada

- I-15 Project, Salt Lake City, UT

The success of the KMP Proposed Quality Model is best displayed through the words of former clients as shown at right and on **Attachment A.**

9. Additional Information

This information ***has been*** amended since the submission of the previous version of this ATC.

As requested in the response to the conceptual ATC Submission 9.0, KMP is providing the following list of projects and associated client contacts where the proposed Quality Model has been successfully implemented.

Project	Location	Client	Client Contact	Phone Number
Denver Union Station	Denver, CO	DUSPA (Denver Union Station Procuring Authority)	[redacted]	[redacted]
I-25 SE Corridor (T-REX)	Denver, CO	T-REX Project Team	[redacted]	[redacted]
Gateway/Port Mann Hwy 1	Vancouver, B.C. Canada	TI-Corp (Transportation Investment Corporation)	[redacted]	[redacted]
I-15	Salt Lake City, UT	UDOT	[redacted]	[redacted]
DART Orange Line - 1&2	Irving, TX	DART (Dallas Area Rapid Transit)	[redacted]	[redacted]
DART Orange Line - 3	Irving, TX	DART (Dallas Area Rapid Transit)	[redacted]	[redacted]
Mid Jordan LRT	Salt Lake City, UT	UTA (Utah Transit Authority)	[redacted]	[redacted]

Attachments C and D are not included in this copy per agreement from the Department

We have also attached Quality Management Plans from T-REX (**Attachment C**) and Port Mann (**Attachment D**). These two plans portray the continuous improvement that takes place internally to enhance our Quality Program and to demonstrate our long term proven experience implementing this Quality Model. The Draft Stage I and Stage II plans to be submitted with the Technical Proposal will be updated for the specific Project requirements and reflect the evolution of our Quality Program to clearly depict Process Control and Quality Control that are both independent of each other and of all construction and design operations.

- T-REX QMP **(Attachment C)** – please reference the following sections to see how Quality Control was clearly separated from the construction and design operations.

(Page numbers referenced below are associated with this Detailed ATC 9.1 Submission pages 1-1553.)

- Quality System Manual: **Organization and Responsibility**
  - Sections 4.5, 4.6, 4.7, 4.8, 4.10, 4.11, 4.15 (Pages 34-37)
- Quality System Procedure: UP-999-Q13 **Test Procedures and Reports**
  - Section 2-5 (Pages 149-150)

- Port Mann QMP **(Attachment D)** – please reference the following sections to see how the Quality Control was clearly independent of the construction and design operations. (Page numbers referenced below are associated with this Detailed ATC 9.1 Submission pages 1-1553.)
  - Quality Manual: **Responsibility and Authority**
    - Section 5.5.1 b, c, d, g, h, j , Figure 5.1 and Figure 5.1a (Pages 959-966)
    - Section 8.2.6, 8.2.7 (Pages 983-984)
  - Quality System Procedure 10: **Inspection and Testing**
    - Sections 3.1, 5.1. & 5.2 (Pages 1102 and 1105-1106)
  - Construction Quality Management Plan
    - Section 5.5.2 (Pages 1203-1202)
    - Section 5.5.7 (Page1207)
    - Sections 5.5.9.2, .3, .4 (Pages 1209-1211)
    - Appendix B (Page 1228)

The commitment to quality for KMP is portrayed through the commitment of the Lead Contractor Kiewit and the Lead Designer Parsons Brinkerhoff (PB). See **Attachment E** for Quality Commitment letters from both Kiewit and PB.

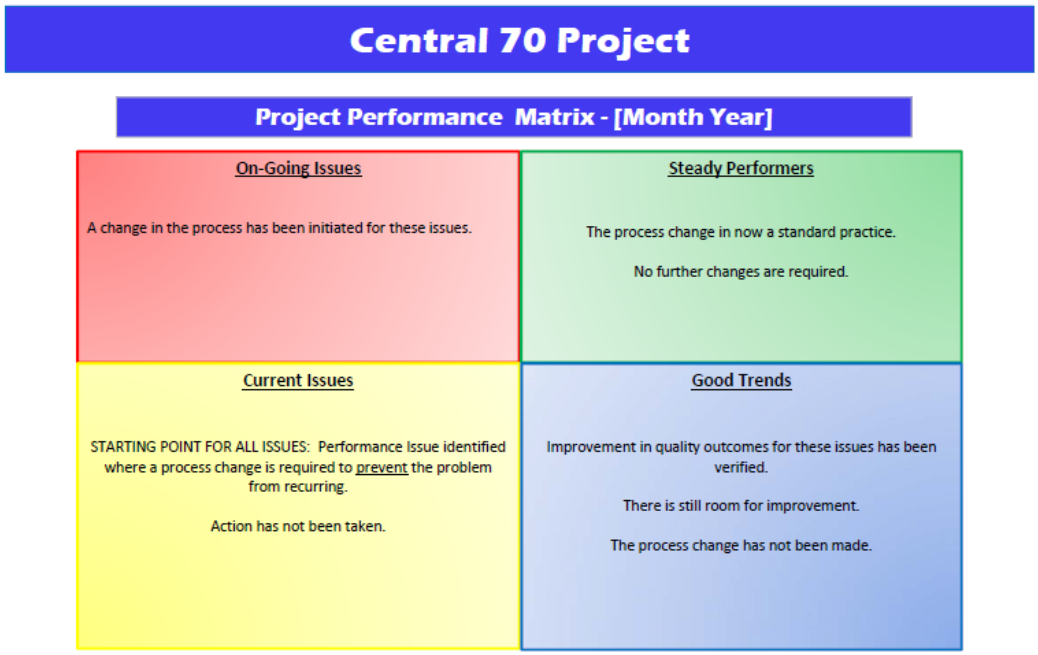
C. Detailed ATC Requirements

1. Risks

The KMP Proposed Quality Model will positively affect the overall quality of the Project and will not create any additional risks for the Department or other Project stakeholders.

The following safe guards will be in place throughout the construction period to ensure the IQC staff is completely independent and not responsible for the production of any construction or design operations.

- **ISO Certification Reviews:** The QMP will be certified under ISO 9001:2008 (or equivalent ISO standard in effect when the QMP is submitted); this is a three year certificate and the QMP will be audited by the certifying organization periodically to maintain certification through the construction and design period
- **Organizational Independence:** As shown on the proposed organization chart in **Attachment A** the Quality Control group including PQM, IQCM, and IDQM is independent from the construction and design operations and the PQM communicates directly with the Department. All records of inspection and testing activities will be submitted directly to the Department.
- **Quarterly Quality Only Meetings:** KMP will hold quarterly quality only meetings with the Department and KMP Executive Management to have an open and transparent forum to review the quality program without the influence of design or construction.
- **Four Square Matrix:** KMP will utilize the Four Square Matrix, shown on the following page, to track project and quality issues. This matrix will be reviewed weekly with the Department in the Weekly Quality Meeting and will be used to clearly identify items that the Department identifies as on-going issues, current issues, good trends, and steady performances. The Matrix is a visual tool for KMP and the Department to use to communicate issues and good trends on the project and to ensure concerns are being addressed. See **Attachment F** for the Four Square Matrix procedure.



- **Internal Audits:** Kiewit Corporate will perform internal audits of the quality program annually to ensure the QMP is being followed.
- **Operation and Maintenance Oversight:** KMP's O&M group is empowered through the interface agreement to participate in QC oversight throughout the construction period to verify that the Work is installed per the PA **and the jointly developed design.**
- **Department Oversight:** The Department Quality Oversight is another layer that will validate compliance with the PA; KMP invites the Department to participate at any step throughout the construction and design process to perform over-the-shoulder checks, testing verification, and to facilitate Department audits.
- **Stop Work Authority**: All IQC personnel have the authority to stop Work, as appropriate, that does not comply with the requirements of the PA.
- **Management Commitment:** Management commitment is such that IQC staff has no role in management of production or construction and design operations; see attached Management Commitment letters provided in **Attachment E.**

KMP understands the importance for independence between the construction and design operations, Process Control, and IQC. It is imperative to KMP that all three of these elements remain independent of each other to ensure that the Quality Program exceeds the expectation of the Department.

2. Handback

There is no change in handback procedures or requirements due to this ATC. However, delivering a project using proven design and construction quality processes is essential for optimizing maintenance, operating, and life cycle performance and costs. The proposed Quality

Model ensures that each step of the process will be performed and documented leading to asset quality of the Project elements that meet or exceed expectations.

3. Right-of-Way

This ATC does not require any additional cost or procurement of right-of-way (ROW). ROW will be incorporated in the QMP as required per the PA to ensure that all aspects of the PA are accounted for during the construction and design period.

4. List of Required Approvals

N/A

5. Proposed Drafting Revisions

a) <u>RFP Requirements that are Inconsistent with Proposed ATC</u>

KMP requests that the following sections be revised:

- Project Agreement
    1. Annex A, Part B: Abbreviation of IQCF
- Schedule 8 (Project Administration) of the Project Agreement
    1. 2.1.1.d
    2. 6.1.1
    3. 6.2.5.b
    4. 6.2.5.e
    5. 6.2.7.e
    6. Appendix B - Certificate of Quality Manager
- Schedule 27 (Key Personnel) of the Project Agreement
    1. Project Quality Manger – To be Seconded to/employed by
    2. Independent Design Quality Manager – To be Seconded to/employed by
    3. Independent Quality Control Manager – To be Seconded to/employed by

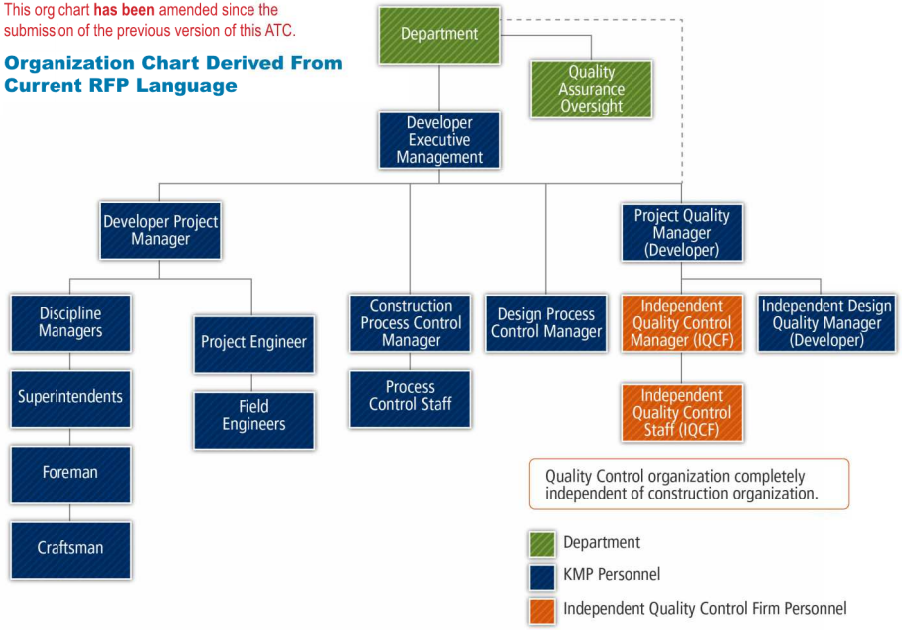
b) <u>Proposed Revisions to address Inconsistencies</u>

KMP has included the following files with tracked changes for the changes in the sections listed above.

- Project Agreement as shown in **Attachment G**
- Schedule 8 (Project Administration) of the Project Agreement as shown in **Attachment H**
- Schedule 27 (Key Personnel) of the Project Agreement as shown in **Attachment I**

This org chart **has been** amended since the submission of the previous version of this ATC.

Organization Chart Derived From Current RFP Language



This org chart **has been** amended since the submission of the previous version of this ATC.

Organization Chart of KMP's Proposed Quality Approach

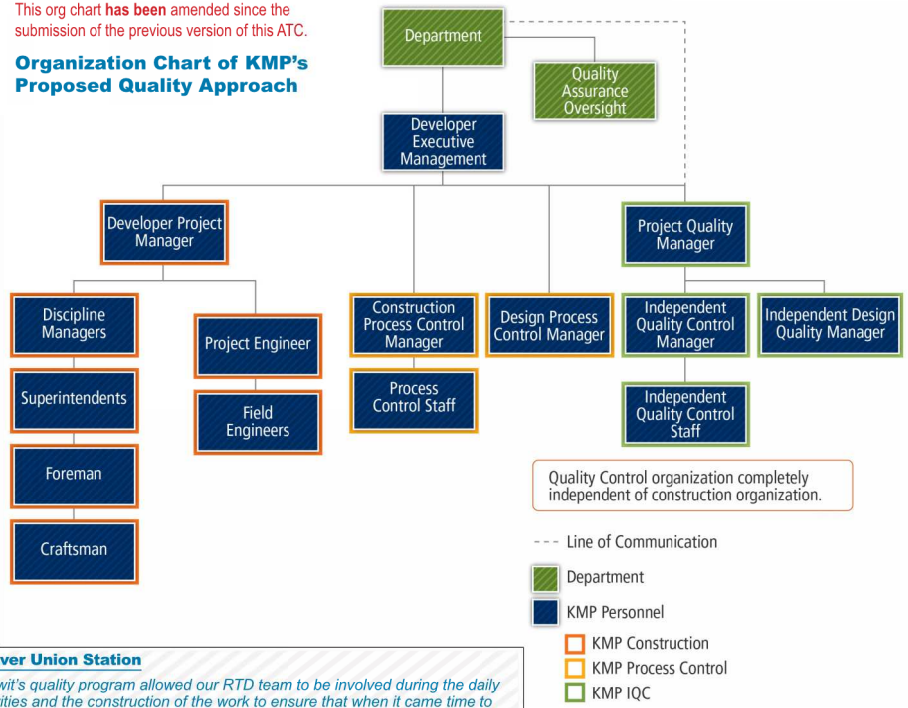


Table 1 - Project Comparison

Project	Location	Project Value	IQCF (Y/N)	Total QA/QC as a % of total cost	QA/QC Cost per Craft Man-hour
Denver Union Station	Denver, CO	$387,000,000	N	[redacted]	[redacted]
I-25 SE Corridor (T-REX)	Denver, CO	$1,150,000,000	N	[redacted]	[redacted]
Gateway/Port Mann Hwy 1	Vancouver, B.C. Canada	$2,280,000,000	N	[redacted]	[redacted]
I-15 Project	Salt Lake City, UT	$1,260,000,000	N	[redacted]	[redacted]
DFW Connector	Dallas, TX	$910,000,000	Y	[redacted]	[redacted]
Border West Expressway	El Paso, TX	$415,000,000	Y	[redacted]	[redacted]
JC Gateway Interchange	Lenexa, KS	$271,000,000	Y	[redacted]	[redacted]
Intercounty Connector, Contract B	Beltsville, MD	$458,000,000	Y	[redacted]	[redacted]

Denver Union Station

"Kiewit's quality program allowed our RTD team to be involved during the daily activities and the construction of the work to ensure that when it came time to turn over the work, all the problems had been resolved and we were in a position to accept the product."- Jeff Kay, RTD Denver Union Station Deputy Project Manager

I-15 Corridor Reconstruction

"UDOT had a tremendous challenge to deliver the $1.7 billion, I-15 design-build project in four and one-half years that would showcase Salt Lake City to the world as it was about to host the 2002 Winter Olympic Games. Needing to completely reconstruct 17 miles of freeway, including 2 major freeway to freeway interchanges and 140 bridges, under 200,000 vehicles a day while producing the highest quality facility possible was daunting. As the first DOT led mega design-build project undertaken in the U.S. and prior to FHWA regulations on design-build and QC/QA/oversight requirements, I had the responsibility to develop a quality management approach that met UDOT's high quality expectations and deliver the project on time and on budget. I knew we did not have the time nor the budget to try and "inspect in quality" that quality had to be job-one for the contractor and workers that were to build to facility. Thus, Wasatch Contractors, with Kiewit as the Lead Contractor, performed the quality control functions for the project and also had the quality assurance responsibilities. UDOT was responsible to oversee the contractor's efforts and validate the work that was produced met the contract requirements and our expectations. The combined result of UDOT's and the Contractor's efforts, has become a model to state DOTs across the country on how to deliver a mega design-build project on time and on budget while meeting the highest quality expectations and established a benchmark for FHWA as they developed the federal regulations on how to structure a quality program for design-build delivery." - David Downs, UDOT I-15 Project Director

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REFERENCE	SECTION	PAGE
B.1	OVERVIEW DESCRIPTION	2
B.5	COST AND BENEFIT ANALYSIS	4
B.8	PAST USE	5
C.1	RISKS	6

ALTERNATIVE TECHNICAL CONCEPT
INDEPENDENT QUALITY CONTROL
ATTACHMENT A

ATC NUMBER
9.1

SHEET NUMBER 1 OF 1

This attachment **has been** amended since the submission of the previous version of this ATC.

Paragraph 2.1.1.d RFP Text:
"A quality management organizational chart and description, indicating the roles, responsibilities and structure of the respective quality management, Process Control and IQC staff (Developer and IQCF),, down to and including field inspection, and testing for the Work for all shifts;"

Paragraph 2.1.1.d Proposed Revision:
"A quality management organizational chart and description, indicating the roles, responsibilities and structure of the respective quality management, Process Control and IQC staff ~~(Developer and IQCF)~~, down to and including field inspection, and testing for the Work for all shifts;"

Paragraph 6.1.1 RFP Text:
"...Processes and procedures established in the QMP shall comply with International Organization for Standardization (ISO) 9001:2008, or equivalent ISO standard in effect on the date the QMP is submitted...."

Paragraph 6.1.1 Proposed Revision:
"...Processes and procedures established in the QMP shall ~~comply~~ be certified under International Organization for Standardization (ISO) 9001:2008, or equivalent ISO standard in effect on the date the QMP is submitted...."

Paragraph 6.2.5, b RFP Text:
"Developer shall secure for the Project an Independent Quality Control Firm (IQCF) which shall be an independent engineering/testing firm employed by the Developer responsible for administering and managing the construction IQC Inspection, sampling, and Testing. The IQCF and any Subcontractors or sub-consultants thereto must not be a Developer Related Entity or any Affiliate thereof."

Paragraph 6.2.5, b Proposed Revision:
"Developer shall ~~secure for the Project an Independent Quality Control Firm (IQCF) which shall be an independent engineering/testing firm employed by the Developer~~ ensure Quality Control is being performed by a group completely independent of anyone responsible for construction of the work. Independent Quality Control (IQC) shall be an independent group employed by the Developer responsible for managing the construction IQC Inspection, sampling, and Testing. The IQCF and any subcontractors or sub-consultants thereto must not ~~be a Developer Related Entity or any Affiliate thereof~~ have any responsibilities for scheduling or production activities."

Paragraph 6.2.5, e RFP Text:
"At a minimum, the IQCF testing shall include the observations, measurements, and documentation specified in the CDOT Field Materials Manual and its Frequency Guide Schedule for minimum materials sampling, testing, and inspection for all quality acceptance tests required. Items identified as pre-tested or pre-inspected by the Department shall remain the responsibility of the Developer. The IQCF shall document the results and show if the test passed or failed based on the "pass/fail criteria" established in the Project Agreement. The IQCF shall include failing tests results in the test documentation."

Paragraph 6.2.5, e Proposed Revision:
"At a minimum, the ~~IQCF~~ IQC testing shall include the observations, measurements, and documentation specified in the CDOT Field Materials Manual and its Frequency Guide Schedule for minimum materials sampling, testing, and inspection for all quality acceptance tests required. Items identified as pre-tested or pre-inspected by the Department shall remain the responsibility of the Developer. The ~~IQCF~~ IQC shall document the results and show if the test passed or failed based on the "pass/fail criteria established in the Project Agreement. The ~~IQCF~~ IQC shall include failing tests results in the test documentation."

Paragraph 6.2.7, e RFP Text:
"The Developer shall assign an on-Site Independent Quality Control Manager (IQCM) who shall be an employee of the IQCF and shall be responsible for management of the IQC aspect of the QMP. The IQCM shall report to the PQM and to the Department. The IQCM shall not report to any person or party directly responsible for design or construction production."

Paragraph 6.2.7, e Proposed Revision:
"The Developer shall assign an on-Site Independent Quality Control Manager (IQCM) who shall be a~~n employee of the IQCF~~ independent of production and shall be responsible for management of the IQC aspect of the QMP. The IQCM shall report to the PQM and to the Department. The IQCM shall not report to any person or party directly responsible for design or construction production."

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Attachment E – Quality Commitment Statements

ATC 9.1

Submitted to:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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April 12, 2016

Our Commitment to Quality

QUALITY AT EVERY STEP

At Kiewit, our philosophy on quality is simple — meet or exceed our clients expectations through continuous quality improvement and by building our work right the first time.

We do this by executing a formal quality program designed to ensure we:

Meet requirements. We create work plans that describe the means and methods of performing our work. Pre-activity meetings communicate how our work plans fulfill contract, design and client requirements.

Exceed clients' expectations. We listen and act upon clients' concerns. We treat clients with respect and are transparent in our dealings. Our goal is to build long-term trusting relationships with our clients at all levels.

Eliminate rework. We identify and immediately report quality issues whenever they occur. If there is an issue, root cause analysis is performed to eliminate the causes of quality issues and prevent future occurrence.

Demonstrate continuous quality improvement. By consistently focusing on quality, we commit to excellence in all that we do. We encourage new and innovative ideas to enhance our performance.

Build work right the first time. Our work is continually checked by the supervisors and craftsmen who build the work, ensuring it is built "right the first time."

Competing through Quality

Bruce Grewcock
President and CEO

PRESIDENT'S MESSAGE

About five years ago, a question we posed to ourselves was, "how do we differentiate ourselves from the competition?" The answer became "quality."

The difficulty in establishing a quality initiative at Kiewit was that there wasn't a major problem to be solved. Like any other contractor, we sometimes fell short, but for the most part our people produced quality work for our customers.

And that was the problem. We were "like any other contractor." We did not measure up to our self-image as an industry leader and did not measure up to customer expectations of Kiewit.

Trying to produce change in the absence of a crisis is a tall order. But through the leadership of the initial chair of our Corporate Quality Committee, Steve Hansen, and a then newly-appointed Vice President of Quality, Larry Cochran, there has been a significant culture shift.

The first challenge was to have everyone see the value in approaching quality as a process rather than just an end product. In recent years, project owners have shifted more responsibility for quality program requirements to the contractor. That requires documentation to substantiate that we are building quality into projects each step of the way.

The other challenge was determining how to best fit a culture of quality into the existing culture. Improvement at Kiewit comes about through measurement, accountability and competition, so Steve and Larry's team worked to develop standards that fit those principles. Owners and clients have noted that Kiewit is virtually alone among contractors in establishing self-imposed rather than owner-imposed yardsticks for measuring quality performance.

Striving for excellence in quality has produced an additional benefit that probably should have been anticipated. The planning, organization and management controls it takes to ensure "quality at every step" has helped instill quality into other aspects of our business. The disciplines involved in striving for quality has made us better contractors, and a better company.

Like everything else in our business, the world doesn't stand still. We may have had a head start, but other contractors are getting the message from owners and have begun establishing their own quality programs. And while our quality performance is far better than five years ago, the expectations of project owners are requiring even more focus than before. To borrow a phrase from Peter Kiewit, you might say they are "pleased, but not satisfied" with what we've accomplished.

One of the major successes of Kiewit's Quality Program has been the quality program itself. I congratulate everyone on a successful start-up of an important initiative, and look forward to seeing how much further we can take it over the next five years.

THE MAGAZINE OF KIEWIT CORPORATION
2008 Volume 64
Special Quality Program Five-Year Anniversary Issue

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CONTRIBUTORS
Dave Borisky, Scott Chaney, Larry Cochran, Terry Constable, Brian Drueke, Katie Fields, Tom Harter, Stephen Liu, Frank McDewell, Herb Reuss, Terry Scott, Mike Shaw

To: All U.S. Staff

From: Gregory A. Kelly, President and CEO, U.S.

Subject: **Quality Policy**

Date: February 29, 2016

I personally affirm WSP | Parsons Brinckerhoff's commitment to quality. Quality professional services are required from every employee in the company. To illustrate our solid quality commitment, we will conduct our projects in a manner that is consistent with applicable regulatory requirements, company standard operating processes, and standard industry practices.

The objectives of the quality system are:

- to satisfy all business requirements in a cost-effective manner by doing work correctly the first time and striving for continuous improvement in our work processes
- to provide innovative high-quality methods used to deliver our professional services through teamwork and technical excellence,
- to seek ways to meet or exceed our clients' needs and increase client satisfaction with our service.

Your contribution to quality goals and objectives is fundamental to maintaining WSP | Parsons Brinckerhoff's position at the forefront of the industry. Let's work together to meet these objectives.

Gregory A. Kelly
President & CEO, U.S.
March 2016

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Central 70 Project

Attachment F – Four Square Matrix

ATC 9.1

Submitted to:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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April 12, 2016

Four-Square Performance Issues Matrix Procedure

Purpose
To publicize and organize performance issues on a recurring basis for the purpose of discussion among the project team and the client's representatives. To show and improve on client hot buttons at a glance.

Definition of a Performance Issue
A performance issue is something that requires a process change to prevent the problem from recurring. A *process* change involves changing:

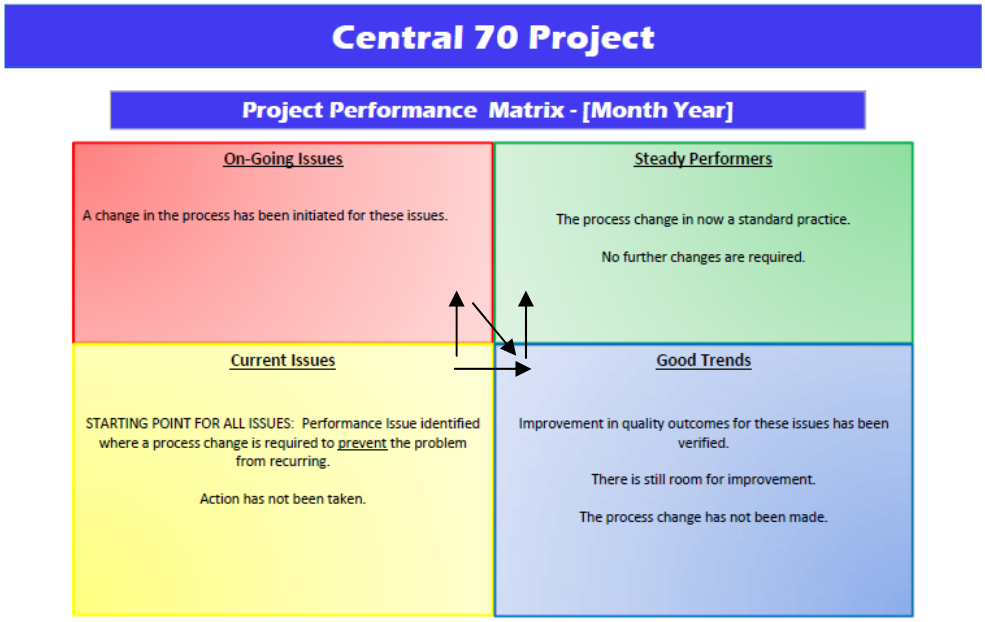
- Procedures (the written way the organization wants work performed)
- Methods (the way an individual does work)
- Tools (including software, checklists, hardware, etc.)
- Equipment
- Skill Level

A Dynamic Chart
The Four-Square Performance Issues Matrix is a snapshot of performance issues on a regular day/week/month basis. This tool is most effective when formulated and reviewed during discussions with the client and project team.

Issues start in Current Issues and then move to either Outgoing Issues or Good Trends; from the Good Trends issues move to Steady Performance. Arrows on the graphic below show movement of the issues. If an issue is in the Current Issues box for more than 30 days and the project team cannot agree that it is trending toward good, it needs to be moved to the Ongoing Issues box. Issues in the Ongoing Issues box should be subjected to a root cause analysis.

The value of this tool is seen through increased communication of performance issues and better understanding of current performance issues by the project team and the client. Everyone on the project can see at a glance what the hot issues are. Project management can focus on issues that are assigned to the yellow and red areas in order to move them over to the green and blue areas on the matrix. Process improvements are easy to display by simply laying out sequential matrices side-by-side to show the movement of an issue from identification through resolution.

When you start an issue in the 4 Square it needs to be started in the Current Issues box. Do not add NEW items to any other box on the matrix. Items can stay in the boxes for the time allotted below:
Current Issues:1 month. **Ongoing Issues:** 2 months at most without a RCA. **Good Trends:** 2 months. **Steady Performance:** 2 months.



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Central 70 Project

Attachment G – Tracked Changes to Project Agreement

ATC 9.1

Submitted to:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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April 12, 2016

Central 70

Project Agreement
for the Central 70 Project

COLORADO BRIDGE ENTERPRISE,
HIGH PERFORMANCE TRANSPORTATION ENTERPRISE,
and
[*DEVELOPER*]

Dated [ ]

Part B: Abbreviations

Except as otherwise specified herein or as the context may otherwise require, the following abbreviations set out below are provided as references for purposes of the Technical Requirements, Table 6A.1 and Table 6A.2 only:

"ABC"	means aggregate base course.
"AC"	means alternating current.
"ACL"	means access control list.
"ADA"	means Americans with Disabilities Act.
"AID"	means automatic incident detection.
"AHJ"	means Authority Having Jurisdiction.
"ALPR"	means Automatic License Plate Recognition.
"AMCA"	means Air Movement and Control Association.
"ANSI"	means American National Standards Institute.
"APCD"	means Air Pollution Control Division.
"APEN"	means Air Pollution Emission Notice.
"AREMA"	means American Railway Engineering and Maintenance-of-Way Association.
"ATM"	means Active Traffic Management.
"ATR"	means Automatic Traffic Recorders.
"AVI"	means Automatic Vehicle Identification.
"AVL"	means Automated Vehicle Locator.
"BACR"	means Baseline Asset Condition Report.
"BMP"	means Best Management Practices.
"CCD"	means City and County of Denver.
"CCMS"	means Command, Control, and Monitoring System.
"CCP"	means Crisis Communications Plan.
"CCTV"	means Closed Circuit Television.
"CDPHE"	means Colorado Department of Public Health and Environment.
"CDPS"	means Colorado Discharge Permit System.
"CDPS-SCP"	means Colorado Discharge Permit System-Stormwater Construction Permit.
"CFD"	means Computational Fluid Dynamics Model.
"CLOMR"	means Conditional Letter of Map Revision.
"CMS"	means cable management system.
"COTS"	means conventional, off-the-shelf.
"CPCM"	means Construction Process Control Manager.
"CPM"	means Critical Path Method.
"CPW"	means Colorado Parks and Wildlife.
"CRAL"	means Construction of Relocation Acceptance Letter.
"CSL"	means cross sonic log.
"CSP"	means Colorado State Patrol.
"CTMC"	means Colorado Transportation Management Center.
"CTMS"	means Colorado Transportation Management Software.
"CUHP/EPA-SWMM"	means Colorado Urban Hydrograph Procedure/Environmental Protection Agency Storm Water Management Model.
"CWCP"	means Construction Work Communications Plan.
"CWDM"	means coarse wavelength division multiplexing.
"CVS"	means Cover Ventilation System.
"DBE"	means Disadvantaged Business Enterprise.
"DCS"	means Document Control System.
"DPCM"	means Design Process Control Manager.
"DRAL"	means Design of Relocation Acceptance Letter.
"DRIRR"	means Denver Rock Island Railroad.
"DTD"	means Division of Transportation Development.
"DWDM"	means dense wavelength division multiplexing.
"ECS"	means Erosion Control Supervisor.
"ECWP"	means Environmental Compliance Work Plan.

"EDB"	means extended detention basins.
"EDP"	means electrical distribution panels.
"EIS"	means Environmental Impact Statement.
"EM"	means Environmental Manager.
"EPA"	means Environmental Protection Agency.
"ERP"	means Emergency Response Plan.
"ESAL"	means 18-kip Equivalent Single Axle Loads.
"ESB"	means Emerging Small Business.
"ETC"	means Electronic Toll Collection.
"FCM"	means fracture critical member.
"FDAS"	means Fire Detection and Alarm System.
"FDS"	means Functional Design Specification.
"FEE"	means Fee interest or ownership of the fee simple estate in real property.
"FFFS"	means Fixed Firefighting System.
"FMV"	means Fair Market Value.
"GUI"	means graphical user interface.
"GPS"	means Global Positioning System.
"HBP"	means hot bituminous pavement.
"HDPE"	means high-density polyethylene.
"HGL"	means hydraulic grade line.
"HLMR"	means high load multi-rotational.
"HMA"	means hot mix asphalt.
"HOV"	means high occupancy vehicle.
"HVAC"	means heating, ventilation, and air conditioning.
"IA"	means Independent Assurance.
"IAR"	means Interstate Access Request.
"IBC"	means International Building Code.
"IDQM"	means Independent Design Quality Manager.
"IESNA"	means Illumination Engineering Society North America.
"IGMP"	means Internet Group Management Protocol.
"IMP"	means Incident Management Plan.
"IQC"	means Independent Quality Control.
~~"IQCF"~~	~~means Independent Quality Control Firm.~~
"IQCM"	means Independent Quality Control Manager.
"INWMP"	means Integrated Noxious Weed Management Plan.
"IP"	means Internet Protocol.
"IRI"	means International Roughness Index.
"ISO"	means International Organization for Standardization.
"ITS"	means Intelligent Transportation Systems.
"IVR"	means Interactive Voice Response.
"LCD"	means Liquid Crystal Display.
"LED"	means light emitting diode.
"LEP"	means Limited English Proficient.
"LFD"	means load factor design.
"LFR"	means a load factor rating.
"LOMR"	means Letter of Map Revision.
"LP"	means Lighting Protection.
"LRFD"	means load resistance factor design.
"LRFR"	means aggregate base course.
"LSOH"	means low smoke, zero halogen.
"LUS"	means Lane Use Signal.
"M-E"	means mechanistic-empirical.
"MBTA"	means Migratory Bird Treaty Act.
"MEP"	means mechanical, electrical, and plumbing.
"MHCP"	means Mile High Courtesy Patrol.
"MHT"	means Methods of Handling Traffic.

Central 70

Central 70 Project

Attachment H – Tracked Changes to Schedule 8

ATC 9.1

Submitted to:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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April 12, 2016

Schedule 8
Project Administration

1. GENERAL REQUIREMENTS

The Developer shall be solely responsible for the management and administration of the Work, coordinating all activities necessary to perform the Work, and reporting and documenting all Work and ensuring the quality of the Work in conformance with the Agreement. The Developer shall satisfy all functional needs and characteristics of Project administration and this Schedule 8.

2. PROJECT MANAGEMENT PLAN

2.1. General Requirements

2.1.1. The Developer shall submit a Project Management Plan (PMP) that encompasses the Term of the Project Agreement, for Acceptance by the Department, prior to the issuance of NTP1, which is consistent with and expands upon the draft Project Management Plan submitted with the Proposal. The PMP shall provide clear detail of the Developer's overall approach to its team organization, structure, and management processes, and shall describe the scope, goals, and objectives of Project approach and intended results and be fully compliant with all provisions of the Project Agreement. The PMP shall identify by signature page and date, the title of the qualified professionals who are responsible for planning, reviewing, approving, reporting, monitoring, controlling, implementing, revising, and issuing the PMP, including revisions. At a minimum, the PMP shall include the following (where applicable relating to both Developer and its Subcontractors but also, where applicable, clearly identifying the division of roles and responsibilities between the Developer and its Subcontractors):

a. An organizational chart and description, indicating the Developer's overall team structure including all Key Personnel, management staff and their reporting relationships for all Work;

b. A design organizational chart and description, indicating the roles, responsibilities and structure of the Developer's design staff, down to and including discipline leads and the staff positions proposed in each discipline;

c. A construction organizational chart and description, indicating the roles, responsibilities and structure of the Developer's construction staff, down to and including field superintendents and the staff positions proposed under each field superintendent for the Work for all shifts;

d. A quality management organizational chart and description, indicating the roles, responsibilities and structure of the respective quality management, Process Control and IQC staff ~~(Developer and IQCF)~~, down to and including field inspection, and testing for the Work for all shifts;

e. An Operations and Maintenance (O&M) organizational chart, and description, indicating the roles, responsibilities and structure of the O&M staff, both during the Construction Period and the Operating Period, down to and including the roadway, drainage, bridge, tolling systems and Intelligent Transportation Systems (ITS) discipline leads for any O&M related Work;

f. A design management process, including a description of how design personnel will interface with the Department, construction, quality management and O&M organizations, in accordance with the Schedule 8, Quality Management Plan requirements;

g. A construction management process, including the independence of Process Control (PC) personnel and activities from IQC personnel and activities, interface with the IQC and roles and responsibilities for approvals, Developer's coordination plan, the Developer's management approach, the construction management structure, identification of advanced Work, detailed delineation of work zones with identification of design and construction packages, and summary of major Project phases;

h. Description of key processes and their reference location within the Developer's Operations Management Plan and Maintenance Management Plan, in accordance with the Schedule 11 requirements, including a description of how design personnel will interface with Developer's construction, Process Control, IQC and O&M organizations in accordance with the Schedule 8, Quality Management Plan requirements, process for inspections and notifications of issues of non-compliance to Department, and processes and timeframe for providing applicable cures for nonconformance;

i. Detailed description of the interface between the design and construction resources and the allocation of design and construction staff to implement the Project;

j. Process for addressing constructability, durability, maintainability and environmental compliance in the Work;

k. Description of key processes and their reference location within the Developer's Durability, in accordance with the requirements in Schedule 8 and to meet the requirements of Schedule 12 Handback Requirements. This will include a description of how design personnel will interface with Developer's construction, Process Control, IQC and O&M organizations in accordance with the Quality Management Plan requirements in Schedule 8 to ensure durability in the design process;

l. Description of key processes and their reference location within the Developer's Quality Management Systems Manual, in accordance with the Schedule 8 requirements, for control of the Release for Construction (RFC) drawings through the Construction Period including making changes to the design during construction and ensuring engineering review of the new design and compliance with the Project Agreement. Processes shall demonstrate how the Department and the Developer's design team are involved in the review and acceptance of deviations from the RFC drawings;

m. Process for construction closeout including the Developer's approach to satisfaction of Milestone Completion Conditions, Substantial Completion Conditions, Final Acceptance Conditions, and management of Punch Lists;

n. Description of key processes, and their reference location within the Developer's Safety Management Plan, in accordance with Schedule 8 requirements, for both employees of Developer and its Subcontractors and the public, including the designation of a full time safety manager, training procedures, description of the subcontractor Health and Safety Plan, accident investigation procedures and exposure assessment;

o. Description of key processes, and their reference location within the Developer's Transportation Management Plan, in accordance with Section 2 of Schedule 10 Maintenance of Traffic requirements, including interface with the Department and the City of Denver (CCD);

p. Description of key processes, and their reference location within the Developer's Strategic Communications Plan, in accordance with the Schedule 14 requirements, including interface with the Department, CCD, Governmental Authorities, regulatory agencies, Utility Owners, Railroads, other stakeholders and the public during the Work, at a minimum the following activities: plans and Permits review; progress, workshops, partnering and Utility coordination meetings; construction engineering and inspection; and public involvement and community input;

q. Description of key processes, and their reference location within the Developer's Environmental Compliance Work Plan, in accordance with the Schedule 17 requirements, including interface with the Department and any Governmental Authority;

r. Description of key processes, and their reference location within the Developer's Property Management Plan, in accordance with the Schedule 18 requirements, including processes for the security, hazardous materials assessment, demolition, debris removal, site clearing, storm water management improvements, and clean-up of building structures and property improvements acquired as part of the ROW for the Project;

s. Description of key processes for managing the Project's Disadvantaged Business Enterprise (DBE), Emerging Small Business (ESB), and Workforce Development program, and their reference location within their respective Plans, in accordance with the Schedule 15 requirements;

t. Description of the Developer's key processes and approach to the Schedule Work Plan, in accordance with the Schedule 8 requirements, including Schedule maintenance and required Deliverables management, and Supervening Event and Change management procedures; and

u. Developer's approach to non-compliance reporting, evaluation, and resolution with each of its Subcontractors and methodology on how this information will be reported to the Department, including in accordance with the Schedule 6, Part 6 requirements.

6. QUALITY MANAGEMENT

6.1. General

6.1.1. The Developer shall be responsible for implementation and maintenance of an effective quality program to manage, control, document and assure all obligations of the Developer comply with the requirements of the Project Agreement. The Developer shall develop and submit a comprehensive Quality Management Plan (QMP) that is consistent with and expands upon the draft Stage 1 QMP and draft Stage 2 QMP submitted in the Proposal. The QMP shall document the Developer's commitment to quality, and all quality requirements of the Project Agreement. Processes and procedures established in the QMP shall ~~comply~~ be certified under~~with~~ International Organization for Standardization (ISO) 9001:2008, or equivalent ISO standard in effect on the date the QMP is submitted. The QMP shall encompass all Work performed by the Developer and Subcontractors of all tiers. The Developer shall obtain the Department's Approval of the QMP in two stages: Stage 1, Approval of all non-construction related procedures and plans; and Stage 2, Approval of all construction-related procedures and plans.

6.1.2. The QMP shall delineate how the Developer will ensure that all disciplines, aspects, and elements of the Work shall comply with the requirements of the Project Agreement.

6.1.3. The QMP shall cover temporary and permanent components of the Work.

6.1.4. The QMP shall include procedures and methods that define how the Developer will collaborate with the Department through the Department's quality assurance oversight program as described in Section 6.6 of this Schedule 8.

6.1.5. The QMP shall describe the Developer's quality policy, approach to Process Control (PC) and Independent Quality Control (IQC) relative to design, construction, and Work management, quality improvement, quality personnel, and training in the QMP. The QMP shall list procedures for meeting all requirements of the Project Agreement. The Developer shall submit the Stage 1 QMP for non-construction related Work to the Department for Approval prior to issuance of NTP1. The QMP for all remaining Work (Stage 2) on the Project must have the Department's Approval prior to the issuance of NTP2. Any subsequent addenda to the QMP, required during execution of the Work, shall require the Department's Approval prior to implementation.

6.1.6. The QMP may include a process to allow the commencement by the Developer of Restricted Activities (as defined in Schedule 9, Submittals) on an at risk basis. If included, such process shall require the Developer to document at a minimum the following:

a. Identification of the need to perform the Work constituted by the relevant Restricted Activities on an at risk basis;

b. Description of such Work, including discussions with the Department;

c. Description of Developer assessment of risk associated with proceeding with such Work on an at risk basis;

d. Developer approval mechanism, above the Principal Subcontractor level, and including the IQCM;

e. Clear delineation of at risk construction plans, how and when they will be released; and

f. Verification process of acceptability of such Work once plans have formally been Released for Construction.

6.1.7. The Developer shall update and submit to the Department for Approval its QMP when its own quality management organization detects systemic or fundamental breaches of the Project Agreement or deficiencies in the manner the Work is inspected or tested, including breaches or deficiencies that have caused or that may cause Nonconforming Work to be performed, or when the Department advises the Developer of such a problem. The Developer shall also revise the QMP should any of the following conditions exist:

a. QMP or procedure within the QMP no longer adequately addresses the matters it was originally intended to address;

b. QMP or procedure within the QMP does not conform with the Project Agreement;

c. An audit by the Developer or the Department identifies a deficiency in the QMP requiring an update;

d. Organizational structure changes require revision to the QMP;

e. The Developer is undertaking, or about to undertake, activities that are not covered within the current QMP; or

f. The Department requires the QMP to be updated at its request.

6.2. Administrative Requirements

6.2.1. Quality Systems Procedures shall adhere to the following requirements:

a. Be consistent with the requirements of this Section 6.2.1 of this Schedule 8 and Developer's stated quality policy.

b. Include all Work methods and the enforcement and implementation of these work methods through best practice. However, it is inevitable that situations will arise that require a departure from the norm. These conditions shall be anticipated in the procedures and shall allow for control of these activities.

c. Define the liaison and interface between the quality organization and the design and construction arms of the Developer.

d. The quality procedures shall, as a primary objective, be written with the intent of gaining employee understanding of the system.

e. Describe to the rationale for the procedures selected and, if the procedures do not address every provision of this Section 6.2.1 of Schedule 8, to explain why the standard is not applicable in their particular situation.

f. The following list of procedures (items i through xxi) shall serve as the starting point for defining Developer's quality management system:

i. Procedure for the preparation, control, and distribution of the Quality Management Plan;

ii. Scope;

iii. Key Personnel;

iv. Organizational/technical interfaces;

v. Design input requirements;

vi. Design output requirements (deliverables);

vii. Design Reviews;

viii. Department participation;

ix. Levels of responsibility and authority;

x. Procedure to control, verify, and validate the design;

xi. Procedure for document issue, approval, and revision;

xii. Procedure for the identification of, and where required by Project Agreement, the traceability of, deliverable items, such as Release for Construction Documents and As-Builts;

xiii. Procedure for the verification and control of computer programs used in design;

xiv. Procedures for inspecting, testing, and calibrating equipment;

xv. Procedures for handling Nonconforming Work;

xvi. Procedures for environmental compliance;

xvii. Procedures for corrective/preventive actions;

xviii. Procedures for handling storing, packaging, tracking and submitting Deliverables;

xix. Training processes;

xx. Procedures for internal quality audits; and

xxi. Procedure for management review.

g. The implementation of the quality system shall be demonstrated by internal quality audit reports, the trending of nonconformance, records of root-cause analysis, records of corrective and preventive actions, and records of Department audits and observations.

h. Documented procedures may make reference to specifications that define how an activity is performed. Procedures shall describe the process steps of what needs to be done and work instructions shall prescribe how it is to be done.

6.2.2. Quality Policy

a. The Developer shall develop a written policy for quality, including objectives for, and its commitment to, quality. The Developer's executive management shall ensure that this policy is implemented at all levels of the Developer's organization.

b. The Developer shall publish and post a statement of its commitment to quality and the organization's quality objectives in several locations throughout the Project Office and the Site. The statement shall explain the Developer's commitment to quality and the responsibility the Developer has for assuring that it meets the quality requirements included in this Schedule 8.

c. The quality policy statement shall be made known to and understood by all Developer employees, sub-consultants, Subcontractors, and Suppliers. The Developer shall conduct and document a formal training program for all Developer employees, sub-consultants, Subcontractors, and Suppliers on the quality policy prior to their participation in activities monitored by the Developer under the QMP.

d. The QMP shall include the Developer's executive management's quality policy. The QMP shall delineate the procedure used by the Developer's executive management to implement the Developer's quality policy.

6.2.3. Quality Planning

a. The Developer shall provide evidence of quality planning that ensures specific requirements of the Project Agreement have been identified and incorporated into the

documented quality system. Department's requirements represent the minimum requirements.

b. The Developer shall perform IQC inspections during all phases of the Work from NTP1 until Final Acceptance to assure that the Work meets, and is being performed in accordance with, the Project Agreement.

c. The Developer shall include in the QMP its planning methods to meet the requirements of the Project Agreement. The Developer shall include, at a minimum, the activities below in its quality planning efforts to meet the Project Agreement requirements for the Work:

i. Define and develop quality objectives for the Work;

ii. Identify the necessary processes, resources, and IQC personnel that are needed to assure that Developer obligations meet the requirements of the Project Agreement, including, but not limited to, design, construction, Environmental Compliance, Strategic Communications requirements, maintenance of traffic requirements, safety, Disadvantaged Business Enterprise (DBE), Emerging Small Business (ESB), Workforce Development, training, project management processes, and the QMP;

iii. Ensure the compatibility of design, construction, installation, public information, inspection, and testing procedures;

iv. Develop and maintain up to date procedures for PC, IQC, and quality improvement;

v. Identify and define all measurable Project Agreement requirements;

vi. Identify quality hold points for Developer IQC testing and inspection and to allow the Department the opportunity to perform its owner verification responsibilities;

vii. Identify, define, and implement standards of workmanship for all applicable work features (e.g., concrete finishing);

viii. Identify, define, prepare, and maintain quality records and quality plans for all elements of design, including, but not limited to, wet and dry utilities, architectural, civil, structural, geotechnical, survey, hydraulic, environmental, traffic, safety, Right-of-Way (ROW), and temporary Work;

ix. Develop a procedure for preparation, control, Approval, and distribution of the QMP;

x. Develop a procedure for IQC auditing to ensure the Developer, Subcontractors, and Suppliers of material understand and are effectively implementing the QMP;

xi. Develop a procedure for corrective and preventative actions regarding quality compliance and implement the quality improvement plan to address corrective Work;

xii. Develop a procedure and ensure the Developer's executive management reviews the QMP at planned intervals to ensure its continued suitability, adequacy and effectiveness. Such reviews should include PC/IQC results, owner verification results, status of corrective/preventive actions, follow-up items from previous management reviews, changes to the QMP, and recommendations for improvement;

xiii. A systemic process for ensuring quality regardless of production or scheduling needs.

6.2.4. Process Control

a. The Developer shall be responsible for establishing, documenting, and implementing, a PC program. The PC program shall be described in the QMP and shall include all procedures necessary for the Developer to control the quality of its production processes to meet the requirements of the Project Agreement. The Developer shall develop a testing and inspection schedule to control production processes. The Developer shall conduct examinations of the quality of workmanship to confirm that all Work is being performed in accordance with all Project Agreement requirements. Appropriate follow-up inspections, sampling, and testing of materials shall be performed as each item of Work progresses to assure consistency in workmanship, compliance with Project Agreement requirements, (including design and construction documents), and satisfactory performance of the Work in service.

b. Construction PC materials testing activities shall utilize statistical analyses of material test results, including mean, variance, range, and running averages; measurements; clearances; and interactions between PC and IQC. The results of these activities shall be used by the Developer to set up control charts to monitor and track variations in materials over time. The control charts and the analytical results on which they are based shall be provided to the Department within 24 hours when requested.

c. Tests or inspections performed by production or PC personnel as part of the PC process shall not be used to satisfy the IQC requirements.

6.2.5. Control of Inspection, Measuring, and Test Equipment

a. Developer shall establish and maintain documented procedures to control, calibrate, and maintain inspection, measuring, and test equipment – including test software – used by Developer to demonstrate the conformance of product to the specified requirements. Inspection, measuring, and test equipment shall be used in a manner that ensures that the measurement uncertainty is known and is consistent with the required measurement capability.

b. Developer shall ensure Quality Control is being performed by a group completely independent of the Developer's Project Manager. Independent Quality control (IQC) shall be an independent group employed by the Developer ~~secure for the Project an independent Quality Control Firm (IQCF) which shall be an independent engineering/testing firm employed by the Developer~~ responsible for administering and managing the construction IQC Inspection, sampling, and Testing. The IQC~~F~~ and any Subcontractors or sub-consultants thereto must not have any responsibilities for scheduling or production activities~~be a Developer-Related Entity or any Affiliate thereof~~.

c. The Developer shall establish, document and implement an IQC program. The Developer shall include in the QMP the methods and procedures by which the Work will be certified by the Developer as complying with the requirements of the Project Agreement.

d. The IQC program shall be separate from the Developer's PC program.

e. At a minimum, the IQC~~F~~ testing shall include the observations, measurements, and documentation specified in the CDOT *Field Materials Manual* and its Frequency Guide Schedule for minimum materials sampling, testing, and inspection for all quality acceptance tests required. Items identified as pre-tested or pre-inspected by the Department shall remain the responsibility of Developer. The IQC~~F~~ shall document the results and show if the test passed or failed based on the "pass/fail criteria" established in the Project Agreement. The IQC~~F~~ shall include failing tests results in the test documentation.

f. IQC personnel shall not participate in any PC activities and shall be independent of the PC personnel.

g. The Developer shall identify in the QMP all necessary resources and personnel to perform all IQC activities required to ensure all Work meets the requirements of the Project Agreement. The QMP shall identify the construction quality hold points for IQC

testing and inspection and shall describe how the Developer will notify the Department so that it may have the opportunity to perform its owner verification responsibilities.

6.2.6. Quality Improvement

a. The Developer shall establish, document, and implement a program for quality improvement. The Developer shall include in the QMP the methods for identifying, analyzing, evaluating, and implementing solutions to continuously improve quality. The QMP shall establish and maintain specific procedures to ensure a successful Quality Improvement Program.

b. The Developer shall schedule and perform internal quality audits on the basis of the status and importance of the activity to be audited. The Developer shall conduct weekly quality meetings with affected Developer staff including construction specialty leads, and the Department to discuss open Nonconformance Notices (NCN)s/Nonconformance Reports (NCR)s and quality issues. All unresolved quality issues, including but not limited to NCRs and owner verification NCNs, shall be discussed at these meetings, until resolved. The Developer shall submit an updated Nonconforming Work log to the Department weekly and shall use the log to look for Nonconforming Work trends to determine if Corrective Actions are needed.

c. The Developer shall ensure timely implementation of the necessary Corrective Actions to improve any nonconformance found during audits. The Developer's follow-up activities shall ensure the implementation and effectiveness of the Corrective Action taken. Corrective Actions shall identify the root causes of deficiencies and shall be developed, implemented, and tracked to prevent the recurrence of future nonconformance. Corrective Actions shall be monitored through review of documents, surveillance, or follow-up audits. The Developer shall keep records of Corrective Actions together with the respective audit records and submit those records to the Department upon request.

d. The Developer shall consider the Department's verification audits and the overall project goals to determine where Developer quality improvement audits shall be performed and potential Corrective Actions to be implemented.

6.2.7. Quality Personnel

a. The Developer's executive management shall have overall responsibility for success of the QMP. The Developer's executive management shall have the responsibility to ensure that personnel performing PC and IQC activities have the appropriate education, training, skills, and experience to meet the requirements of the Project Agreement. The Developer shall designate a Project Quality Manager (PQM) who shall not report to Developer's Project Manager, but shall be directly responsible to and report to the Developer's executive management. The PQM shall provide all final checks, approvals, and certifications for quality. The PQM shall be responsible for assuring, certifying, and providing documented evidence that the Work meets the requirements of the Project Agreement. The PQM shall have the authority and responsibility for the success of the Developer's quality program, and shall ensure that authority and responsibilities are defined and communicated within the organization.

b. The PQM shall be the primary point of contact to the Department for all issues relating to Developer's Quality Management Plan, including preparation, review, implementation, and updates. The PQM, irrespective of other responsibilities, shall have defined authority and responsibility for the following:

i. Ensuring that a quality system is established, implemented, and maintained;

ii. Reporting quarterly on the performance of the quality system to Developer's executive management and the Department for review and as a basis for improvement of the quality system; and

iii. Direct supervision of the IDQM and IQCM and their respective staffs.

c. The Developer shall assign an Independent Design Quality Manager (IDQM) that reports directly to the PQM and shall be responsible for all design quality control activities for the Work. The Developer shall identify a Design Process Control Manager (DPCM) for all design activities. The DPCM may be employed by the Lead Engineer and shall be responsible for all design PC activities. The IDQM shall not be involved with scheduling or production activities, and shall report directly to the PQM. The IDQM shall ensure that the methods and procedures contained in the Approved QMP, related to design, are implemented and followed by the Developer, subcontractors, fabricators, suppliers, and vendors in the performance of the Work.

d. The Developer shall assign an on-site Construction PC Manager (CPCM) who shall be responsible for management of the PC aspect of the QMP. The CPCM shall not be involved with scheduling or production activities, and shall report directly to the Developer's management team. The CPCM shall ensure that the methods and procedures contained in the Approved QMP, related to construction, are implemented and followed by the Developer, subcontractors, fabricators, suppliers, and vendors both on-site and off-site in the performance of the Work.

e. The Developer shall assign an on-Site Independent Quality Control Manager (IQCM) who shall be ~~an employee of the IQCF~~independent of production and shall be responsible for management of the IQC aspect of the QMP. The IQCM shall report to the PQM and to the Department. The IQCM shall not report to any person or party directly responsible for design or construction production.

f. The IQCM and CPCM shall both have or obtain the American Society for Quality (ASQ) certification as Quality Inspector, Quality Engineer, or Manager of Quality as an NTP2 Condition.

g. The Developer's PQM, IQCM, IDQM, CPCM, and DPCM shall review and approve the QMP prior to submittal to the Department. The Developer shall assure, certify and provide documented evidence that the Work meets the requirements of the Project Agreement. At a minimum, the PQM shall report the status of the Work's quality monthly to the Department.

h. All construction IQC testing personnel and PC testing personnel performing concrete and hot bituminous pavement process control tests shall meet the standards established in Section CP-10 of the CDOT *Field Materials Manual*.

i. All construction IQC inspection personnel performing fabrication inspection of structural steel elements shall be qualified in accordance with Section 4.0 of the *CDOT Staff Bridge Fabrication Inspection Manual, Fabrication Inspection of Structural Steel Items for CDOT Roads and Bridge.*

j. All construction IQC testing and inspection personnel performing inspections and tests for pre-stressed and precast concrete products shall be qualified in accordance with Section 3.0 of the *CDOT Staff Bridge Fabrication Inspection Manual, Fabrication Inspection of Pre-stressed and Precast Concrete Products.*

k. The Developer shall ensure that personnel performing Work shall have the education, training, skills, and experience to meet the requirements of the Project Agreement. The Developer shall maintain appropriate personnel records that may be examined by the Department upon request.

6.2.8. Training

a. The Developer shall establish and maintain documented procedures for identifying training needs and requirements and shall provide training of all personnel performing activities affecting quality. Personnel performing specific assigned tasks affecting quality shall be trained in the specific plans, processes, and procedures as assigned in the QMP (e.g., Materials Testing and Inspection Plan (MTIP), Developer auditing procedures, etc.).

b. The Developer shall provide training to all personnel that may interface with the Department's oversight efforts (audit process) to ensure they understand their roles and responsibilities for cooperating and responding to audits.

COLORADO HIGH PERFORMANCE TRANSPORTATION ENTERPRISE

- and -

COLORADO BRIDGE ENTERPRISE

- and –

[Name of Developer]

PROJECT AGREEMENT FOR THE CENTRAL 70 PROJECT

CERTIFICATE OF QUALITY MANAGER

I, [*NAME OF QUALITY MANAGER*], certify as follows:

1. I am the Quality Manager appointed by [*NAME OF ~~INDEPENDENT QUALITY CONTROL FIRM~~DEVELOPER*] to manage the Construction Work.

2. To the best of my knowledge, information and belief, there are no outstanding non-conformances in the Construction Work performed to achieve [Milestone Completion of Milestone No. [ ] other than those identified on the Approved Milestone Completion Punch List attached to this certificate] [Substantial Completion other than those identified on the Approved Substantial Completion Punch List attached to this certificate] [Final Acceptance].

Signed

_____

[*Name*]

_____

[*Date*]

Central 70

Central 70 Project

Attachment I – Tracked Changes to Schedule 27

ATC 9.1

Submitted to:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

Kiewit meridiam PARTNERS

Detailed ATC Submission

CONFIDENTIAL

April 12, 2016

Schedule 27
Key Personnel[1]

Project Manager

Position Description: Responsible for overall execution and administration of Developer's responsibilities for the Project, with authority to bind Developer on all matters delegable pursuant to Law and Developer's governing documents affecting Project execution and administration, including: (i) with respect to design, construction, commissioning, operations, and maintenance; and (ii) authority to suspend Work.

Qualifications: The Project Manager shall have demonstrated experience and expertise on a similar role in the delivery of projects similar in scope, value, nature, and complexity to the Project.

Minimum Period of Availability: From Agreement Date to the end of the Term.

To be seconded to/employed by: Developer

Name: [*To fill in prior to execution of this Agreement.*]

Construction Manager

Position Description: Responsible for ensuring that the Project is constructed in accordance with all requirements of this Agreement. Responsible for managing Construction Contractor's construction personnel, scheduling of the construction quality assurance personnel, and administering compliance with all Technical Requirements applicable to the Construction Work. The Construction Manager shall have the authority to suspend Construction Work.

Qualifications: The Construction Manager shall have a minimum of 15 years' experience in construction and management of construction on highway projects similar in scope, value, nature, and complexity to the Project, with an emphasis on design-build experience and experience with interstate highways and interstate bridges.

Minimum Period of Availability: From Agreement Date to Final Acceptance.

To be seconded to/employed by: Construction Contractor

Name: [*To fill in prior to execution of this Agreement.*]

[1] Schedule to be completed prior to execution with the identities of the approved Key Personnel as described in the ITP.

Design-Build Manager

Position Description:	Responsible for the overall design and construction of the Project and for managing Developer's design-build team. The Design-Build Manager shall: (i) ensure that the Project is designed and constructed in accordance with the Technical Requirements; and (ii) have authority to suspend Construction Work.
Qualifications:	The Design-Build Manager shall have a minimum of 20 years' experience, including a minimum of 15 years' design-build experience, in construction and management of design and construction on highway projects that included work of a similar scope, value, nature, and complexity as included in the Project.
Minimum Period of Availability:	From Agreement Date to Final Acceptance.
To be seconded to/employed by:	Construction Contractor
Name:	[*To fill in prior to execution of this Agreement.*]

Design Manager

Position Description:	Responsible for: (i) ensuring that the overall Project design is completed and design criteria requirements are met; (ii) managing the design team's personnel; and (iii) administering all design requirements in this Agreement. The Design Manager shall have authority to suspend design Work.
Qualifications:	The Design Manager shall be a professional engineer licensed in the State no later than the date of issuance of NTP1. The Design Manager shall have a minimum of 15 years' experience in managing design for multidisciplinary highway projects with similar scope, value, nature, and complexity to the Project, with emphasis on design-build experience and experience with interstate highway, interstate bridges, and projects of similar scope, value, nature, and complexity to the Project.
Minimum Period of Availability:	From Agreement Date to Final Acceptance.
To be seconded to/employed by:	Principal Design Work Subcontractor to the Construction Contractor
Name:	[*To fill in prior to execution of this Agreement.*]

O&M Manager

Position Description: Responsible for ensuring that all O&M Work and (at Developer's election) Renewal Work requirements of this Agreement are met.

Qualifications: The O&M Manager shall have demonstrated experience and expertise in a similar role on managing the operations, maintenance and (at Developer's election) rehabilitation work on highway projects of similar scope, value, nature, and complexity to the Project.

Minimum Period of Availability: From Agreement Date to the end of the Term.

To be seconded to/employed by: O&M Contractor

Name: [*To fill in prior to execution of this Agreement.*]

Project Quality Manager

Position Description: Responsible for overall quality management of the Project. The Project Quality Manager shall have the authority to suspend Work and shall provide monthly certification that Work is being performed in compliance with Law and the Project design.

Qualifications: The Project Quality Manager shall be a professional engineer licensed in the State no later than the date of issuance of NTP1, and shall have a minimum of eight years' experience in infrastructure transportation project design and construction, including at least five years' experience in quality assurance activities, including the preparation and implementation of quality plans and procedures for design, construction, and operations on transportation projects that included work of a similar scope, value, nature, and complexity to the Project.

Minimum Period of Availability: From Agreement Date to the end of the Term.

To be seconded to/employed by: The Project Quality Manager shall be employed by the ~~Independent Quality Control Firm~~Developer. The Project Quality Manager can hold only this Key Personnel position.

Name: [*To fill in prior to execution of this Agreement.*]

Independent Design Quality Manager

Position Description: Responsible for ensuring quality management on all Design Work carried out on the Project, the Independent Design Quality Manager shall have the authority to suspend Work.

Qualifications: The Independent Design Quality Manager shall be a professional engineer licensed in the State no later than the date of issuance of NTP1, and shall have a minimum of eight years' experience in highway design, including at least five years' experience in quality assurance activities, including the preparation and implementation of quality plans and procedures for design on highway projects that included work of a similar scope, value, nature, and complexity to the Project.

Minimum Period of Availability: From Agreement Date to Final Acceptance.

To be seconded to/employed by: The Independent Design Quality Manager shall be employed by the ~~Independent Quality Control Firm~~ Principal Design Work Subcontractor to the Construction Contractor.

Name: [*To fill in prior to execution of this Agreement.*]

Construction Process Control Manager

Position Description: Responsible for ensuring all methods and procedures contained in the approved Stage 2 QMP are carried out on the Project, the Construction Process Control Manager shall have authority to suspend Work.

Qualifications: The Construction Process Control Manager shall be a professional engineer licensed in the State or possess a National Institute for Certification of Engineering Technologies (NICET) Level III Certificate in Highway Materials or Construction Materials with the soil, concrete, and asphalt sub-fields, as well as have or obtain the American Society for Quality (ASQ) certification as a quality inspector, quality engineer, or manager of quality, in each case prior to the date of issuance of NTP2. The Construction Process Control Manager shall have a minimum of eight years' highway construction experience on projects that included work of a similar scope, value, nature, and complexity to the Project.

Minimum Period of Availability: From Agreement Date to the end of the Term.

To be seconded to/employed by: Construction Contractor

Name: [*To fill in prior to execution of this Agreement.*]

Independent Quality Control Manager

Position Description: Responsible for managing all independent Quality Control aspects contained in the approved Stage 2 QMP that are carried out on the Project, including having authority to suspend Work.

Qualifications: The Independent Quality Control Manager shall be a professional engineer licensed in the State no later than the date of issuance of NTP1, and shall have a minimum of eight years' experience in transportation construction on projects that included work of a similar scope, value, nature, and complexity to the Project, five years of which shall be experience in developing and implementing similar quality control programs on transportation projects. The Independent Quality Control Manager shall have or obtain the American Society for Quality (ASQ) certification as a quality inspector, quality engineer, or manager of quality prior to the date of issuance of NTP2.

Minimum Period of Availability: From Agreement Date to the end of the Term.

To be seconded to/employed by: The Independent Quality Control Manager shall be employed by the ~~Independent Quality Control Firm~~Developer.

Name: [*To fill in prior to execution of this Agreement.*]

Environmental Manager

Position Description: The Environmental Manager is responsible for ensuring compliance with all Environmental Requirements and commitments. The Environmental Manager shall have authority to suspend Work.

Qualifications: The Environmental Manager shall have a minimum of seven years' progressive experience working on projects of similar scope, value, nature, and complexity to the Project. The Environmental Manager shall also demonstrate the ability to work effectively with both design and construction staff.

Minimum Period of Availability: From Agreement Date to the second anniversary of Final Acceptance.

To be seconded to/employed by: Developer

Name: [*To fill in prior to execution of this Agreement.*]

Utilities Manager

Position Description:	Responsible for managing all required Utility Work and coordinating the same with Utility Owners.
Qualifications:	The Utilities Manager is a management role with a minimum of five years' relevant experience on major infrastructure projects of similar scope, value, nature and complexity to the Project.
Minimum Period of Availability:	From Agreement Date to Final Acceptance.
To be seconded to/employed by:	Construction Contractor
Name:	[*To fill in prior to execution of this Agreement.*]

Project Communications Manager

Position Description:	Responsible for overseeing all Developer communications efforts during construction, operations, and maintenance.
Qualifications:	The Project Communications Manager shall have: (i) a minimum of seven years' professional experience working on design-build construction projects and a practical understanding of construction schedules, MOT plans, and work performance processes; (ii) experience with, and understanding of, complexities and importance of maintaining good relationships between the Project and government, businesses, residents, the general public, and other stakeholders; and (iii) experience with implementing communication and public involvement plans on projects of similar scope, value, nature, and complexity to the Project.
Minimum Period of Availability:	From Agreement Date to the end of the Term.
To be seconded to/employed by:	Developer
Name:	[*To fill in prior to execution of this Agreement.*]

Central 70

DATE: May 19, 2016

TO: Kiewit-Meridiam Partners (KMP)

FROM: Anthony DeVito P.E. Central 70 Project Director
Nicholas Farber, Central 70 Project

SUBJECT: Central 70 - Detailed Alternative Technical Concept (ATC) Response
Kiewit-Meridiam Partners - ATC No. 9.1

Dear Mr. John Dionisio:

Your Team's ATC Submission Form for Detailed ATC 9.1 has been reviewed by the Procuring Authorities. As discussed during the April One-on-One Meeting, the Procuring Authorities committed to provide a final response to your Detailed ATC.

Detailed ATC 9.1 proposes allowing personnel internal to the KMP organization to self-perform the Independent Quality Control (IQC) activities.

In accordance with the Instructions to Proposers ("ITP"), the Procuring Authorities will use reasonable efforts to provide a Proposer with the following written feedback on a ATC Submission within 15 Working Days following the later of (x) the date the relevant ATC Submission was submitted and (y) the One-on-One Meeting at which such submission is discussed. Below is the final response from the Procuring Authorities for your Detailed ATC:

☒ 1. unconditional approval;

☐ 2. conditional approval, subject to modifications and/or conditions;

☐ Re-submission required ☐ Re-submission not required

☐ 3. disapproval, with or without guidance that such ATC can be re-submitted under any circumstance;

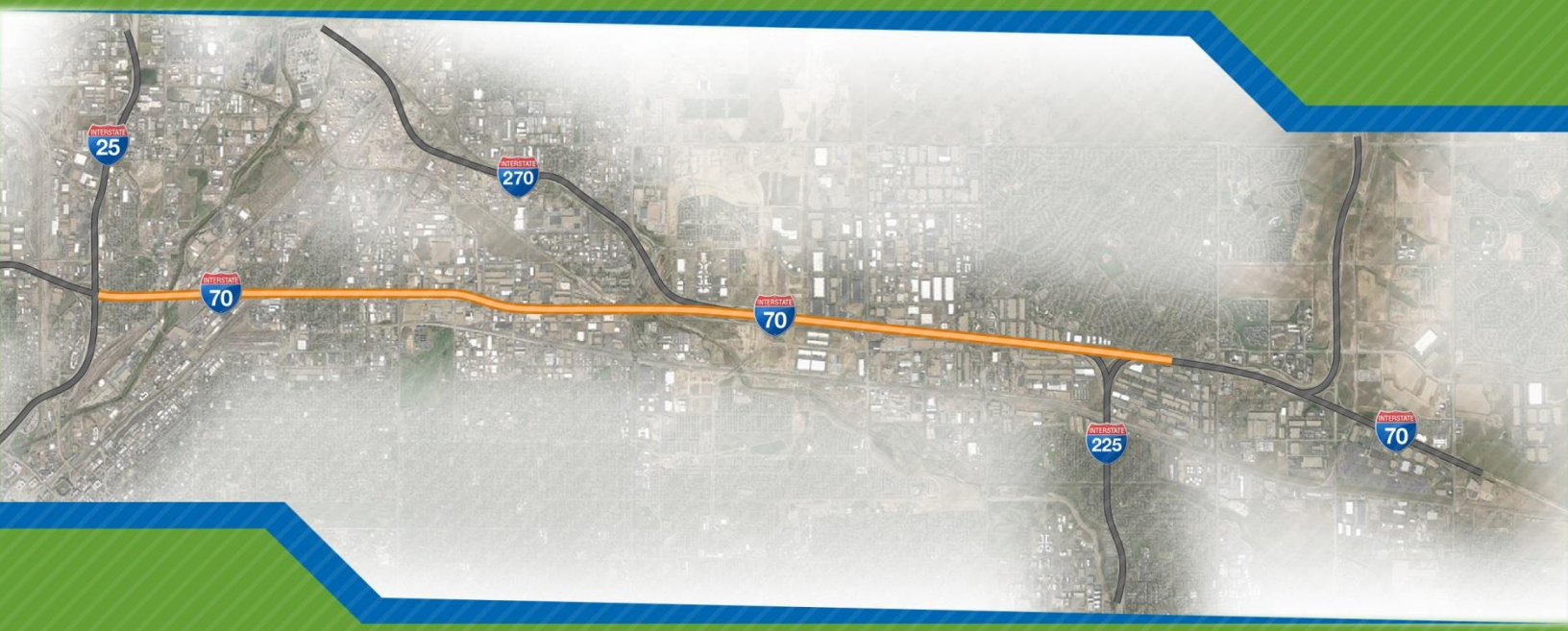
☐ 4. notification that the incorporation of the proposed ATC in the Proposer's Proposal is already permitted under the terms of the RFP, and therefore does not qualify as an ATC (and will not be treated as such for purposes of Section 3.4 of Part C of the ITP).

Central 70

Central 70 Project

Alternative Technical Concept Submission

ATC 41.0



Submitted to:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

Kiewit meridiam PARTNERS

Detailed ATC Submission

CONFIDENTIAL

July 14, 2016

ANNEX 3: ALTERNATIVE TECHNICAL CONCEPT SUBMISSION FORM

Proposer Name: Kiewit-Meridiam Partners
Date: July 14, 2016
Central 70 Project RFP: ATC Submission No. 41.0
Combine DM and DPCM Positions

ATC 41.0 Benefits

- ✓ Streamlines the design process by identifying a single point of responsibility
- ✓ No change in design quality or design performance requirements
- ✓ Optimizes the Scope by combining design team roles and eliminating duplication

A. Background Information

1. Type of Submission
   ☐Conceptual ATC
   ☒Detailed ATC
   KMP has prepared this ATC as a Detailed Submission with no previous Conceptual Submission for the efficiency of all parties. This ATC meets all requirements of a Detailed Submission and contains all relevant information.
2. Prior Submission
   ☒None (initial submission of ATC)
   ☐Previously Submitted as Conceptual ATC
   ☐Previously Submitted as Detailed ATC
3. Explanation of Reason for Resubmission
   N/A
4. Request for Discussion at One-on-One Meeting
   ☒Meeting Requested
   ☐Meeting Not Requested

B. General ATC Submission Requirements

1. Overview Description

Kiewit-Meridiam Partners (KMP) is proposing to combine the Design Manager (DM) and the Design Process Control Manager (DPCM) positions that are identified in Schedule 8 and Schedule 27 of the Project Agreement (PA) into one position. The PA requires that a DPCM be appointed by the Developer and implies that this position is separate from the DM. Since the DM is responsible for scheduling, planning, organizing, staffing, and checking the design work, there is significant overlap between the responsibilities of the DM and DPCM. Therefore, KMP proposes to combine these roles to provide a streamlined and efficient design staff that meets the requirements and intent of the PA.

2. Relevent RFP Requirements

The DPCM position is discussed in Schedule 8 of the Project Agreement (PA). Per section 6.2.4.a of Schedule 8 of the PA, some of the major activities of the process control (PC) staff and by extension the DPCM include:

- Controlling design production processes
- Examining the quality of workmanship to confirm that Work is being performed in accordance with all PA requirements
- Appropriate follow-up inspections to assure consistency in workmanship and compliance with PA requirements
- Responsibility for all design PC activities

3. Rationale

This ATC presents KMP's understanding of the RFP language as it relates to PC and specifically to the role of the DPCM. KMP proposes a streamlined organization and a single point of accountability for design through the DM when taking on the role of both the DM and the DPCM.

The PA contains detailed language related to the role of PC during construction however there is less detailed language on the role of PC as it relates to design activities. While Schedule 8 Section 6.2.7.c requires the identification of a DPCM, there is not a specific description of the DPCM's duties. KMP's interpretation of PC as it relates to the process of design involves scheduling the Work; assigning appropriate staff in both numbers and qualifications; and ensuring that the design meets the contract requirements. This is based on Schedule 8 Section 6.3.2.e, which lists the responsibilities for various positions and applies to the PQM, IDQM, DPCM, CPCM, or IQCM. The table below compares the requirements for the DM and DPCM per KMP's understanding of the PA.

Responsibility	Design Manager	Design Process Control Manager
Meet Project Agreement Requirements	Ensure that the overall design is completed and design criteria requirements are met (Schedule 27)	Examine the quality of workmanship to confirm that Work is being performed in accordance with all Project Agreement requirements (Schedule 8 Section 6.2.4.a)
Staffing	Manage the design team's personnel (Schedule 27)	Provide adequate resources and trained personnel for design process activities (Schedule 8 Section 6.3.2.e.iii)
Oversight of Production	Administer all design requirements in this Agreement (Schedule 27)	Perform appropriate follow-up inspections to assure consistency in workmanship and compliance with Project Agreement requirements (Schedule 8 Section 6.2.4.a)
Organizational Independence	Maintain independence from the Quality Control Staff and Quality Assurance Staff (Schedule 8)	Maintain independence from the Quality Control Staff and Quality Assurance Staff (Schedule 8)

The duties of the DCPM and the DM overlap to such an extent that one person could fulfill both roles. It is important to note that combining the DM and the DPCM positions will not affect the independence of the Design Quality Manager nor require any changes to the quality processes.

The role of the combined DPCM and DM position will be defined in the QMP as required in Schedule 8 Section 6.3.2.e and implementation of this ATC will not change the overall design quality process as outlined in the PA or KMP's ATC 9.1.

4. Impacts

There are no environmental, social, economic, community, traffic, safety, operations and maintenance, or third party impacts created by this ATC.

5. Cost and Benefits Analysis

Initial cost analysis indicates a savings of approximately $300,000. This savings is based on the elimination of the position of DPCM and combining those responsibilities with those of the DM. The cost benefit analysis does not include any potential additional savings associated with streamlining the organization and providing a single point of responsibility for design process.

6. Schedule Analysis

There is no change to the overall construction schedule resulting from the implementation of this ATC.

7. Conceptual Drawings

Attachment A: tracked changes to Schedule 8 Section 6.2.7.c of the PA

8. Past Use

A number of recent projects were reviewed to determine if they included a DPCM in their organization. The results are presented in the table below. As evidenced by these project examples, it is not unusual for the DM to carry out the responsibilities of both the DM and DPCM, including projects with Quality Programs meeting ISO 9001.

Project	Owner	Contract Value	ISO 9001 Compliant	DPCM Required	Design Process Lead
US 36 Phase I and Phase II	CDOT	$350M	No	No	Design Manager
Corpus Christi Harbor Bridge	TxDOT	$800M	No	No	Design Manager
I-4 Ultimate	FDOT	$2B	No	No	Design Manager
I-75 Segment E	FDOT	$160M	No	No	Design Manager
South Mountain Freeway	ADOT	$920M	Yes	No	Design Manager
New Bridge Montreal	OMT	$4.2B	Yes	No	Design Manager
SR 183 Bergstrom	TxDOT	$581M	No	No	Design Manager

9. Additional Information

Attachment A: tracked changes to Schedule 8 Section 6 of the PA

C. Detailed ATC Requirements

1. Risks

There are no risks to the Procuring Authorities, CDOT, the State, or third parties associated with implementation of the ATC.

2. Handback

There are no changes in handback procedures and/or the Handback Requirements associated with implementation of this ATC.

3. Right-of-Way

No additional right-of-way is required to implement this ATC.

4. List of Required Approvals

No new approvals are expected to be required to implement this ATC.

5. Proposed Drafting Revisions

a) RFP Requirements that are Inconsistent with Proposed ATC

KMP requests that the following sections be revised for exclusive use by KMP upon acceptance of this ATC:

1. Schedule 8 Section 6.2.7.c of the PA
2. Removal of DPCM from Schedule 8 Section 6 of the PA

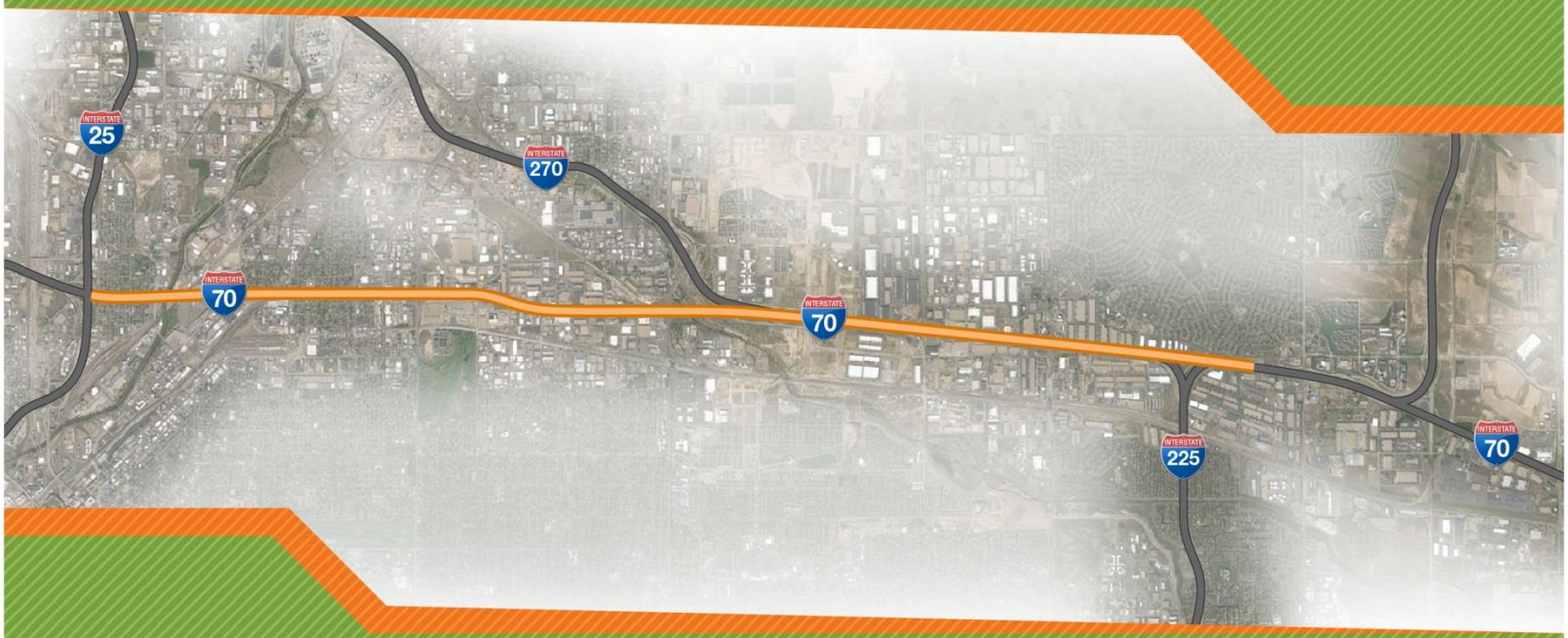
b) Proposed Revisions to address Inconsistencies

KMP has included **Attachment A** with tracked changes for the changes proposed to Section 6 of Schedule 8 (Project Administration) of the PA listed above.

Central 70 Project

Attachment A – Tracked Changes to Section 6.2.7.c of Schedule 8

ATC 41.0



Submitted to:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

Kiewit meridiam PARTNERS

Detailed ATC Submission

July 14, 2016

CONFIDENTIAL

a. The Developer's PQM, IQCM, IDQM, CPCM, and DPCM shall review and approve the QMP prior to submittal to the Department. The Developer shall assure, certify and provide documented evidence that the Work meets the requirements of the Project Agreement. At a minimum, the PQM shall report the status of the Work's quality monthly to the Department.

b. All construction IQC testing personnel and PC testing personnel performing concrete and hot bituminous pavement process control tests shall meet the standards established in Section CP-10 of the CDOT *Field Materials Manual*.

c. All construction IQC inspection personnel performing fabrication inspection of structural steel elements shall be qualified in accordance with Section 4.0 of the *CDOT Staff Bridge Fabrication Inspection Manual, Fabrication Inspection of Structural Steel Items for CDOT Roads and Bridge.*

d. All construction IQC testing and inspection personnel performing inspections and tests for pre-stressed and precast concrete products shall be qualified in accordance with Section 3.0 of the *CDOT Staff Bridge Fabrication Inspection Manual, Fabrication Inspection of Pre-stressed and Precast Concrete Products.*

e. The Developer shall ensure that personnel performing Work shall have the education, training, skills, and experience to meet the requirements of the Project Agreement. The Developer shall maintain appropriate personnel records that may be examined by the Department upon request.

1.1.2. Training

a. The Developer shall establish and maintain documented procedures for identifying training needs and requirements and shall provide training of all personnel performing activities affecting quality. Personnel performing specific assigned tasks affecting quality shall be trained in the specific plans, processes, and procedures as assigned in the QMP (e.g., Materials Testing and Inspection Plan (MTIP), Developer auditing procedures, etc.).

b. The Developer shall provide training to all personnel that may interface with the Department's oversight efforts (audit process) to ensure they understand their roles and responsibilities for cooperating and responding to audits.

1.2. Quality Management Plan Requirements

1.2.1. The QMP shall state the Developer's commitment to quality and provide a clear definition of the scope of activities and detail the methods to ensure the Work meets the requirements of the Project Agreement. The QMP shall list all deliverables to the Department, as required by the Project Agreement and this Section.

1.2.2. Responsibility and Authority

a. The Developer shall include in the QMP an organizational chart that illustrates a commitment to an effective quality program to ensure all Work meets the requirements of the Project Agreement. The QMP shall describe the hierarchy of the Developer's organization. The QMP shall graphically depict the principal quality participants, showing lines of responsibility, authority, communication, and interfaces with the Department; other involved agencies; and any other team members having a significant quality role, including subconsultants, Subcontractors, and Suppliers. The PQM, IDQM, ~~DPCM,~~ CPCM (and Construction PC staff) and IQCM (and IQC staff) shall be shown on the organization chart to report to the Developer's executive management and be independent of the Developer's Project Manager. The Developer shall update the organization charts and distribute those charts to the Department when any changes to the organization are made.

b. The QMP shall describe the roles and responsibilities of the PQM, IDQM, DPCM, CPCM, IQCM, PC and IQC staff, and other key personnel; and shall describe their authority to implement quality improvements for the Work.

Central 70

DATE: August 31, 2016

TO: Kiewit-Meridiam Partners (KMP)

FROM: Anthony DeVito P.E. Central 70 Project Director
Nicholas Farber, Central 70 Project

SUBJECT: Central 70 - Detailed Alternative Technical Concept (ATC) Response
Kiewit-Meridiam Partners - ATC No. 41.0

Dear Mr. Dionisio:

Your Team's ATC Submission Form for Detailed ATC 41.0 has been reviewed by the Procuring Authorities.

Detailed ATC 41.0 proposes to combine the Design Manager and the Design Process Control Manager positions that are identified in Schedule 8 and Schedule 27 of the PA into one position.

In accordance with the Instructions to Proposers ("ITP"), the Procuring Authorities will use reasonable efforts to provide a Proposer with the following written feedback on a ATC Submission within 15 Working Days following the later of (x) the date the relevant ATC Submission was submitted and (y) the One-on-One Meeting at which such submission is discussed. Below is the final response from the Procuring Authorities for your Detailed ATC:

☐ 1. unconditional approval;

☐ 2. conditional approval, subject to modifications and/or conditions;

☐ Re-submission required ☐ Re-submission not required

☐ 3. disapproval, with or without guidance that such ATC can be re-submitted under any circumstance;

☒ 4. notification that the incorporation of the proposed ATC in the Proposer's Proposal is already permitted under the terms of the RFP, and therefore does not qualify as an ATC (and will not be treated as such for purposes of Section 3.4 of Part C of the ITP).

APPENDIX D

Relates to Part 2, Volume 2

Kiewit meridiam PARTNERS

Draft Stage 1 Design Quality Management Plan

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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SIGNATURE PAGE: APPENDIX D, DQMP

PROJECT MANAGER DATE

DESIGN-BUILD MANAGER DATE

OPERATING MANAGER DATE

CONSTRUCTION MANAGER DATE

DESIGN MANAGER DATE

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RECORD OF REVISIONS

Revision number	Date issued	Pages affected	Comments
0	5/18/2017	All	Proposal Draft Submittal

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ATTACHMENTS

- **Attachment 1:** Design Quality Procedures (DQPs)
- **Attachment 2:** Design Quality Process
- **Attachment 3:** Example Design Review Checklists

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EVALUATION CRITERIA – APPENDIX D: STAGE 1 DQMP

KMP has provided a full Evaluation Criteria Matrix to align the requirements of the Quality Management Plan (QMP) per the Project Agreement with the sections of the Quality Management Plan, the Design Quality Management Plan, and the Construction Quality Management Plan (Appendices D and E).

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.1.2	The QMP shall delineate how the Developer will ensure that all disciplines, aspects, and elements of the Work shall comply with the requirements of the Project Agreement.	QMP	2.0	Quality Program	☐
6.1.3	The QMP shall cover temporary and permanent components of the Work	QMP	2.0	Quality Program	☐
6.1.5	**The QMP shall describe the Developer's:**				☐
	• Quality policy	QMP	3.2	KMP Quality Policy	☐
		DQMP	2.1	Quality Policy	☐
		CQMP	3.1	Quality Policy	☐
	• Approach to PC and IQC relative to design, construction, and Work Management	QMP	5.1	Quality Department	☐
	• Quality Improvement	QMP	7.2	Quality Improvement	☐
	• Quality Personnel	QMP	5.2	Responsibility and Authority	☐
	• Training	QMP	7.3	Training	☐
		DQMP	13.0	Training	☐
	The QMP shall list procedures for meeting all requirements of the Project Agreement	QMP	2.0	Quality Program	☐
6.2.1. f	**The following list of procedures (items i through xxi) shall serve as the starting point for defining Developer's quality management system:**				
	i. Procedure for the preparation, control, and distribution of the Quality Management Plan;	QMP	4.0	Quality Management Plan	☐
	ii. Scope;	QMP	1.3	Overview	☐

Sch. 8 Section	Item		Document	Section	Section Name	Check
	iii.	Key Personnel;	QMP	1.5	Key Personnel and Critical Staff	☐
	iv.	Organizational/technical interfaces;	QMP	4.2	Quality Management Plan Organization	☐
	v.	Design input requirements;	DQMP	6.1	Design Input	☐
	vi.	Design output requirements (deliverables);	DQMP	6.3	Design Phases	☐
	vii.	Design Reviews;	DQMP	6.5	Design Reviews	☐
	viii.	Department participation;	QMP	6.0	Department Communication	☐
	ix.	Levels of responsibility and authority;	QMP	5.2	Responsibility and Authority	☐
	x.	Procedure to control, verify, and validate the design;	DQMP	12.0	Quality Audits	☐
	xi.	Procedure for document issue, approval, and revision;	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
				6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
	xii.	Procedure for the identification of, and where required by Project Agreement, the traceability of, deliverable items such as Release for Construction Documents and As-Builts;	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
				6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
	xiii.	Procedure for the verification and control of computer programs used in design;	DQMP	6.2	Computer Programs	☐
	xiv.	Procedures for inspecting, testing, and calibrating equipment;	CQMP	6.3.7	Inspection, Measurement, and Testing of Equipment	☐
	xv.	Procedures for handling Nonconforming Work;	QMP	9.0	Nonconforming Work	☐
	xvi.	Procedures for environmental compliance;	QMP	7.1.5	Quality Planning for Administrative Processes	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
	xvii. Procedures for corrective/preventive actions;	QMP	7.2.6	Corrective Action Plans	☐
			7.2.7	Preventive Action	☐
			9.3.5	Corrective Action Plan	☐
		DQMP	10.0	Corrective and Preventive Action	☐
	xviii. Procedures for handling, storing, packaging, tracking and submitting Deliverables;	DQMP	Attachment 1	Design Quality Procedures (DQPs)	☐
			Attachment 2	Design Quality Process	☐
	xix. Training processes;	QMP	7.3	Training	☐
		DQMP	13.0	Training	☐
	xx. Procedures for internal quality audits; and	QMP	7.2.3	Internal Audit	☐
		DQMP	12.0	Quality Audits	☐
	xxi. Procedure for management review.	QMP	4.2.2	Quality Management Plan Review	☐
6.2.2.d	The QMP shall include the Developer's executive management's quality policy. The QMP shall delineate the procedure used by the Developer's executive management to implement the Developer's quality policy.	QMP	3.2	KMP Quality Policy	☐
6.2.3.c	**The Developer shall include in the QMP its planning methods to meet the requirements of the Project Agreement. The Developer shall include, at a minimum, the activities below in its quality planning efforts to meet the Project Agreement requirements for the Work:**				☐
	i. Define and develop quality objectives for the Work;	QMP	3.2	Quality Policy	☐
		DQMP	2.1	Quality Policy	☐
		CQMP	3.1	Quality Policy	☐

Sch. 8 Section	Item		Document	Section	Section Name	Check
	ii.	Identify the necessary processes, resources, and IQC personnel that are needed to assure that Developer obligations meet the requirements of the Project Agreement including, but not limited to, design, construction, Environmental Compliance, Strategic Communications requirements, maintenance of traffic requirements, safety, Disadvantaged Business Enterprise (DBE), Emerging Small Business (ESB), Workforce Development, training, project management processes, and the QMP;	QMP	7.1.5	Quality Planning for Administrative Processes	☐
	iii.	Ensure the compatibility of design, construction, installation, public information, inspection, and testing procedures;	QMP	7.1	Quality Planning	☐
	iv.	Develop and maintain up-to-date procedures for PC, IQC, and quality improvement;	QMP	5.1.1	Independent Quality Control (IQC) Program	☐
			QMP	5.1.2	Process Control (PC) Program	☐
			QMP	7.2	Quality Improvement	☐
	v.	Identify and define all measurable Project Agreement requirements;	QMP	4.0	Quality Management Plan	☐
	vi.	Identify quality hold points for Developer IQC testing and inspection and to allow the Department the opportunity to perform its owner verification responsibilities;	CQMP	6.3.9	Establish and Document Quality Hold Points	☐
	vii.	Identify, define, and implement standards of workmanship for all applicable work features (e.g., concrete finishing);	CQMP	6.3	Field Execution	☐
	viii.	Identify, define, prepare, and maintain quality records and quality plans for all elements of design including, but not limited to, wet and dry utilities, architectural, civil, structural, geotechnical, survey, hydraulic, environmental, traffic, safety, Right-of-Way (ROW), Railroad Work, ITS Work, and temporary Work;	DQMP	11.0	Quality Records	☐
	ix.	Develop a procedure for preparation, control, Approval, and distribution of the QMP;	QMP	4.0	Quality Management Plan	☐
	x.	Develop a procedure for IQC auditing to ensure the Developer, Subcontractors, and Suppliers of material understand and are effectively implementing the QMP;	QMP	5.1.1	Independent Quality Control (IQC) Program	☐
				7.2.3	Internal Audit	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
	xi. Develop a procedure for corrective and preventative actions regarding quality compliance and implement the quality improvement plan to address corrective Work;	QMP	7.2.6	Corrective Action Plans	☐
		QMP	7.2.7	Preventive Action	☐
		QMP	9.3.5	Corrective Action Plan	☐
		DQMP	10.0	Corrective and Preventive Action	☐
	xii. Develop a procedure and ensure the Developer's executive management reviews the QMP at planned intervals to ensure its continued suitability, adequacy and effectiveness. Such reviews should include PC/IQC results, owner verification results, status of corrective/preventive actions, follow-up items from previous management reviews, changes to the QMP, and recommendations for improvement;	QMP	7.2.2	Executive Review of QMP	☐
	xiii. A systemic process for ensuring quality regardless of production or scheduling needs.	QMP	5.2	Responsibility and Authority	☐
6.2.4.a	The PC program shall be described in the QMP and shall include all procedures necessary for the Developer to control the quality of its production processes to meet the requirements of the Project Agreement.	QMP	5.1.2	Process Control (PC) Program	☐
6.2.5.c	The Developer shall include in the QMP the methods and procedures by which the Work will be Certified by the Developer as complying with the requirements of the Project Agreement.	QMP	11.2	Certification of Compliance	☐
		DQMP	6.3.3.1	Certification of Compliance	☐
		CQMP	6.3.6.1	Certification of Compliance	☐
6.2.6.a	The Developer shall establish, document, and implement a program for quality improvement. The Developer shall include in the QMP the methods for identifying, analyzing, evaluating, and implementing solutions to continuously improve quality. The QMP shall establish and maintain specific procedures to ensure a successful Quality Improvement Program.	QMP	7.2	Quality Improvement	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.3.1	The QMP shall state the Developer's commitment to quality and provide a clear definition of the scope of activities and detail the methods to ensure the Work meets the requirements of the Project Agreement. The QMP shall list all deliverables to the Department, as required by the Project Agreement and this Section.	QMP	11.1	Deliverables to the Department	☐
6.3.2.a	The Developer shall include in the QMP an organizational chart that illustrates a commitment to an effective quality program to ensure all Work meets the requirements of the Project Agreement. The QMP shall describe the hierarchy of the Developer's organization. The QMP shall graphically depict the principal quality participants, showing lines of responsibility, authority, communication, and interfaces with the Department; other involved agencies; and any other team members having a significant quality role, including subconsultants, Subcontractors, and Suppliers. The PQM, IDQM, DPCM, CPCM (and PC staff) and IQCM (and IQC staff) shall be shown on the organization chart to report to the Developer's executive management and be independent of the Developer's Project Manager. The Developer shall update the organization charts and distribute those charts to the Department when any changes to the organization are made.	QMP	3.1	Project Quality Management Team	☐
			5.2	Responsibility and Authority	☐
6.3.2.b	The QMP shall describe the roles and responsibilities of the PQM, IDQM, DPCM, CPCM, IQCM, PC and IQC staff, and other key personnel; and shall describe their authority to implement quality improvements for the Work.	QMP	5.2	Responsibility and Authority	☐
6.4.1.a	The Developer shall establish, document, and implement an IQC program. The Developer shall include in the QMP the methods and procedures by which the Work shall be certified by the Developer as complying with the requirements of the Project Agreement.	QMP	5.1.1	Independent Quality Control (IQC) Program	☐
6.4.1.b	The QMP shall establish procedures for procuring services. The procedures shall include a review and approval process by the Developer for adequacy of specified technical requirements and the adherence to quality requirements.	QMP	7.1.2	Selecting Subcontractors, Subconsultants, and Permanent Material Suppliers	☐
6.4.1.c	The QMP shall describe the measures to be taken to ensure that Subcontractors, Suppliers and subconsultants meet, implement, document, and maintain the QMP requirements.	QMP	7.1.2	Selecting Subcontractors, Subconsultants, and Permanent Material Suppliers	☐

EVALUATION CRITERIA – APPENDIX D: STAGE 1 DQMP

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.4.2.a	The QMP shall include procedures that address all elements of design including, but not limited to, wet and dry utilities, architectural, civil, structural, geotechnical, survey, hydraulic, landscaping, aesthetics, environmental, traffic, safety, ROW, and temporary Work. The Developer shall identify in the QMP all applicable computer programs to develop and check designs.	DQMP	2.3	Design Quality Management Plan	☐
			6.2	Computer Programs	☐
6.4.2.b	The QMP shall describe how the design team plans and schedules the design efforts, including task force meetings, design reviews, constructability reviews, design meetings, independent design checks, and discuss how these activities are accounted for in the overall Project Schedule.	DQMP	4.0	Project Quality Communication/Interfaces	☐
6.4.2.c	The Developer shall identify in the QMP design input requirements. The Developer shall perform ongoing audits of the design input requirements. The Developer shall maintain an accessible, centrally controlled design manual, database, or list that contains all relevant design inputs to be used by design personnel for the Work. The Developer shall provide a process in the QMP to ensure that the design inputs are communicated to, and accessible by, the relevant designers responsible for incorporating design inputs into the design. The Developer shall include in the QMP how changes to design inputs are identified, reviewed, and approved by authorized personnel prior to their implementation. The QMP shall also include:	DQMP	6.1	Design Input	☐
	• Procedures to control and independently ensure that the design meets the requirements of the Project Agreement, including provisions for subconsultant's designs and configuration management activities;	DQMP	6.3.3.1	Certification of Compliance	☐
	• Procedures to identify and track design document deliverables;	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
			6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
	• Procedures for Developer approval, tracking and recording revisions to Release for Construction (RFC) Documents. The Developer shall have a formal procedure for comment resolution included in the QMP;	DQMP	6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
			4.4.2	Department Comment Resolution Meetings	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
	• Procedures for Developer approval of RFC Documents; and	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
	• Procedures for approval of supplier-provided design drawings (e.g., shop drawings), including opportunity for the Department to perform audits.	DQMP	7.0	Supplier Provided Drawings	☐
6.4.2.d	The Developer shall include in the QMP a process for a licensed engineer in responsible charge for the design to prepare, review, and approve all changes, including field design changes, RFC Documents, and As-Built documents. The Developer shall maintain a master list of approved design changes. The QMP shall include a process to communicate design changes to those completing the Work on a timely basis consistent with the progress of construction activities.	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
			6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
			6.6.9	As-Built Documents	☐
	Environmental review: The Developer shall include in the QMP a process for Environmental review prior to submission of final (100% level) plan packages showing how the Developer's design meets the Environmental Requirements, including the Developer's obligations under Schedule 17 Environmental Requirements.	DQMP	6.5	Design Reviews	☐
6.4.3.a	The QMP shall extend to both permanent and temporary Work (erosion control, traffic control, drainage, etc.).	QMP	2.0	Quality Program	☐
6.4.3.b	**Certification:** The Developer shall include in the QMP a process to submit certificates to the Department at the following times that the Work performed meets the requirements of the Project Agreement (such certificates to be in the form set out in Appendix B to this Schedule 8, amended as appropriate in the case of certificates required to be submitted pursuant to Section 6.4.3.b.i.D)	QMP	11.2	Certification of Compliance	☐
	Inspection: The Developer shall include in the QMP, and submit to the Department for Approval, an MTIP that shall include detailed inspection procedures to be used in cases where inspections are to serve as the basis for verifying compliance with the requirements of the Project Agreement.	CQMP	6.3.6.2	Inspection	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.4.3.b.iv	**Certificate of Compliance, Certified Test Report and Buy America documentation:**				☐
	The Developer shall include in the QMP a method of handling and documenting work/products accepted in the Work by Certificate of Compliance (COC) or Certified Test Report (CTR).	CQMP	6.3.6.4	Certificate of Compliance and Certificated Test Reports	☐
	The Developer shall include in the QMP a method for documenting and tracking, on a basis consistent with Developer's Progress Reporting, compliance with Buy America Requirements of 23 CFR 635.410, and at a minimum shall address the following obligations of the Developer:	CQMP	6.3.6.5	Buy America Documentation	☐
6.4.3.b.vi	**Environmental Compliance in Construction:** The Developer shall include in the QMP a Section detailing the IQC activities that will be performed to ensure compliance during construction of all environmental requirements. IQC staff oversight of all Schedule 17 Environmental Requirements elements that apply to construction is required. These elements include but are not limited to: construction air quality, construction noise, noxious weed management, landscape planting and establishment, water quality, protection of wetlands and other sensitive areas, hazardous materials and environmental hardscape elements such as noise walls.	CQMP	6.3.6.7	Environmental Compliance	☐
6.4.4.a	The Developer shall prepare and implement a MTIP as part of the QMP that includes the appropriate criteria, tests, and inspection requirements identified in CDOT's *Standard Specifications*, *Field Materials Manual, CDOT Staff Bridge Fabrication Inspection Manual*; Developer-prepared inspection checklists; and requirements as set forth herein.	CQMP	6.2.2	Prepare Materials Testing and Inspection Plan	☐
		QMP	Attachment 1	Sample Materials Testing and Inspection Plan	☐
6.5.1	The QMP shall include procedures to develop and maintain a system to identify, control, remedy and report Nonconforming Work, including Nonconforming Work identified through the issuance of a NCN by the Department. The Developer shall remedy Nonconforming Work in accordance with the Approved QMP. The responsibility for review and authority for the disposition of Nonconforming Work shall be defined in the QMP. The Developer shall document the identification of Nonconforming Work by completing and submitting a NCR to the Department as soon as reasonably practicable, and in any event within 24 hours, after the Developer first becomes aware of the Nonconforming Work.	QMP	9.0	Nonconforming Work	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.5.5	The QMP shall include procedures for controlling the use of Nonconforming Work including the tagging of Nonconforming Work products.	QMP	9.2	Isolation of Nonconforming Work	☐
6.5.8	The QMP shall describe corrective and preventative action ("Corrective Action") procedures that the Developer shall use to identify and improve processes and remedy issues that produce, or may produce, systemic Nonconforming Work.	QMP	9.3.4	Root Cause Analysis	☐
			9.3.5	Corrective Action Plan	☐

1. Project Summary

1.1 KIEWIT-MERIDIAM PARTNERS CORE VALUES

Kiewit-Meridiam Partners (KMP) is committed to delivering the Central 70 Project (Project) with a focus on client relations, achieving the Project goals, and maintaining transparency with the Department. To achieve these objectives, the KMP Team has adopted the following core values:

1.2 PLAN MANAGEMENT

This Project summary is presented at the start of each Appendix to serve as a quick reference to our core values, the Project overview, our Team's composition, and our Key Personnel and Critical Staff. We developed each Appendix to demonstrate our understanding of the Project requirements and facilitate timely Approval by the Department after award.

This document describes KMP's approach for the Work. KMP will resubmit this Plan, including an updated Project summary, to the Department as required per the Project Agreement.

All Project plans, including this document, are stored electronically per KMP's Document Control System (DCS) Plan. Revisions to these documents may be required as the Project progresses, and annual updates are completed in accordance with Section 4.2 of the Project Management Plan (PMP). The latest revision of all Management Plans will be stored per KMP's DCS and submitted to the Department through Aconex.

1.3 OVERVIEW

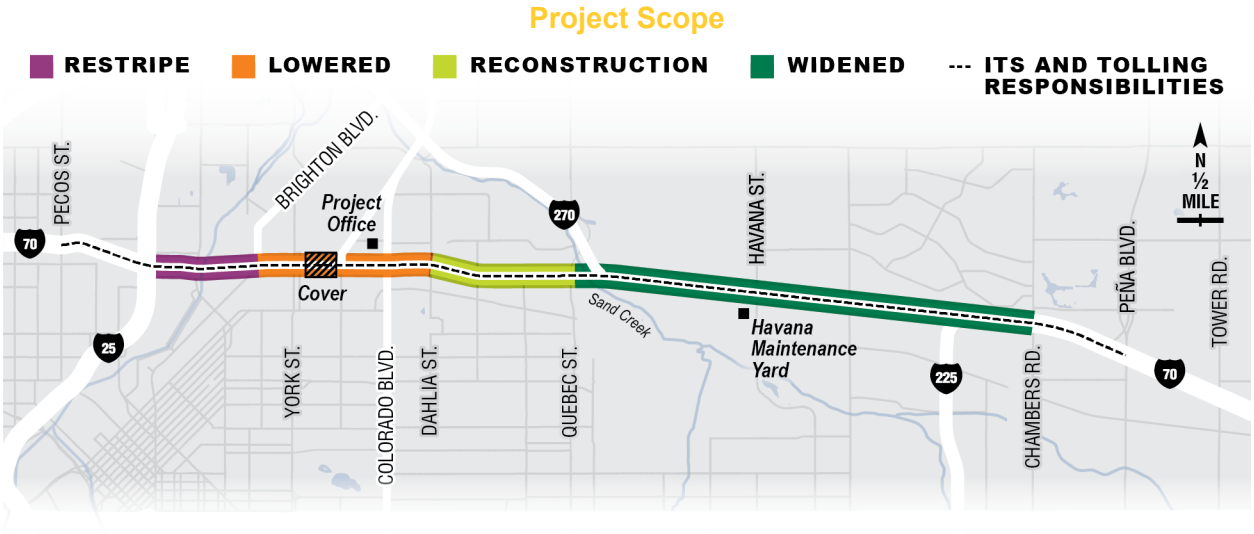
The Project is a Public-Private Partnership to design, build, finance, operate, and maintain planned improvements to the I-70 corridor between I-25 and Tower Road.

The Project's scope is broken down into the following timeframes:

Project Time Frames

Time Frame	Period	Description	Estimated Duration
Notice of Award to NTP1	Submittals	Plan development, submittals, and mobilization of Quality Management staff	3 months
NTP1 to NTP2	Construction	Financial Close and Design	6 months
NTP2 to Substantial Completion	Construction	Construction and O&M During Construction (other than snow and ice control services)	45 months
Pre-Substantial Completion to Substantial Completion	Transition	Transition from Construction to Operating Period, and O&M submittals	8 months
Substantial Completion to Final Acceptance	Operating	Final submissions and inspections	4 months
Substantial Completion to Expiry Date	Operating	Operations and Maintenance (including Renewal Work)	30 years
NTP3 to Term	Construction, Operating	KMP snow and ice control services	33-34 years
62-68 months prior to Expiry Date	Operating	Handback Inspections, Handback Work, and Department training to facilitate seamless handover at Expiry Date	62-68 months

Improvements made by KMP during the Construction Period, highlighted in the figure, are described below.



1.3.1 RESTRIPE: I-25 TO BRIGHTON BOULEVARD

Restriping I-70 from I-25 to Brighton Boulevard to accommodate one managed lane in each direction, including:

- Design and Construction for improvements to associated drainage infrastructure

1.3.2 LOWERED: BRIGHTON BOULEVARD TO DAHLIA STREET

Full reconstruction of I-70 between Brighton Boulevard and Dahlia Street, including:

- Removing the viaduct between Brighton Boulevard and Colorado Boulevard, and reconstructing the Interstate below grade to accommodate the Ultimate Project roadway configuration and associated elements
- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the Interstate structures over Brighton Boulevard
- Constructing the Cover and associated elements over the Interstate between Columbine Street and Clayton Street
- Constructing cross-street structures at York Street, Josephine Street, Columbine Street, Clayton Street, Fillmore Street, Steele Street/Vasquez Boulevard, Cook Street, Monroe Street, and Colorado Boulevard
- Constructing I-70 Mainline structures at Dahlia Street
- Removing one Railroad structure, and Constructing two Railroad structures at Union Pacific Railroad (UPRR) and BNSF Railway (BNSF)

1.3.3 RECONSTRUCTION: DAHLIA STREET TO SAND CREEK

Full reconstruction of I-70 Mainline between Dahlia Street and Sand Creek, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing Interstate structures over Holly Street, Monaco Street, Denver Rock Island Railroad, and Quebec Street

1.3.4 WIDENED: SAND CREEK TO CHAMBERS ROAD

Widening I-70 from Sand Creek to Chambers Road with associated elements, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the I-270 flyover structure to I-70 eastbound
- Removing and replacing Interstate structures over Peoria Street

1.3.5 INTELLIGENT TRANSPORTATION SYSTEMS (ITS) AND TOLLING RESPONSIBILITIES

Additional ITS and tolling responsibilities, including:

- Closed circuit television (CCTV) camera coverage for I-70 corridor, including interchanges between Pecos Street and Airport Boulevard
- Microwave vehicle radar detection between Pecos Street and Tower Road
- Travel time indicators between Pecos Street and Tower Road
- Lane use signals between Pecos Street and Chambers Road
- Dedicated short range communications radios between Pecos Street and Tower Road

1.3.6 OPERATIONS AND MAINTENANCE (O&M) WORK DURING CONSTRUCTION

Operations and maintenance of existing infrastructure within the O&M Limits During Construction as defined by the Project Agreement, including:

- I-70 Mainline and associated infrastructure
- Local Agency infrastructure
- Drainage
- Water quality
- ITS and electronic toll collection facilities
- Utility services
- Traffic signals and lighting
- Railway structures
- Fencing
- Snow and ice control services (following NTP3)

1.3.7 OPERATIONS AND MAINTENANCE WORK DURING THE OPERATING PERIOD

Operations and maintenance of I-70 within the limits defined by Schedule 11 of the Project Agreement for the Operating Period (dashed line in figure above), including:

- Providing resources to safely maintain the roadway throughout the Term

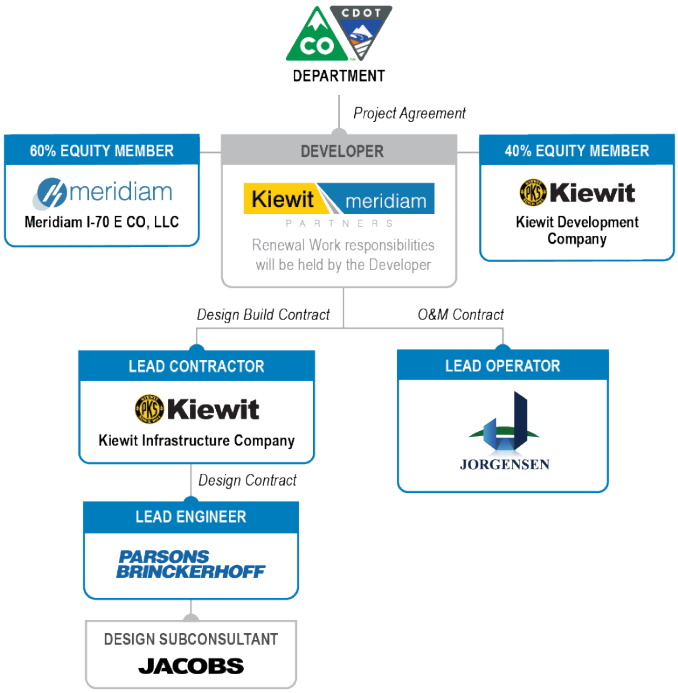
- Asset preservation including repair and Renewal
- Snow and ice control services
- Courtesy patrols
- Incident response
- Meet Handback requirements

1.4 KIEWIT-MERIDIAM PARTNERS COMPOSITION

KMP organized a streamlined Team to successfully deliver the Central 70 Project. The Core Proposer Team Members of Meridiam, Kiewit, Parsons Brinckerhoff, and Jorgenson are united by a commitment to Project success under a common project management system. KMP's lean approach has been cultivated from a history of working together, and by our shared cultures of safety, quality, environmental stewardship, and community service. The KMP Team needs no learning curve to start working together, and is positioned to execute on our joint Project delivery commitments from day one.

KMP's equity members—Meridiam and Kiewit Development Company—formed KMP for the sole purpose of developing this Project. KMP's Core Proposer Team Members, shown below, include Kiewit Infrastructure Company (KIC) as the Lead Contractor, Roy Jorgensen Associates (Jorgensen) as Lead Operator, and Parsons Brinckerhoff (PB) as Lead Engineer. Our Team is supported by the expertise of subconsultants and subcontractors who possess additional local knowledge and experience, including Jacobs as PB's main Design subconsultant. KMP is committed to identifying opportunities to maximize the involvement of small and disadvantaged businesses. Throughout the Project, KMP will remain the single point of responsibility for meeting all Project Agreement requirements.

KMP will co-locate with the Department in both the Project Office and the Colorado Transportation Management Center (CTMC) to foster a collaborative approach that ensures we meet the Department's Project goals throughout the Project.



1.5 KEY PERSONNEL AND CRITICAL STAFF

The table below shows KMP's Key Personnel who will be overseeing the Project. KMP has also identified positions, and individuals, as Critical Staff who will be instrumental in the successful delivery of the Project.

Key Personnel and Critical Staff

Staff Type	Title	Name	Employed by	Seconded to
KEY PERSONNEL	**Project Manager**	Chris Hodgkins	Meridiam	KMP
	Design-Build Manager	Tom Howell	KIC	
	Construction Manager	Barry Thoendel	KIC	
	Design Manager	Doug Andrew, PE	PB	
	O&M Manager	Abraham Henningsgaard, PE	Jorgensen	
	Project Quality Manager	Gordon Peterson, PE	KIC	KMP
	Independent Design Quality Manager	James Rozek, PE	PB*	
	Construction Process Control Manager	Sean McAfee	KIC	
	Independent Quality Control Manager	Tracy Martin, PE	KIC*	
	Environmental Manager	Jenn Bradtmueller, PE	KIC	KMP
	Utilities Manager	Kevin Custy	Jacobs	KIC
	Project Communications Manager	Hunter Sydnor	KIC	KMP
CRITICAL STAFF	**Technical Manager**	Martin Currie	KDC	KMP
	Financial Manager	Christopher Couallier	Meridiam	KMP
	Safety Manager	Ben Snow	KIC	KMP
	Construction Safety Manager	Kenyon Manley	KIC	
	Civil Rights Program Manager	Matt Christensen	KIC	
	DBE/ESB Program Manager and Outreach Training Manager	Colean Bembry	KIC	
	Lead Scheduler	Mauricio Solano	KIC	
	Design Integration Manager	Tim Nelson	KIC	
	Deputy Design Manager	Mark Talvite, PE	Jacobs	
	Cover Design Manager	Heath Therrien, PE	PB	
	Commercial Manager	Jamie Harvey, PE	KIC	

**Per Approved ATC 9.1 (see Attachment to the Quality Management Plan), KMP shall use in-house personnel in lieu of employees from an Independent Quality Control Firm*

2. KMP's Quality Management

KMP's quality management approach emphasizes full compliance with the quality requirements of the Project Agreement to address the specific challenges and opportunities throughout the design, construction, and operational phases of the Project. With International Organization for Standardization (ISO) certified firms as the Lead Engineer and Lead Contractor, our Team is excited, energetic, and enthusiastic about our quality management system, aware that careful implementation at each phase contributes to the larger goal of delivering a fully compliant Project.

Protecting the interests of the Department is integral to any quality model. To achieve this, KMP has submitted and the Department has approved ATC 9 (Attachment 3 of the Quality Management Plan). Under this agreement, KMP's Independent Quality Control (IQC) group will be completely independent of Construction and Design operations.

With access to over 300 qualified full time quality personnel, KMP can assemble an experienced IQC Team customized to the Project's changing needs throughout the Project. To ensure all applicable standards and specifications are met, all KMP personnel and laboratories are qualified in accordance with *CDOT Standard Specifications for Road and Bridge Construction* 2011 Section 106.04, Colorado Procedure 10, and 23 CFR § 637.207.

KIC, the Lead Contractor, is responsible for all Construction Process Control activities. The benefits of placing the responsibility of Process Control with the contractor include:

- Places ownership of Process Control and self-inspection with the personnel actually doing the Work
- Promotes an organization-wide culture of quality
- Encourages more collaborative relationship with quality control and quality assurance oversight, reducing "police mentality"
- Identifies quality issues sooner, reducing potential Schedule impacts
- Improves collaboration and transparency with Enterprises and Developer

KMP's IQC group is led by Gordon Peterson, and is comprised of employees of the Developer, and (as needed) a third party quality control firm. Our IQC personnel will be completely independent of all Construction responsibilities, reporting directly to KMP Executive Management. The benefits of placing the responsibility of Independent Quality Control with the Developer include:

- Improves collaboration and transparency
- More efficient management of quality control resources
- Reduces potential for Schedule impacts due to limited or unavailable third party resources

All Team member organizations will be certified under the ISO 9001 quality management processes to ensure that the Project meets the most stringent quality standards.

2.1 QUALITY POLICY

KMP's Quality Policy, discussed in Section 3.2 of the QMP, is to fulfill the Project Agreement requirements, with the principal objectives of meeting or exceeding the Department's expectations, and eliminating rework by performing work *Right First Time*. KMP monitors its performance against these objectives and strives for continual improvement throughout the Project.

In addition, KMP's designers have adopted the PB Quality Policy, shown below. This Design Quality Policy describes KMP's goals and objectives for producing a Design that meets or exceeds Project design criteria, promotes Project cost effectiveness, uses improved methods, and enhances Department satisfaction. Our Design Team partners, led by PB, are trained in the execution of the Quality Policy, as well as our successful design quality management system—the foundation of this DQMP. As a result, our Design Team staff is prepared to work together to deliver quality Design products on or ahead of schedule.

Parsons Brinckerhoff Quality Policy

WSP | PARSONS BRINCKERHOFF

To: All U.S. Staff
From: Gregory A. Kelly, President and CEO, U.S.
Subject: Quality Policy
Date: January 15, 2017

I personally affirm WSP | Parsons Brinckerhoff's commitment to quality. Quality professional services are required from every employee in the company. To illustrate our solid quality commitment, we will conduct our projects in a manner that is consistent with applicable regulatory requirements, company standard operating processes, and standard industry practices.

The mission of the quality system is:

- To satisfy all business requirements in a **cost-effective** manner by doing work correctly the first time through teamwork and technical excellence
- To provide innovative high-quality methods used to deliver our professional services and strive for **continual improvement** in our work processes
- To seek ways to meet or exceed our clients' needs and increase **client satisfaction** with our service

Your contribution to our quality mission is fundamental to maintaining WSP | Parsons Brinckerhoff's U.S. position at the forefront of the industry.

PB's Quality Management System (QMS) is ISO 9001:2008 certified.

KMP's Quality Policy, the DQMP, the QMP, and our Design Team's ISO 9001:2008 certification work together to support the quality requirements of the Project Agreement.

Parsons Brinckerhoff Quality Management Certificate

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Certificate No: 96792-2011-AQ-GBR-UKAS

Initial certification date: 01 December 2009

Valid: 11 January 2016 - 15 September 2018

This is to certify that the management system of

Parsons Brinckerhoff, Inc.

Corporate Office, One Penn Plaza, New York, NY 10119, USA
and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Quality Management System standard:

ISO 9001:2008

This certificate is valid for the following scope:

The provision of planning, design, program management, construction services, operations and maintenance provided by WSP | Parsons Brinckerhoff for projects within the Transportation & Infrastructure, Industrial & Energy Sectors.

Place and date:
London, 11 January 2016

UKAS MANAGEMENT SYSTEMS
0013

For the issuing office:
DNV GL – Business Assurance
Palace House, 3 Cathedral Street, London, SE1 9DE, United Kingdom

Gurpal Kaur
Management Representative

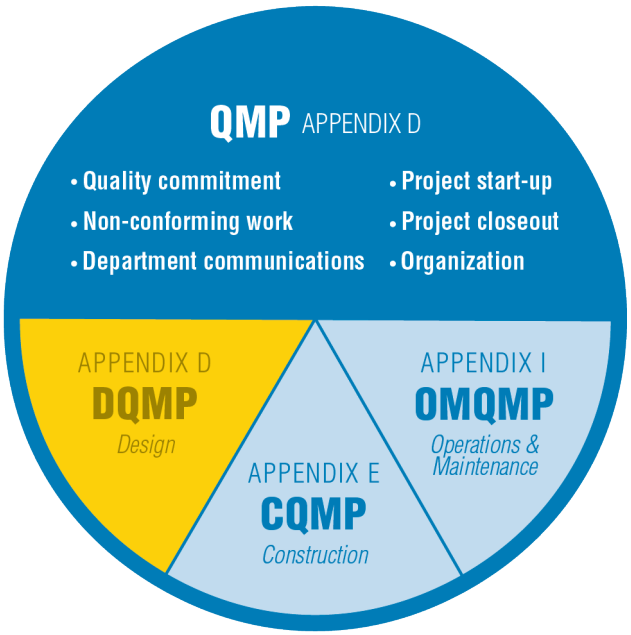
Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.

2.2 QUALITY PLAN OVERVIEW

During the preliminary design, all work, including our 72 ATC submittals, has been completed in compliance with this Design Quality Management Plan (DQMP) and the overarching Quality Management Plan (QMP). Compliance with these two plans will continue through final design. These two plans comprise the Stage 1 submittal.

KMP performs all Construction activities in compliance with the Construction Quality Management Plan (CQMP) in Appendix E, which comprises the Stage 2 submittal. The organizational structure of the Stage 1 and Stage 2 submittals is described in more detail in the QMP. Upon completion of Construction, a comparable plan—the Operations and Maintenance Quality Management Plan (OMQMP) in Appendix I—will be developed and submitted to the Department to ensure continuity of quality throughout the Operating Period.

KMP Quality Management Plan



2.3 DESIGN QUALITY MANAGEMENT PLAN

The DQMP supports the QMP, specifically addressing the Design process. It describes management responsibilities and communication interfaces, and outlines the Process Control (PC) and IQC requirements based on both the Project Agreement and the QMP.

Design is developed and reviewed for all Project elements, including wet and dry utilities, architectural, civil, structural, geotechnical, survey, hydraulic, landscaping, aesthetics, environmental, traffic safety, right-of-way (ROW), Construction, Operations and Maintenance (O&M), and temporary work through documented procedures and in accordance with the Project Agreement. The Design will expand upon the Preliminary Design presented in KMP's proposal which was developed based on the Request for Proposal (RFP) documents. The Design will be verified by a Design quality control process and Design audits as specified in the Design Quality Procedures (DQPs) included as Attachment 1.

This DQMP describes KMP's policies, procedures, and staffing to manage Design quality in accordance with the Project Agreement requirements. It prescribes the internal quality control functions of the Design Team (PB and its subconsultants), as well as audit functions. In general, the DQMP is intended to accomplish the following:

- Define KMP's responsibility for Design quality
- Explain the Design quality program process, which is depicted graphically in Attachment 2
- Ensure Design documents are prepared in accordance with generally accepted design and engineering practice, and meet the requirements of the Project Agreement
- Guide the Independent Design Quality Manager (IDQM) and the Design Manager in overseeing the Design process and reviewing the Design products

Each Design Team member is responsible for understanding their roles and responsibilities as defined in this DQMP, and for developing work products consistent with the procedures outlined herein. All Design Team members are required to read and attend training sessions on the Project Agreement and the DQMP.

3. Management Responsibility

This section describes the Design quality management organization, and responsibilities for Design Process Control and quality control activities on the Project.

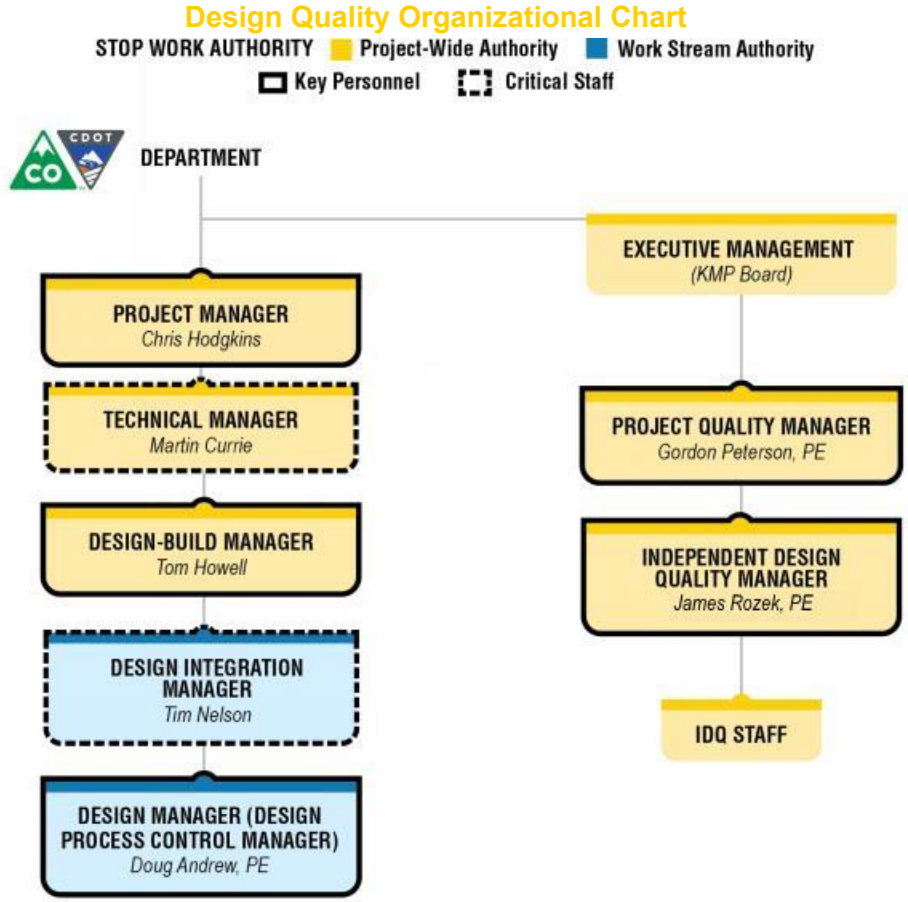
3.1 GENERAL

The Design quality functions for the Project are organized and structured to follow KMP's *Right First Time* philosophy, based on our belief that quality is best achieved and maintained by those performing the Work. All our Design staff will be trained on these principles. In addition, KMP monitors our performance against the Project Agreement requirements with independent quality reviews, and strives for continual improvement throughout the Project.

Independent quality reviews are performed only by persons not directly responsible for the Work. This DQMP defines standards, procedures, and training established to achieve quality Design products and ensure Work is being done *Right First Time*. The individuals responsible for Design quality will have sufficient authority, access to work areas, and organizational freedom to identify quality issues; verify implementation of solutions; and ensure that further processing, delivery, or installation is controlled until the nonconforming condition has been corrected.

As the Organization Chart below indicates, there are two types of quality staff, Process Control and Independent Quality Control. Process Control will be managed by the Design Manager, and Independent Quality Control functions will report to the Project Quality Manager (PQM).

The overall quality management organizational structure is defined in the QMP (see Organization Chart in Section 3.1 of the QMP).



**By letter dated August 31, 2016 and in response to our submission of ATC 41, KMP was notified by the Department that the Design Manager, Doug Andrew, is allowed by the Project Agreement to serve as both the Design Process Control Manager and the Design Manager, and that no ATC was required (see Attachment 3 to the QMP).*

3.2 RESPONSIBILITIES

Persons within the Design quality organizational structure include PQM, Design Manager, Design Process Control Manager (DPCM), Discipline Leads, Independent Design Quality Manager (IDQM), QC Reviewers, and the Design-Build Manager. Specific responsibilities of these personnel are presented in the QMP, and summarized below.

The Design Manager is responsible for ensuring that all quality control procedures for Design and Design review are effectively implemented as described in this DQMP. The Design Manager collaborates with the Project Quality Manager and reports to the Design-Build Manager through his delegate, the Design Integration Manager.

The DPCM is responsible for scheduling, planning, organizing, and staffing relative to producing and checking the Design. This position is combined with the Design Manager. The Design Manager and DPCM in a combined role will:

- Control the Design production process
- Examine the quality and workmanship of the Design and check that it is being accomplished in accordance with the requirements of the Project Agreement

Discipline Leads are individuals with specific knowledge in a branch of engineering or science who provide the technical leadership to create a Design which follows the requirements of the Project Agreement.

The IDQM's responsibility is to oversee and audit the processes for conformance to this DQMP. The IDQM is responsible for all Design quality control activities, and may perform these functions or delegate them to a qualified representative of the Design Team. The IDQM reports to the PQM.

The QC Reviewers (senior engineers with a minimum of 10 years of experience) are responsible for complete checks of all drawings, reports, specifications, and calculations in conformance with the Project Agreement. These reviewers will not be directly involved with the original development of the item, element, or plans being checked.

The Design-Build Manager's responsibility is to interface between the Design Team and Construction personnel.

4. Project Quality Communication/Interfaces

The Design quality meetings listed below serve as the formal venues of communication between Design, Construction, Process Control, Independent Quality Control, and the Department. These meetings are discussed in more detail in subsequent sections of this DQMP.

Meeting	Topic	Parties in Attendance	Purpose/Benefit
Quality Kick-Off Meetings	Present the Quality Management Plan to the Project Team	KMP Team (including subcontractors and subconsultants) and Department	Clarify requirements, establish clear lines of communication and counterparts, and review quality plans and procedures
Weekly Task Force Meetings	Task Force Meetings will be held for the disciplines listed in Section 4.1.1	Design personnel, Constructability Review Team, O&M Review Team, subcontractors/subconsultants, and Department (optional)	Review and discuss Design status, questions, constructability, operations and maintenance issues, and facilitate over the shoulder review of the Design
Weekly Discipline Leads Meetings	Status update for each Discipline	Design Manager, Discipline Leads, others as needed	Ensure consistency of work between disciplines

Meeting	Topic	Parties in Attendance	Purpose/Benefit
Design-Progress Review Meetings	Discuss development and progress of package deliverables	Design Manager, Design-Build Manager, Design Integration Manager, PQM, Constructability Review Team, Department	Ensure that the Design is progressing as planned, and identify and resolve roadblocks, typically at 50% to 60% Design completion
Interdisciplinary Review Meeting	Interdisciplinary review and coordination for a specific deliverable	Discipline Leads involved in the deliverable, Constructability Review Team, O&M Review Team, Design Integration Manager (or designee), Design Manager (or designee), Department (optional)	Formal evaluation of level of interdisciplinary coordination for a deliverable package prior to submission to the Department for review
Comment Resolution Meetings	Review and resolve comments made by Constructability Review Team or Department	IDQM, Discipline Leads, Constructability Review Team, O&M Review Team, Design Integration Manager (or designee), Design Manager (or designee), Department (for comments from the Department)	Ensure comments are adequately addressed and provide clear communication between Constructability Review Team, Department, and Discipline Leads

These meetings facilitate organizational and technical interfaces to permit communication of Design information between individual technical disciplines and throughout the Project organization, including the Department. The key organizational and technical interfaces through Design and Construction include:

- Internal discipline communication
- Designer interdisciplinary communication
- Design and Construction communication
- Design and O&M communication
- KMP and Department communication
- KMP and third party communication
- Designer and Design PC/IQC communication

4.1 INTERNAL DISCIPLINE COORDINATION

4.1.1 TASK FORCE MEETINGS

KMP uses Task Force Meetings to establish communication within technical disciplines on a weekly basis. Task forces consist of individuals from a single discipline from Construction, O&M, and Design to discuss issues pertaining to Design, constructability, O&M, utilities, scheduling, environmental compliance, and public outreach for the discipline. Subcontractors, suppliers, third parties, Utility Owners, the Department, and other stakeholders are included throughout the Project. Buy-in from these entities and constructability are emphasized in the Task Force Meetings to minimize the potential for design changes. O&M input is important to KMP's Design, to facilitate accessibility for operations, maintenance, rehabilitation, and Renewal Work during the Term. This input includes incorporation of Design elements to support operation and maintenance of toll collection equipment.

Ultimately, these Task Force Meetings guide the Design Team as the Design moves through preliminary, final, and Release for Construction phases, and facilitate informal over the shoulder reviews. The goal of this process is to implement effective solutions and streamline decision making while reducing comments and review turn-around time.

The Task Force Meetings are recurring meetings. The task force lead is responsible for conducting these meetings and documenting all pertinent discussions and decisions. The task force lead is also responsible for ensuring consistency within the discipline and compliance with the Project Agreement. The task force lead prepares the agenda to discuss the status of Design, coordinate the Design development between disciplines, address constructability issues, and identify any questions associated with design requirements. KMP will provide Task Force Meeting minutes to the Department, and will store them according to the Project document control system (DCS).

The table below shows a list of the disciplines which will hold weekly Task Force Meetings. Additional disciplines may be added on an as-needed basis. The Design Manager will maintain the schedule for all Task Force Meetings and post it in accordance with the Project DCS. The Design Manager will also identify the stopping point for Task Force Meetings as the Design progresses.

Design Task Force Meeting disciplines:

- Roadway (including pavement, lighting and signing, and pavement markings)
- Drainage
- Structures (including geotechnical)
- Traffic/ITS/Tolling
- MOT
- Cover (including Fire and Life Safety topics for the Cover)
- Utilities
- ROW
- Environmental
- O&M
- Landscaping and Aesthetics

In addition to the separate task force for O&M, KMP will also have O&M Team representatives at all Task Force Meetings to ensure that long term operating and maintenance needs are addressed in the Design.

Other non-design related topics may be discussed in additional Task Force Meetings such as Strategic Communications, which will have representation from KMP's designers.

4.2 INTERDISCIPLINARY COMMUNICATION

4.2.1 DISCIPLINE LEADS MEETINGS

The Design Manager holds meetings with Discipline Leads as deemed necessary to ensure compliance, consistency, and quality of the Work. These meetings are initially held weekly during the Design Work. The Design Manager uses these meetings to inform the Design Team of the quality requirements for their Design packages and to assure the Department that the Design meets the requirements and objectives of the overall Project.

These meetings assist in the coordination of work performed by different persons, firms, or disciplines on related tasks in the same geographic area or in adjacent geographic areas. This communication helps ensure that no conflicts, omissions, or misalignments occur between drawings or between the drawings and the specifications, and that KMP coordinates the review, approval, release, distribution, and revision of documents.

4.2.2 INTERDISCIPLINARY REVIEW MEETINGS

Approximately one month prior to the submission of a major package (as determined by the Design Manager), the IQDM conducts a formal Interdisciplinary Review Meeting for the Design package. The actual date of the meeting is scheduled at a mutually convenient time as set by the Design Manager and the IDQM. The meeting will be conducted in person and as an on-line meeting to allow all interested parties, including the Department, to attend. The meeting consists of a page turn through the deliverable package in its current state, with attention on potential interdisciplinary conflicts. The IDQM, or designee, records comments on the deliverable, which serve as the minutes of the meeting. KMP will store the meeting minutes according to the Project DCS. The Department is encouraged to attend these review meetings.

4.3 DESIGNER AND CONSTRUCTION COMMUNICATION

During Design, communication between Design and Constructability Review Team staff occurs regularly through weekly Task Force Meetings and through weekly Schedule meetings. Additional venues for communication between Design and Construction are described below.

4.3.1 DESIGN SCHEDULE MEETINGS

The status of each Design package is discussed at Design Schedule Meetings, as well as any overall issues or concerns stemming from the task force or Interdisciplinary Design Coordination meetings. The Design Schedule Meetings have representatives from all design disciplines (as required) as well as the Design Manager, Deputy Design Managers, Design-Build Manager, Design Integration Manager, O&M Review Team, and Constructability Review Team personnel (as required) to facilitate open communication and early resolution of issues stemming from each discipline. This meeting also serves as the venue for discussing the current Schedule and identifying a recovery plan if the Schedule is in jeopardy.

4.3.2 CONTRACTOR COMMENT RESOLUTION MEETINGS

Throughout the Design process, the Constructability Review Team reviews the Design packages and provides comments to the Discipline Leads through a comment resolution form. These comments will be addressed by the applicable Discipline Lead and discussed in a Comment Resolution Meeting. This meeting provides an opportunity for clear communication regarding the response to the comment, and to discuss any questions. These reviews may include formal agenda items or informal discussions. The Design Integration Manager will confirm that Constructability Reviews are completed. See Design Quality Procedure (DQP) 3.13, Constructability Review, in Attachment 1).

4.3.3 CO-LOCATION/POST DESIGN SERVICES

Following the Final Design submittals, several key Design Team members will remain co-located with the Construction Team in the Project Office to review Construction activities and observe actual field conditions as Construction progresses. Designers assist Construction engineers by providing plan interpretation/clarification, discussing Work sequencing, Construction issues, temporary work, safety, traffic handling, incident management, constructability, maintainability, and identification of changes beneficial to the quality and execution of the Work.

If issues, conflicts, or deficiencies are discovered, interface among Construction, Design, and Design quality is essential. Post Design Services (PDS) provide many processes for resolving quality issues, including Field Design Changes (FDC), review of shop drawings, nonconformance evaluations, record document development, site inspections to verify work relevant to field conditions, and verification of Design Implementation. Procedures for PDS processes as prescribed by DQP 3.07, Field Design Changes, and DQP 3.08, Notice of Design Change (NDC), contained in Attachment 1.

4.4 KMP AND DEPARTMENT COMMUNICATION

Department staff will be involved with Design Work from the earliest stages, whether at scheduled Task Force Meetings, formal design review points, executive-level annual reviews, or through the everyday, informal over the shoulder reviews facilitated by our co-location with Department staff. KMP understands that frequent communication between Developer and Department is essential to ensuring that Project Design requirements are understood—a necessity for keeping the Project on schedule.

The IDQM is one of the key points of contact for the Department regarding Design quality. The IDQM interacts with KMP Executive Management and the Department to help coordinate documentation, resolve issues, and support the Department oversight responsibilities and obligations. All quality documentation and data are available to the Department. The Department has access to areas where the Work is performed, and is afforded the opportunity to oversee KMP's PC and IQC activities during all phases of Design.

Task Force Meetings, Design Progress Review Meetings, and Comment Resolution Meetings are added vehicles for communication between KMP and the Department.

4.4.1 DESIGN PROGRESS REVIEW MEETINGS

As each major Design package for roadway and bridges nears 60% completion, the package will be assembled and transmitted to the Department for a Design Progress Review Meeting as stipulated in Schedule 8 of the Project Agreement. The meeting will be scheduled approximately one week following transmission of the package to the Department. The meeting will consist of a review of the package with an emphasis on potential issues which need to be resolved prior to the formal 100% complete package. KMP will provide meeting minutes to the Department expeditiously, and will store them according to the Project document control system (DCS). These minutes will serve as the record of comments on the Design.

4.4.2 DEPARTMENT COMMENT RESOLUTION MEETINGS

Following a formal review of a Design package (such as a 100% submittal, but not a Design Progress Review Meeting as cited in 4.4.1, above) the Department will provide KMP with comments on the submittal. It is anticipated that comments will be provided in an Excel spreadsheet and will identify the following:

- The reviewer's comment
- Identification of the section of the Project Agreement which caused the comment to be issued (what portion of the Project Agreement KMP is not complying with)
- The reviewer's name

After receipt of the comments, the Design Manager and Discipline Leads determine a preferred resolution of the comment. Within two weeks of the receipt of the comments, the IDQM conducts a formal Comment Resolution Meeting to discuss the Department's comments and KMP's suggested resolution. At the meeting, KMP and the Department come to an agreement as to the resolution of the comments. A record of the Department Comment Resolution Meeting is signed by the Design Manager and the Department's representative indicating their concurrence with the outcome, and the IDQM provides meeting minutes after completion of each review meeting.

Following a Comment Resolution Meeting on a 100% submittal, the Design Manager and the Department conduct a page turn on the deliverable to confirm that all comments have been addressed as agreed, prior to submission of the Release for Construction (RFC) documents to the Department.

4.5 KMP AND THIRD PARTY COMMUNICATION

KMP interacts with stakeholders and other third parties as needed prior to and during all major Design package deliverable phases to plan and coordinate review activities. Stakeholders and third parties (as determined by the PM and the Department) are afforded the opportunity to participate in weekly Task Force Meetings and Comment Resolution Meetings. During the Interdisciplinary Meetings, disciplines acknowledge review of third party designs, and confirm that their respective designs are not in conflict.

4.6 DESIGNER AND IQC COMMUNICATION

Design IQC staff participate in Task Force Meetings, Interdisciplinary Meetings, and other meetings as needed. Each Design package undergoes quality control checks as specified in applicable DQPs in Attachment 1. Review of quality control documentation, over the shoulder reviews, and Process Control Audits are forms of communication used by the IDQM to verify that the processes within this DQMP are functioning properly.

5. Subconsultants' Documented Quality Plan

5.1 GENERAL

Subconsultants are obligated to adhere to all aspects of the DQMP relating to their work. They acknowledge, by their execution of the subcontract, that they have received, reviewed, and staff assigned to the Project will be trained in all aspects of the DQMP, and that they will comply with these quality programs. The subconsultant's submittals, as well as their quality control processes at their office, are subject to quality audits by the IDQM based on the requirements in the DQMP and Project Agreement. These requirements are defined by DQP 2.01, Quality Program for Subconsultants.

6. Design Quality Control

Design quality control and quality review procedures are organized by Design element and specify appropriate quality requirements. Quality control starts with the series of reviews held in Design, task force, and interdisciplinary meetings. Design QC continues with the independent checking of Design elements. Specific quality control and quality review procedures include verifying constructability between individuals and firms working on the same or adjacent areas through interdisciplinary reviews. The Design quality process is presented in Attachment 2 to this DQMP.

Specific quality control and quality review procedures verify that all Design products are independently checked. The designer and checker are clearly identified on the face of all Design documents and the documents are stamped and signed appropriately.

All personnel are required to be familiar with the Project Agreement requirements and their individual responsibilities. The procedures ensure compliance with the Project Agreement, generally accepted engineering practices, and this DQMP. Procedures for meeting documentation requirements, and the specific responsibilities of personnel to satisfy these requirements, are presented in the QMP and DQMP.

Design-related PC/IQC measures to be implemented for the Project are documented in the Design Quality Procedures (DQPs) contained in Attachment 1, including:

- DQP 3.01 Control of CADD Drawings
- DQP 3.02 Control of Specifications
- DQP 3.03 Control of Reports
- DQP 3.04 Control of Calculations
- DQP 3.05 Checking of Design Deliverables

These procedures are consistent with this Design Quality Management Plan, the Project Agreement, and PB's corporate QMS. The procedures document the requirements for Design preparation, coordination, review, approval, distribution, revision, and change control. Design documents include all Design-related documents prepared for the Project (including calculations, drawings, and specifications). Each Design element that is incorporated into a deliverable, and the deliverable as a whole, is prepared and reviewed by qualified Design Team personnel prior to submittal.

This section describes the requirements for the control of Design activities associated with the Project. This includes a discussion of Project Design phases, Design input and output requirements, Design reviews, and Design quality control procedures.

6.1 DESIGN INPUT

All Design-related source documents such as manuals, lists, and/or databases are stored in a central location on InEight Project Suite. CADD files are stored on the Project's ProjectWise site. The information is therefore readily accessible by the Design personnel. The Design Manager or designee is responsible for creating and maintaining the matrix of Design inputs (the Design Basis) to be used by Design personnel (including those listed in Schedule 10A of the Project Agreement), and for documenting the reasons for changes to the Design inputs. The changes can be initiated by external parties (such as the City and County of Denver, utilities, and other third parties) or internally as a Design process developed input. Discipline Leads are responsible for review and approval of changes to Design inputs for their discipline. Documentation pertaining to the review and approval of changes becomes part of the Design Basis, and the information regarding the approved change is disseminated in accordance with established communication protocols as outlined in DCS.

6.2 COMPUTER PROGRAMS

Designers will perform their work using Department-approved software. A list of software to be used throughout the Project will be provided in a later update to this DQMP. Listed software not currently on the Department's approval list will be submitted to the Department for review and Approval, with verification data if requested.

6.2.1 VALIDATION OF VENDOR-SUPPLIED COMPUTER PROGRAMS

Vendor-supplied computer programs not pre-approved are formally verified using one or more of the following methods:

- Use of hand calculation methods for comparison and verification.
- Use of another validated computer program for comparison and verification.
- Submittal of documentation from the manufacturer or program writer verifying the accuracy of the program.

The validation documentation is audited by the IDQM and, once approved, the checking process follows that of pre-approved software.

6.2.2 VALIDATION OF CUSTOM SPREADSHEETS AND STAND-ALONE PROGRAMS

The use of custom design spreadsheets and stand-alone computer programs is formally verified prior to use. A spreadsheet may be verified by performing independent and reviewable calculations in comparison to other established programs (e.g., MATHCAD). The verifying calculations are checked using the color-coded system defined in DQP 3.05, Checking of Design Deliverables. A comparison is made between the computer-generated output and the verifying calculations. The validation documentation is audited by the IDQM and once approved, the checking process follows that of pre-approved software (see DQP 3.04).

6.2.3 VERIFIED COMPUTER PROGRAM LOG

The IDQM maintains a log of spreadsheets and computer programs that are considered validated via written approval by the Department or other verification processes.

6.3 DESIGN PHASES

To meet the Design deliverable schedule of the Project, each Design deliverable will be progressed in several distinct phases as described in the following sections.

6.3.1 PRELIMINARY DESIGN (30%)

The Project Agreement requires a submittal of the Preliminary Design at an approximately 30% completion stage. Prior to assembling the package for submittal, disciplines will follow the internal QC process confirmation outlined under Section 6.6.4. Following completion of the QC process, the package will be submitted to the IDQM for conformance review or audit, and then to the Department for Acceptance or Approval as warranted.

6.3.2 DESIGN PROGRESS REVIEW MEETINGS

Once the Design nears a completion stage of approximately 60%, the QC and IDQM review processes are repeated. KMP holds a Design Progress Review Meeting following the process outlined in Section 4.4.1, above.

6.3.3 FINAL DESIGN (100%)

Upon completion of the Design, the Design Manager will order the package submitted for final internal QC process confirmation. The Final Design package shall show how the Design meets the obligations of the Project Agreement. Following completion of the QC process, the package will be submitted to the IDQM for conformance review or audit, and then to KMP Executive Management for review and transmittal to the Department for written Acceptance. As required, KMP will conduct a formal Comment Resolution Meeting with the Department.

6.3.3.1 Certification of Compliance

The IDQM shall verify that KMP has obtained approval from all applicable third parties, as well as completed all quality control checks prior to the issuance of a Certification of Compliance designation of the Design documents. Following issuance of a Certification of Compliance, KMP will submit the package to the Department for review. Upon Department Acceptance, the package is formally released for construction.

6.3.4 RELEASE FOR CONSTRUCTION DOCUMENTS

The RFC documents are detailed, complete, constructible, and allow for verification of Design criteria and compliance with the Project Agreement.

The Department and KMP shall agree on official procedures for Release for Construction. These procedures shall, among other things, include a process for distributing Construction documents signed and sealed by a registered professional engineer to the Department and KMP’s field staff.

6.3.4.1 Early Release for Construction

The Early Release for Construction requirements shall apply to any Restricted Activities performed by KMP prior to receiving the Department's Acceptance of the Final Design. The Design must be advanced through the Design Progress Review Meeting (6.3.2) with the Department comments incorporated. All such Work will be at the sole risk of KMP. KMP's Project Manager and Design-Build Manager will concur in writing on all Early Release for Construction packages.

6.3.5 NOTICE OF DESIGN CHANGE (NDC) AND FIELD DESIGN CHANGE (FDC)

On occasion, RFC documents require revisions. These revisions are addressed through either an NDC, initiated by KMP's designers, or as an FDC, initiated by KMP's Constructors. Review of design changes resulting from an NDC or FDC package follows the same steps in the QC process as an RFC package. After checking, the package will be submitted to the IDQM for conformance review or audit, and then to KMP Executive Management for review and transmittal to the Department for written Acceptance.

6.4 DESIGN REQUIREMENTS

Design requirements are carried out through three distinct phases: design, design quality control, and design quality assurance. The three phases, when implemented properly, are the processes that drive continuous improvement. As with any process, continuous improvement is a byproduct of both nonconformance control, and corrective and preventive actions taken to resolve the nonconformance issues. This DQMP addresses control of nonconformance, and corrective and preventive actions in Sections 7.0 and 8.0.

The Designs are developed and reviewed according to this DQMP and the Design Quality Procedures contained in Attachment 1. The Project will be designed to meet the requirements of the Project Agreement.

Design deliverables will be developed using the current Department standards in effect at the Setting Date unless modified by formal change. Project files shall be organized and submitted in accordance with the Document Control System.

6.5 DESIGN REVIEWS

This section describes the process for internal and formal Design reviews. KMP will conduct internal reviews in conformance with official processes outlined above in the DQMP. Formal reviews of Project deliverables are performed by the Department and other agencies including, but not limited to: utilities, Railroads, federal, state, and local agencies and jurisdictions whose facilities and/or processes are affected, and others who have technical input or coordination interests as required by the Project Agreement. The purpose of these Design reviews is intended to confirm the following:

- The Design meets all applicable requirements of the Project Agreement, applicable law, and Government approvals
- KMP has identified and/or obtained all required ROW
- KMP has identified and/or obtained applicable third party approvals
- The Design accomplishes the stated functional and operational requirements
- The Design is both constructible and maintainable
- Satisfactory consideration was given to impacts to adjacent facilities and systems

- Interfaces with adjacent Project Work have been coordinated
- Design is in compliance with environmental requirements including the ROD
- Third party requirements have been considered and appropriately included in the Design documents
- Comments from previous reviews have been resolved and addressed in the subsequent submittal

6.6 DESIGN REVIEW SCHEDULE

KMP will incorporate the Design packages into the Project's Baseline Schedule. KMP will identify a workflow process, list of sections, submittal list, and Schedule for review of each Design submittal package. The Schedule will further list the Design packages, package descriptions, internal reviews, and submittal dates to the Department or other agencies.

6.6.1 DESIGN REVIEW DELIVERABLES

KMP will prepare Designs required for the complete Construction of the Project in accordance with the Project Agreement.

Design is packaged to meet the requirements of the Project Schedule, and in coordination with the proposed Construction means and methods.

6.6.2 DISCRETIONARY PROGRESS REVIEW MEETINGS

At its discretion, the Department or KMP may request and perform Design progress reviews at times other than the scheduled reviews described in Sections 6.3.1, 6.3.2, 6.3.3 and 6.3.4. The intent is to review the status of work in progress in a way that minimizes disruption of ongoing Design Work. The materials to be compiled for each Design Progress Review Meeting are jointly determined by the IDQM and Design Manager.

The IDQM, Design Manager or designee may conduct separate over the shoulder oversight reviews (mini-Audits) independently of the Department at any time to verify the Design process is in conformance with this DQMP. Results of the mini-Audits are tracked using the form included in DQP 14.01 Quality Audits of Design.

Any comments generated from Department Design Progress Reviews are documented on design review comment forms and forwarded to the IDQM and the Design Manager for review. The IDQM coordinates and documents the resolution of the comments and any concerns from other reviewers or entities.

6.6.3 INTERNAL REVIEWS

KMP performs internal reviews on all Design packages prior to formal review by the Department and stakeholders. Drawings, specifications, and technical reports completed by the discipline engineer are reviewed by independent staff from that same discipline using the approved checklist(s) (example checklists are presented in Attachment 3).

Interdisciplinary reviews, in which drawings, specifications, and technical reports prepared by specialists in one discipline are reviewed by professionals from all other disciplines, are conducted as identified in Section 4.2.2, above, to provide constructability and consistency between the Design disciplines.

The Deputy Project Manager and the O&M Manager, or their qualified designee, also review the drawings, specifications, and technical reports to make sure the Design is consistent with the operation and maintenance plans for the Project.

Construction reviews will occur as required, enhancing constructability as well as providing means and methods conformity. Comments from these informal reviews are incorporated as appropriate prior to submittal for formal review.

Other specific specialty reviews are conducted as directed by the Design Manager. These include the following:

6.6.3.1 Structures

Independent checks on structural calculations are performed by experienced structural designers not involved in the original Design of the specific structure being reviewed, as required by the *CDOT Bridge Design Manual*. The IDQM confirms the independent review of the calculations prior to the issuance of the "Certification of Compliance." This independent check consists of performing a separate set of calculations on major structural elements such as fracture critical elements. For these elements, qualified senior engineers perform a peer review, and spot checks are carried out as the Design progresses, prior to the independent set of calculations being performed.

Independent Design checks will be completed per the current *CDOT Bridge Design Manual*. This process begins at the point where the Design is approximately 90% complete and is finished prior to the 100% Design submittal.

KMP will complete the bridge Rating Package for each bridge as defined in the *CDOT Rating Manual*, and submit it with the RFC package.

6.6.3.2 Utilities

The Utility Owner or Design Team prepares a complete package of their Design and Construction plans, including applicable standards and special provisions, and submits it to the Utility Manager for review distribution. The utility package is subject to a final review in accordance with Design Quality Procedure 8.12. The Utility Manager or their qualified designee reviews that each relocated utility, as designed, is compatible with and interfaces properly with the Design and Construction of the Project. KMP's Constructability Reviews verify that the Design and Construction is consistent with the Utility Agreements.

6.6.3.3 Unique Design Features

Should the Project require unique methods or products not previously used by the Department, quality procedures will be prepared by the IDQM and Approved by the Department to ensure a quality product. The following ground rules will be applied:

- Safety will not be compromised
- The parties will collaborate on the proposed solution

6.6.4 PRELIMINARY DESIGN SUBMITTAL

The Preliminary Design submittal is made when the Design is approximately 30% complete and all internal comments have been addressed and incorporated. At this point, Preliminary Design elements should appear on the drawings as required by the Project Agreement.

After the Preliminary Design submittal package has been internally checked, the IDQM or their designee will review the submittal package for conformance with this DQMP. If the package is not in conformance with this DQMP, it is returned to the engineer in responsible charge, identifying the deficiencies. If the submittal package is in conformance, the IDQM assembles and forwards the Preliminary Design review submittal packages to KMP Executive Management for distribution.

KMP reviews and transmits this package to the Department via Aconex, with a transmittal letter. The Department reviews the package and returns comments, if any.

After the Department review period, a formal review meeting is held for comment resolution following the process outlined in Section 4.4.2 above.

The Design Manager and the Discipline Leads will confirm that comments were resolved as per the minutes from the Comment Resolution Meeting, prior to the next submittal.

6.6.5 DESIGN PROGRESS REVIEW MEETINGS

Design Progress Review Meetings shall be made when the Design is approximately 60% complete.

After the package is checked and compiled, the IDQM will review the package for conformance with this DQMP. If the submittal package is in conformance, the Design Manager will be notified and will assemble the progress review package for submittal to KMP Executive Management. A Design Progress Review Meeting will be scheduled for the purpose of completing disciplinary, interdisciplinary, and Constructability Reviews as outlined in the applicable DQPs.

6.6.6 FINAL DESIGN SUBMITTAL

The Final Design submittal will allow the Department to review and comment on the full submittal package. After this review is completed, the IDQM will conduct a formal Comment Review Meeting with the Department. Following incorporation of comments, the IDQM shall certify that:

- The Design meets applicable requirements of the Project Agreement documents, applicable law, and Government approvals
- The Design has been checked in accordance with the Approved DQMP, and quality documents are complete
- KMP has obtained all required ROW as applicable, as well as applicable third party approvals

The Final Design submittal shall be of a 100% complete Design, less the engineer's seal, and shall include the deliverables required per the Project Agreement.

After the Design package has been internally checked with the procedures in this DQMP (including Attachments), the IDQM will audit the submittal package for DQMP conformance. If the package is not in conformance with the DQMP, it will be returned to the engineer in responsible charge with a transmittal indicating the deficiencies. If the submittal package is in conformance, the IDQM will assemble the package and distribute it to the Department for formal Acceptance.

6.6.7 RELEASE FOR CONSTRUCTION AND EARLY RELEASE FOR CONSTRUCTION SUBMITTALS

When the Department and KMP have resolved all comments related to the Final Design submittal, the designer incorporates the dispositioned comments, prepares drawings labeled RFC, and conducts an over the shoulder review with the Department for any remaining items to be closed. Once the remaining items are closed, the RFC Design drawings are sealed and signed. The index of sheets is updated to reflect the initial release of these plans and the date of release. These Design Drawings along with other required documentation are sent to the IDQM, and if complete and acceptable, the IDQM will issue the Certification of Compliance. KMP shall formally submit the RFC package along with all resubmittals (plan revisions) and corresponding comment disposition memos as a separate submittal prior to submitting the RFC documents to the Department for their written Acceptance.

The following items shall document and be included as part of the Final Design package (actual content may vary by package):

- Design plans
- Design calculations
- Design reports
- Rating Package as defined in *CDOT Bridge Rating Manual*
- Specifications
- Electronic Files
- All resubmittals/plan revisions with dispositions
- Government, Utility Owner, and Railroad approvals
- Environmental quality control checklists
- IDQM Certification of Compliance with the DQMP and Project Agreement

The contents of the RFC submittal packages will be submitted for Department review and Approval.

Within 15 Calendar Days of receipt of the RFC Design package, the Department will provide written Acceptance. If the Department does not issue concurrence with the RFP package, the process for issuing RFC packages will then be repeated for revised RFC until the Department’s Approval is received.

6.6.8 NOTICE OF DESIGN CHANGE (NDC) AND FIELD DESIGN CHANGE (FDC)

In the event that an RFC document needs to be revised, it will follow the same process for checking and review as any other Design deliverable. NDC Documents are revisions to RFC Documents that have been previously issued, where the changes originate from the designers. FDC Documents are also design revisions to the previously issued RFC Documents, but they are a result of encountering unforeseen conditions in the field. Because NDC and FDC Documents are revisions to RFC Documents, they must undergo the same formal review processes as the RFC Documents themselves, and similarly require Department Acceptance.

When an NDC or FDC revision is issued, the index of sheets is revised to show the revision number for the plan sheet and the date of the revision.

6.6.9 AS-BUILT DOCUMENTS

The As-Built Document Package is a compilation of all of the submittal documentation and post design documentation. The As-Built Document Package is completed at the completion of Construction of the entire Project (in the case of the majority of the Project) or of an element (in the instance of utility construction). The Design responsibilities associated with this submittal are summarized as follows:

- Documentation of the previous RFC packages, and confirmation that the Department's Project records are accurate, which include the following:
    - Design plans
    - Design calculations
    - Design reports
    - Specifications
    - Electronic files
    - All resubmittals/plan revisions with dispositions
    - Government, Utility Owner, and Railroad approvals
    - IDQM Certification of Compliance with the DQMP and Project Agreement
- Documentation of Notice of Design Changes
- As-Built record drawings that incorporate documented Field Design Changes and As-Built conditions.

6.7 SUBSURFACE UTILITY ENGINEERING (SUE) QUALITY CONTROL

Kevin Custy, KMP's Utility Manager, is responsible for coordinating with other Design disciplines, and the Lead Scheduler. Kevin is further responsible for assuring that SUE technicians perform their assigned duties, and for monitoring the field investigation processes and procedures sufficiently to achieve the requirements established for the assigned activity. See DQP 8.10 Control of Subsurface Utility Engineering in Attachment 1.

SUE records are maintained in InEight Project Suite.

7. Supplier-Provided Drawings Review

KMP's designers review supplier-provided and subcontractor-provided shop/working drawings for conformance with the Design plans and specifications. A specific notation of the deviation or changes from the plans and specifications is placed on the shop/working drawings submitted for review. Suppliers and subcontractors are required to make submittals in complete packages to allow the reviewer to properly evaluate them for compliance with the Design. After the review, the reviewer stamps the drawings to indicate one of the following:

- Reviewed, no exception taken
- Reviewed, revise as noted
- Resubmit, revise as noted

As appropriate, the supplier or subcontractor resubmits all drawings revised after review. The IDQM is responsible for verifying the review, and documenting it in the shop/working drawing review matrix. All documentation pertaining to this process is maintained in accordance with DCP and is available to the Department for audit as required.

8. Document and Data Control

Requirements for the control of Design-related Project documents, records, drawings, and data, including shop drawings, are necessary to ensure that all Project participants and organizations have access to the latest version of each document.

KMP has established a Project-wide DCS outlined in the PMP for use on the Project. All Project Team members will participate in the implementation of these procedures.

9. Control of Nonconformance

The control of nonconformance process is outlined in the Project QMP and DQPs. All KMP employees are required to bring any detected or suspected nonconformance to the attention of Project management. A nonconformance may be identified as resulting from a deviation in form, fit, function, or from a lack of proper documentation.

10. Corrective and Preventive Action

10.1 OVERVIEW

This section establishes measures so conditions adverse to quality are identified promptly and that appropriate corrective action is taken to prevent recurrence. Our goal is to address issues proactively with preventive actions, to avoid the need for corrective actions.

Corrective and preventive actions will be developed, communicated, implemented, and reviewed for effectiveness appropriate to the circumstances applicable to nonconformances (or appropriate to potential problems). Detailed procedures are provided in DQP 12.01, Corrective and Preventive Action, contained in Attachment 1.

10.2 CORRECTIVE ACTION

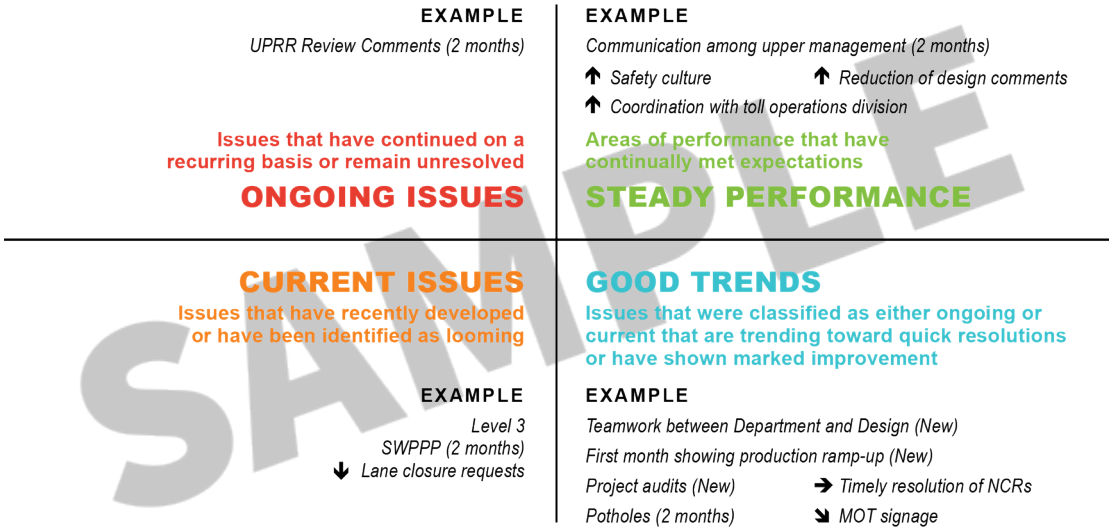
Corrective actions may be generated as the result of internal audits by the IDQM or designee. Corrective actions may also be generated as the result of nonconformances, if a system deficiency was determined to be the cause of the nonconformance. The corrective action process will be documented and include use of root cause analysis (discussed in Section 7.2.5 of the QMP). The IDQM will verify implemented corrective actions for effectiveness through follow-up audits of the affected processes.

10.3 PREVENTIVE ACTION

Preventive actions will be implemented to eliminate potential cause(s) of nonconformance. Such actions will include but not be limited to detailed work planning, training, and formal management review meetings.

10.4 FOUR SQUARE MATRIX

KMP's four square matrix, as shown below, will be used to visually depict Project issues. This matrix indicates current issues, on-going issues, good trends, and steady performers. The issues shall be jointly agreed upon by KMP, the Department, and the IDQM. Jointly developing the matrix quarterly facilitates communication between Project Team members, and promotes awareness of the Department's needs. This tool allows top management to focus resources where needed to improve the Project quality.



Note: Arrows reflect which sector items were previously in; the parenthesis reflect how long an item has been in its current sector.

10.5 ISSUE RESOLUTION

Senior management from each team (e.g., Design, Environmental, and Construction) will identify counterparts at appropriate levels within their team. KMP employees will be encouraged to resolve issues at the lowest level. Senior management will set timeframes for issue resolution; issues not resolved within those timeframes will be escalated to the next management level. Any person may request at any time that an issue be escalated to the next level if Schedule will be impacted. Senior management or a facilitator may assist in the negotiation of any issue at the request of any involved Team member. This process is further described in the PMP.

11. Quality Records

11.1 OVERVIEW

This section describes the responsibilities and requirements for the identification, preparation, and maintenance of records that furnish objective documented evidence of Design quality. The term "quality records," used throughout this section, refers to records attesting to the achievement of the quality and technical requirements of the Work. These records will be generated during the various phases of the Design activities for the Project. Quality records shall be available for review throughout the duration of the Project.

A quality record is defined as a completed document that furnishes objective evidence attesting to the quality of items and/or the Work. Quality records shall be legible, identifiable, and retrievable. Requirements and responsibilities for record transmittal, distribution, retention, maintenance, and disposition shall be in accordance with the Project Agreement.

The following types of documents are considered Design quality records. This list is a guide and should not be considered a complete listing.

- Applicable criteria used in Design
- Design procedures and manuals
- Design calculations and checks
- Drawings (standards, reference, directive, contract, As-Built, shop, working)
- Design review reports
- Design deviations and changes
- Contract Specifications
- Nonconformance Reports (NCRs)
- Quality Process Control Audit Reports
- DQMP training records

A quality record retention and distribution system, with written instructions and procedures, shall be established by each design firm involved on the Project, regardless of contractual tier. Quality records shall be filed in an organized manner, indexed and retrievable. The indexing system shall include, as a minimum, quality record retention times and the location of the quality record within the quality record system. The quality records file index system shall provide sufficient information to permit prompt retrieval and identification of the item(s) or activity(ies) to which the quality record applies. The retention period for quality records shall be in accordance with the requirements of the Project Agreement. Quality records are subject to PC audits.

11.2 STORAGE, PRESERVATION, AND SAFEKEEPING OF QUALITY RECORDS

Quality records are stored in electronic format and backed up to prevent loss of data.

Storage of quality records is designed to prevent damage, deterioration, and loss through end of the required retention period.

12. Quality Audits

12.1 OVERVIEW

This section explains the responsibilities and requirements for planning, scheduling, and performing quality audits to verify compliance with the Design quality control requirements identified in this Plan and with the Design subconsultants' approved quality plans. The Design quality audit procedure is more fully detailed in DQP 14.01, Quality Audits of Design, contained in Attachment 1. All consultants and subconsultants, including specialty subconsultants hired directly by KMP, are subject to this procedure.

Project Design-related activities are audited for compliance and implementation of quality activities as required by the Project Agreement and the approved quality plans. Internal and/or external quality audits are scheduled to provide adequate coverage and to coordinate with all on-going Design-related activities. Audits will occur at a frequency commensurate with the status and importance of the given activity.

A Schedule for quality audits is maintained by the IDQM, whose staff performs the audits. The audit Schedule is reviewed periodically by the Design Manager, and revised as necessary to assure current coverage. Regularly scheduled audits may be supplemented by additional audits of specific subjects when necessary.

Audits use checklists developed from requirements specific to the entity being audited. Audits are conducted as early in the life of the activity as practical, and continue at intervals consistent with the Schedule for accomplishing the activity. Items selected for audit are evaluated against specified requirements, including an objective evaluation of the quality-related practices, procedures, instructions, activities, and products. Notification of the impending audit will be transmitted to the entity to be audited. Objective evidence, such as documents and records, will be examined to the depth necessary to determine whether the quality plan is effective and properly implemented.

A post audit conference is held with the management of the entities being audited to evaluate and validate any audit findings, and to formulate a proposed Corrective Action and schedule to resolve such findings. Audit results will be documented, analyzed by the IDQM, and reported to KMP Executive Management, the Design Manager, and to the management of the audited entity for review, assessment, and appropriate action. Conditions requiring prompt corrective action are reported immediately to the management of the audited entities.

12.2 AUDIT REPORTING

Audit reports are signed by the lead auditor and issued to the audited entity by the IDQM, and include the following information, as appropriate:

- A description of the audit scope
- Auditors names
- The names and titles of persons contacted during audit activities
- A summary of audit results, including a statement on the effectiveness of the quality plan elements that were audited
- A description of each audit finding in sufficient detail to enable the audited entity to take corrective action
- A proposed timeframe for implementing such corrective action

12.2.1 AUDIT RESPONSE

Management of the audited entity will investigate the audit findings and schedule prompt corrective action to resolve the findings. The written report of the corrective action taken (or proposed) is transmitted to the IDQM expeditiously. The auditor then evaluates the adequacy of audit responses. Inadequate responses will be resolved with the responder.

12.2.2 AUDIT FOLLOW-UP ACTION

The IDQM maintains a tracking system for audit findings to verify that all findings are appropriately addressed, that corrective action is taken promptly, and to trend audit findings for significant conditions adverse to quality. Follow-up action, including re-audit of deficient areas, will be taken to verify and document whether corrective action has been accomplished as scheduled. The auditor notifies the IDQM and the senior management of the entity audited, upon closure of open items.

12.3 AUDIT RECORDS

Audit records include audit schedules, audit plans, audit reports, audit checklists, and Corrective Action Requests as applicable. Audit records are maintained as Project quality records and are available to the Department.

13. Training

13.1 OVERVIEW

This section describes the procedures for identifying training needs and providing for the instruction and training of Design Team personnel who perform activities affecting the quality of Design documents produced for the Project. Training seminars will be conducted for the PMP, DQMP, use of InEight Project Suite, and other procedures as necessary.

Design Team personnel performing or managing activities that affect quality are required to be familiar with the specific requirements of the Project Agreement and all other applicable documents pertaining to their assigned responsibilities. All personnel shall receive instruction regarding their activities related to the achievement of the quality and technical requirements of the Project Agreement, this Design Quality Management Plan, the Quality Management Plan, and, most importantly, the requirements of the procedures that govern their specific work activities.

Personnel performing activities that require specific training and/or certification shall be identified and will receive the proper training and certification. The extent of instruction and training required depends on the following elements:

- The scope, complexity, and nature of the activity
- The education, experience, and proficiency of the person
- The specific requirements of the Project Agreement regarding training and certification

13.2 TRAINING RECORDS

Training and certification records of all personnel performing Design-related quality functions are retained in the quality records file.

ATTACHMENT 1

Relates to Appendix D, Stage 1

Kiewit meridiam PARTNERS

Design Quality Procedures

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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Design Quality Procedures

The purpose of KMP's Design Quality Procedures (DQPs) is to guide the development and review of Design documents for the Project. Design staff at all levels will be trained in these procedures to ensure that Design Work is done in compliance with the Project Agreement.

The QMPs will be updated if needed, with new procedures added or existing ones modified or replaced as required to ensure compliance with the DQMP, the QMP, and the Project Agreement.

DESIGN QUALITY PROCEDURES

Procedure Number	Description	Revision	Date
DQP 2.01	Quality Program for Design Subconsultants	0	03/19/16
DQP 3.01	Control of CADD Drawings	0	03/19/16
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DQP 3.06	Control of Department or Third Party Supplied Documents	0	03/19/16
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DQP 3.09	Request for Information	0	03/19/16
DQP 3.10	Environmental Compliance	0	03/19/16
DQP 3.11	Disciplinary Review	0	03/19/16
DQP 3.12	Interdisciplinary Review	0	03/19/16
DQP 3.13	Constructability Review	0	03/19/16
DQP 3.14	Data Collection and Field Investigations	0	03/19/16
DQP 8.06	Control of Design Surveys	0	03/19/16
DQP 8.10	Control of Subsurface Utility Engineering (SUE)	0	03/19/16
DQP 8.11	Utility Agreements	0	03/19/16
DQP 8.12	Utility Relocation Design Review	0	03/19/16
DQP 12.01	Corrective and Preventive Action	0	03/19/16
DQP 14.01	Quality Audits of Design	0	03/19/16

2.01 Quality Program for Design Subconsultants

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 2	XX/XX/XXXX	XX	**DQP 2.01**

A. PURPOSE

To establish the requirements for quality control of Design documents prepared by subconsultants.

B. SCOPE

This procedure applies to all technical consultants retained by Kiewit-Meridiam Partners (KMP) to provide Project services such as surveys, investigation, testing, analyses, and/or Design.

C. DEFINITIONS (NOT USED)

D. GENERAL

Subcontracted planning and Design related services must comply with this Quality Program, including all applicable provisions of the Design Quality Management Plan (DQMP) and documentation requirements. Quality reviews of Design submittals, and formal audits of the quality process at the subconsultant's premises, will document the subconsultant's compliance with the quality program.

All prospective subconsultants must be made aware of quality control requirements at the time they are contracted for services.

E. PROCESS

I. RESPONSIBILITIES

The Design Manager is responsible for ensuring that staff and any second tier subconsultants of the Lead Designer are familiar with the Project's quality program and procedures through continuous liaison with the Design Quality Organization.

The Independent Design Quality Manager (IDQM), or designee, is responsible for conducting quality control (QC) training classes for the subconsultant Design staff during the early stages of the Project. In addition, the Approved DQMP, including the Design Quality Procedures (DQP), is distributed to all subconsultants per the Project's DCS

The IDQM is responsible for assessing the subconsultants' understanding of the Project quality program through formal QC audits.

II. PROCEDURE

- Subconsultants are advised of the intent of this procedure prior to their preparation of a Work program and budget.
- Subconsultants are provided with the DQMP, and must attend quality training sessions conducted by the IDQM.
- Subconsultants will follow the Project quality procedures along with the rest of the Design Team.

F. RECORDS

The following records shall be maintained in the Project files:

- Training Records
- All QC check prints, drawings, calculations, reports, etc.
- Quality control reviews and audits

3.01 Control of CADD Drawings

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 3	XX/XX/XXXX	XX	**DQP 3.01**

A. PURPOSE

This procedure describes the quality control procedure for CADD generated drawings. Drawings communicate concepts and details, and guide others in producing the desired end product. It is essential that drawings show information clearly to avoid conflicts and misunderstandings of the requirements.

B. SCOPE

This procedure is applicable for the preparation and checking of all CADD drawings.

C. DEFINITIONS

- **Drawing:** A formal, controlled document produced in accordance with the Project Agreement requirements, for use in construction and procurement contract documents. Drawings communicate concepts and details, and guide others in producing the end product. Drawings Released for Construction (RFC) must be sealed by a professional engineer registered in Colorado and experienced in the discipline presented on the drawing.
- **Checking:** Verifying a drawing for technical content, and CADD format compliance.
- **Checkprint:** A copy of a drawing that is marked distinctly by each participant of the checking process.
- **Checkprint Stamp:** A stamp affixed to the package being checked that each person in the checking process must sign and date indicating that their review activity is complete. The originator is responsible for affixing the stamp prior to the checking process. The Checkprint Stamp and review signatures and dates can be physically affixed on hard copies, or inserted electronically onto the drawing file using an approved software program.

D. GENERAL

Drawings must be prepared and checked in a consistent manner to effectively communicate the concepts and details of the Project. This procedure details the methods the Discipline Lead, originator, drafter, and checker will use to define, prepare, and check drawings.

E. PROCESS

I. RESPONSIBILITIES

- **Discipline Lead:** The Discipline Lead is responsible for the preparation of the drawings, and for identifying Project staff responsible for developing, drafting, reviewing, and checking the drawings. The Discipline Lead may be the originator or the checker, but not both. The Discipline Lead communicates the design concepts and requirements for drawings to the designers and/or engineer(s) of that discipline. The Discipline Lead resolves any outstanding conflicts between the originator and checker, and verifies the qualifications of the originator and checker.

- **Originator:** The originator is responsible for developing the concepts and details for a drawing, either manually or in CADD, in conformance with the Project Agreement and other applicable standards and requirements. The originator has primary responsibility for accuracy and adequacy of drawings. It is not intended that the originator rely on the checking process to complete their drawings.
- **Drafter:** The drafter (detailer) is responsible for presenting the design concepts through the use of CADD or manually produced drawings, in accordance with the Project drafting standards. The drafter can be the originator.
- **Checker:** The checker is independent of the originator, and is responsible for checking the drawing for conformance with the Project Agreement requirements.
- **Back Checker:** The back checker (or originator) reviews the checked document and confirms that items marked as errors are indeed errors and that the corrections noted are indeed correct.
- **Corrector:** The corrector is either the originator or drafter, and is responsible for ensuring that the changes marked on the Checkprint are made to the original document.
- **Verifier:** The verifier or the checker reviews a copy of the corrected document against the Checkprint to verify that the corrections marked have been properly incorporated.

II. PROCEDURE

a. Preparation

Drawings are prepared under the supervision of the Discipline Lead by the originator. The originator reviews and back checks drawings during the various stages of preparation.

b. Checking

A final Checkprint is prepared for each drawing prior to each deliverable submittal. Design staff shall follow the guidelines in DQP 3.05, Checking of Design Deliverables, for final Checkprint procedures.

Drawings will be checked for conformance with Design and the requirements of the drawing standards applicable to the Project. This process may include: performing alternative calculations; comparing the details presented with similar proven details, if applicable; and undertaking tests and demonstrations to confirm the information presented on the drawing. The checker clearly marks the drawing with any alterations or corrections.

Prior to incorporating the changes into the drawing, the originator reviews the changes and accepts them by initialing each in black (pencil/pen). The drafter incorporates these accepted alterations or corrections in the drawing, and indicates that each correction has been completed.

Prior to each deliverable submittal, a final Checkprint is prepared for each drawing. The drawing designated as the final Checkprint shall contain the following:

- Final check print designation
- Indication of “Checked By” with dated signature or initials of checker
- Indication of “Back checked By” with dated signature or initials of back checker or originator as evidence of acceptance of changes
- Indication of “Corrected By” with dated signature or initials of drafter, as evidence of incorporation of corrections on the final Checkprint
- Indication of “Approved By” with signature or initials of Discipline Lead and date of approval

CADD Compliance Checking

At the appropriately scheduled time, the Discipline Lead shall initiate, through their CADD Manager, a CADD criteria compliance check. CADD criteria checking include:

- A verification review of a drawing for CADD criteria noncompliance
- Completion of a CADD compliance checklist

c. Submittals

Drawings shall be submitted in accordance with identified Project Agreement and Schedule requirements. The submittals shall be marked with the completion stage and the date. For RFC drawings, the cover sheet and all designer developed drawings shall be signed and sealed in accordance with the Colorado State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors bylaws and rules.

F. RECORDS

The following records shall be maintained in the Project files:

- Electronic record copies of each submittal of the drawings, including revisions
- CADD files used to generate deliverable drawings for major submissions:
  - These files shall be archived by the CADD Manager with Document Control before modifications are made for a subsequent submission
  - Control of the electronic files shall include, as a minimum, a revision number and date
  - A back-up file shall be made prior to making any changes to the source file

G. REFERENCES

See Project CADD guidelines, located on ProjectWise, for use of ProjectWise for plan preparation, CADD specifications, drawing examples, organization of master files, and file naming conventions.

3.02 Control of Specifications

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 3	XX/XX/XXXX	XX	**DQP 3.02**

A. PURPOSE

This procedure describes the quality control procedure for specifications. Specifications communicate concepts and guide others in producing the desired end product. Specifications provide final performance characteristics of an item or Design, and provide details on some or all of the material types, equipment, sequencing, or other methods of producing the Work. Regardless of type, it is essential that specifications describe information clearly to avoid conflicts and misunderstandings.

B. SCOPE

This procedure is applicable for the selection, preparation, and checking of all specifications.

C. DEFINITIONS

- **Specification:** A formal controlled document used in communicating concepts for producing the end product. A list of specifications, as a component of the RFC packet, must be sealed by a professional engineer registered in the State of Colorado and experienced in the discipline presented on the specification.
- **Checkprint:** A copy of the specification being checked that is marked distinctly by each participant of the checking process.
- **Checkprint Stamp:** A stamp affixed to the package being checked that each person in the checking process must sign and date indicating that their review activity is complete. The originator is responsible for affixing the stamp prior to the checking process. The Checkprint stamp, signatures, and dates can be physically affixed on hard copies or inserted electronically using an approved software program.

D. GENERAL

Specifications must be prepared and checked in a consistent manner to effectively communicate the concepts of the Project. This procedure details the methods to be used by the Design Manager, Discipline Leader, originator, drafter, and checker to define, prepare, and check specifications.

E. PROCESS

I. RESPONSIBILITIES

- **Discipline Lead:** The Discipline Lead determines which specification sections will be prepared, and shall identify, in conjunction with the other discipline leaders, personnel necessary to prepare and check the specifications, along with technical resources to assist during the preparation. The Discipline Lead may be the originator or the checker, but not both. The Discipline Lead communicates design concepts and requirements for a specification to the designer and/or engineer(s) of that discipline. The Discipline Lead resolves any outstanding conflicts between the originator and checker, and verifies their qualifications.

- **Originator:** The originator is responsible for preparing the specifications in accordance with Project Agreement requirements, Project-specific guidelines, codes, criteria, and standards, and confirms any changes made by the checker. The originator has primary responsibility for the accuracy and adequacy of the specifications. It is not intended that the originator rely on the checking process to complete the specifications.
- **Checker:** The checker, who must be independent of the originator, verifies the correctness of the assumptions upon which the specifications are based, and checks for compliance with Project Agreement requirements and Project-specific guidelines, codes, criteria, and standards.
- **Back Checker:** The back checker (or originator) reviews the checked document and confirms that items marked as errors are indeed errors, and that the corrections noted are indeed correct.
- **Corrector:** The corrector is the originator and is responsible for ensuring that the changes marked on the Checkprint are made on the original document.
- **Verifier:** The verifier or the checker reviews a copy of the corrected specification against the Checkprint and verifies that the corrections are properly incorporated.

II. PROCEDURE

a. Preparation

In general, the Department's design requirements, standards, and specifications are the design basis for the Project. The Discipline Lead is responsible to assemble and disseminate available Department standards, specifications, and sample documents as a basis for the design. The specification format follows the Department's specified standards. In the absence of Department and/or Project Agreement standards, or where standards need to be supplemented with industry standards, the Discipline Lead will assemble the elements to be used, generally set by the Construction Specification Institute (CSI).

The Discipline Lead prepares a summary list of items of Work identifying which items conform to standard or special specifications, which items require Project-specific specifications, and the originator and checker responsible for each section.

The originator develops or modifies the specifications addressing, at a minimum, the following elements:

- Description of Work
- Material requirements
- Construction requirements
- Measurement and payment

b. Checking

The Discipline Lead will ensure that the specifications are checked, using the following criteria:

- Conformance to Department standards and format

- Design assumptions, where applicable
- A clear and complete definition of which section of the Work the specification applies to
- Identification of items of Work and all products/materials required
- Current code and manufacturer references, where applicable
- No internal inconsistencies
- Consistency between contract drawings and specifications
- No superfluous material that could cause confusion during Construction
- Identification of measurement for each item
- Clear and consistent language

Design staff shall follow the guidelines in DQP 3.05, Checking of Design Deliverables, for documentation of specification checking. These guidelines are recommended for all studies, reports, drawings, specifications, and calculations.

Any change or modification to an existing Department specification requires Department Approval. The process requires the Discipline Lead to arrange for modified sections to be checked by a designer specification specialist. The specialist shall discuss any comments with the Discipline Lead, and furnish comments in writing. The Discipline Lead will inform the Design Manager of the basis for changes and modifications. The Department must be involved in this process.

When changes are proposed during the checking process, the originator will review the marked specification, and initial each acceptable change in black (pencil/pen) prior to incorporation of the proposed changes.

The Project specifications shall be reviewed by the Design Manager or designee to verify completeness and consistency with KMP and Project requirements, and to verify that all specification sections are coordinated among the various disciplines on the Project. Any changes resulting from this review shall be communicated to the originators and checkers.

c. Submittals

Final list of specifications should be stamped and submitted with Release for Construction Documents.

F. RECORDS

The following records shall be maintained in the Project files:

- A list of the items of Work required for the Project
- A record copy of the completed specifications with each section signed or initialed by the checker, along with comments, disposition of comments, and Originator initials indicated
- A record copy of the completed specifications as submitted to the Department for their concurrence, with the Design Manager's signature on the transmittal or on the specification cover sheet

3.03 Control of Reports

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 3	XX/XX/XXXX	XX	**DQP 3.03**

A. PURPOSE

This procedure describes the quality control procedure for reports. Reports present analysis findings and recommendations, used to guide others in producing the desired end product.

B. SCOPE

This procedure applies to the preparation and checking of all reports.

C. DEFINITIONS

- **Report:** the formal presentation of a study or investigation. Reports consist of formal analyses and present information and general recommendations of the study, along with supporting data and analyses.
- **Checkprint:** A copy of the report that is marked distinctly by each participant of the checking process.
- **Checkprint Stamp:** A stamp affixed to the package being checked that each person in the checking process signs and dates to indicate that their review activity is complete. The originator is responsible for affixing the stamp prior to the checking process. The Checkprint stamp, signatures, and dates shall be affixed electronically using an approved software program.

D. GENERAL

It is important that reports are prepared and checked in a consistent manner, to effectively communicate the concepts of the Project. This procedure details the methods the Discipline Leader, originator, drafter, and checker will use to define, prepare, and check reports.

E. PROCESS

I. RESPONSIBILITIES

- **Discipline Lead:** The Discipline Lead is responsible for determining the content of reports and, in conjunction with the respective discipline leaders, identifying appropriate personnel to prepare and check the report. The Discipline Lead may be the originator or checker, but not both. The Discipline Lead communicates design concepts and requirements for a specific discipline to the designer and/or engineer(s) of that discipline. The Discipline Lead resolves any outstanding conflicts between the originator and checker, and verifies the qualifications of the originator and checker.
- **Originator:** The originator prepares the reports in accordance with contract requirements, Project-specific guidelines, codes, criteria, and standards and confirms any changes made by the checker. It is not intended that the originator rely on the checking process to complete the document.
- **Checker:** The checker, who must be independent of the originator, verifies the correctness of the assumptions upon which reports are based, and checks for compliance with the contract requirements and Project-specific guidelines, codes, criteria, and standards.

- **Back Checker:** The back checker (or originator) reviews the checked document and confirms that items marked as errors are indeed errors and that the corrections noted are indeed correct.
- **Corrector:** The corrector is the originator and ensures that changes marked on the Checkprint are made in the original report.
- **Verifier:** The verifier or the checker reviews the corrected document against the Checkprint and verifies that the corrections marked have been properly incorporated.

II. PROCEDURE

a. Preparation

The Discipline Lead communicates the objectives of the report and any specific requirements for content or format to the originator, any contributors, and the checker. Report preparation includes:

- For elaborate reports (i.e. reports with multiple contributors), the originator develops an outline or table of contents and distributes it to the contributors.
- The contributors develop their designated sections conforming to the outline, format, and style established, and collect technical information as required. Technical input involving calculations must follow the procedures for preparation of calculations. Graphs, figures, and other supporting materials are included as required.
- The originator collects the contributors' input and assembles the draft report.

b. Checking

Design staff shall follow the guidelines in DQP 3.05, Checking of Design Deliverables, for documentation of report checking.

The report checking process set out below should be followed:

- The checker investigates materials included in the report and verifies that information presented conforms to the requirements established for the Project, that the presentation is effective and orderly, and that the material included was checked for accuracy.
- The checker also evaluates the report to establish that the material presented justifies any conclusions drawn, and that the report addresses the appropriate issues in accordance with the scope of the assignment.
- For brief reports, such as letter reports, a single person customarily prepares the report and, prior to submittal, it is checked by the Discipline Lead. If the report is prepared by the Discipline Lead, it is checked by the Design Manager or designee.
- Revisions from the internal checking process are reviewed and initialed by the originator(s) prior to being incorporated into the submission-ready report. The "as-submitted" copy of the report is initialed by the checker as evidence of the review.

c. Submittals

All reports will be submitted before or with the Final Design submittal. The cover sheet of the final report shall be signed and sealed in accordance with the Colorado State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors bylaws and rules.

F. RECORDS

The following records shall be maintained in the Project files:

- For elaborate reports, the table of contents or outline of the report, along with the names of the originator, contributors, and checker
- A record copy of the final report as submitted to the Department, initialed by the checker and originator
- Marked copy or copies

3.04 Control of Calculations

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 3	XX/XX/XXXX	XX	**DQP 3.04**

A. PURPOSE

This procedure describes the quality control procedure for calculations. Calculations confirm that the design as presented meets specified codes or Project requirements for dimensions, volumes, or load carrying capacity, or for otherwise verifying that the design will meet the intent presented.

B. SCOPE

This procedure is applicable for the preparation and checking of all calculations.

C. DEFINITIONS

- **Calculation:** The deliberate process of transforming one or more inputs into one or more outputs.
- **Checkprint:** A copy of the calculations under review, which is marked distinctly by each participant in the checking process.
- **Checkprint Stamp:** A stamp affixed to the package being checked that each person in the checking process signs and dates to indicate that their review activity is complete. The originator is responsible for affixing the stamp prior to the checking process. The Checkprint stamp, signatures, and dates can be affixed on hard copies, or attached electronically through the use of an approved software program.

D. GENERAL

It is important to prepare and check in a consistent manner, calculations prepared for verifying that design concepts meet the intent of applicable codes and Project requirements. This procedure details the methods which the Discipline Leader, originator, drafter, and checker will use to define, prepare, and check both manual and computer generated calculations.

E. PROCESS

I. RESPONSIBILITIES

- **Discipline Lead:** The Discipline Lead prepares Project Agreement and discipline-related criteria, and designates an originator and a checker. The Discipline Lead may be the originator or the checker of calculations, but not both. The Discipline Lead communicates the design concepts and requirements for a specific discipline to the designer and/or engineer(s) of that discipline. The Discipline Lead resolves any outstanding conflicts between the originator and checker, and verifies their qualifications.
- **Originator:** The originator prepares calculations in accordance with the contract requirements, Project-specific guidelines, codes, criteria, and standards, and confirms any changes made by the checker. It is not intended that the originator rely on the checking process to complete the calculations.
- **Checker:** The checker, who must be independent of the originator, verifies the correctness of the assumptions upon which the calculations are based, and checks for compliance with the contract requirements and Project-specific guidelines, codes, criteria, and standards.

- **Back Checker:** The back checker (or originator) reviews the checked calculations, and confirms that items marked as errors are indeed errors, and that the corrections noted are indeed correct.
- **Corrector:** The corrector is the originator and is responsible for ensuring that the changes marked on the Checkprint are made to the original calculations.
- **Verifier:** The verifier or the checker reviews the corrected calculations against the Checkprint and verifies that the corrections marked have been properly incorporated.

II. PREPARATION

a. Manual Calculations

Calculations shall be neat, legible, and accurate, usually in black (pencil/pen), and on standard computation sheets.

Each computation sheet shows:

- Project title
- Subject of the calculations
- A consecutive page number
- The name or initials of the originator and checker
- Dates of preparation and check

All calculations include:

- Criteria and sources referencing the design requirements
- Purpose
- Design assumptions
- References, if any, indicating specific paragraph or section numbers
- Back-up materials, appropriately labeled and referenced
- Dimensional units

b. Checking

Calculations are checked for the following:

- Clarity and legibility
- Proper documentation
- Technical concept
- Numerical accuracy

Design staff shall follow the guidelines in DQP 3.05, Checking of Design Deliverables, for documentation of calculation checking.

The checking process set out below should be followed for calculations:

- The checker gives the originator comments and required corrections on a copy of the original computation sheets.

- The originator and checker discuss the checker's comments and corrections until all differences are resolved. The Discipline Lead determines a course of action for any unresolved differences. The originator makes necessary changes or initials changes made by the checker.
- When corrections are significant, the original calculation is regenerated and checked as new.

If independent check calculations are required, they are prepared in the manner outlined in Section 6.6.3.1 Structures of the DQMP. When the results of an independent check differ from the original calculation, the Discipline Lead determines which of the approaches is more appropriate for the design in question, and that calculation is then subjected to checking.

c. Computer Generated Calculations

For computer-generated calculations the Discipline Lead shall verify that the software is appropriate for the problem and otherwise approved for use on the Project. The checker shall perform the verification in a manner outlined in Section 6.2 Computer Programs of the DQMP, to confirm that:

- All input data are correct
- Results are reasonable and correct

If required, the originator revises the input. The checker signs and dates the front page of the finished output document, and stamps or signs the page displaying the input documentation, to show that the input was reviewed.

Computer-assisted calculations, such as those using spreadsheets, are spot-checked and signed and dated on each page of the calculations.

III. SUBMITTALS

Final calculations are submitted with the Final Design. The cover sheet of the final calculation booklet shall be signed and sealed in accordance with the Colorado State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors bylaws and rules.

F. RECORDS

The following records shall be maintained in the Project files:

- Signed original calculations, including independent check calculations if used
- If retained, any superseded calculations are marked **VOID** or **SUPERSEDED**

3.05 Checking of Design Deliverables

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 9	XX/XX/XXXX	XX	**DQP 3.05**

A. PURPOSE

This procedure describes the process for checking and documenting studies, reports, drawings, specifications, and calculations. Subconsultants are responsible for the quality of their design and are expected to have a similar or more stringent procedure in place.

B. SCOPE

This procedure is applicable for the checking of all studies, reports, drawings, specifications, and calculations produced for the Project.

C. DEFINITIONS

- **Checkprint:** A copy of a study, report, drawing, or specification document in its pre-submission form, used to check and record additions, deletions, and corrections to the original document. The document is stamped as a Checkprint either manually or electronically. Checkprints of submittal documents are retained in the Project files. No updates to originals should be made during checking the process.
- **Checkprint Stamp:** A stamp affixed to the item being checked that each person in the checking process signs and dates to indicate that their review activity is complete. The originator is responsible for affixing the stamp prior to the checking process. The Checkprint stamp, signatures, and dates can be affixed on hard copies, or attached electronically through the use of an approved software program.

D. GENERAL

The checking of studies, reports, drawings, specifications, and calculations requires a minimum of two individuals: a checker/verifier and an originator/back checker/corrector.

Timely checking of documents is important for efficient performance. A document used by several disciplines that is checked and corrected prior to distribution eliminates the need to correct the same items on dependent documents.

E. PROCESS

I. RESPONSIBILITIES

- **Design Manager:** The Design Manager or designee is responsible for ensuring this procedure is implemented for all studies, reports, drawings, specifications, and calculations related to the Project, and for establishing a Schedule that checks documents prior to internal or external distribution of the document. The Design Manager is also responsible for assembling the Checkprints, stamping and dating them, and following them through the checking process, as well as for retaining original checked calculations after the documents have been checked and corrected.
- **Discipline Leads:** The Discipline Leads are responsible for maintaining Checkprints available for future reference, update, or audit. The Discipline Lead verifies the qualifications of the originator and the checker.
- **Originator:** The originator has primary responsibility for the accuracy and adequacy of the document. It is not intended that the originator rely on the checking process to complete the document.

- **Checker:** The checker is independent of the originator, and is responsible for checking the document.
- **Back Checker:** The back checker (or originator) is responsible for reviewing the checked document and confirming that the items marked as errors are indeed errors and that the corrections noted are indeed correct.
- **Corrector:** The corrector or the originator is responsible for ensuring that the changes marked on the Checkprint are made on the original document.
- **Verifier:** The verifier or the checker is responsible for reviewing a copy of the corrected document against the Checkprint and verifying that the corrections marked have been properly incorporated.

II. PROCEDURE

a. Preparing the Documents for Checking

- **Studies, Reports, Drawings, and Specifications:** As each document is completed in its final form and deemed ready for checking, the originator prepares a stamped Checkprint copy. The Checkprint stamp is applied on the cover (or back of the cover, if space is an issue) of the study, report, or specification section; or on the front or back of each drawing.
- **Calculations:** The originator applies the Checkprint stamp on the front cover of each set of calculations.

b. Checking

Studies, Reports, Drawings, and Specifications

The following color-coding applies to the checking of all documents.

The checker (a qualified individual independent of the originator) reviews each Checkprint for technical adequacy and conformance to applicable standards and format, including performing specific accuracy checks for that type of document. The checking activity is recorded directly on the Checkprint with **YELLOW** pencil or highlighter for those features found to be correct, and **RED** (pencil/pen) for features found to be in error. For features in error, the correct information is recorded in **RED** (pencil/pen) in a manner that makes it clear to the corrector what needs to be changed.

RED, **YELLOW**, **GREEN** and **BLUE** are reserved for the checking process, and are not used to note comments, questions, or other instructions. Comments or instructions are written in **BLACK** (pencil/pen), using a cloud or leader line to indicate a checking comment. Such comments are resolved, if necessary, in discussions between the checker and originator, and resolutions are indicated on the Checkprint.

Upon completion of the check of each Checkprint, the checker signs and dates the Checkprint stamp. In the case of calculations, the checker signs and dates the “Checked By” area on the calculation sheet or cover sheet.

In lieu of color coding the checking of technical reports and technical specifications, a comment review form may be used. The form shall identify the checker, specific comments, and include a space for disposition of the comment. The form shall be signed by the originator and checker after all comments are resolved and incorporated. A copy of the form shall be kept with the final document in the Project files.

Calculations

Calculations are subject to correction as indicated above.

c. Back checking

Studies, Reports, Drawings, and Specifications

The following color-coding applies to the back checking of all documents.

The back checker (usually the originator) reviews the checker's marked changes on the Checkprint. To record the process, the back checker:

- Checks in **GREEN** (pencil/pen) each of the checker's changes if in agreement that the original should be changed, and, with the concurrence of the checker, adds in **GREEN** (pencil/pen) any additional changes not found by the checker.
- Crosses out in **GREEN** (pencil/pen) each of the checker's changes that the back checker and checker agree do not need to be changed, leaving the checker's marks intact.
- Signs and dates the Checkprint stamp.

The back checker and checker will resolve differences encountered during the checking process so that they are clear for the corrector and will not be repeated in subsequent documents. If the two cannot agree, the appropriate Discipline Lead will resolve the issue.

Calculations

The originator reviews the checker's marked changes, and signs and dates the "Made By" area on the individual sheet or cover sheet. If significant or multiple changes are noted, the calculations may be completely replaced. After verifying that the revised calculations reflect the proper information, it is signed by the checker and the originator. If corrections are noted on an electronic document, the agreed upon changes are incorporated, and the revised document is signed by the checker and originator/back checker. This step concludes the checking process associated with calculations.

An electronic document has no changes noted on it and simply indicates the names of the originator and checker in the appropriate areas on the document. If the names are preprinted on an electronic document, the originator and checker add their initials by their names to indicate that they have reviewed it in its final form.

For manual calculations, calculations are signed and dated by the originator at the time of preparation, and given to the checker. After the checker completes the checking, the originator reviews the comments, and discusses any differences of opinion or seeks clarification. The originator then changes the calculations which are reviewed by the checker for adequacy of change. Then the checker signs and dates the calculations.

d. Correcting Original Documents

Studies, Reports, Drawings, and Specifications

Correction of the original document is supervised or performed by either the back checker or checker, because both know what changes are needed.

When making changes to the original document, the corrector circles each correction on the Checkprint in **BLUE** (pencil/pen) as it is incorporated.

The corrector signs and dates the Checkprint stamp upon completion of the corrections for each document.

e. Verifying Corrections to Studies, Reports, Drawings, and Specifications

The following color-coding applies to the verification of all documents.

When corrections are completed, the verifier (either the originator/back checker or the checker) confirms that corrections have been incorporated properly.

If the corrections are not made or are incorrect, the clean print is marked in **RED** (pencil/pen) with instructions and returned to the corrector.

If the corrections were made properly, the verifier circles each **BLUE** circle on the Checkprint in **GREEN** (pencil/pen) and signs and dates the Checkprint stamp.

f. Disposition of Checked Documents

The completed original documents for studies, reports, drawings, and specifications are maintained in the Project Files. Their associated Checkprints are kept by the Discipline Leads as determined by the Design Manager.

Calculations are placed in calculation books and maintained by the Design Manager in the Project files.

g. Subsequent Revisions

If a document is subsequently revised after verification is complete, a new original is prepared and the checking process is reinitiated. The earlier Checkprint or hard copy original is marked VOID, although it may be used as a reference during preparation of the revised document. The revised document is then stamped, checked, and back checked, and the original corrected and verified as indicated above. If necessary, the revised document is reissued to the recipients of the original version with directions to discard the void version.

F. RECORDS

- Checkprints are maintained by the Design Manager or Technical Lead and stored in the Project files (ProjectWise).

- Original checked calculations are maintained electronically in the Project files (ProjectWise). Hard copies may also be retained by the Discipline Lead for the appropriate disciplines.

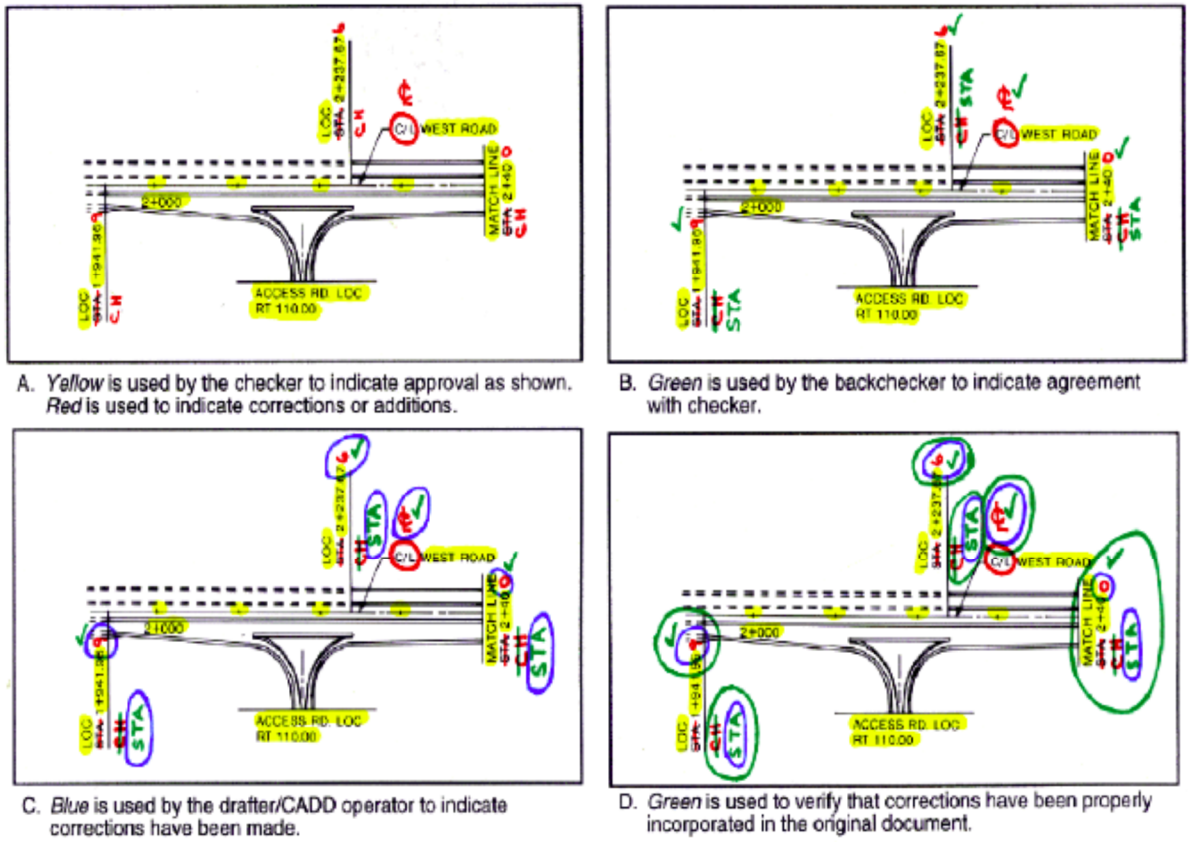
G. ATTACHMENTS

- Exhibit DQP 3.05-1: Sample Drawing Check
- Exhibit DQP 3.05-2: Sample Checkprint Stamp
- Exhibit DQP 3.05-3: Sample Calculation Check
- Exhibit DQP 3.05-4: Sample IDQM Certification of Compliance
- Exhibit DQP 3.05-5: Discipline Review Comment Form (DRC)

3.05 Checking of Design Deliverables

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	6 of 9	XX/XX/XXXX	XX	**DQP 3.05**

Exhibit DQP 3.05-1: Sample Drawing Check



A. *Yellow* is used by the checker to indicate approval as shown. *Red* is used to indicate corrections or additions.

B. *Green* is used by the backchecker to indicate agreement with checker.

C. *Blue* is used by the drafter/CADD operator to indicate corrections have been made.

D. *Green* is used to verify that corrections have been properly incorporated in the original document.

Exhibit DQP 3.05-2: Sample Checkprint Stamp

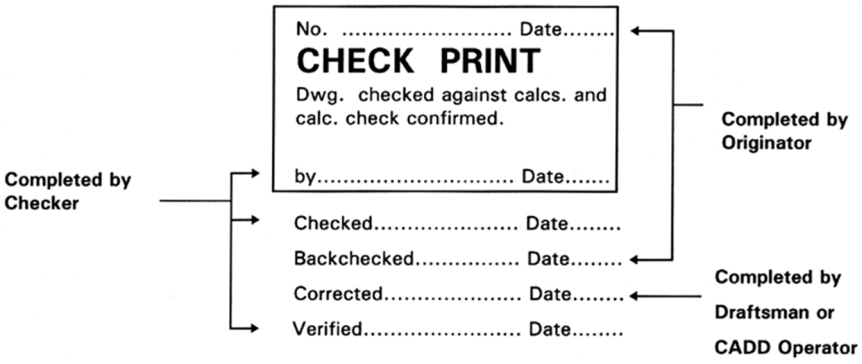


Exhibit DQP 3.05-3: Sample Calculation Check

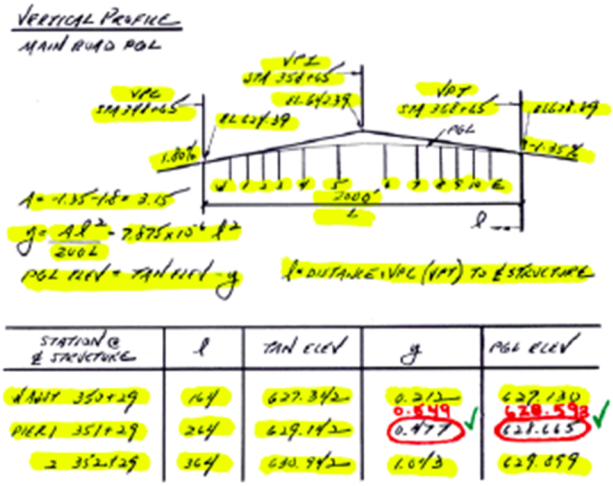


Exhibit DQP 3.05-4: Sample IDQM Certification of Compliance

IDQCM "Certification of Compliance"
DQP Form 3.05-4

Milestone Submittal Reviewed: _____

Person In Responsible Charge: _____
(person(s) who will sign, stamp, or seal the document)

_____

Date Submitted for IDQCM Verification: ____/____/____

(Shaded area is to be completed by Person in Responsible Charge or Engineer who prepared the Document or plans.)

Personnel In Responsible Charge:

1.) Review was completed in accordance with the DQMP.
2.) Comments generated from reviews have been addressed in accordance with the DQMP and are being transmitted for your use. This includes all required forms and checklists.
3.) The electronic design files and calculations necessary to adequately review this submittal are also being transmitted.

SAMPLE

_____ ____/____/____
Person in Responsible Charge Date

Independent Design Quality Control Manager:

I hereby certify that the above stated package has been through the applicable quality control process defined in the DQMP and satisfies the DBC contract requirements, with the following condition: Design-Build Contractor shall locate all utilities in the field. If a conflict exists with a utility, no work will occur in the location of the conflict, until the conflict is resolved.

_____ ____/____/____
IDQCM Date

Note: Please transmit this Signature Page along with the deliverable(s) to IDQCM.

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Exhibit DQP 3.05-5: Sample DRC Form

Discipline Review Comment Form
Exhibit DQP 3.05-5

REVIEW COMMENT SUMMARY/RESOLUTION FORM	Central 70 Project

SUBMITTAL DESCRIPTION:		SUBMITTAL NO.:	
DISCIPLINE:		SUBMITTAL DATE:	
SUBMITTAL TYPE:		REVIEW COMPLETE DATE:	
		COMMENT RESPONSE DATE:	
REVIEWER NAME:		CLOSEOUT DATE:	

INITIAL RESPONSE CODES: **A** = Will Comply; **B** = Designer to Evaluate; **C** = CDOT to Evaluate; **D** = No Further Action Required
FINAL RESPONSE CODES: **A** = Will Comply; **D** = No Further Action Required

ID	SHEET #	CONTRACT REFERENCE	COMMENT TYPE	COMMENT	RESPONDER NAME	RESPONSE			DEVELOPER COMMENT STATUS	CDOT COMMENT STATUS
						INITIAL	DISCUSSION	FINAL		
1										
2										
3										
4										
5										
6										

SAMPLE

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3.06 Control of Department or Third Party Supplied Documents

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 2	XX/XX/XXXX	XX	**DQP 3.06**

A. PURPOSE

This procedure describes the requirements for controlling Department or third party supplied data, equipment, and documents to ensure that such items are maintained, are accessible to appropriate Project personnel, are updated as necessary, and are returned to the Department or third party on request.

B. SCOPE

This procedure is applicable for controlling all data, equipment, and documents supplied by the Department or third parties to this Project.

C. DEFINITIONS

- **Third Party:** Any party other than KMP.
- **Third Party Supplied Data:** Information provided by the Department or other agencies or entities for use on the Project. The data can be in the form of a report, study, Preliminary Design, conceptual ideas, statistical data, references, criteria, etc.
- **Third Party Supplied Documents:** Project-related documents prepared by the Department or other consultants or agencies for use on the Project, including drawings, specifications, reports, environmental documents, drawings of existing facilities, etc. These documents shall be returned to the provider, if requested, upon completion of the Work.
- **Third Party Supplied Equipment:** Equipment provided by the Department or other agencies for use on the Project. The equipment could include measuring devices, counting devices, tools, computers, software, etc. Equipment shall be returned to the provider, if requested, upon completion of the Work.

D. GENERAL

This procedure applies to data, documents, and equipment received from the Department or third parties for use on the Project. These items are generally furnished to provide background information or guidelines, ensure consistency in testing or measuring, serve as samples, or accomplish other specific Project-related objectives. Third party materials do not include subconsultant submittals for Design, shop drawings, materials submittals, etc.

Examples of third party materials include:

- RFP appendices
- Survey control
- Jurisdictional drainage reports and studies
- Traffic modeling

E. PROCESS

I. RESPONSIBILITIES

The Design Manager is responsible for ensuring that the requirements of this procedure are met.

II. PROCEDURE

a. Receipt

A log shall be maintained of Department or third party supplied items on a Project specific form. The log may include the following information: description of item, date of receipt, date of receipt of modifications to the item, an indication of whether it is to be returned to Department or retained, physical storage location of item, and date of its return to Department or third party.

b. Storage

The selected storage location shall be accessible and provide adequate protection for third party supplied equipment from damage or loss.

c. Verification

The Discipline Lead shall verify that data, documents, and equipment are suitable for use on the Project, and may solicit appropriate technical assistance in making this determination.

d. Distribution

The Design Manager or Discipline Lead shall distribute copies or a list of available data, documents, and equipment to the affected task leaders and other Project staff, as appropriate, advising of their location, suitability, and criteria for using them.

e. Return

If requested by the provider, upon completion of the Work, the Design Manager or Discipline Lead shall return Department or third party supplied items. If permission to copy the documents is received, a copy may be made of the materials before they are returned.

F. RECORDS

The following records shall be maintained in the Project files:

- A log of Department or third party supplied items
- Correspondence with the provider related to receipt and disposition of Department or third party supplied items.

3.07 Field Design Change

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 2	XX/XX/XXXX	XX	**DQP 3.07**

A. PURPOSE

This procedure establishes the scope, responsibilities, and procedures for processing Field Design Changes (FDC) during Construction.

B. SCOPE

Changes to the original design of a project are commonly required due to changes in Site conditions and alternate construction method/material proposals. Any changes that involve a contradiction to the accepted plans or deviation from Project requirements shall be formally processed for the Department's concurrence, in the same manner as design submittals.

C. DEFINITIONS (NOT USED)

D. GENERAL

Design changes can also occur as a result of an error in the Release for Construction plan set. If the design change occurs as a result of an error in the plans, the change follows the Notice of Design Change (NDC) procedure for design (Section 3.08).

A Request for Information (RFI) (e.g., earthwork settlement releases, additional alignment information, and dimensions) and design engineer evaluation of nonconforming constructed Work does not constitute a valid design change. An RFI can be used to determine how to proceed due to a desired or needed change in construction. An RFI may, however, result in an FDC if the decision to change an Approved Design is uncovered in the process of the RFI response.

In all cases, the IDQM shall certify in writing that the design change:

- Is designed in accordance with the Project Agreement requirements
- Is checked in accordance with the Approved DQMP
- Is consistent with other elements of the original design

E. PROCESS

I. RESPONSIBILITIES

The Design Manager is responsible for processing all FDCs to make any design changes to construction documents, including the coordination, preparation, and forwarding of all FDCs to identified recipients. The IDQM shall facilitate the review of FDCs with the Department and with representatives of outside agencies if the scope of that particular FDC impacts a construction element under their jurisdiction.

Design staff is responsible for making the design change and coordinating the proposed design revisions with all affected parties. Design changes undergo design quality control processing similar to that of the original design.

II. PROCEDURE

1. Each FDC shall be initiated by the issuance of an FDC Notice by KMP, providing basic information on the revisions requested. The Design Manager or designee shall register the FDC in the FDC log, which serves as the tracking mechanism through the final release of the FDC for Construction.

2. The scope of the FDC shall be thoroughly analyzed to confirm the circumstances described in the FDC Notice. The Design Manager or designee shall enlist additional information from field personnel, as necessary, to clearly define the scope and detail of the revisions, as well as to identify the schedule for FDC resolution.
3. The Design Manager or designee shall update the FDC log regularly to provide the current status of each FDC.
4. All design changes to plans, specifications, calculations, and reports shall be stamped, signed, and dated by a licensed professional engineer in the State of Colorado. All Design Work shall conform to the checking procedures governing design, identified in other sections of this DQMP. The IDQM shall sign off that the design change has been audited and is in compliance with the DQMP.
5. All drawings and documents modified under each FDC shall be uniquely identified. The revision box on the drawing shall include a sequential number corresponding to the number of the change on that particular sheet. The description for each change shall include the corresponding FDC number, and a brief description of the revision. Each element being revised within the body of the drawing shall be clouded or otherwise plainly identified by the revision number within a triangle, and shall remain a part of the drawing's information.

F. RECORDS

The following records shall be maintained in the Project files:

- FDC log
- Each FDC
- Each FDC response
- All design change documents

3.08 Notice of Design Change (NDC)

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 2	XX/XX/XXXX	XX	**DQP 3.08**

A. PURPOSE

This procedure establishes the scope, responsibilities, and procedures for processing Notice of Design Changes (NDCs) during Construction.

B. SCOPE

Changes to the original design of a project may be required due to corrections to the original design. Any deviation from Project requirements shall be formally processed for the Department's concurrence in the same manner as design submittals.

C. DEFINITIONS (NOT USED)

D. GENERAL

Design changes can also occur as a result of changes in Site conditions and alternate construction method/material proposals. If the design change occurs for either of these reasons, the change follows the Field Design Change (FDC) procedure for design (Section 3.07).

The design change process allows for changes during Construction to maintain or improve quality, or to account for omissions in the original design after Release for Construction. The design change process provides thorough documentation of changes made to the plans during the design phase.

In all cases, the Independent Design Quality Manager (IDQM) shall certify in writing that the design change:

- Is designed in accordance with the requirements of the Project Agreement
- Is checked in accordance with the Approved Design Quality Management Plan
- Is consistent with other elements of the original design

E. PROCESS

I. RESPONSIBILITIES

The Design Manager is responsible for processing all NDCs to make any changes to design documents, including the coordination, preparation, and forwarding of all NDCs to identified recipients. The IDQM shall facilitate the review of NDCs with the Department, and with representatives of outside agencies if the scope of the NDC impacts construction elements under their jurisdiction.

The Design Manager and appropriate design staff are responsible for making the design change and coordinating the proposed design revisions with all affected parties. The design change will undergo design quality control processing similar to that of the original design.

II. PROCEDURE

1. Each NDC shall be initiated by the issuance of an NDC Notice, providing basic information on the revisions requested. The Design Manager or designee shall register the NDC on the NDC form, which will serve as the tracking mechanism through the final release of the NDC for Construction.

2. The scope of the NDC shall be thoroughly analyzed to confirm the circumstances described in the NDC Notice. The Design Manager or designee shall enlist additional information from KMP staff, as necessary, to clearly define the scope and detail of the revisions, and to identify the schedule for NDC resolution.
3. The Design Manager or designee shall update the NDC log regularly to provide the current status of each NDC.
4. All design changes to plans, specifications, calculations, and reports shall be stamped, signed, and dated by a licensed professional engineer in the State of Colorado. All Design Work shall conform to the checking procedures governing design, identified in other sections of this DQMP. The IDQM shall sign off that the design change has been audited, and is in compliance with the DQMP.
5. All drawings and documents modified under each NDC shall be uniquely identified. The revision box on the drawing shall include a sequential number corresponding to the number of the change on that particular sheet. The description for each change shall include the corresponding NDC number, and a brief description of what is being revised. Each element being revised within the body of the drawing shall be clouded or otherwise plainly identified by the revision number within a square, and shall remain a part of the drawing's information.

F. RECORDS

The following records shall be maintained in the Project files:

- NDC register
- Each NDC
- Each NDC response
- All design change documents

3.09 Request for Information (RFI)

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 1	XX/XX/XXXX	XX	**DQP 3.09**

A. PURPOSE

This procedure provides a uniform and documented process to address Request for Information (RFI) or clarifications required by KMP Project Team members or fabricators.

B. SCOPE

This procedure includes the interface between Construction Management, Department Construction personnel, and the Design Engineer to address questions about the Design during Construction.

C. DEFINITIONS (NOT USED)

D. GENERAL

No Design document can perfectly disseminate the intent of the design. During Construction questions arise regarding the Design intent, dimensional questions, material specifications, material shortages and substitute materials, and various other circumstances. The RFI process is the standard industry process to address design questions.

An RFI response may result in the need for a design change. However, an RFI is not intended to be used in lieu of a design change if there is a design error or changed condition requiring a design change. If a design change is needed, the process for FDC or NDC will be followed (DQP 3.07 and 3.08, respectively).

E. PROCESS

I. RESPONSIBILITIES

The Design Manager or designee must give prompt attention to field inquiries, and document by memorandum or in a project diary the analysis and resolution. The Design Manager or designee may delegate response and tracking of the RFI as necessary.

II. PROCEDURE

When an RFI is received, the Design Manager responds by assigning personnel to handle the inquiry, reviewing the contract plans and specifications, and contacting subconsultants or materials suppliers as necessary to avoid Schedule delay.

The Design Manager or designee makes a full investigation of the inquiry, including a field inspection when the inquiry involves changed conditions. The Design Manager documents the method and details of the analysis of the inquiry for the Project files. The response, should be brief and to the point, and need not outline the complete background. Sketches needed to clarify text should be attached to the response.

The Design Manager or designee logs in and stamps “Received” on the inquiry upon receipt, and dates and signs the response.

F. RECORDS

The following records shall be maintained in the Project files:

- Each RFI
- Each RFI response

3.10 Environmental Compliance

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 1	XX/XX/XXXX	XX	**DQP 3.10**

A. PURPOSE

This procedure outlines the Quality Audit Procedures for environmental compliance associated with the Project. The IDQM conducts an audit during the review cycle of a design package to ensure that the environmental compliance firm has conducted a thorough quality control process, and to ensure environmental mitigation is incorporated in the design.

B. SCOPE

This procedure covers the audit of the environmental quality control files

C. DEFINITIONS (NOT USED)

D. GENERAL

This procedure recognizes the overall importance of environmental issues to the Project. Protecting human health and the environment is a core value of KMP.

E. PROCESS

I. RESPONSIBILITIES

The IDQM is responsible for auditing the review cycle and will work closely with the Environmental Compliance Manager (ECM) in conducting the audit. The Design Manager will have all roadway, drainage, retaining wall, stormwater pollution prevention plan, illumination, and bridge submittals checked against an environmental compliance matrix, with ECM assistance as necessary.

II. PROCEDURE

The IDQM audits the files for environmental compliance, and completes the Design Quality Audit Checklist and Design Quality Audit Report as shown in DQP 14.01.

F. RECORDS

The following records shall be maintained in the Project files:

- Design Quality Audit Checklists
- Design Quality Audit Reports

3.11 Disciplinary Reviews

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 2	XX/XX/XXXX	XX	**DQP 3.11**

A. PURPOSE

This procedure establishes a process for disciplinary review for all intermediate and Final Design plan submittals on the Project.

B. SCOPE

The purpose of this type of review is to satisfy contractual requirements by having an independent QC review done by different disciplines.

C. DEFINITIONS (NOT USED)

D. GENERAL

The disciplinary review establishes the beginning of the quality control review process. During this process, engineers approved by the IDQM review the plan submittals, reports, etc., in accordance with DQP 3.05 above. Disciplinary Leads verify qualifications of the reviewers.

Comments are noted and corrections to the submittals are made. The comments and corrections are then combined with those of other disciplines to advance the review process for the interdisciplinary review.

E. PROCESS

I. RESPONSIBILITIES

The QC reviewers for each discipline have the sole responsibility of reviewing and making comments directly on the plan set or report in accordance with DQP 3.05. Each QC reviewer must be a senior engineer with over five years of design experience in their respective discipline area. The QC reviewer cannot be directly involved with the original development of the item, element, or phase being checked.

The IDQM monitors the process to ensure that these procedures are being followed.

II. PROCEDURE

The “person in responsible charge” will fill out the top portion of Form DQP 3.11-1 and attach it directly to the front cover of the document being reviewed. The person in responsible charge will then forward the plans or report to a qualified QC reviewer. The QC reviewer reviews the document in accordance with DQP 3.01 through 3.05. Once the review is completed, the QC reviewer completes Form DQP 3.11-1 acknowledging that the review is complete and that all contractual requirements associated with this review are satisfied.

The person in responsible charge should give as much advance notice as possible of the scheduled submittal so that the QC reviewer can adequately review the submittal.

F. RECORDS

The following records shall be maintained in the Project files:

- Form DQP 3.11-1
- All PC/IQC check prints, drawings, calculations, reports, etc.

G. ATTACHMENTS

- Exhibit DQP 3.11-1: Disciplinary Review Signature Page Form

Exhibit DQP 3.11-1: Disciplinary Review Signature Page Form

Central 70 Project
"QC" – Disciplinary Review Signature Page
Form DQP 3.11-1

Disciplinary Review:

Person in Responsible Charge:
(person who will sign, stamp, or seal the document)

Date Submitted for QC Review:_____/_____/_____

Milestone submitted that partial plans and/or document is being prepared for:

(Shaded area is to be completed by Person in Responsible Charge or Engineer who prepared the Document or plans.)

(Area below this line is to be completed by QC Reviewer)

Assumptions made:

Reference (s) used:

QC Reviewer, please answer the following questions either "Yes" or "No".

Yes/No	Questions
	1.) Were comments made in the form of redlines directly on the document in accordance with the SQMP?
	2.) Was review completed in accordance with the SQMP?
	3.) Did you familiarize yourself with all the provisions of the Project Agreement documents with respect to your QC responsibilities?
	4.) Do you satisfy the DBC Technical Provision Section 2.3.2 – Reviewing Professional Services (not being directly involved with the original development for the item)?
	5.) Did the Person in Responsible Charge provide you with the necessary information or make it available to you to adequately complete your review?

If the answer to any of the questions above was marked "No" then explain below.

I understand that by signing this form, I am acknowledging that the above referenced document, plans, or report has been reviewed and is in accordance with Project requirements, sound engineering practice, applicable Law, the Government Approvals and the DBFOM Documents.

_____ _____/_____/_____
QC- Reviewer/s Signature Date

Note: Please affix this Signature Page directly onto the cover of the document

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SAMPLE

3.13 Constructability Reviews

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 5	XX/XX/XXXX	XX	**DQP 3.13**

A. PURPOSE

This procedure establishes a process for interdisciplinary review for all plan submittals on the Project.

B. SCOPE

This procedure requires the Discipline Lead or designee to attend an interdisciplinary review meeting and comment on each submittal.

C. DEFINITIONS (NOT USED)

D. GENERAL

The interdisciplinary review process will occur approximately one month prior to the submittal date.

All Project Team designers should be made aware of this quality control requirement at the time they are contracted for services.

E. PROCESS

I. RESPONSIBILITIES

All KMP's Project Team Discipline Leads or designees must participate in the interdisciplinary review process. The person in responsible charge must notify the Design Manager, Discipline Leads, Constructability Reviewers, and the IDQM that a submittal is ready for review. Review materials will be made available in advance of the meeting date.

In addition to reviewing the submittal prior to the meeting, it is also the responsibility of each reviewer to consider other comments made by the various disciplines with respect to their own discipline, and to look for possible conflicts or impacts that could result from the comments made.

The IDQM is responsible for monitoring the process to ensure that each discipline has the opportunity to review and comment on the submittal.

The Constructability Reviewer(s) and the Department are encouraged to attend the Interdisciplinary Review, and provide their comments at that time.

II. PROCEDURE

Approximately one month prior to the submission of a major package (as determined by the Design Manager) the IDQM will conduct a formal Interdisciplinary Review Meeting for the design package. The actual date of the meeting will be scheduled at a mutually convenient time as set by the Design Manager and the IDQM. The person in responsible charge notifies the Design Manager, Discipline Leads, Constructability Reviewer(s), and the IDQM that a submittal is ready for review. The meeting will be conducted in person and as an on-line meeting to allow all interested parties to attend conveniently. The meeting will consist of a page turn through the deliverable package in its current state, with particular attention on potential interdisciplinary conflicts. The IDQM or designee will record comments on the deliverable which will serve as the minutes of the meeting. KMP

will provide meeting minutes within four Working Days of the meeting, and will store them according to the Project document control system (DCS). The Department is encouraged to attend these review meetings.

If any discipline is not represented at the meeting but should be in attendance, the person in responsible charge will notify the IDQM, who will contact the Design Manager to resolve the matter.

Next, the person in responsible charge reviews the comments generated. If the comments require redesign of major components, the person in responsible charge may schedule an internal reconciliation meeting and follow the review process for independent disciplinary review prior to submittal to the IDQM.

Once the process is complete and the corrections are made, the submittal, along with the comments, are submitted to the IDQM for verification that the quality processes were followed.

F. RECORDS

The following records shall be maintained in the Project files:

- Form DQP 3.12-1
- All PC/IQC check prints, drawings, calculations, reports, etc.

3.13 Constructability Reviews

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	3 of 5	XX/XX/XXXX	XX	**DQP 3.13**

A. PURPOSE

This procedure establishes the sequence and responsibilities for the constructability review (CR) of documents. This procedure can be accomplished separately or in conjunction with an Interdisciplinary Review (IDR) meeting.

B. SCOPE

This procedure applies to all drawings and specifications submitted for design review that may benefit from a CR. Based upon the scope and complexity of the design element, this review is conducted, as necessary, during intermediate design and Final Design.

C. DEFINITIONS (NOT USED)

D. GENERAL

The constructability review is applied to design drawings or specifications in order to coordinate and review Construction input and its impact on the Design details. Construction managers review for adequacy of information, tolerances, Site access and restrictions, economics of design and materials, availability of materials, construction equipment and required labor, survey verification, consistency with design objectives and environmental mitigation, maintainability features, interferences, conflicts between construction disciplines, completeness, and prudent construction practices. Review comments are recorded on the constructability review comment form (included below as KMP Form 3.13-1).

E. PROCESS

I. RESPONSIBILITIES

The Design Lead is responsible for assembling and forwarding the drawing or specification to the Construction Managers, collecting and consolidating review comments, recording comment resolution and final disposition, and ensuring necessary changes are incorporated or addressed in the design document. A designee may be assigned the responsibility of assembling and distributing the review document(s), and collecting and consolidating review comments.

Constructability Reviewers are responsible for completing the review of the design package in accordance with this procedure through written comments or as part of the IDR process. Constructability Reviewers will attend the Constructability Review Meeting (CRM) meeting to resolve comments, and may provide comments during an IDR meeting.

II. PROCEDURE

a. Initiation of the Review

The Design Lead or designee coordinates with the Design Manager to establish the number of copies required for review.

The Design Integration Manager distributes review documents to the Constructability Reviewers with a schedule for the expected return date and CRM meeting to resolve comments.

b. Review

Each designated Constructability Reviewer thoroughly reviews the document with respect to the reviewer's discipline.

The Constructability Reviewer summarizes his comments on the KMP form. The comments should be consecutively numbered and reference the relevant drawing or page number. In the title block area of each form, the Reviewer inserts his name, the date of the review, describes the document reviewed, and indicates the form page number, and total pages of comment forms.

In accordance with the established review schedule, the Constructability Lead returns the review prints and completed KMP forms to the responsible Design Lead. Construction Leads will assemble constructability comments and provide combined KMP comments to the Design Lead.

The Design Lead reviews each comment, and after conferring with the original designer(s) and other appropriate personnel, enters a response to the comment.

c. CRM to Resolve Comments

The original designer(s) and the Constructability Reviewers attend the Constructability Review Meeting. At the meeting, chaired by the Construction Manager or Design Lead, all review comments are discussed to resolve any disagreement or conflict. Once all conflicts are resolved, the reviewer initials that the comment resolution is acceptable. Comments which cannot be resolved shall be brought to the attention of the Design Manager by the chair.

d. Incorporating Comments in Design

The Design Lead marks up the review print with the corrections, identifying each item by the corresponding comment number on the KMP Form.

The Design Lead supervises the updating of the drawing or specification.

The corrected document is sent through the normal checking procedures in accordance with DQP 3.01 through DQP 3.05.

F. RECORDS

The following records shall be maintained in the Project files:

- KMP forms
- Meeting minutes
- Constructability review prints

G. ATTACHMENTS

Exhibit DQP 3.13-1: Constructability Review Comments Form (KMP)

Exhibit DQP 3.13-1: Constructability Review Comments Form

Central 70 Project - Constructability Review

Date Received		
Due Date	4.15.16	
Discipline	BRIDGES	
Submittal Package	BRIDGE 10 - FINAL	

Reviewer				Designer	Reviewer
Comment #	Sheet #	Reviewer	Comment	Designer Response/Action	Verified
001	BR10005	BM	Please check off all applicable standards	Agree. (RJW)	
002					
003					
004					
005					

3.14 Data Collection and Field Investigations

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 2	XX/XX/XXXX	XX	**DQP 3.14**

A. PURPOSE

Field investigations collect data for direct input into design calculations, drawings, or details, or to be used as the basis of design assumptions in preparation of engineering documents.

B. SCOPE

This procedure is applicable to the preparation and checking of all field investigations.

C. DEFINITIONS (NOT USED)

D. GENERAL

It is important to perform field investigations in a consistent manner, to ensure proper collection of data that is used as a basis of design and/or design assumptions. This procedure details how the Discipline Lead defines the goals of field investigations, the Work necessary, and the accuracy of that Work.

E. PROCESS

I. RESPONSIBILITIES

- **Discipline Lead:** The Discipline Lead, identified by the Design Manager, is responsible for ensuring that the requirements of this procedure are met. A Discipline Lead is a registered professional engineer in the State of Colorado. The Discipline Lead communicates the desired data goals for the field investigation to those in the field.

II. PROCEDURE

a. Data Collection

Data collection is performed by obtaining appropriate source materials, contacting identified sources and soliciting input, and reviewing and assessing the data when received for its suitability to the Project and its completeness for Project needs.

b. Field Investigation/Work Plan

When a field investigation is required for the Project, an investigation plan or Work plan is prepared prior to initiating the field investigation. The plan may be a simple statement of the investigation's objectives, but when necessary may address personnel assignments, team composition, work hours, emergency and daily contacts, Site access procedures, equipment requirements, Schedule, training, safety procedures, quality control measures, and investigation procedures, and may specify data formats and recording media, as applicable.

The quality control section of the plan defines the roles and responsibilities of the investigation team members, and describes the methods used to verify the information collected.

The field investigation plan or Work plan is provided to all members of the investigation team. Training or a Pre-Activity Meeting is provided as required.

Where a follow-up field visit is required after the completion of the initial investigation, the investigator informs the Discipline Lead of the field investigation findings, and prepares an investigation memorandum. The memorandum describes the purpose of the visit, summarizes the information obtained, and attaches field notes prepared during the visit.

F. RECORDS

The following records shall be maintained in the Project files:

- The field investigation plan or Work plan, including the boring location plan, if applicable
- Records of training documents or Pre-Activity Meeting notes
- Field notes and other documents generated during Site investigations, including any electronic data files
- Field investigation memoranda

8.06 Control of Design Surveys

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 2	XX/XX/XXXX	XX	**DQP 8.06**

A. PURPOSE

The purpose of design or topographic surveys is to provide supplemental survey data to the aerial mapping, by providing detailed survey data of specific areas.

B. SCOPE

This procedure is applicable to the preparation and checking of all design surveys and survey related calculations.

C. DEFINITIONS (NOT USED)

D. GENERAL

All survey work will be in substantial conformance with the following published statutes and standards for land surveying in the State of Colorado: Professional Land Surveying Practices Act; Colorado State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors bylaws and rules; the *Colorado Department of Transportation Survey Manual*; and the Project Agreement requirements.

Design surveys will be performed at the request and direction of the Design Manager or designee.

E. PROCESS

I. RESPONSIBILITIES

The land surveyor is responsible for ensuring this procedure is implemented for all survey work related to the Project, and works under the direct supervision of the Design Manager or designee.

II. PROCEDURE

1. The land surveyor reviews the work request from the Design Manager or designee
2. The land surveyor reviews the scope of the current request with the survey crew, and discusses any specifics to this request.
3. The survey crew collects field data in compliance with the request and the survey scope as discussed with the land surveyor.
4. The crew downloads the collected survey data, reviews for compliance with instructions, and creates an ASCII file to be turned over to the land surveyor along with a copy of the corresponding field notes.
5. The land surveyor incorporates the ASCII file into a MicroStation drawing, reviews it, and checks for completeness and compliance with the survey request.
6. The surveyed area is checked against the previous mapping. A Design Checklist C-14 is completed by the land surveyor and reviewed by the Project survey coordinator.
7. All data files pertaining to the survey are sent to the Design Manager or designee for integration into their data files.
8. The Design Manager or designee develops and maintains a survey request log which includes, for all survey work done, a request number, date, discipline, description, attachment if any, resolution date, and comments.

F. RECORDS

The following records shall be maintained in the Project files:

- Control surveys
- Field notes/books
- Survey request log
- Checklist
- All survey files, related calculations, and other documents generated, including any electronic data files.

8.10 Control of Subsurface Utility Engineering (SUE)

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 2	XX/XX/XXXX	XX	**DQP 8.10**

A. PURPOSE

This procedure describes the methods, processes, and requirements of performing Subsurface Utility Engineering (SUE) or potholing.

B. SCOPE

This procedure is applicable for preparing and checking all SUE or potholing related work.

C. DEFINITIONS (NOT USED)

D. GENERAL

This procedure will properly assure the quality of SUE activities including:

- Obtaining Right of Entry
- Parcel owner notification
- Environmental compliance
- Records research
- Designating utilities
- Locating utilities
- Utility drawings
- Safety

E. PROCESS

I. RESPONSIBILITIES

The Utilities Manager is responsible for ensuring that the requirements of this procedure are met. The Utility Engineer is responsible for assuring that SUE technicians perform their assigned duties, and for monitoring the field investigation processes and procedures sufficiently to ensure that the requirements established for the assigned SUE operations are achieved.

II. PROCEDURE

- **Safety:** Follow the procedures in the KMP Project Safety Plan.
- **Right of Entry:** The Right of Entry will be confirmed by the right-of-way (ROW) Lead responsible for Right of Entry documentation. The conditions of the agreements will be reviewed and followed.
- **Parcel Owner Notices:** Notices to parcel owners will be made by the ROW Lead.
- **Environmental Compliance:** Prior to designating utilities, the Environmental Manager (EM) reviews and comments on planned SUE activities that may affect environmentally sensitive areas.
- **Utility Records:** Each Utility Owner impacted by the Project will be contacted to inform them about the Project, and to request updated Utility Key Maps and As-Built information. A Site visit will confirm that all the proper utilities have been identified. Utility records will be kept in the Project file.

- **Designating Utilities:** Prior to designating utilities, all utility information is reviewed. Utilities are designated by marking the horizontal location using non-destructive surface geophysical techniques. A non-water base paint, utilizing APWA color code scheme, is used on all surface markings of underground utilities. To verify the correct utility has been designated, the SUE or potholing technician marks the utility to a logical end point (e.g., a telephone pedestal), and verifies that the depth readings are reasonable. Once designation is complete, the SUE technician reviews the records to ensure all utilities are marked, and conducts a sweep of the area to pick up any unknown utilities.
- **Locating Utilities (Potholes):** All proposed pothole locations are reviewed with the Utility Manager (UM). Prior to exposing utilities, KMP notifies the Utility Notification Center of Colorado to notify existing Utility Owners of that planned excavation, and notifies any remaining Utility Owners that the Utility Notification Center of Colorado does not notify. All conversations and meetings are documented and include the date of call or meeting, attendees, action items, and other necessary information. All records will be kept in the Project file.
  The potholes are excavated in such a manner as to prevent any damage to wrappings, coatings, cathodic protection, or other protective coverings and features. Each pothole is surveyed to obtain the horizontal and vertical location of the utility.
- **Utility Drawings:** Utility designation is an on-going process, and as information is obtained, it is entered into MicroStation, and utility drawings are prepared. Once the drawings are complete, they are given to the SUE engineer for review. All comments are documented and addressed in accordance with the DQMP, and the drawings are sent to each Utility Owner affected by the Project.

F. RECORDS

The following records shall be maintained in the Project files:

- Utility key maps and As-Built information
- Meeting minutes/conversation notes
- Surveyed designation of all utilities
- Surveyed horizontal and vertical locations of test holes
- Utility drawings

8.11 Utility Agreements

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 3	XX/XX/XXXX	XX	**DQP 8.11**

A. PURPOSE

This procedure allows for the preparation and execution of all agreements between each Utility Owner, the Department, and KMP.

B. SCOPE

This procedure applies to the preparation and execution of all Utility Relocation Agreements (URAs) and Utility Work Orders (UWOs).

C. DEFINITIONS

URAs are the agreement between the Department and the Utility Owner.

UWOs are the directive to perform specific construction work on a utility.

D. GENERAL

As URAs are executed between the Department and each Utility Owner, they will be assigned to KMP. Prior to the start of any Utility Work, the Department, KMP and the affected Utility Owner must execute a UWO with respect to the Utility Work. The complete UWO is composed of both the work order directive and applicable forms described in the Project Agreement requirements.

E. PROCESS

I. RESPONSIBILITIES

The Utility Manager (UM) is responsible for the following:

- Verifying that each Utility Owner is shown on the Utility Contact List and that all contact information is correct.
- Meeting, negotiating, and coordinating with the Department and the Utility Owner as required to prepare the Draft UWO.
- Submitting the Draft UWO to the Department for review and Acceptance.
- Submitting the Accepted Draft UWO to the Utility Owner for approval and executing the UWO.
- Submitting the Utility Owner approved UWO to the Department for Approval in accordance with the applicable URA.
- Coordinating any modifications and/or additional items requested by the Department during the UWO review process with the Utility Owner, then re-submit for approval
- Delivering the fully executed UWO to the Utility Owner.
- Ensuring that the IQC reviews are completed in accordance with the DQMP by reviewing designs with independent senior engineers not directly involved with the original development of the item.

II. PROCEDURE

The Department has assigned a unique Utility Identification Number for each Utility on the Utility Matrix and the Plans.

The UM will meet and coordinate with the Department and each Utility Owner to negotiate and execute the UWO, including the scope of work, the implementation schedule, and any exhibits and any other matters required to be agreed upon pursuant to the URA.

Any costs associated with work under a UWO for Utility Betterment or Requested Relocation shall be negotiated between KMP and the Utility Owner and be approved by the Utility Owner and the Department. If a Utility Owner is responsible for the payment of any amount of the cost of a Utility Betterment or Requested Relocation pursuant to a UWO, payment shall be made by the Utility Owner to KMP in accordance with the terms of the applicable URA.

For Utility Betterments and Requested Relocations, the draft UWO shall include the direct impact of such UWO on the performance of the Construction Work and KMP's ability to follow the Project Schedule, in each case taking into account KMP's obligations under the Agreement, and such other information as the Department may reasonably require.

Upon receipt of all forms and details for each Utility Relocation (or group of Relocations), the Utility Manager prepares the UWO following the URA requirements. All UWOs shall include the following:

- A transmittal memo briefly explaining the need for the relocation(s), recommending Approval, and detailing any unique characteristics or information pertaining to the subject Utility Relocation(s).
- A completed UWO Design Checklist including a no conflict sign-off form, when applicable, executed by KMP's UM.
- A proposed UWO, including required attachments, executed by the Utility Owner, the Department, and KMP (submitted with one original and two copies of each of the UWO).
- Utility Relocation Plans (in electronic or paper format as warranted) with all necessary information in proper format, including:
    - Plan and profiles (when applicable) of the existing utility facilities and proposed Relocation
    - Any existing highway ROW lines, the Final ROW lines, and control of access lines
    - Proposed roadway features of the Project, and other utilities in the vicinity
    - The final Project grade and any Railroad profiles, to determine whether clearance requirements are met
    - Offset distance from the Final ROW line to the proposed utility facility, for each utility which will parallel (and fall within) the proposed Final ROW lines (whether proposed to remain in place, or be reinstalled in a new location)
    - Dimensions to utility facilities with station and offset in relation to the Final ROW line
    - Symbols and major material items
    - The Utility Owner's specifications for the Relocation

  - Sufficient information to enable the Department to verify compliance with Utility Accommodation Code (UAC) requirements, including depth of cover, casing requirements, vent locations, etc.
  - Color coding on at least one of the three original UWOs for each utility or group of utilities
  - Format shall be no larger than 11” x 17” folded to 8.5” x 11” size (oversize plans are not permitted with the UWO, and plans shall be folded to allow pulling plans out of the UWO sheet by sheet)
  - Clear identification of Betterments
  - Signature and seal by a licensed Professional Engineer, whether provided by KMP or the Utility Owner, unless waived at the Department’s sole discretion
- Estimates from the Utility Owner detailing costs, broken out into the cost categories established in 23 CFR 645.117.
- If the Utility Owner intends to contract out design and/or construction Work, include statement(s) covering this Work (using the Department’s standard form).
- Affidavits of property interest, if required.
- If applicable, a letter signed by the Utility Owner’s authorized representative confirming that the interest will be quitclaimed upon completion of the Utility Relocation, along with a copy of the unsigned quitclaim deed.

The UM will review and approve the UWO, recommending it for Approval by the Department.

The UM will coordinate the submittal of the UWO to the Department in reasonably-sized package following the requirements of the Project Agreement.

F. RECORDS

The following records shall be maintained in the designated Project files:

- UWOs
- Utility Checklists
- Utility Relocation Agreements

8.12 Utility Relocation Design Review

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 2	XX/XX/XXXX	XX	**DQP 8.12**

A. PURPOSE

This procedure describes the process for reviewing and Approving Utility Adjustment designs performed by either the Utility Owner or KMP.

B. SCOPE

This procedure is applicable to the preparation and checking of all Utility Relocation designs.

C. DEFINITIONS (NOT USED)

D. GENERAL

The Utility Manager (UM) will review all Utility Relocation plans prepared by KMP for compliance with relevant Project requirements, and local, state, and federal rules and regulations governing Utility Relocation.

E. PROCESS

I. RESPONSIBILITIES

The UM is responsible for coordinating all Utility Relocation designs with the overall highway design features. The UM reviews all final plans for Utility Relocation work to ensure they are consistent and compatible with:

- The Project's Ultimate design
- Any existing utility or any other utilities being installed in the same vicinity
- The requirements established in the Utility Accommodation Code
- The Utility Relocation Standards applicable to the UWO and the requirements specified
- Any applicable local, state, or federal regulations
- Process Control reviews as required by the DQMP

II. PROCEDURE

Prior to the UM submitting each UWO to the Department, the proposed Utility Relocation designs are forwarded to the UM for review and approval. The UM reviews and checks each plan submittal using the Utility Relocation Design Checklist (checklist to be developed after award of the Project).

Upon completion of that review, the plans, checklist, and any comments are forwarded to the Discipline Lead for review and approval.

KMP will obtain an executed Design of Relocation Acceptance Letter (DRAL) from the Utility Owner indicating that the design of Relocation will be executed in accordance with the Utility Owners Relocation Standards.

If the Utility Owner is responsible for the design, all plan review comments are forwarded to the UM to return to the Utility Owner. The UM will work with each Utility Owner to resolve any areas of the proposed Relocation design that do not meet Project requirements. The UM, or designee, reviews all final Utility Relocation Plans to ensure that they are consistent and compatible with:

- The Project's Ultimate design
- Any existing utility or any other utilities being installed in the same vicinity
- The requirements established in the Utility Accommodation Code
- PC reviews as required by the DQMP

The UM follows the same procedure for any subsequent Utility Relocation Plan submittals until final Acceptance for the Relocation design.

The UM returns the final approved Utility Relocation Plan to the Utility Manager for inclusion in the UWO submittal to the Department.

KMP will execute a DRAL indicating that the design of Relocation performed by the Utility Owner is compatible with the Project's design.

F. RECORDS

The following records shall be maintained in the Project files:

- Design Relocation checklists
- Required forms
- DRALs

12.01 Corrective and Preventive Action

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 2	XX/XX/XXXX	XX	**DQP 12.01**

A. PURPOSE

This procedure establishes the process for implementing corrective and preventive actions.

B. SCOPE

This procedure is used within KMP's Team for resolution of all Design-related corrective and preventive actions (CPA). The CPA process for Design is an investigative process used to determine the root cause of problems or potential problems identified by audit findings or by other means.

C. DEFINITIONS

- **Corrective Action:** A change implemented to address a weakness identified in a quality procedure that has caused one or more nonconforming conditions
- **Preventive Action:** A change implemented to address a weakness in a quality procedure that has not caused a nonconforming item

D. GENERAL

In all projects nonconformances will occur. It is the manner in which these nonconformances are managed and used to promote continual improvement that helps define project quality. The goal is continued improvement, supported by a robust Process Control and IQC process, so that preventive actions are implemented before corrective actions are required. The ability of the Project Team to apply corrective and preventive actions in a timely manner promotes the Department's confidence in the overall system.

E. PROCESS

I. RESPONSIBILITIES

The IDQM is responsible for approving and implementing the Corrective and Preventive Action plans. The IDQM assigns staff to track the CPAs (the CPA Assignees), to ensure that all CPA Plans are completed, and that the prescribed actions are effective.

The CPA Assignee is responsible for conducting an investigation to determine the root cause, for defining the CPA plan, and for assisting in determining its effectiveness.

II. PROCEDURE

a. Development of Corrective and Preventive Actions

The CPA process can be initiated by any designer or the IDQM. An issue requiring a corrective action can result from:

- Internal and external audit findings
- Significant or repetitive nonconformances
- Management review of the quality system

Preventive actions can be developed whenever a process is perceived to not be functioning properly or the Discipline Leader or IDQM identify an element that may require special attention because of its critical nature, dependence by many disciplines, or other reasons.

Preventive actions may involve detailed Work plans, the use of special inspections or test plans, special meetings, or other means to ensure the element of concern receives the necessary attention.

b. Management of Corrective and Preventive Actions

The IDQM evaluates the potential or current nonconformance to determine the severity, priority, and potential for impact to the Department and the Project.

IDQM assigns a control number to each CPA and identifies an appropriate CPA Assignee.

The CPA Assignee determines the root cause, develops the Corrective or Preventive Action Plan, and determines the implementation time schedule. The CPA Plan should address any immediate needs that may be required to limit damage or liability associated with the identified issue, in addition to providing a longer term solution to prevent recurrence. In order to complete this assignment, the CPA Assignee:

- Collects data and/or samples as appropriate
- Documents results of the root cause analysis
- Identifies action needed to avoid and prevent future incidents
- Identifies any needed system changes
- Determines the expected results
- Determines timing and responsibilities for implementation

NOTE: The root cause for preventive action is identified through analysis of Work activities, processes, internal or external audits, Department input (complaints or other feedback), statistics related to processes, and product and quality records.

The CPA Assignee submits the suggested CPA Plan to the IDQM for review and submittal to the appropriate Discipline Lead for implementation.

Once accepted, the appropriate Discipline Lead is responsible for implementing the corrective or preventive action plan.

The IDQM and Assignee are responsible for verifying the effectiveness of the CPA. Once verified, through collection of documented objective evidence, it is noted on the corrective or preventive action report that it is closed. The IDQM submits a copy of the CPA report to the Design Manager, originator, KMP Executive Management, and the Department.

The IDQM reviews the CPA documentation, determines its relevance to other departments or sections, and issues copies to those departments where appropriate. The IDQM will summarize all CPAs and submit the summary to KMP Executive Management for the Project's Annual Executive Management Review Meeting.

F. RECORDS

The following records shall be maintained in the Project files:

- Each CPA report
- All responses and corrective action documentation

14.01 Quality Audits of Design

Prepared by	Approved By	Page	Effective date	Revision	Procedure No.
XX	XX	1 of 14	XX/XX/XXXX	XX	**DQP 14.01**

A. PURPOSE

This process describes the methods, requirements, and responsibilities related to conducting Quality Audits of design functions.

B. SCOPE

This procedure applies to all design related functions of the Project for the Design Team, including subconsultants. Audits are performed by the Independent Design Quality Manager (IDQM) or designee, as well as the Department, to assess the Design Team's compliance with the Project's Design Quality Management Plan (DQMP), including the Design Quality Procedures (DQPs). This procedure also provides for coordination and follow-up of audit findings and of recommended corrective actions.

Audits in support of the DQMP include the following:

- Design Package Audits to determine compliance of the Discipline Leads and their staff to the QC requirements of the DQMP and DQPs
- Subconsultant design packages and audits to determine compliance of subconsultant's design staff to the quality system
- Field Investigation and Equipment Audits to determine compliance of field activities and equipment used in collection of data for design
- Nonconformance and corrective and preventive action reports to determine that the processes follow those outlined in the DQMP and DQPs

C. DEFINITIONS

- **Audit:** The evaluation of a process or product for compliance with specified procedures, such as those outlined in the Project's Approved Design Quality Management Plan, or as required by other design criteria.
- **Mini-Audit:** An informal evaluation of design activities or process in a Design Team member's home office. The evaluation is conducted by the IDQM, Design Manager, or designee.

D. GENERAL

It is important that all design activities are performed in a consistent manner to help ensure the completed design is compatible among disciplines, meets the Department's needs, and is repeatable. Independent Quality Control (IQC) activities confirm the consistency and accuracy of the design. It is important that IQC is performed in a consistent manner, and Process Control (PC) audits are the means to confirm consistent and thorough IQC.

E. PROCESS

I. RESPONSIBILITIES

The IDQM and the Design Manager are responsible for scheduling and performing PC and IQC Audits to determine if the design quality program is adequate, objective, and effectively implemented. The IDQM is to conduct the audits in a professional and objective manner and, consistent with the planned audit objectives, minimize interruptions to normal work flow of the organization being audited. The IDQM is to ensure that audit evaluations and findings are valid and supported by specific written requirements of the Design Quality Procedures, the Quality Management Plan, the Design Quality Management Plan, and other applicable policies and procedures.

If a specific discipline is being audited, the Discipline Lead is responsible for ensuring a receptive and cooperative response to the auditor by personnel in their group, and providing timely access to pertinent facilities and documents.

All Project staff members should be familiar with their QC responsibilities and the checklist items for the audits.

II. PROCEDURE

The IDQM or designee is responsible for the audit of design packages prior to submitting to the Department. The thoroughness of the audit depends on the level of the design (i.e., intermediate or final). All Final Design packages are audited for all QC functions. Randomly selected intermediate design packages are audited for all QC functions but, at a minimum, each intermediate design package will be spot audited for random QC functions.

The following are key elements in ensuring a proper PC/IQC audit process:

1. Audit activities are planned, documented, and conducted in a manner that ensures adequate review of the Design Quality Procedure requirements.
2. A pre-planned, documented audit schedule is developed quarterly on the basis of the Schedule of Design activities. The audit schedule shall include a description of the anticipated Project activities/deliverables to be reviewed, the anticipated timeframe for conducting the audit, likely auditee(s), and the audit location. Exhibit DQP 14.01-1 is used for the audit schedule.
3. Regularly scheduled audits are supplemented with unscheduled audits when the IDQM suspects that a serious QC problem exists, and the quality of the Project may be impacted.
4. The IDQM or designated auditor must not have direct responsibility for performing the activities being audited.
5. Design audits include the evaluation of work performed, study/design activities, checking and review documentation, and other QC functions.

These key steps shall be followed for each audit:

1. Audit checklists are developed and utilized to ensure objectivity and consistency of audits. Exhibit DQP 14.01-2 is used for the audit checklist and Exhibit DQP 14.01-4 is used for a mini-Audit. These audit checklists list all required QC activities. The auditor shall mark those activities specifically reviewed during the subject audit.
2. At the completion of the audit, and prior to finalizing the audit report, the auditor conducts an exit interview with the responsible management of the audited package (generally the Design Manager) to resolve any questions and establish mutual understanding regarding audit findings and proposed corrective actions.
3. An audit report will be completed and distributed to appropriate personnel. The Department receives audit reports upon request. Exhibit DQP 14.01-3 is used for the audit report. The report shall specify the agreed timeline for addressing any audit findings or corrective actions identified.
4. Audit activities, including resolution of deficiencies, are documented and retained as quality records to allow the IDQM and the Department to monitor the overall quality audit program. In addition, copies of audit reports are provided to the audited organization, KMP Executive Management, and the Project Manager. Exhibit DQP 14.01-3 is used to document audit findings and corrective actions.
5. After the completion of corrective action, deficient areas are re-audited, or otherwise verified, to make sure that corrective measures have been implemented and are effective, before the audit is closed.

F. RECORDS

The following records shall be maintained in the Project files:

- Each audit report with the audit checklist
- All responses to audit findings
- Corrective action documentation

G. ATTACHMENTS

- Exhibit DQP 14.01-1: Design Quality Audit Schedule
- Exhibit DQP 14.01-2: Design Quality Audit Checklist
- Exhibit DQP 14.01-3: Design Quality Audit Report
- Exhibit DQP 14.01-4: Mini-Audit Checklist

Exhibit DQP 14.01-1: Design Quality Audit Schedule

Central 70 Project Design Quality Audit Schedule			
Project Participant:	**Project Participant PC/IQC Manager:**		**Date:**
Anticipated Activities/Deliverables to be Audited	**Anticipated Audit Timeframe**	**Likely Auditee(s)**	**Audit Location**

Exhibit DQP 14.01-2: Design Quality Audit Checklist

Central 70 Project
Design Quality Audit Checklist

Function/Contract No:	**Audit No:**	**Prepared By:**	**Approved By:**
Subject:	**No. of NCR's from Audit:**	**Date:**	**Date:**
Auditee(s): _____ _____ _____ _____ _____ _____	**Location:**	**Audit Team Leader:**	
		Audit Date(s):	

❑ Scheduled Audit ❑ Preliminary Design ❑ Final Design

❑ Unscheduled Audit ❑ Intermediate Design ❑ other

Item	Audit Element/Requirement	Ref.	Satisfactory	Un-Satisfactory	N/A	Results/Notes
1	Is subconsultant following the DQMP?	DQP - 2.01	❑	❑	❑	
2	Is Technical Content Quality Control Checking being performed?	DQP - 3.01	❑	❑	❑	
3	Is CADD Compliance Checking being performed?	DQP - 3.01	❑	❑	❑	
4	Are Project Specifications being checked and available?	DQP - 3.02	❑	❑	❑	
5	Are all Project Reports being checked and available?	DQP - 3.03	❑	❑	❑	
6	Are Manual Calculations neat, legible, and accurate?	DQP - 3.04	❑	❑	❑	

Item	Audit Element/Requirement	Ref.	Satisfactory	Un-Satisfactory	N/A	Results/Notes
7	Are Manual Calculations being checked and available?	DQP - 3.04	❑	❑	❑	
8	Are Computer Generated Calculations being checked and available?	DQP - 3.04	❑	❑	❑	
9	Is the computer software appropriate for the problem and otherwise approved for use on the Project?	DQP - 3.04	❑	❑	❑	
10	Are all studies, reports, drawings, specifications and calculations being checked in accordance with the color-coding scheme?	DQP - 3.05	❑	❑	❑	
11	Are all studies, reports, drawings, specifications and calculations being back-checked in accordance with the color-coding scheme?	DQP - 3.05	❑	❑	❑	
12	Are all studies, reports, drawings, specifications and calculations being corrected in accordance with the color-coding scheme?	DQP - 3.05	❑	❑	❑	
13	Are all studies, reports, drawings, specifications and calculations being verified in accordance with the color-coding scheme?	DQP - 3.05	❑	❑	❑	
14	Are all studies, reports, drawings, specifications and calculations maintained in the Project files?	DQP - 3.05	❑	❑	❑	
15	Are all calculations placed in calculation books and maintained in the Project files?	DQP - 3.05	❑	❑	❑	

Item	Audit Element/Requirement	Ref.	Satisfactory	Un-Satisfactory	N/A	Results/Notes
16	If subsequent revisions are necessary, are new originals being prepared and checking reinitiated?	DQP - 3.05	❑	❑	❑	
17	Does the Checkprint Stamp appear on each sheet and has it been signed and dated by everyone?	DQP - 3.05	❑	❑	❑	
18	Are third party supplied documents and materials being logged, retained and stored?	DQP - 3.06	❑	❑	❑	
19	Are third party supplied documents and materials being verified by the Design Manager or discipline lead?	DQP - 3.06	❑	❑	❑	
20	Are Field Design Change (FDC) procedures being followed?	DQP 3.07	❑	❑	❑	
21	Are Notice of Design Change (NDC) procedures being followed	DQP 3.08				
22	Are Request for Information (RFI) procedures being followed	DQP 3.09				
23	Is the Environmental Compliance checklist being followed and incorporated into the design?	DQP 3.10				
24	Are the Disciplinary review procedures being followed?	DQP 3.11				
25	Did the personnel in responsible charge complete form 3.11-1?	DQP 3.11				
26	Are the Interdisciplinary review procedures being followed?	DQP 3.12				
27	Did the personnel in responsible charge complete form 3.12-1?	DQP 3.12				

Item	Audit Element/Requirement	Ref.	Satisfactory	Un-Satisfactory	N/A	Results/Notes
28	Is the investigation plan or Work plan prepared and available?	DQP 3.14				
29	Are records of training documents or Pre-Activity Meetings notes prepared and available?	DQP 3.14				
30	Are field notes generated during field investigations prepared and available?	DQP 3.14				
31	Was Right of Entry obtained and was 48 hour notification given?	DQP 8.02				
32	Was notice to parcel owners made?	DQP 8.02				
33	Was boring layout prepared, checked and available?	DQP 8.02				
34	Did the ECM review and comment on the boring log?	DQP 8.02				
35	Did the Department give concurrence on final boring locations?	DQP 8.02				
36	Did the lead geotechnical engineer provide drilling subcontractors with the GPS coordinates to enable staking and utility locating?	DQP 8.02				
37	Were the boring locations cleared for utilities?	DQP 8.02				
38	Was a sampling schedule prepared and was a boring log prepared and available?	DQP 8.02				
39	Were provisional borings necessary due to nonconforming conditions?	DQP 8.02				

Item	Audit Element/Requirement	Ref.	Satisfactory	Un-Satisfactory	N/A	Results/Notes
40	Was a safety plan prepared and available?	DQP 8.02				
41	Were Traffic Control Plans prepared for any lane closures along with Schedule?	DQP 8.02				
42	Are the daily filed inspection reports prepared and available?	DQP 8.02				
43	Were the procedures for sampling, receipt and log-in, safety, storage and handling, and sample management followed and available?	DQP 8.03				
44	Were the procedures for Geotechnical Laboratory Testing followed and available?	DQP 8.04				
45	Are the geotechnical analyses and design calculations prepared and available?	DQP 8.05				
46	Are control surveys, filed notes and all survey files and related calculations prepared and available?	DQP 8.06				
47	Was Right of Entry confirmed for the SUE work?	DQP 8.10				
48	Were notices to parcel owners made?	DQP 8.10				
49	Were utility companies' contacted and utility records obtained?	DQP 8.10				
50	Was utility designating performed according to procedures and checked?	DQP 8.10				
51	Were test holes reviewed and excavated per procedures?	DQP 8.10				

Item	Audit Element/Requirement	Ref.	Satisfactory	Un-Satisfactory	N/A	Results/Notes
52	Were utility drawings prepared and checked according to procedures and available?	DQP 8.12				
55	Are design checklists being completed and followed?	DQMP Attachment 4				
56	Do review comments have an agreed upon action code	DQP 3.05-1				
57	Were scheduled Design reviews completed by independent senior engineers?	DQMP				

Exhibit DQP 14.01-3: Design Quality Audit Report

Central 70 Project
Design Quality Audit Report

Project/Contract Number: PB Project No. 28420	Finding No.:
Subject:	Audit Date:
Auditor(s):	Location:
Auditee Personnel Contacted:	

Audit Report Reflects:

❑ Comment ❑ Observation ❑ Finding ❑ Other _____

A. Reference:

B. Requirement:

C. Description of Finding/Condition:

Continued On Separate Page: ❑

Response Due Date (If applicable):	Actual Response Date (If applicable):::

Project Participant's Proposed Corrective Action and Action to Prevent Recurrence:

Continued On Separate Page: ❑

Auditee Signature: _____ Date: _____

Proposed Implementation Date:	Actual Implementation Date:

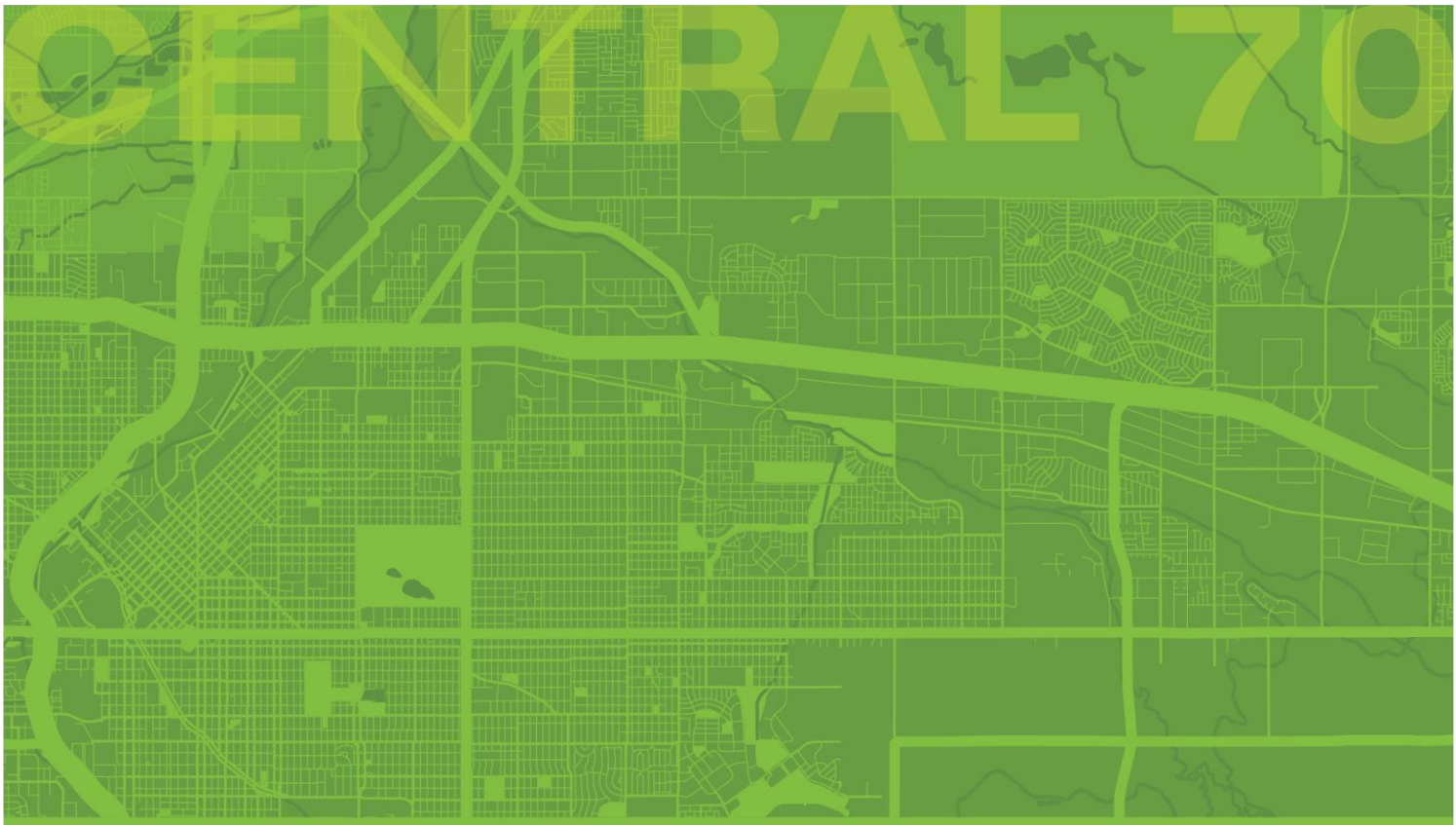
Central 70 Project **Design Quality Audit Report**	
Corrective Action: ❑ Accept ❑ Reject Reason for Rejection (if applicable):	
Auditor: Signature: _____	Date: _____
IDQM Concurrence: Signature: _____	Date: _____

Exhibit DQP 14.01-4: Mini-Audit Checklist

Office Location:
Design Lead:
Auditor:
Date:

TASK	YES/NO	COMMENTS
Review progress of design documents		
Status of check sets (Has anything been checked?)		
Verify Schedule for package (Understand pencils down date?)		
Is lead using Checklists? Review checklist vs. drawings and specs/plans/deliverables		
Review current staffing number versus plan. Is staffing adequate to meet Schedule?		
Review staff qualifications for checkers, designers, etc.		
Review the DQMP with designer or Discipline Lead		
Following CADD process? Are drawings located on Project Wise?		

TASK	YES/NO	COMMENTS
Coordination w/other disciplines		
Recordkeeping?		



ATTACHMENT 2

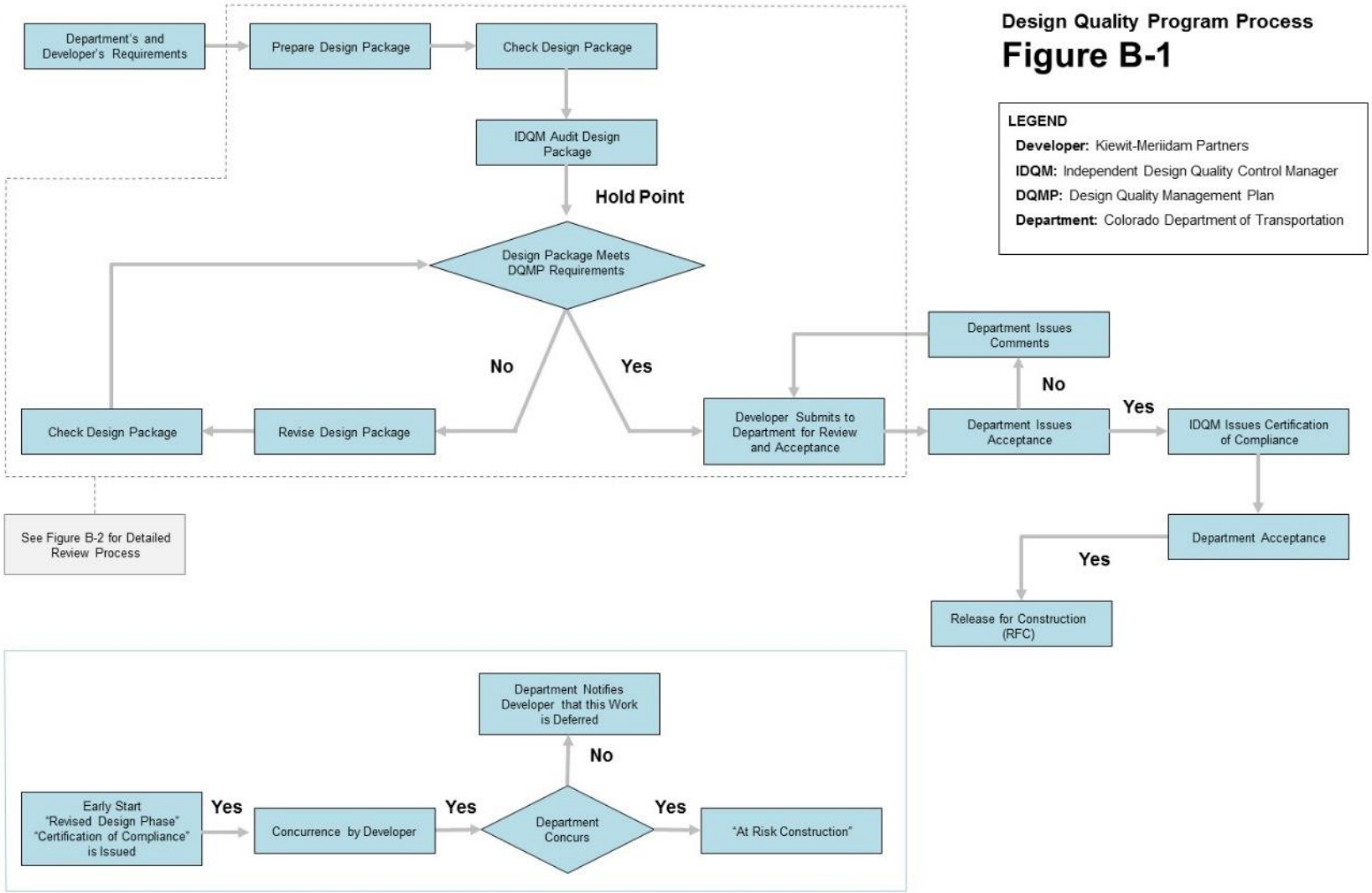
Relates to Appendix D, Stage 1

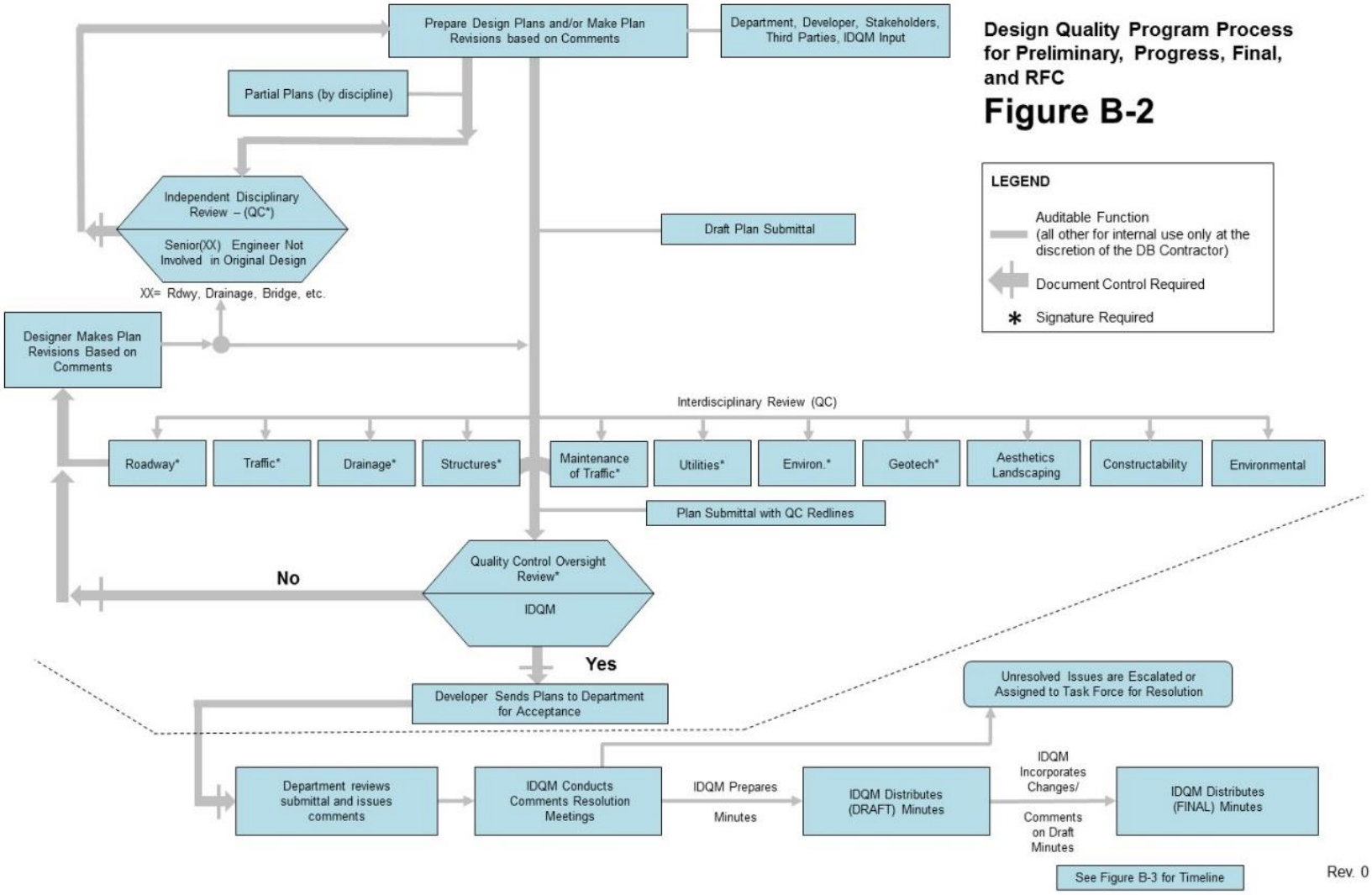
Kiewit meridiam PARTNERS

Design Quality Process

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

Design Quality Program Process
Figure B-1





Design Quality Program Process for Preliminary, Progress, Final, and RFC

Figure B-2

Figure B-3

DESIGN SERVICES QUALITY CONTROL GENERAL REVIEW TIMELINE

ATTACHMENT 3

Relates to Appendix D, Stage 1

Kiewit meridiam PARTNERS

Design Review Checklists

SUBMITTED TO:
Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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The items checked were found ☐ **generally acceptable** ☐ **generally deficient** ☐ **acceptable with exceptions** *for the level of detail and completeness required of this submittal.*

I recommend this submittal be ☐ **accepted** ☐ **reworked**.

	SUBMITTALS STATUS:	☐ PRELIMINARY	☐ INTERMEDIATE	☐ FINAL

C-2 ROADWAY	**NOT CH'D**	**OK? Y**	**OK? N**	**NOTES**	**REQUIRED Pre.**	**REQUIRED Inter.**	**REQUIRED Final**
Also Use ALL DRAWINGS & GENERAL DRAWINGS checklists					X	X	X
Design Criteria To be listed out or cited, specific to each submittal.					X	X	X
Check compliance with Project agreement Requirements:					X	X	X
Technical Provisions To be listed out or cited, specific to each submittal.					X	X	X
Horizontal Alignments/Superelevation							
1. All streets/highways have design criteria set					X	X	X
2. Curves meet design speed					X	X	X
3. Superelevation meets design speed, superelevation transitions shown					X	X	X
4. Horizontal sight distance checked					X	X	X
5. Design variances documented and approved					X	X	X

	SUBMITTALS STATUS:	☐ PRELIMINARY	☐ INTERMEDIATE	☐ FINAL

SAMPLE

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	SUBMITTALS STATUS:	☐ PRELIMINARY	☐ INTERMEDIATE	☐ FINAL

Vertical Alignments					Pre.	Inter.	Final
1. All streets/highways have design criteria set					X	X	X
2. Curves meet design speed					X	X	X
3. Vertical sight distance checked					X	X	X
4. Bridge clearances checked					X	X	X
5. Design variances documented and approved					X	X	X
6. Drainage/utility clearances checked					X	X	X
7. Check Stopping Sight Distance (SSD)?					X	X	X
Typical Sections							
1. Existing typical section shown: includes approximate depths, widths, and station limits of existing roadway materials.					X	X	X
2. Proposed typical section shown: includes dimensions, depths, and limits for each type of material in the proposed pavement structure, including overall pavement widths, berm widths, curb and gutter widths, and edge pavement details. Sections are also needed for ramps, detours, crossroads, etc. Barrier and guardrail are shown if applicable. Pavement structure matches pavement design.					X	X	X
3. Control Line (CL) shown: provides the location of roadway that represents the grade line on the plan and profile sheets. All dimensions measured to CL.					X	X	X

SAMPLE

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SUBMITTALS STATUS: ☐ PRELIMINARY ☐ INTERMEDIATE ☐ FINAL

4. Show roadway elements (travel lane, shoulder, median barrier, etc.) labeled and widths dimensioned					X	X	X
5. Station Limits shown for each section: each typical section should be checked to ensure that a section has been shown for the entire project roadway.					X	X	X
6. Roadway cross slopes shown; show cross slopes for proposed typical sections in percent (%).					X	X	X
7. Retaining walls and/or noise barriers shown with station limits corresponding to plans					X	X	X
8. Roadway side slopes shown; show side slopes as a ratio of horizontal to vertical (H:V) English					X	X	X
9. Guardrail/barrier and underdrain locations and limits shown consistent with plan sheets					X	X	X
10. Unique descriptions: include any unique descriptions of the pavement structure or explanatory notes.					X	X	X
11. Distinct line styles meet CADD standards (proposed versus existing features)					X	X	X
12. ROW width, Clear Zone width, median widths, and ROW lines checked?					X	X	X
Interchange Ramps							
1. Horizontal/vertical/superelevation tie in with mainline					X	X	X

SAMPLE

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	SUBMITTALS STATUS:	☐ PRELIMINARY	☐ INTERMEDIATE	☐ FINAL				
2.	Lane balance checked					X	X	X
3.	Number of lanes checked					X	X	X
4.	Ramp lanes and shoulder widths checked					X	X	X
5.	Ramp gore width checked					X	X	X
6.	Ramp Area Cross Slopes checked					X	X	X
7.	Ramp Attenuator checked						X	X
8.	Ramp accel/decel lengths correct					X	X	X
9.	Ramp taper rates checked					X	X	X
10.	Design variances documented and approved					X	X	X
11.	Ramp exit angles checked					X	X	X
Intersection Layout								
1.	Proper scale used for detail work					X	X	X
2.	North Arrow shown					X	X	X
3.	Geometry matches design shown on plan sheets					X	X	X
4.	Survey control and monuments shown; spot elevations and grades shown					X	X	X
5.	Call-outs for alignment tying to mainlanes, roadways, and other existing and proposed features are shown properly					X	X	X

SAMPLE

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SUBMITTALS STATUS: ☐ PRELIMINARY ☐ INTERMEDIATE ☐ FINAL

6. Symbols and legends are correct					X	X	X
7. Line styles and font types and sizes are correct					X	X	X
8. Roadway and ramp geometry including radii, and lane and shoulder widths, are shown correctly and meet design criteria					X	X	X
9. Drainage has been accommodated					X	X	X
10. Staging and traffic control has been considered					X	X	X
11. Sheet title and number shown correctly					X	X	X
12. Intersection angles no smaller than 60 degrees					X	X	X
13. Cross slope of minor street matches grade of major street					X	X	X
14. Adequate transition length for cross slope					X	X	X
15. Adequate offset for islands					X	X	X
16. Left turn lanes: taper and storage lengths checked					X	X	X
17. Right turn lanes: taper and storage lengths checked					X	X	X
18. Intersection works for identified design vehicle					X	X	X
General Notes							
1. Standard notes checked						X	X
2. Paving notes checked						X	X

SAMPLE

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SUBMITTALS STATUS: ☐ PRELIMINARY ☐ INTERMEDIATE ☐ FINAL

3. Construction notes checked						X	X
4. Earthwork notes checked						X	X
5. Utility contact list						X	X
Standard Plans							
1. CDOT Standard Plans List						X	X
2. Applicable standards checked						X	X
Miscellaneous Details							
1. Detail title						X	X
2. Checked tabulation of detail locations						X	X
3. Clear and applicable dimensions						X	X
4. Consistent layout with similar details						X	X
5. Checked cross references						X	X
6. Checked applicability of detail where called out						X	X
Geometric Layout and Curve Data							
1. Back checked against current InRoads geometry output					X	X	X
2. Verified design information with design calculations					X	X	X

SAMPLE

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	SUBMITTALS STATUS:	☐ PRELIMINARY	☐ INTERMEDIATE	☐ FINAL			
3. All curve information shown including PC, PT, PI, radii, degree, and deflection angle; verified curve numbers with tables					X	X	X
4. Alignment tie stations given at begin/end of alignments					X	X	X
5. Alignment tie stations given at crossing alignments					X	X	X
6. Alignments labeled					X	X	X
7. Alignment equations at intersections					X	X	X
8. Checked stationing, distances, bearings, and coordinates					X	X	X
Removal Plan							
1. Checked station and offset callouts						X	X
2. Identified removal items, i.e. structures, pavement, guardrails, and other appurtenances					X	X	X
3. Station and offset to 0.1 ft						X	X
4. Existing topo on					X	X	X
5. Station and offset from appropriate baseline note						X	X
6. Appropriate baseline on and labeled					X	X	X
7. Utility notification phone number					X	X	X

SAMPLE

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Roadway Plan							
1. Match existing station and offset (horizontal) are provided					X	X	X
2. Match existing curb and gutter data (horizontal) are provided					X	X	X
3. Begin & End sawcut data (horizontal) are provided						X	X
4. Begin & End sidewalk data (horizontal) are provided						X	X
5. Required curb cuts for ADA and driveways are shown					X	X	X
6. Check callout references to Construction Notes					X	X	X
7. Check coordination between street and pavement marking drawings (widths)					X	X	X
8. Check agreement with Street Cross Section drawings						X	X
9. Existing topo file levels correct					X	X	X
10. Proposed base files, control lines, and ROW shown					X	X	X
11. Cut/fill limits shown					X	X	X
12. Existing ROW, proposed ROW, easements, and Control of Access labeled					X	X	X
13. Pedestrian routing checked					X	X	X
14. Match lines/stations checked					X	X	X
15. General notes checked					X	X	X

SAMPLE

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	SUBMITTALS STATUS:	☐ PRELIMINARY	☐ INTERMEDIATE	☐ FINAL

16. Baseline labels checked					X	X	X
17. Construction notes and dimensions checked					X	X	X
18. Structure numbers (bridges) correct					X	X	X
19. Begin & End project stations checked					X	X	X
20. Curb and gutter patterns shown					X	X	X
21. Guardrail and end anchorages checked					X	X	X
22. Impact attenuators checked					X	X	X
23. Widths and transitions checked					X	X	X
24. Lane dimensions and traffic arrows shown					X	X	X
25. Bike path alignment shown					X	X	X
Roadway Profiles							
1. Checked crown and Flow Line plan and profile alignment data					X	X	X
2. Curb limits match curb profile limits					X	X	X
3. Checked grades, grade breaks, and vertical curve data					X	X	X
4. Match lines checked					X	X	X
5. Utility type and size checked					X	X	X
6. Proposed and existing elevations shown incrementally; and grid labels checked					X	X	X

SAMPLE

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	SUBMITTALS STATUS:	☐ PRELIMINARY	☐ INTERMEDIATE	☐ FINAL				
7.	Back checked to InRoads profile data					X	X	X
8.	Vertical curve information shown (length, k value & SSD)					X	X	X
9.	Superelevation data checked					X	X	X
10.	Existing ground/proposed grade labeled					X	X	X
11.	Existing ground line shown					X	X	X
12.	Bridge outlines shown					X	X	X
13.	Existing and proposed culverts labeled					X	X	X
14.	Gutter profile checked					X	X	X
15.	Checked coordination between low points and catch basins					X	X	X
16.	Checked existing pavement joint locations (horizontal and vertical)					X	X	X
17.	Checked existing ground against survey					X	X	X
18.	Checked profile geometry					X	X	X
19.	Checked coordination with bridge plans					X	X	X
20.	Checked coordination with utility drawings (profiles)					X	X	X
21.	Checked profiles at intersections to assure cross-slope match with intersecting grades					X	X	X

SAMPLE

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SUBMITTALS STATUS: ☐ PRELIMINARY ☐ INTERMEDIATE ☐ FINAL

22. At all bridge structures: checked minimum vertical clearance; location and clearance shown on profile					X	X	X
Pavement Plans							
1. Joint locations correct						X	X
2. Joint types correct						X	X
3. Manhole/inlet locations shown						X	X
4. Sidewalk scoring checked						X	X
Cross Sections							
1. Checked coordination with typical sections					X	X	X
2. Equations agree with those in roadway/bridge plans					X	X	X
3. Checked original ground					X	X	X
4. Checked coordination with profiles (flow line, control line)					X	X	X
5. Checked coordination with ROW					X	X	X
6. Checked coordination with retaining walls					X	X	X
7. Checked coordination with superelevation diagrams					X	X	X
8. Interval check 100' roadway					X	X	X
9. Cross slopes checked					X	X	X
10. Barrier/guardrail shown					X	X	X

SAMPLE

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	SUBMITTALS STATUS: ☐ PRELIMINARY ☐ INTERMEDIATE ☐ FINAL							
11.	Retaining walls shown					X	X	X
12.	Spot check completed for control line, crown point, and ditch elevations					X	X	X
13.	Cut/fill slopes labeled					X	X	X
14.	Baselines and/or centerlines labeled					X	X	X
15.	Major existing and proposed utilities shown					X	X	X
16.	Earthwork calculations checked and verified					X	X	X
17.	Station equalities noted					X	X	X
18.	Verified that grid labels correspond with section elevations					X	X	X

SAMPLE

APPENDIX E

Relates to Part 2, Volume 2

Kiewit meridiam PARTNERS

Draft Stage 2 Construction Quality Management Plan

SUBMITTED TO:

Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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SIGNATURE PAGE: APPENDIX E

PROJECT QUALITY MANAGER DATE

INDEPENDENT QUALITY CONTROL MANAGER DATE

CONSTRUCTION PROCESS CONTROL MANAGER DATE

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RECORD OF REVISIONS

Revision number	Date issued	Pages affected	Comments
0	5/18/2017	All	Proposal Draft Submittal

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EVALUATION CRITERIA – APPENDIX E: STAGE 2 CQMP

KMP has provided a full Evaluation Criteria Matrix to align the requirements of the Quality Management Plan (QMP) per the Project Agreement with the sections of the Quality Management Plan, the Design Quality Management Plan, and the Construction Quality Management Plan (Appendices D and E).

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.1.2	The QMP shall delineate how the Developer will ensure that all disciplines, aspects, and elements of the Work shall comply with the requirements of the Project Agreement.	QMP	2.0	Quality Program	☐
6.1.3	The QMP shall cover temporary and permanent components of the Work	QMP	2.0	Quality Program	☐
6.1.5	**The QMP shall describe the Developer's:**				☐
	• Quality policy	QMP	3.2	KMP Quality Policy	☐
		DQMP	2.1	Quality Policy	☐
		CQMP	3.1	Quality Policy	☐
	• Approach to PC and IQC relative to design, construction, and Work Management	QMP	5.1	Quality Department	☐
	• Quality Improvement	QMP	7.2	Quality Improvement	☐
	• Quality Personnel	QMP	5.2	Responsibility and Authority	☐
	• Training	QMP	7.3	Training	☐
		DQMP	13.0	Training	☐
	The QMP shall list procedures for meeting all requirements of the Project Agreement	QMP	2.0	Quality Program	☐
6.2.1. f	**The following list of procedures (items i through xxi) shall serve as the starting point for defining Developer's quality management system:**				
	i. Procedure for the preparation, control, and distribution of the Quality Management Plan;	QMP	4.0	Quality Management Plan	☐
	ii. Scope;	QMP	1.3	Overview	☐
	iii. Key Personnel;	QMP	1.5	Key Personnel and Critical Staff	☐

Sch. 8 Section	Item		Document	Section	Section Name	Check
	iv.	Organizational/technical interfaces;	QMP	4.2	Quality Management Plan Organization	☐
	v.	Design input requirements;	DQMP	6.1	Design Input	☐
	vi.	Design output requirements (deliverables);	DQMP	6.3	Design Phases	☐
	vii.	Design Reviews;	DQMP	6.5	Design Reviews	☐
	viii.	Department participation;	QMP	6.0	Department Communication	☐
	ix.	Levels of responsibility and authority;	QMP	5.2	Responsibility and Authority	☐
	x.	Procedure to control, verify, and validate the design;	DQMP	12.0	Quality Audits	☐
	xi.	Procedure for document issue, approval, and revision;	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
				6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
	xii.	Procedure for the identification of, and where required by Project Agreement, the traceability of, deliverable items such as Release for Construction Documents and As-Builts;	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
				6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
	xiii.	Procedure for the verification and control of computer programs used in design;	DQMP	6.2	Computer Programs	☐
	xiv.	Procedures for inspecting, testing, and calibrating equipment;	CQMP	6.3.7	Inspection, Measurement, and Testing of Equipment	☐
	xv.	Procedures for handling Nonconforming Work;	QMP	9.0	Nonconforming Work	☐
	xvi.	Procedures for environmental compliance;	QMP	7.1.5	Quality Planning for Administrative Processes	☐
	xvii.	Procedures for corrective/preventive actions;	QMP	7.2.6	Corrective Action Plans	☐
				7.2.7	Preventive Action	☐
				9.3.5	Corrective Action Plan	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
		DQMP	10.0	Corrective and Preventive Action	☐
	xviii. Procedures for handling, storing, packaging, tracking and submitting Deliverables;	DQMP	Attachment 1	Design Quality Procedures (DQPs)	☐
			Attachment 2	Design Quality Process	☐
	xix. Training processes;	QMP	7.3	Training	☐
		DQMP	13.0	Training	☐
	xx. Procedures for internal quality audits; and	QMP	7.2.3	Internal Audit	☐
		DQMP	12.0	Quality Audits	☐
	xxi. Procedure for management review.	QMP	4.2.2	Quality Management Plan Review	☐
6.2.2.d	The QMP shall include the Developer's executive management's quality policy. The QMP shall delineate the procedure used by the Developer's executive management to implement the Developer's quality policy.	QMP	3.2	KMP Quality Policy	☐
6.2.3.c	**The Developer shall include in the QMP its planning methods to meet the requirements of the Project Agreement. The Developer shall include, at a minimum, the activities below in its quality planning efforts to meet the Project Agreement requirements for the Work:**				☐
	i. Define and develop quality objectives for the Work;	QMP	3.2	Quality Policy	☐
		DQMP	2.1	Quality Policy	☐
		CQMP	3.1	Quality Policy	☐
	ii. Identify the necessary processes, resources, and IQC personnel that are needed to assure that Developer obligations meet the requirements of the Project Agreement including, but not limited to, design, construction, Environmental Compliance, Strategic Communications requirements, maintenance of traffic requirements, safety, Disadvantaged Business Enterprise (DBE), Emerging Small Business (ESB), Workforce Development, training, project management processes, and the QMP;	QMP	7.1.5	Quality Planning for Administrative Processes	☐

Sch. 8 Section	Item		Document	Section	Section Name	Check
	iii.	Ensure the compatibility of design, construction, installation, public information, inspection, and testing procedures;	QMP	7.1	Quality Planning	☐
	iv.	Develop and maintain up-to-date procedures for PC, IQC, and quality improvement;	QMP	5.1.1	Independent Quality Control (IQC) Program	☐
			QMP	5.1.2	Process Control (PC) Program	☐
			QMP	7.2	Quality Improvement	☐
	v.	Identify and define all measurable Project Agreement requirements;	QMP	4.0	Quality Management Plan	☐
	vi.	Identify quality hold points for Developer IQC testing and inspection and to allow the Department the opportunity to perform its owner verification responsibilities;	CQMP	6.3.9	Establish and Document Quality Hold Points	☐
	vii.	Identify, define, and implement standards of workmanship for all applicable work features (e.g., concrete finishing);	CQMP	6.3	Field Execution	☐
	viii.	Identify, define, prepare, and maintain quality records and quality plans for all elements of design including, but not limited to, wet and dry utilities, architectural, civil, structural, geotechnical, survey, hydraulic, environmental, traffic, safety, Right-of-Way (ROW), Railroad Work, ITS Work, and temporary Work;	DQMP	11.0	Quality Records	☐
	ix.	Develop a procedure for preparation, control, Approval, and distribution of the QMP;	QMP	4.0	Quality Management Plan	☐
	x.	Develop a procedure for IQC auditing to ensure the Developer, Subcontractors, and Suppliers of material understand and are effectively implementing the QMP;	QMP	5.1.1	Independent Quality Control (IQC) Program	☐
				7.2.3	Internal Audit	☐
	xi.	Develop a procedure for corrective and preventative actions regarding quality compliance and implement the quality improvement plan to address corrective Work;	QMP	7.2.6	Corrective Action Plans	☐
			QMP	7.2.7	Preventive Action	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
		QMP	9.3.5	Corrective Action Plan	☐
		DQMP	10.0	Corrective and Preventive Action	☐
	xii. Develop a procedure and ensure the Developer's executive management reviews the QMP at planned intervals to ensure its continued suitability, adequacy and effectiveness. Such reviews should include PC/IQC results, owner verification results, status of corrective/preventive actions, follow-up items from previous management reviews, changes to the QMP, and recommendations for improvement;	QMP	7.2.2	Executive Review of QMP	☐
	xiii. A systemic process for ensuring quality regardless of production or scheduling needs.	QMP	5.2	Responsibility and Authority	☐
6.2.4.a	The PC program shall be described in the QMP and shall include all procedures necessary for the Developer to control the quality of its production processes to meet the requirements of the Project Agreement.	QMP	5.1.2	Process Control (PC) Program	☐
6.2.5.c	The Developer shall include in the QMP the methods and procedures by which the Work will be Certified by the Developer as complying with the requirements of the Project Agreement.	QMP	11.2	Certification of Compliance	☐
		DQMP	6.3.3.1	Certification of Compliance	☐
		CQMP	6.3.6.1	Certification of Compliance	☐
6.2.6.a	The Developer shall establish, document, and implement a program for quality improvement. The Developer shall include in the QMP the methods for identifying, analyzing, evaluating, and implementing solutions to continuously improve quality. The QMP shall establish and maintain specific procedures to ensure a successful Quality Improvement Program.	QMP	7.2	Quality Improvement	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.3.1	The QMP shall state the Developer's commitment to quality and provide a clear definition of the scope of activities and detail the methods to ensure the Work meets the requirements of the Project Agreement. The QMP shall list all deliverables to the Department, as required by the Project Agreement and this Section.	QMP	11.1	Deliverables to the Department	☐
6.3.2.a	The Developer shall include in the QMP an organizational chart that illustrates a commitment to an effective quality program to ensure all Work meets the requirements of the Project Agreement. The QMP shall describe the hierarchy of the Developer's organization. The QMP shall graphically depict the principal quality participants, showing lines of responsibility, authority, communication, and interfaces with the Department; other involved agencies; and any other team members having a significant quality role, including subconsultants, Subcontractors, and Suppliers. The PQM, IDQM, DPCM, CPCM (and PC staff) and IQCM (and IQC staff) shall be shown on the organization chart to report to the Developer's executive management and be independent of the Developer's Project Manager. The Developer shall update the organization charts and distribute those charts to the Department when any changes to the organization are made.	QMP	3.1	Project Quality Management Team	☐
			5.2	Responsibility and Authority	☐
6.3.2.b	The QMP shall describe the roles and responsibilities of the PQM, IDQM, DPCM, CPCM, IQCM, PC and IQC staff, and other key personnel; and shall describe their authority to implement quality improvements for the Work.	QMP	5.2	Responsibility and Authority	☐
6.4.1.a	The Developer shall establish, document, and implement an IQC program. The Developer shall include in the QMP the methods and procedures by which the Work shall be certified by the Developer as complying with the requirements of the Project Agreement.	QMP	5.1.1	Independent Quality Control (IQC) Program	☐
6.4.1.b	The QMP shall establish procedures for procuring services. The procedures shall include a review and approval process by the Developer for adequacy of specified technical requirements and the adherence to quality requirements.	QMP	7.1.2	Selecting Subcontractors, Subconsultants, and Permanent Material Suppliers	☐
6.4.1.c	The QMP shall describe the measures to be taken to ensure that Subcontractors, Suppliers and subconsultants meet, implement, document, and maintain the QMP requirements.	QMP	7.1.2	Selecting Subcontractors, Subconsultants, and Permanent Material Suppliers	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.4.2.a	The QMP shall include procedures that address all elements of design including, but not limited to, wet and dry utilities, architectural, civil, structural, geotechnical, survey, hydraulic, landscaping, aesthetics, environmental, traffic, safety, ROW, and temporary Work. The Developer shall identify in the QMP all applicable computer programs to develop and check designs.	DQMP	2.3	Design Quality Management Plan	☐
			6.2	Computer Programs	☐
6.4.2.b	The QMP shall describe how the design team plans and schedules the design efforts, including task force meetings, design reviews, constructability reviews, design meetings, independent design checks, and discuss how these activities are accounted for in the overall Project Schedule.	DQMP	4.0	Project Quality Communication/Interfaces	☐
6.4.2.c	The Developer shall identify in the QMP design input requirements. The Developer shall perform ongoing audits of the design input requirements. The Developer shall maintain an accessible, centrally controlled design manual, database, or list that contains all relevant design inputs to be used by design personnel for the Work. The Developer shall provide a process in the QMP to ensure that the design inputs are communicated to, and accessible by, the relevant designers responsible for incorporating design inputs into the design. The Developer shall include in the QMP how changes to design inputs are identified, reviewed, and approved by authorized personnel prior to their implementation. The QMP shall also include:	DQMP	6.1	Design Input	☐
	• Procedures to control and independently ensure that the design meets the requirements of the Project Agreement, including provisions for subconsultant's designs and configuration management activities;	DQMP	6.3.3.1	Certification of Compliance	☐
	• Procedures to identify and track design document deliverables;	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
			6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
	• Procedures for Developer approval, tracking and recording revisions to Release for Construction (RFC) Documents. The Developer shall have a formal procedure for comment resolution included in the QMP;	DQMP	6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
			4.4.2	Department Comment Resolution Meetings	☐
	• Procedures for Developer approval of RFC Documents; and	DQMP	6.6.7	Release for Construction and Early Release for	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
				Construction Submittals	
	• Procedures for approval of supplier-provided design drawings (e.g., shop drawings), including opportunity for the Department to perform audits.	DQMP	7.0	Supplier Provided Drawings	☐
6.4.2.d	The Developer shall include in the QMP a process for a licensed engineer in responsible charge for the design to prepare, review, and approve all changes, including field design changes, RFC Documents, and As-Built documents. The Developer shall maintain a master list of approved design changes. The QMP shall include a process to communicate design changes to those completing the Work on a timely basis consistent with the progress of construction activities.	DQMP	6.6.7	Release for Construction and Early Release for Construction Submittals	☐
			6.6.8	Notice of Design Change (NDC) and Field Design Change (FDC)	☐
			6.6.9	As-Built Documents	☐
	Environmental review: The Developer shall include in the QMP a process for Environmental review prior to submission of final (100% level) plan packages showing how the Developer's design meets the Environmental Requirements, including the Developer's obligations under Schedule 17 Environmental Requirements.	DQMP	6.5	Design Reviews	☐
6.4.3.a	The QMP shall extend to both permanent and temporary Work (erosion control, traffic control, drainage, etc.).	QMP	2.0	Quality Program	☐
6.4.3.b	**Certification:** The Developer shall include in the QMP a process to submit certificates to the Department at the following times that the Work performed meets the requirements of the Project Agreement (such certificates to be in the form set out in Appendix B to this Schedule 8, amended as appropriate in the case of certificates required to be submitted pursuant to Section 6.4.3.b.i.D)	QMP	11.2	Certification of Compliance	☐
	Inspection: The Developer shall include in the QMP, and submit to the Department for Approval, an MTIP that shall include detailed inspection procedures to be used in cases where inspections are to serve as the basis for verifying compliance with the requirements of the Project Agreement.	CQMP	6.3.6.2	Inspection	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.4.3.b.iv	**Certificate of Compliance, Certified Test Report and Buy America documentation:**				
	The Developer shall include in the QMP a method of handling and documenting work/products accepted in the Work by Certificate of Compliance (COC) or Certified Test Report (CTR).	CQMP	6.3.6.4	Certificate of Compliance and Certificated Test Reports	☐
	The Developer shall include in the QMP a method for documenting and tracking, on a basis consistent with Developer's Progress Reporting, compliance with Buy America Requirements of 23 CFR 635.410, and at a minimum shall address the following obligations of the Developer:	CQMP	6.3.6.5	Buy America Documentation	☐
6.4.3.b.vi	**Environmental Compliance in Construction:** The Developer shall include in the QMP a Section detailing the IQC activities that will be performed to ensure compliance during construction of all environmental requirements. IQC staff oversight of all Schedule 17 Environmental Requirements elements that apply to construction is required. These elements include but are not limited to: construction air quality, construction noise, noxious weed management, landscape planting and establishment, water quality, protection of wetlands and other sensitive areas, hazardous materials and environmental hardscape elements such as noise walls.	CQMP	6.3.6.7	Environmental Compliance	☐
6.4.4.a	The Developer shall prepare and implement a MTIP as part of the QMP that includes the appropriate criteria, tests, and inspection requirements identified in CDOT's *Standard Specifications*, *Field Materials Manual, CDOT Staff Bridge Fabrication Inspection Manual*; Developer-prepared inspection checklists; and requirements as set forth herein.	CQMP	6.2.2	Prepare Materials Testing and Inspection Plan	☐
		QMP	Attachment 1	Sample Materials Testing and Inspection Plan	☐
6.5.1	The QMP shall include procedures to develop and maintain a system to identify, control, remedy and report Nonconforming Work, including Nonconforming Work identified through the issuance of a NCN by the Department. The Developer shall remedy Nonconforming Work in accordance with the Approved QMP. The responsibility for review and authority for the disposition of Nonconforming Work shall be defined in the QMP. The Developer shall document the identification of Nonconforming Work by completing and submitting a NCR to the Department as soon as reasonably practicable, and in any event within 24 hours, after the Developer first becomes aware of the Nonconforming Work.	QMP	9.0	Nonconforming Work	☐

Sch. 8 Section	Item	Document	Section	Section Name	Check
6.5.5	The QMP shall include procedures for controlling the use of Nonconforming Work including the tagging of Nonconforming Work products.	QMP	9.2	Isolation of Nonconforming Work	☐
6.5.8	The QMP shall describe corrective and preventative action ("Corrective Action") procedures that the Developer shall use to identify and improve processes and remedy issues that produce, or may produce, systemic Nonconforming Work.	QMP	9.3.4	Root Cause Analysis	☐
			9.3.5	Corrective Action Plan	☐

1. Project Summary

1.1 KIEWIT-MERIDIAM PARTNERS CORE VALUES

Kiewit-Meridiam Partners (KMP) is committed to delivering the Central 70 Project (Project) with a focus on client relations, achieving the Project goals, and maintaining transparency with the Department. To achieve these objectives, the KMP Team has adopted the following core values:

1.2 PLAN MANAGEMENT

This Project summary is presented at the start of each Appendix to serve as a quick reference to our core values, the Project overview, our Team's composition, and our Key Personnel and Critical Staff. We developed each Appendix to demonstrate our understanding of the Project requirements and facilitate timely Approval by the Department after award.

This document describes KMP's approach for the Work. KMP will resubmit this Plan, including an updated Project summary, to the Department as required per the Project Agreement.

All Project plans, including this document, are stored electronically per KMP's Document Control System (DCS) Plan. Revisions to these documents may be required as the Project progresses, and annual updates are completed in accordance with Section 4.2 of the Project Management Plan (PMP). The latest revision of all Management Plans will be stored per KMP's DCS and submitted to the Department through Aconex.

1.3 OVERVIEW

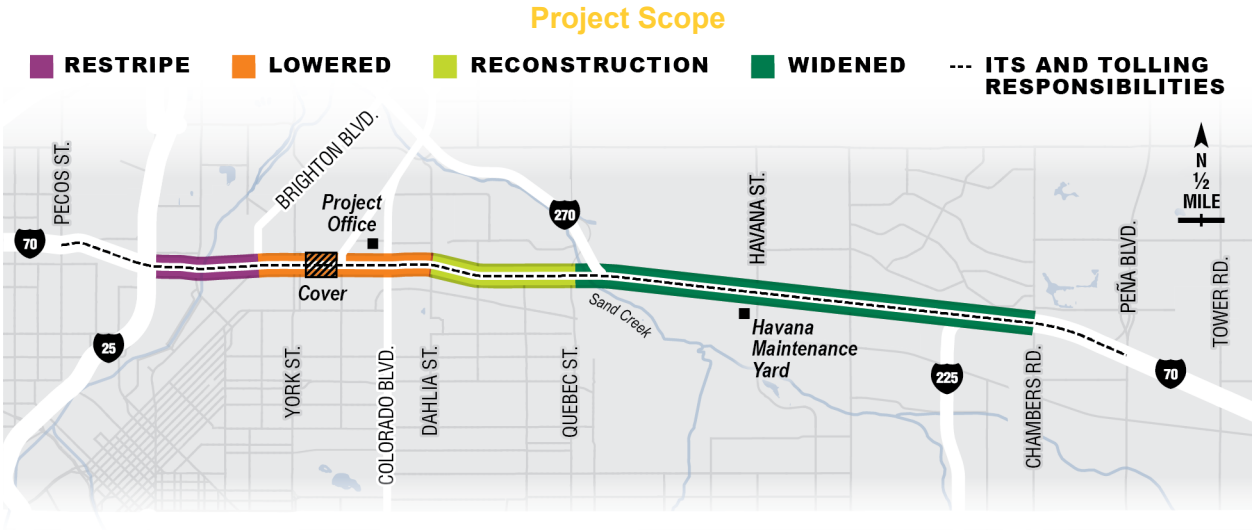
The Project is a Public-Private Partnership to design, build, finance, operate, and maintain planned improvements to the I-70 corridor between I-25 and Tower Road.

The Project's scope is broken down into the following timeframes:

Project Time Frames

Time Frame	Period	Description	Estimated Duration
Notice of Award to NTP1	Submittals	Plan development, submittals, and mobilization of Quality Management staff	3 months
NTP1 to NTP2	Construction	Financial Close and Design	6 months
NTP2 to Substantial Completion	Construction	Construction and O&M During Construction (other than snow and ice control services)	45 months
Pre-Substantial Completion to Substantial Completion	Transition	Transition from Construction to Operating Period, and O&M submittals	8 months
Substantial Completion to Final Acceptance	Operating	Final submissions and inspections	4 months
Substantial Completion to Expiry Date	Operating	Operations and Maintenance (including Renewal Work)	30 years
NTP3 to Term	Construction, Operating	KMP snow and ice control services	33-34 years
62-68 months prior to Expiry Date	Operating	Handback Inspections, Handback Work, and Department training to facilitate seamless handover at Expiry Date	62-68 months

Improvements made by KMP during the Construction Period, highlighted in the figure, are described below.



1.3.1 RESTRIPE: I-25 TO BRIGHTON BOULEVARD

Restriping I-70 from I-25 to Brighton Boulevard to accommodate one managed lane in each direction, including:

- Design and Construction for improvements to associated drainage infrastructure

1.3.2 LOWERED: BRIGHTON BOULEVARD TO DAHLIA STREET

Full reconstruction of I-70 between Brighton Boulevard and Dahlia Street, including:

- Removing the viaduct between Brighton Boulevard and Colorado Boulevard, and reconstructing the Interstate below grade to accommodate the Ultimate Project roadway configuration and associated elements
- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the Interstate structures over Brighton Boulevard
- Constructing the Cover and associated elements over the Interstate between Columbine Street and Clayton Street
- Constructing cross-street structures at York Street, Josephine Street, Columbine Street, Clayton Street, Fillmore Street, Steele Street/Vasquez Boulevard, Cook Street, Monroe Street, and Colorado Boulevard
- Constructing I-70 Mainline structures at Dahlia Street
- Removing one Railroad structure, and Constructing two Railroad structures at Union Pacific Railroad (UPRR) and BNSF Railway (BNSF)

1.3.3 RECONSTRUCTION: DAHLIA STREET TO SAND CREEK

Full reconstruction of I-70 Mainline between Dahlia Street and Sand Creek, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration

- Removing and replacing Interstate structures over Holly Street, Monaco Street, Denver Rock Island Railroad, and Quebec Street

1.3.4 WIDENED: SAND CREEK TO CHAMBERS ROAD

Widening I-70 from Sand Creek to Chambers Road with associated elements, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the I-270 flyover structure to I-70 eastbound
- Removing and replacing Interstate structures over Peoria Street

1.3.5 INTELLIGENT TRANSPORTATION SYSTEMS (ITS) AND TOLLING RESPONSIBILITIES

Additional ITS and tolling responsibilities, including:

- Closed circuit television (CCTV) camera coverage for I-70 corridor, including interchanges between Pecos Street and Airport Boulevard
- Microwave vehicle radar detection between Pecos Street and Tower Road
- Travel time indicators between Pecos Street and Tower Road
- Lane use signals between Pecos Street and Chambers Road
- Dedicated short range communications radios between Pecos Street and Tower Road

1.3.6 OPERATIONS AND MAINTENANCE (O&M) WORK DURING CONSTRUCTION

Operations and maintenance of existing infrastructure within the O&M Limits During Construction as defined by the Project Agreement, including:

- I-70 Mainline and associated infrastructure
- Local Agency infrastructure
- Drainage
- Water quality
- ITS and electronic toll collection facilities
- Utility services
- Traffic signals and lighting
- Railway structures
- Fencing
- Snow and ice control services (following NTP3)

1.3.7 OPERATIONS AND MAINTENANCE WORK DURING THE OPERATING PERIOD

Operations and maintenance of I-70 within the limits defined by Schedule 11 of the Project Agreement for the Operating Period (dashed line in figure above), including:

- Providing resources to safely maintain the roadway throughout the Term
- Asset preservation including repair and Renewal
- Snow and ice control services
- Courtesy patrols
- Incident response

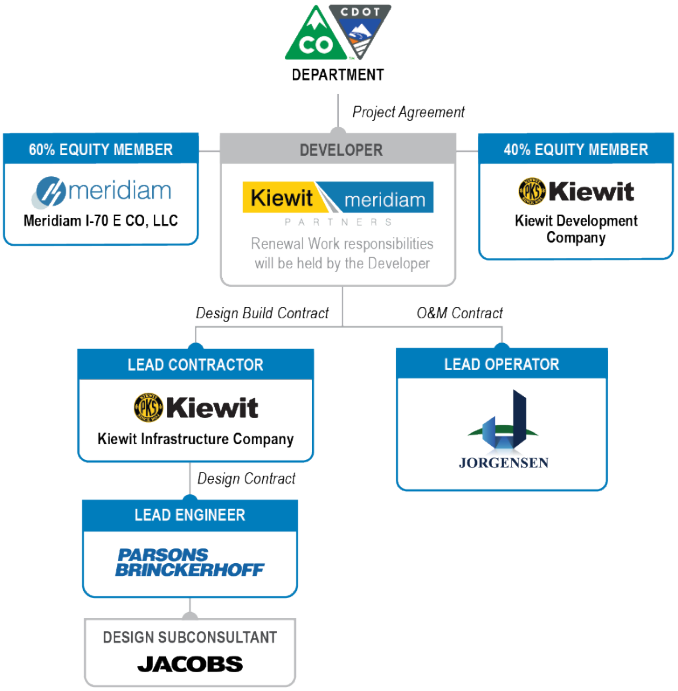
- Meet Handback requirements

1.4 KIEWIT-MERIDIAM PARTNERS COMPOSITION

KMP organized a streamlined Team to successfully deliver the Central 70 Project. The Core Proposer Team Members of Meridiam, Kiewit, Parsons Brinckerhoff, and Jorgenson are united by a commitment to Project success under a common project management system. KMP's lean approach has been cultivated from a history of working together, and by our shared cultures of safety, quality, environmental stewardship, and community service. The KMP Team needs no learning curve to start working together, and is positioned to execute on our joint Project delivery commitments from day one.

KMP's equity members—Meridiam and Kiewit Development Company—formed KMP for the sole purpose of developing this Project. KMP's Core Proposer Team Members, shown below, include Kiewit Infrastructure Company (KIC) as the Lead Contractor, Roy Jorgensen Associates (Jorgensen) as Lead Operator, and Parsons Brinckerhoff (PB) as Lead Engineer. Our Team is supported by the expertise of subconsultants and subcontractors who possess additional local knowledge and experience, including Jacobs as PB's main Design subconsultant. KMP is committed to identifying opportunities to maximize the involvement of small and disadvantaged businesses. Throughout the Project, KMP will remain the single point of responsibility for meeting all Project Agreement requirements.

KMP will co-locate with the Department in both the Project Office and the Colorado Transportation Management Center (CTMC) to foster a collaborative approach that ensures we meet the Department's Project goals throughout the Project.



1.5 KEY PERSONNEL AND CRITICAL STAFF

The table below shows KMP's Key Personnel who will be overseeing the Project. KMP has also identified positions, and individuals, as Critical Staff who will be instrumental in the successful delivery of the Project.

Key Personnel and Critical Staff

Staff Type	Title	Name	Employed by	Seconded to
KEY PERSONNEL	**Project Manager**	Chris Hodgkins	Meridiam	KMP
	Design-Build Manager	Tom Howell	KIC	
	Construction Manager	Barry Thoendel	KIC	
	Design Manager	Doug Andrew, PE	PB	
	O&M Manager	Abraham Henningsgaard, PE	Jorgensen	
	Project Quality Manager	Gordon Peterson, PE	KIC	KMP
	Independent Design Quality Manager	James Rozek, PE	PB*	
	Construction Process Control Manager	Sean McAfee	KIC	
	Independent Quality Control Manager	Tracy Martin, PE	KIC*	
	Environmental Manager	Jenn Bradtmueller, PE	KIC	KMP
	Utilities Manager	Kevin Custy	Jacobs	KIC
	Project Communications Manager	Hunter Sydnor	KIC	KMP
CRITICAL STAFF	**Technical Manager**	Martin Currie	KDC	KMP
	Financial Manager	Christopher Couallier	Meridiam	KMP
	Safety Manager	Ben Snow	KIC	KMP
	Construction Safety Manager	Kenyon Manley	KIC	
	Civil Rights Program Manager	Matt Christensen	KIC	
	DBE/ESB Program Manager and Outreach Training Manager	Colean Bembry	KIC	
	Lead Scheduler	Mauricio Solano	KIC	
	Design Integration Manager	Tim Nelson	KIC	
	Deputy Design Manager	Mark Talvite, PE	Jacobs	
	Cover Design Manager	Heath Therrien, PE	PB	
	Commercial Manager	Jamie Harvey, PE	KIC	

**Per Approved ATC 9.1 (see Attachment to the Quality Management Plan), KMP shall use in-house personnel in lieu of employees from an Independent Quality Control Firm*

2. Introduction

2.1 GENERAL

KMP is dedicated to emphasizing quality throughout the Central 70 Project. All Construction activities will comply with this Construction Quality Management Plan (CQMP) and the overarching Quality Management Plan (QMP). The CQMP, which addresses the quality process during the Construction Period, supports the QMP quality improvement objectives, describes management responsibilities and communication interfaces, and outlines the Construction Process Control (CPC)/Independent Quality Control (IQC) requirements based on the applicable quality requirements set forth in the Project Agreement and the QMP.

The CQMP applies to both permanent and temporary Construction Work. KMP will revise the CQMP to add information, clarify current information, or improve procedures. This CQMP describes the procedures that KMP will follow in preparing the revisions, as well as other internal quality control functions of the Construction Team (KIC and its subcontractors and suppliers). KMP's CQMP incorporates ATC 9, Independent Quality Control, authorizing KMP to self-perform the IQC activities. KMP Team Members have successfully managed and delivered quality on prior projects using self-performed IQC.

3. Management Commitment

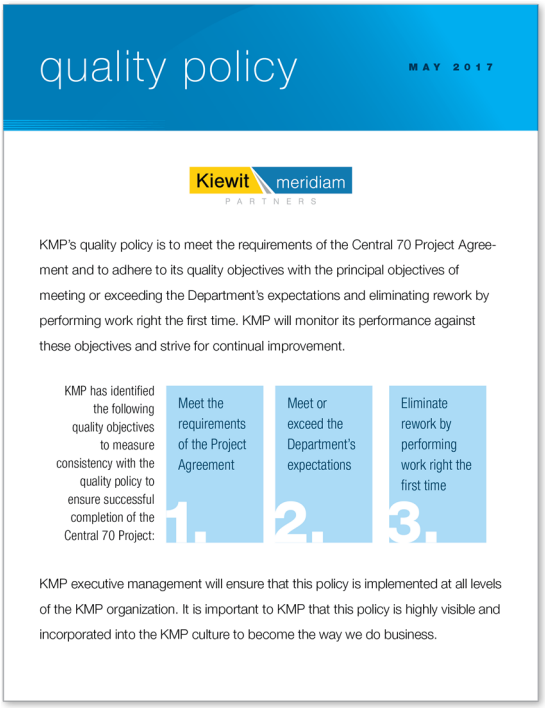
KMP's Management Team is committed to providing quality work in accordance with the Project Agreement, the QMP, and this CQMP.

As PQM, Gordon Peterson is responsible for training the entire Construction Team in the requirements of the CQMP, including KMP employees, subconsultants, subcontractors, and suppliers. In addition, all subconsultants, subcontractors, and suppliers will provide their own quality plan for the Project as part of their contracts. Gordon will review each of these quality plans to confirm compliance with KMP's quality policy, the QMP, and the CQMP.

3.1 QUALITY POLICY

KMP is committed to meeting the requirements of the Project Agreement, and to fulfilling its quality objectives of meeting the requirements of the Project Agreement, meeting or exceeding the Department's expectations, and eliminating rework by performing work *Right First Time*. We monitor our performance against these objectives and require continual improvement.

Quality Policy



quality policy

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KMP's quality policy is to meet the requirements of the Central 70 Project Agreement and to adhere to its quality objectives with the principal objectives of meeting or exceeding the Department's expectations and eliminating rework by performing work right the first time. KMP will monitor its performance against these objectives and strive for continual improvement.

KMP has identified the following quality objectives to measure consistency with the quality policy to ensure successful completion of the Central 70 Project:

1. Meet the requirements of the Project Agreement
2. Meet or exceed the Department's expectations
3. Eliminate rework by performing work right the first time

KMP executive management will ensure that this policy is implemented at all levels of the KMP organization. It is important to KMP that this policy is highly visible and incorporated into the KMP culture to become the way we do business.

4. Quality Management Plan

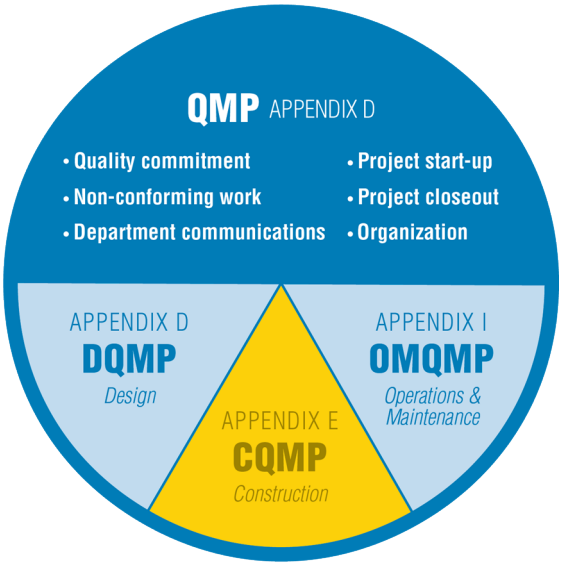
4.1 QUALITY MANAGEMENT PLAN ORGANIZATION

The figure on the right illustrates the organization of KMP's QMP, including the Stage 1 and Stage 2 submittals of the QMP, the Design Quality Management Plan (DQMP), the CQMP, and the Operations and Maintenance Quality Management Plan (OMQMP). The CQMP governs all Construction-related activities.

We have prepared this draft CQMP as part of the Stage 2 QMP (Appendix E) submittal. KMP will submit the final CQMP to the Department for Approval prior to issuance of NTP2.

KMP will submit the OMQMP under separate cover as part of the overall Maintenance Management Plan.

QMP Organization



4.1.1 QUALITY PLAN REVIEW

The Project Quality Manager (PQM), the Independent Quality Control Manager (IQCM), and the Construction Process Control Manager (CPCM) will review the draft CQMP prior to submittal to the Department for Approval. Following Approval, Gordon Peterson, our PQM, is responsible for training the entire Construction Team regarding the CQMP. Section 7.3 of the QMP identifies additional training to be provided as needed. KMP will hold a Quality Kick-Off Meeting and quality plan review with the Project Team, including the Department, prior to issuance of NTP2.

4.1.2 QUALITY PLAN REVISION

The PQM is the primary point-of-contact to the Department regarding the CQMP. As PQM, Gordon reviews revisions to the CQMP before re-submitting to the Department for Approval.

KMP updates the CQMP when:

- The CQMP contains systemic or fundamental breaches of the Project Agreement
- The CQMP reflects deficiencies in inspecting or testing the Work, including breaches or deficiencies that have caused, or that may cause, Nonconforming Work
- The Department advises KMP of a problem
- The CQMP no longer adequately addresses relevant issues
- An audit by KMP or the Department identifies a deficiency in the CQMP
- Organizational changes require KMP to revise the CQMP
- KMP undertakes activities not in the current CQMP
- The Department requests that KMP update the CQMP

5. Quality Organization

5.1 QUALITY TEAM

5.1.1 CONSTRUCTION PROCESS CONTROL (CPC)

The CPCM oversees the Construction process, and confirms that materials comply with the requirements of the Project Agreement. Our CPCM, Sean McAfee, coordinates with the Construction Team to determine work plans, organize Pre-Activity Meetings, train the Construction crews on Project requirements, and ensure compliance with the Project Agreement. The CPCM also analyzes Nonconforming Work for trends, and identifies how to improve work plans and other processes in order to minimize Nonconforming Work. The CPCM uses the following steps to identify potential nonconformities:

- Identify/brainstorm potential high risks during work planning
- Review lessons learned from other projects identified by the Department or the KMP Team
- Review initial inspection reports to identify potential issues and improve future work plans
- Analyze results from audits and data from management reviews

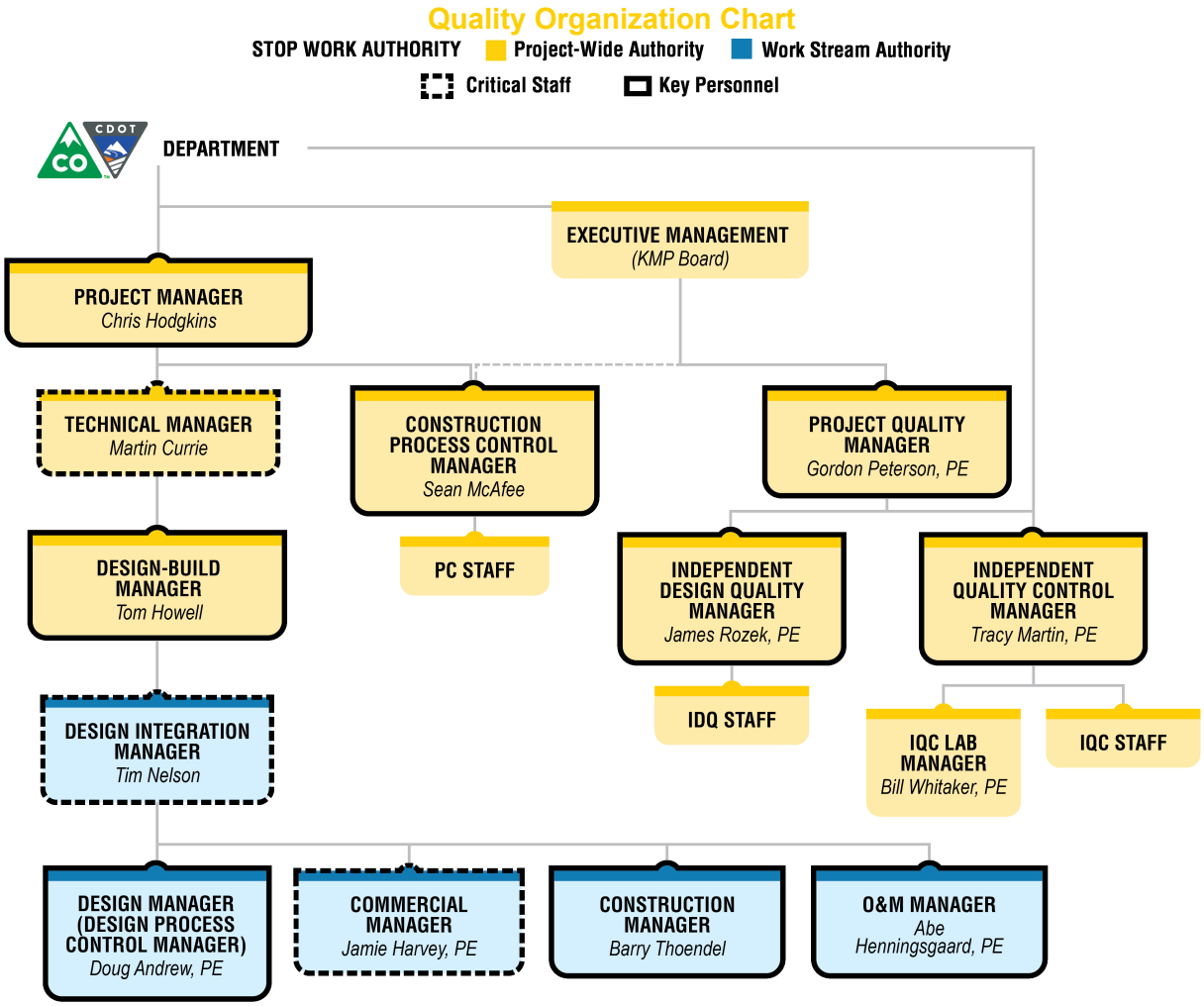
5.1.2 INDEPENDENT QUALITY CONTROL (IQC)

IQC and CPC are independent programs with separate staff. The IQCM, Tracy Martin, administers and manages the Construction IQC inspection, sampling, and testing. IQC testing includes observations, measurements, and documentation specified in the Department's *Field Materials Manual* and the *Frequency Guide Schedule* for minimum materials sampling, testing, and inspection of required quality acceptance tests. The IQCM documents the test results and specifies if the test passed or failed, based on the pass/fail criteria established in the Project Agreement. The IQCM notifies the Department when work has progressed to a quality hold point, and verifies that all requirements have been met prior to allowing the Work to continue.

The IQCM performs inspections throughout all phases of the Work, from NTP1 through Final Acceptance, as the Project Agreement requires.

5.2 ROLES AND RESPONSIBILITIES

The following organizational chart indicates Key Personnel on KMP's Quality Team. The roles and responsibilities of these individuals are described below.



5.2.1 PROJECT QUALITY MANAGER (KEY PERSONNEL)

The PQM reports directly to KMP Executive Management, and is completely independent of all Construction and Design activities. The QMP provides a detailed list of PQM roles and responsibilities.

5.2.2 CONSTRUCTION PROCESS CONTROL MANAGER (KEY PERSONNEL)

The CPCM is responsible for ensuring all methods and procedures in the approved Stage 2 QMP are followed on the Project. The CPCM has the authority to suspend work. The CPCM reports directly to the Project Manager, and is not involved with scheduling or production activities.

The CPCM, or designee where appropriate, has the following duties:

- Review and approve the QMP prior to submittal to the Department
- Responsible for managing the Construction Process Control (CPC) aspect of the QMP
- Maintain current list of subcontractors and suppliers
- Ensure that methods and procedures contained in the approved QMP and CQMP are implemented and followed by KMP, subcontractors, fabricators, suppliers, and vendors in performance of the Work
- Maintain Buy America documentation
- Ensure that Kiewit Construction personnel and subcontractors implement the Plan-the-Plan matrix, work plans, Pre-Activity Meetings, initial inspections, and material receiving
- Attend the Quality Kick-Off Meeting, weekly Task Force Meetings, and other meetings as required
- Participate in the specification review process
- Responsible for document control and training of staff in the DCS Plan
- Work with the Construction Team to perform a quality risk assessment for all subcontractors and suppliers
- Facilitate compliance with the Project Agreement requirements and the Approved QMP
- Approve KMP quality processes and procedures
- Provide adequate resources and trained personnel for PC activities
- Ensure the adequacy and enforcement of quality procedures, processes, inspections, and tests for all Work
- Establish and implement procedures to control the Work performed by subcontractors and suppliers, and ensure the Work meets the Project Agreement requirements
- Ensure the QMP is being implemented, and report in writing regularly to KMP Executive Management regarding the status of the implementation of the QMP
- Ensure that quality records are properly prepared, completed, maintained, and delivered to the Department, as required by the Project Agreement, to provide evidence of PC activities performed and quality results achieved
- Continually promote awareness of the Project Agreement requirements throughout KMP's organization
- Participate in the Environmental Compliance and Mitigation Training Program

Prior to NTP2, our CPCM will have obtained a NICET Level III Certificate in Highway Materials or Construction Materials with soil, concrete, and asphalt sub-fields, and ASQ certification as Quality Inspector, Quality Engineer, or Manager of Quality.

5.2.3 INDEPENDENT QUALITY CONTROL MANAGER (KEY PERSONNEL)

The IQCM is responsible for managing all independent QC aspects contained in the approved Stage 2 QMP. The IQCM maintains complete independence from production activities, and has authority to suspend work. The IQCM reports directly to the PQM and the Department. The IQCM does not report to any person or party directly responsible for Design or Construction production.

The IQCM, or designee where appropriate, has the following duties:

- Review and approve the QMP prior to submittal to the Department
- Manage the IQC aspect of the QMP
- Work with the PQM to develop and maintain a Materials Testing and Inspection Plan (MTIP) for the Project
- Track actual testing frequency separately from the MTIP
- Prepare a summary of material quantities, and verify that IQC staff are meeting minimum sampling, testing, and inspection requirements
- Perform source inspections per the Project audit process
- Exercise authority to stop Work that does not comply with Project Agreement requirements
- Establish, audit, update, and oversee the implementation and management of the Project CQMP
- Verify compliance of equipment calibration before use
- Attend the Quality Kick-Off Meeting, weekly Task Force Meetings, and other meetings as needed
- Facilitate compliance of Work with the Project Agreement requirements and the Approved QMP
- Approve KMP quality processes and procedures
- Provide adequate resources and trained personnel for IQC activities
- Ensure the adequacy and enforcement of quality procedures, processes, inspections, and tests for all Work
- Establish and implement procedures to control and ensure the Work performed by subconsultants, subcontractors, and suppliers meets the Project Agreement requirements
- Ensure the QMP is implemented, and report in writing regularly to the KMP Executive Management regarding the status of the QMP implementation
- Ensure that quality records are properly prepared, completed, maintained, and delivered to the Department, as required by the Project Agreement, to provide evidence of IQC activities performed and quality results achieved
- Ensure that IQC staff are independent of KMP's Project Manager, and regularly report to KMP Executive Management
- Continually promote awareness of the Project Agreement requirements throughout KMP's organization
- Participate in the Environmental Compliance and Mitigation Training Program

Our IQCM is a licensed PE, and will be licensed in the state of Colorado prior to NTP1. He will obtain the American Society for Quality (ASQ) certification as Quality Inspector, Quality Engineer, or Manager of Quality prior to NTP2.

5.2.4 INDEPENDENT QUALITY CONTROL STAFF

The purpose and function of the IQC program is described in Section 5.1.2. IQC managers and staff do not have any responsibilities related to management and production of Construction Work or Design activities.

The primary duty of IQC staff is to perform the testing required by the *Frequency Guide Schedule* (asphalt, concrete, aggregates, soil, etc.) They are responsible for inspection and verification that all work meets requirements.

IQC testing personnel performing concrete and hot bituminous pavement process control tests will meet the standards in Section CP-10 of the Department's *Field Materials Manual*.

IQC testing personnel performing inspections and tests for pre-stressed and precast concrete products will meet the standards in Section 3.0 of the Department's *Staff Bridge Fabrication Inspection Manual, Fabrication Inspection of Pre-stressed and Precast Concrete Products*.

IQC inspection personnel performing fabrication inspection of structural steel elements will meet the standards in Section 4.0 of the Department's *Staff Bridge Fabrication Inspection Manual, Fabrication Inspection of Structural Steel Items for CDOT Roads and Bridges.*

All IQC staff:

- Have the authority to stop work that does not comply with requirements of the Project Agreement
- Participate in the Environmental Compliance and Mitigation Training Program

5.2.5 CONSTRUCTION PROCESS CONTROL STAFF

The purpose and function of the PC program is described in Section 5.1.1.

Responsibilities of PC testing and inspection personnel include, but are not necessarily limited to, the following:

- Support CPCM to execute Project Process Control functions
- Perform audit functions per the Quality Management Plan
- Perform concrete and hot bituminous pavement process control tests that meet the standards established in Section CP-10 of the *CDOT Field Materials Manual*

5.2.6 CONSTRUCTION PERSONNEL

5.2.6.1 Discipline Superintendent

The Discipline Superintendent plans, administers, and manages the resources of all operating units within the KMP Team to satisfy the functional and technical requirements of the Project Agreement. The Discipline Superintendent fully understands the QMP, including the CQMP, and will confirm that the KMP Team follows the updated QMP.

5.2.6.2 Craft

Craftsmen perform a variety of skilled and semiskilled work, including site preparation and cleanup, setting up or removing equipment, handling materials, and site security. Craftsmen are responsible for:

- Knowing KMP's Quality Policy and objectives
- Reviewing and adhering to work plans
- Reporting any rework to their supervisor
- Participating in quality trainings

5.2.6.3 Project Personnel

The entire KMP Team, including subconsultants, subcontractors, and suppliers, is responsible for quality, and will therefore be expected to:

- Initiate action to prevent the occurrence of Nonconforming Work
- Identify, evaluate, and document quality problems
- Recommend quality improvement solutions through established organizational channels
- Implement quality improvement solutions

When KMP identifies Nonconforming Work, we will stop all other Work associated with the Nonconforming Work until the deficiency is corrected.

6. Construction Quality Management Plan

The following table summarizes the processes within the Construction Quality Management Plan. Four core operational processes provide the foundation of KMP's Construction Quality Plan: Project Start-Up, work planning, field execution, and Construction Completion.

Core Operational Processes

- Project Start-Up
  - Determine Department expectations
  - Review contract specifications
  - Select subconsultants, subcontractors, and suppliers
  - Prepare quality control documents
  - Establish quality control procedure
- Work Planning
  - Review work plans and Plan-the-Plan matrix
  - Prepare Materials Testing and Inspection Plan
  - Attend pre-activity meetings
  - Review shop drawings and product submittals
- Field Execution
  - Hold Play-of-the-Day meetings
  - Self-inspect Work
  - Provide visibility, recognition, and accountability
  - Address Department communications regarding quality performance
  - Perform source inspections
  - Confirm inspections and tests for Acceptance
  - Confirm independent construction quality control
  - Control inspection, measuring, and test equipment

    - Receive and store materials
- Construction Completion
    - Transition and Substantial Completion
    - Finalize Construction Closeout
    - Transition to Operating Period and post-delivery

6.1 PROJECT START-UP

The CPCM will manage the individual activities that comprise Project Start-Up (refer to Sections 6.0, 7.1.1.2, 7.12, 7.1.3 and 7.1.4 of the QMP for a description of these activities). Project Start-up core operational processes include:

- Determine Department expectations
- Review Contract specifications
- Select subconsultants, subcontractors, and suppliers
- Prepare quality control documents
- Establish quality control procedures

6.2 WORK PLANNING

Work planning uses the information from Project Start-Up to prepare a detailed set of tasks for execution in the field. The work planning process is also an opportunity for KMP to review the work plan with the Department, and confirm the completion of permits and approvals before Construction begins. KMP requires its subconsultants, subcontractors, and suppliers to follow work planning processes as part of our Subcontractor/Supplier Risk Assessment (see section 7.1.2 of the QMP).

The core operational processes of work planning are:

- Review work plans and Plan-the-Plan matrix
- Prepare Materials Testing and Inspection Plan
- Attend Pre-Activity Meetings
- Review shop drawings and product submittals

6.2.1 REVIEW WORK PLANS AND PLAN-THE-PLAN MATRIX

The work plan provides a detailed description of the methods of an operation and confirms the requirements of the Project Agreement. The work plan also contains relevant safety, quality, and environmental information. Each definable feature of the Project requires a work plan.

The CPCM develops a planning matrix—the Plan-the-Plan matrix—to manage the work plan process. The Discipline Superintendent then creates detailed work plans for installing or constructing each feature of the Project listed in the matrix.

The Discipline Superintendent uses the following resources to create a work plan:

- Contract and supplier drawings
- Contract specifications
- Equipment operation and maintenance manuals
- Materials Testing and Inspection Plan
- Applicable industry standards
- Lessons learned from similar projects and tasks

The CPCM creates checklists to verify that each definable feature of work meets the requirements of the Project Agreement. The CPCM will review contract specifications and the Materials Testing and Inspection Plan to create the checklist.

KMP will create a standard template for all work plans, which will include the following information:

- Detailed Construction plan
- Job Hazard Analysis
- Job Quality Analysis
- Job Environmental Analysis
- References to contract specifications and/or quality requirements
- Budget information
- List of Construction crew assignments, equipment, and supplies
- List of required permanent materials with the approved product codes
- Signatures showing approval of the work plan
- Name of Discipline Superintendent and foreman
- Name of PQM or designee
- Name of Project Safety Manager or designee
- Sketches and lift drawings signed by the originator, checked, and signed by a second person to verify accuracy
- Applicable Design drawings
- Self-inspection checklist

The foreman reviews the work plan with the Construction crew prior to beginning field activities. Each member of the Construction crew must sign the work plan (or a sign-in sheet) acknowledging they have reviewed, and understand, the work plan. The foreman and Construction crew will review the work plan biweekly for field activities extending beyond two weeks.

The Discipline Superintendent must confirm that the Construction crew is following the work plan. Although changes or modifications to work activities in the field are acceptable, the Discipline Superintendent must update the work plan to reflect current revisions. The foreman approves changes to work activities in the field by initialing and dating the work plan, and then notifying the Discipline Superintendent before making the Work changes in the field.

The CPCM and the Discipline Superintendent, or designee, creates the self-inspection checklists. The checklists specify items requiring verification, and contain a space for the initials of the person verifying the items. Checklists are also developed for materials. KMP provides a form to verify receipt of permanent materials in the field. The person receiving the materials must complete the checklist verifying the delivery of materials that meet the requirements of the Project Agreement. The CPCM inspects the quality of the delivered materials, and verifies the completion of all materials testing data.

The CPCM maintains:

- Work plans (uncontrolled record)
- Self-inspection checklists (uncontrolled record)

6.2.2 PREPARE MATERIALS TESTING AND INSPECTION PLAN

The PQM and the IQCM will develop, maintain, and submit a Materials Testing and Inspection Plan (MTIP) to the Department for Approval. The MTIP summarizes requirements for tests, inspections, and other verifications that demonstrate that the Work conforms to the requirements of the Project Agreement. The MTIP summarizes the IQC and PC testing requirements for the definable features of the Work, and identifies the frequency, responsibility, and Acceptance criteria of those verification activities. The MTIP will be maintained separately from this CQMP.

The MTIP contains procedures for delivery, handling, and storage of materials and products. It also details the inspection procedures for complying with the requirements of the Project Agreement. KMP will develop the MTIP using the Project Agreement, the Department's Standard Specifications, the *Field Materials Manual*, the Department's *Bridge Fabrication Inspection Manual*, and KMP's planning matrix. In cases where no inspection procedures or test standards exist, KMP will develop criteria using best practices and industry standards.

The MTIP includes the following items for each definable feature of work:

- Required tests or inspections including description of test/inspection procedures
- Other verifications that demonstrate work conforms with the Project Agreement
- Methods of test or inspection
- Standard procedure references
- Test or inspection frequency
- Required submittals
- Procedures for delivery, handling, and storage of furnished products (to prevent damage, deterioration, or theft)
- Procedures for stored items and materials (procedures will be consistent with expected duration and type of storage)
- Procedures for monitoring special processes requiring qualified/certified production inspection
- Quality hold points, including statement giving KMP authority to release work following hold point inspections
- Self-inspection checklists
- Source inspections required for permanent materials

The MTIP also identifies processes to control, calibrate, and maintain test equipment to meet industry standards and other applicable requirements. KMP will obtain test equipment with sufficient quality, capacity, and accuracy for applicable test procedures. For test equipment, the MTIP will:

- Identify appropriate test equipment (equipment must have a suitable indicator to show calibration status)
- Define procedures for calibrating test equipment prior to initial use
- Define procedures for verifying environmental conditions are suitable for calibrating test equipment
- Define maintenance intervals for calibrating test equipment according to standards of the National Institute of Standards and Technology or other recognized standards. Where no standards exist, KMP will develop criteria using best practices and industry standards.
- Define procedures for maintaining calibration records
- Define handling and storage procedures for maintaining accuracy and fitness for use

- Define procedures for safeguarding test equipment (hardware and software) from external factors that could invalidate calibration settings

For paving equipment, the MTIP will:

- Define pavement smoothness and quality (similar for travel lanes and shoulders) and methods for maintaining these criteria
- Define procedures for identifying quality issues
- Define hold points and potential corrective measures
- Define procedures for monitoring, minimizing, and correcting variations in roughness between lanes
- Define procedures for controlling segregation in hot mix asphalt (HMA) paving, including process for addressing unacceptable segregation (for example, a stop work provision and root cause analysis prior to restarting work)
- Define procedures for placing dowel bars and testing/auditing magnetic imaging tools (MIT), including KMP's obligation to provide additional test sections for MIT testing and auditing, at the Department's discretion
- Include a plan for addressing identified issues with performance and procedures, and correcting issues with Portland cement concrete pavement (PCCP)

CPC staff monitors the MTIP separately from the IQCM. The IQCM will track the actual frequency of tests. KMP forwards all testing information to the Department.

The MTIP provides activity-specific material quantities to confirm that KMP has met the minimum sampling, testing, and inspection requirements for the Project. The IQCM, or designee, forwards the MTIP to the Department for Acceptance on a monthly basis.

The CPCM maintains records of:

- Materials Testing and Inspection Plan (controlled record)
- Testing frequency (uncontrolled record)

6.2.3 ATTEND PRE-ACTIVITY MEETINGS

KMP holds a Pre-Activity Meeting with the Department prior to construction of each definable feature of work. The Discipline Superintendent, or designee, schedules and leads the Pre-Activity Meetings. The CPCM is responsible for ensuring that Pre-Activity Meetings occur for each definable feature of the Work.

At each Pre-Activity Meeting, the Discipline Superintendent, or designee, defines the scope of work for upcoming activities, reviews the work plan, identifies the quality hold points, and confirms the inspection and testing procedures. The Pre-Activity Meeting gives the Department and third parties an opportunity to provide feedback, which KMP will address in work plan development.

All Pre-Activity Meetings include the following items:

- Introduction of meeting participants
- Scope of work
- Work plan
- Top safety risks and preventive measures
- Top quality risks and preventive measures
- Top environmental risks and preventive measures
- Third party interactions/notifications

- Permit requirements and status
- Submittal requirements and status
- Pertinent Requests for Information (RFI)
- Revisions to work plan or drawings
- Inspection and testing requirements

KMP will maintain records of:

- Pre-Activity Meeting agendas (controlled record)
- Pre-Activity Meeting sign-in sheets (controlled record)

6.2.4 REVIEW SHOP DRAWINGS AND PRODUCT SUBMITTALS

The Document Control System Plan identifies the process for reviewing shop drawings and other submittals. The originator and Project Engineer, or designee, reviews shop drawings and other submittals for conformance with the Project Agreement prior to submission. KMP and its subcontractors clearly mark shop drawings and other submittals to show status of review and approval for submission (this mark may be in electronic form). The CPCM verifies the proper review of shop drawings and other submittals prior to forwarding to the Department.

6.3 FIELD EXECUTION

The following table lists the core operational processes during field execution of the Project. The core operational processes apply the knowledge developed during the work planning phase to specific Construction activities. KMP emphasizes internal communication, communication with the Department, and Independent Quality Control during field execution. KMP requires subconsultants, subcontractors, and suppliers to follow the processes in the Subcontractor/Supplier Risk Assessment.

Core Operational Processes for Field Execution:

- Hold Play-of-the-Day Meetings
- Self-inspect Work
- Provide visibility, recognition, and accountability
- Perform source inspections
- Confirm inspections and tests for Acceptance
- Confirm Independent Construction Quality Control
- Control inspection, measuring, Inspect, measure, and test equipment
- Receive and store materials
- Establish and document quality hold points

6.3.1 HOLD PLAY-OF-THE-DAY MEETINGS

The Play-of-the-Day is a daily meeting to coordinate and communicate the next shift/day's operations and activities to the construction crew. The Discipline Superintendent and foreman lead the meeting by summarizing the next day's activities and providing detailed information to facilitate the successful execution of those activities. KMP's subconsultants, subcontractors, and suppliers performing work Onsite must attend Play-of-the-Day Meetings during their time Onsite. KMP welcomes the Department to attend these meetings.

At a minimum, Play-of-the-Day Meetings discuss:

- Safety
- Quality
- Testing/inspection requirements
- Environmental
- Compliance
- Maintenance
- Deliveries
- Survey
- Planned activities

The CPCM verifies that these meetings occur daily; if adjustments to work activities specified in the work plan are necessary, the CPCM forwards comments to the Design-Build Manager.

6.3.2 SELF-INSPECT WORK

Self-inspection occurs when staff or craftsmen review their work to confirm it is correct, and complete a checklist to record the results of the self-inspections. The Plan-the-Plan matrix identifies tasks that require a checklist for self-inspection. The CPCM and the Discipline Superintendent, or designee, create the checklists for each identified feature of work. Each checklist includes items generated from a review of contract specifications, the Materials Testing and Inspection Plan, and other sources that the CPCM or Discipline Superintendent identifies. Since self-inspection checklists are quality records, staff and craftsmen must forward the completed checklists to the CPCM.

6.3.3 PROVIDE VISIBILITY, RECOGNITION, AND ACCOUNTABILITY

KMP seeks to heighten awareness of quality requirements, and promote quality throughout the Project. KMP emphasizes quality by providing appropriate safety and other work-related training for all personnel throughout the Project. KMP encourages Team members at all levels to achieve quality by setting high standards and discussing quality issues during Project meetings.

KMP has a craft-based recognition program that evaluates the performance of craftsmen using a standardized checklist. Craftsmen who complete a certain percentage of items on the checklist are eligible for an incentive. Craftsmen give input on the type and frequency of incentives.

6.3.4 PERFORM SOURCE INSPECTIONS

KMP holds all of its employees accountable for quality. KMP continually monitors quality and records each incident using the InEight Project Suite software platform. KMP Executive Management reviews each incident, and responds appropriately to violations of the established quality policies or procedures.

The IQCM, or designee, performs source inspections to confirm that permanent materials manufactured for the Project meet the defined quality requirements of the Project Agreement. Source inspections will include high-cost materials, schedule-critical materials, or other relevant items, as determined by the PQM or KMP Executive Management. The IQCM, or designee, performs source inspections at the point of origin, or at the supplier's facility, according to KMP's audit process in the QMP. The MTIP identifies permanent materials which require source inspections.

6.3.5 CONFIRM INSPECTIONS AND TESTS FOR ACCEPTANCE

A local AASHTO-accredited laboratory will perform the required laboratory and field-testing of soils, asphalt, concrete, and aggregates. The laboratory will test the permanent materials according to requirements in the Project Agreement and national standards. The MTIP specifies the frequency of testing. KMP maintains the Process Control reports in the Project's quality records, and posts the inspection reports, materials sampling, and testing results in electronic format within 24 hours of receiving the information.

The laboratory tests the permanent materials using a statistical analysis of test results including: mean, variance, range, and running averages; measurements; clearances; and interactions between the CPC and IQC. The laboratory uses the results to create control charts to monitor and track variations in materials over time. The laboratory forwards the control charts and the analytical results to KMP and the Department within 24 hours. KMP documents the results of the permanent materials testing, including inspection and testing activities, delays, Nonconforming Work, and Corrective Actions for Nonconforming Work.

KMP's construction IQC program does not include testing or inspections by production staff or CPC personnel. Testing and inspections are part of the CPC process.

KMP forwards the following items to the Department:

- Testing and inspection records (other than permanent materials inspection and testing), through the Aconex software platform
- Permanent materials inspection and testing records, through the Department's Quality Records Database (QRD)

KMP maintains records of:

- CPC testing reports (controlled record)
- CPC inspection reports (controlled record)

6.3.6 CONFIRM INDEPENDENT CONSTRUCTION QUALITY CONTROL

KMP's construction IQC program includes certification, inspection, testing, certificate of compliance (COC), certified test report (CTR), Buy America documentation, quality reviews, and environmental compliance. KMP's construction IQC program does not include testing or inspections by production staff or CPC personnel; rather, testing and inspections are part of the CPC process.

6.3.6.1 Certification

KMP will certify that completed Work meets the requirements of the Project Agreement for the following time periods:

- Prior to each Milestone completion
- Prior to Substantial Completion
- Prior to Final Acceptance
- Whenever requested by the Department

KMP's Design Manager, Construction Manager, or Project Quality Manager prepares certifications according to the Project Agreement, or as the Department requests. KMP forwards the certifications to the Department through the Aconex software platform.

6.3.6.2 Inspection

KMP performs inspections according to requirements in the MTIP and the QMP. IQC personnel documents whether inspections pass, or fail, based on the appropriate pass/fail criteria in the MTIP or the QMP, and the requirements of the Project Agreement.

KMP will forward the following items to the Department:

- Inspection records (other than permanent materials), through the Aconex software platform
- Permanent materials inspection records, through the Department's QRD

6.3.6.3 Testing

KMP follows the MTIP's testing requirements. The independent laboratories submit signed and certified test reports to KMP within 10 Working Days after completion of tests. KMP invites the Department to witness the performance of any laboratory test for purposes of Independent Assurance.

KMP will forward the following items to the Department:

- Testing records (other than permanent materials testing), through the Aconex software platform
- Permanent materials testing, through the Department's QRD

KMP will use the InEight Project Suite software platform to maintain an updated record of laboratory testing activities, as required by the Project Agreement. The InEight Project Suite software prepares reports with the following information for each test:

- Project identification number
- Description of items
- Quantity of items
- Date and time of test
- Location of items
- Test procedures
- Name of laboratory technician
- Evaluation criteria
- Results (Acceptance or rejection)
- Authorized signature

6.3.6.4 Certifications of Compliance and Certified Test Reports

KMP obtains and record Certifications of Compliance (COCs) and Certified Test Reports (CTRs) prior to using permanent materials. The Department can review records of COCs and CTRs at any time. KMP forwards a complete listing of COCs and CTRs to the Department for Acceptance prior to Substantial Completion.

KMP includes signed certifications that the Project used the permanent materials in each COC and CTR. The signed certifications will comply with requirements in the Project Agreement.

6.3.6.5 Buy America Documentation

KMP maintains records for every Construction process and product (for example, application of a coating onto steel or iron products) that indicate whether the Construction process and product manufacture either was, or was not, performed in the United States of America. This certification applies to every iron or steel product that requires pre-inspection, pretesting, certified test results, or a COC. KMP obtains the certification, which identifies a chain-of-custody trail from each supplier, distributor, fabricator, and manufacturer that has handled each steel or iron product. KMP will not use steel or iron products without the proper certifications.

KMP prepares and regularly updates a report summarizing the date of receipt and quantity of all steel and iron materials delivered to the Project. The report indicates the item, total quantity of materials delivered to the Project, and the quantity of materials actually installed by the deadline (date) for each monthly Progress Report. The summary will reconcile the pay item quantities with the Buy America certifications.

KMP also prepares and updates a report summarizing the cost, and quantity, of foreign steel and iron that the Project uses. KMP forwards the summary of foreign steel and iron to the IDQM within five Working Days of the deadline (date) for each monthly Progress Report during the Construction Period, and also during the Operating Period for any month in which KMP performs Renewal Work that includes steel or iron products. KMP submits a monthly summary report to the Department even if the Project uses no steel or iron products during a particular month.

6.3.6.6 Quality Reviews

The IQCM, or designee, records completion of quality reviews to ensure the proper implementation of the QMP. KMP provides results of quality reviews to the Department.

6.3.6.7 Environmental Compliance

The IQCM reviews environmental activities for compliance during Construction. The IQCM will oversee the following environmental resources during Construction:

- Construction air quality
- Construction noise
- Noxious weed management
- Landscape planting and establishment
- Water quality
- Wildlife
- Protection of wetlands and other sensitive areas
- Hazardous materials
- Environmental hardscape elements (such as noise walls)

Please refer to the QMP, section 7.1.5 for details regarding Environmental Compliance.

6.3.7 INSPECTION, MEASUREMENT, AND TESTING OF EQUIPMENT

KMP, and its subconsultants and subcontractors, inspect, test, measure, and calibrate equipment according to manufacturer standards. KMP does not use equipment before certifying its proper calibration.

6.3.7.1 Calibration of Laboratory Equipment

KMP uses AASHTO-accredited, independent laboratories to perform the required laboratory and field-testing of soils, asphalt, concrete, and aggregates. The laboratory provides the following items:

- A list of laboratory equipment for each test procedure
- Current calibration records for laboratory equipment

6.3.7.2 Calibration of Survey Equipment

KMP, and its subconsultants and subcontractors, calibrate survey equipment at the intervals recommended by the manufacturer. KMP lists all survey equipment for use on the Project, and provides current calibration records for each piece of survey equipment.

KMP, and its subconsultants and subcontractors, document proper calibration for each piece of equipment. KMP stores testing results, device calibrations, and verification documentation in an equipment calibration log, which includes the following items:

- Tracking number (matches tracking number on the equipment)
- Equipment description, type, manufacturer, and model
- Location and calibration requirements
- Calibration intervals
- Calibration procedures
- Calibration history
- Next calibration due date

KMP provides the list of testing software used to verify conformance of equipment with the specific requirements of the manufacturer. If KMP finds equipment to be out of calibration, KMP will place an out-of-service tag on the equipment until it is repaired, replaced, or removed from service. KMP then recalibrates and re-certifies the equipment before using it on the Project.

The IQCM and IDQM verify compliance before using the equipment by:

- Maintaining valid calibration records
- Protecting measuring equipment from adjustments that could invalidate the measurement result
- Protecting measuring equipment from damage and deterioration during handling, maintenance, and storage
- Maintaining records of calibration results

The IQCM and IDQM maintain the following records:

- Calibration log (controlled record)
- Calibration results (controlled record)
- Calibration procedures (controlled record)

6.3.7.3 Reports and Record-Keeping of Quality Documentation

KMP maintains quality records of Construction workmanship, materials, inspections, and tests as the QMP indicates. These records contain factual evidence demonstrating the:

- Performance of the required inspections or tests
- Type and number of inspections or tests involved
- Results of inspections or tests
- Nature of Nonconforming Work and reasons for rejection
- Proposed remedial action
- Corrective actions

These records include both conforming and Nonconforming Work, and a statement that all supplies and materials incorporated in the Work are in full compliance with the Project Agreement.

KMP's Quality Managers confirm that quality records are properly prepared, completed, maintained, and delivered to the Department as the Project Agreement requires. The Quality Managers store and transmit documents according to the Project's document control system.

Test Reports

KMP forwards all IQC test measurements and test results, including failing results and inspection records, to the Department using the Aconex software platform within 24 hours following the inspection or test completion. The responsible technician, and the technician's supervisor, signs the daily test reports.

Inspection Reports

KMP's Quality Managers maintain a daily log of all inspections that KMP, and its subconsultants and subcontractors, perform. The responsible technician, and the technician's supervisor, sign and confirm the daily inspection reports. The daily inspection reports identify the:

- Type, date, location, and results of each inspection
- Nature of deficiency and reasons for rejection
- Proposed remedial or corrective actions

These daily inspection reports also document the day's events, activities, and discussions in a format consistent with the Department's *Field Materials Manual* and *Construction Manual*, identifying location and quantities of materials of all construction activities completed during the previous week.

Upcoming Activity Summary

To enhance coordination of the Department's Independent Assurance activities during Construction, KMP will provide a weekly summary to the Department of upcoming Construction activities, by location and anticipated quantities of materials. KMP will provide the summary during the Weekly Progress Meeting as the PMP indicates.

6.3.8 RECEIVE AND STORE MATERIALS

The field engineer inspects the permanent materials arriving at the Construction Site to confirm that the materials meet the requirements of the Project Agreement, are not damaged, arrive as ordered, and are properly stored. All permanent materials delivered to the Project must have a materials receiving inspection. The field engineer inspects the permanent materials and attaches a tag, which verifies receipt, proper documentation, and identification of the materials. The Project will not use permanent materials without completing a materials receiving inspection. The field engineer forwards appropriate documentation to the CPCM for verification.

6.3.8.1 Pre-Delivery Requirements

Prior to delivery of permanent materials, the Project engineer ordering the material must obtain the proper approvals for submittals, identify the required testing, and verify Certificates of Compliance, as the Project Agreement requires. Permanent materials may include the required documentation at the time of delivery; however, KMP will not install permanent materials without the required documentation.

6.3.8.2 Delivery of Permanent Materials

The field engineer, or designee, inspects the permanent materials at the time of delivery. The inspection verifies the type of permanent materials, condition, documentation, and conformance with the Project Agreement. The field engineer, or designee, will not accept the delivery of damaged materials; and will instead return the damaged materials to the vendor, when feasible. The field engineer, or designee, attaches the bills of lading, shipping receipts, test reports, Certificates of Compliance, and invoices to the materials being inspected.

The field engineer, or designee, attaches the following tags to the permanent materials:

- **Green Tag or Marking:** Signifies completion of all documentation and no apparent damage to the materials
- **Yellow Tag or Marking:** Signifies no apparent damage to the materials, but also incomplete documentation
- **Red Tag or Marking:** Signifies materials do not meet the Project Agreement requirements (for example, damaged or incorrect materials)

KMP will not use permanent materials tagged, or marked, with a yellow or red color.

The field engineer, or designee, does not need to receive or inspect concrete, asphalt, soils, and aggregates in the same way as other permanent materials. Instead, the field engineer, or designee, documents these types of permanent materials by:

- Verifying, circling, and initialing the mix/product code on the delivery receipt
- Writing on the delivery receipt the specific location where that material is being incorporated into the Project

KMP maintains these delivery receipts in the Project's quality records. The field engineer, or designee, forwards a legible copy of the delivery receipts to the Quality Team.

The field engineer, or designee, retains a copy of the materials receiving inspections and delivery receipts, and forwards a copy to the CPCM.

KMP will maintain records of:

- Materials receiving inspections (uncontrolled record)
- Materials delivery receipts (uncontrolled record)

6.3.9 ESTABLISH AND DOCUMENT QUALITY HOLD POINTS

KMP establishes and documents quality hold points (QHPs) in the work plan for each definable feature of Construction to confirm that Construction is proceeding according to the QMP and the Project Agreement. The PQM verifies that the Quality Team completes the QHPs in a timely manner to avoid delays.

The PQM will notify the Department at the completion of the QHP, with advance notice as practical to ensure Department staff availability. Within four Working Hours of notification, the Department will verify the completion of the QHP. KMP will stop work until the Department verifies the completion of the QHP, and will resume work once the Department verifies the QHP.

KMP will establish QHPs during the Construction stages listed below.

6.3.9.1 Environmental Resources

- After establishing water quality best management practices (BMPs), and prior to initial ground disturbance
- After completing surveys for nesting birds and protected species, and prior to ground disturbance (see Project Special Provision 240, Schedule 17, Environmental Requirements)
- After completing environmental resources protection with required fencing, or other appropriate protection mechanism, and prior to ground disturbance (see Schedule 17, Environmental Requirements)

- At the end of each month to review KMP's weekly and post-storm inspections

6.3.9.2 Embankments

- After completing drainage and utility relocations, and prior to backfilling
- After clearing, grubbing, and excavating to check subgrade for lift requirements at 5-foot intervals of embankment construction
- After installing mechanically stabilized earth (MSE) wall panels
- After installing embankments

6.3.9.3 Structures

- After installing bridge deck reinforcements, and prior to pouring concrete
- After installing abutment wall reinforcements, and prior to pouring concrete
- After completing pile-driving at each structure support, including pile-driving results and records
- After placing reinforced steel footings, and prior to pouring concrete
- After excavating drilled shaft foundations, and prior to pouring concrete
- After setting rails for screed machine, and prior to placing concrete overlays
- After completing the first component for aesthetic wall treatments/form liners, and prior to proceeding with constructing subsequent components
- After constructing each 500 feet of noise wall posts and panels

6.3.9.4 Utilities

- After installing direct-burial duct banks, and prior to backfilling
- For concrete-encased duct banks, after installing conduits and prior to pouring concrete
- After installing utility lines for transportation of pressurized materials or liquids, and prior to completing pressure testing

6.3.9.5 Paving and Sidewalks

- Before constructing each course above subgrade on permanent roadway components
- Before placing each lift (layer) of asphalt or Portland cement
- Before pouring concrete for sidewalks

6.4 CONSTRUCTION COMPLETION

The core operational processes during Construction Completion:

- Transition and Substantial Completion
- Finalize Construction Closeout

6.4.1 TRANSITION AND SUBSTANTIAL COMPLETION

KMP will develop a Construction Closeout Task Force, which starts meeting when the Project achieves 10% completion. The Construction Closeout Task Force includes the PQM, CPCM, DPCM, Construction Manager, O&M Manager, Technical Manager, and field engineers who will meet weekly during the first year of construction, to develop the Construction Closeout process. This Task Force will use InEight Project Suite for a seamless transition from the Construction Period to the Operating Period.

The Construction Closeout Task Force aligns the Construction Closeout activities with each Key Milestone. Construction Closeout activities are outlined below.

6.4.1.1 Review Specifications and Construction Closeout Requirements

The Construction Closeout Task Force performs a detailed review of specifications and Construction Closeout requirements including:

- Criteria for the Acceptance of Work
- Identification of the Punch List process
- Criteria for Substantial and Final Acceptance of Work
- Commissioning
- Warranty
- Other items related to Construction Closeout

The Construction Closeout Task Force uses the specifications review as a tool for guiding the Construction Closeout process.

6.4.1.2 Develop Construction Closeout Plan

The Construction Closeout Task Force develops the Project's Construction Closeout Plan to include:

- Identifying the major risks involved with Construction Closeout
- Reviewing lessons learned from prior construction closeouts
- Reviewing Construction Closeout and turnover requirements from the Project Agreement
- Reviewing third party and stakeholder requirements/risks related to Construction Closeout
- Reviewing the content and format for Punch Lists
- Developing the responsibility matrix, records closeout plan, and timeline with the Construction Closeout Team

The responsibility matrix identifies each member of the Construction Closeout Team, including KMP and its subconsultants and subcontractors; responsibilities; and the estimated time to complete each Closeout task. The responsibility matrix also tracks the amount of time each Team member uses for Construction Closeout activities.

The Construction Closeout Team creates a schedule based on the responsibility matrix and the Punch List log. The Construction Closeout Team reviews the schedule for Construction Closeout activities with the Department at weekly meetings during the first year of Construction, until the Construction Closeout Plan is finalized. Construction Closeout Task Force Meetings continue on a monthly basis to confirm that Project activities follow the Construction Closeout Plan until completion of Construction.

6.4.2 FINALIZE CONSTRUCTION CLOSEOUT

The Construction Closeout Team creates a flowchart based on Construction Closeout requirements. The flowchart illustrates the Construction Closeout process and identifies the Team member with authority to close an item on the Punch List.

6.4.2.1 Finalize Punch List Procedures and Forms

KMP completes a Punch List at the end of Milestones 1 through 4, and another Punch List following Substantial Completion. KMP develops and maintains a Punch List log that reflects the input of the Department and other affected agencies. The Punch List log includes the following items:

- Unique Punch List ID
- Description of the item
- Person responsible for completing the item
- Approximate number of man-hours to complete the item
- Date item appeared on the list
- Date item completed
- Date the Department Accepted the Punch List item

The Construction Closeout Team holds weekly meetings at 80% completion for each Milestone area (Milestone Completion Punch Lists) and for the entire Project (Substantial Completion Punch List). The Construction Closeout Team provides the following items in a weekly, written report to the Department:

- Status of each item on the Punch List that KMP has corrected or completed
- Status of final reviews and inspections, to verify Punch List items are resolved
- Final documentation of Construction Closeout activities

CPC and IQC personnel complete the Punch List logs. KMP invites the Department and other affected agencies to attend field reviews of items on the Punch Lists. KMP provides individual Punch Lists and Punch List logs to the Department for Approval.

The CPCM, or designee, will conduct periodic audits of the Construction Closeout Plan according to the following schedule:

- 15% to 80% completion: Quarterly
- 80% to 90% completion: Monthly
- 90% to 100% completion: Weekly

KMP trains new members of the Construction Closeout Team regarding relevant procedures and informs them when changes to the procedure are necessary.

6.4.2.2 Confirm Subcontractor Final Release Checklists

Each subcontractor and materials supplier undergoes a Closeout process, using a checklist to:

- Track lien releases
- Verify completion of all contract Work and change orders, before releasing any retainage
- Confirm submission of all required documentation

KMP's subcontractor managers will provide subcontractors with a list identifying their individual Punch List items. Each subcontractor must have a company representative to manage the Construction Closeout process. KMP's subcontractor managers may incorporate the checklist into the Construction Closeout responsibility matrix.

6.4.2.3 Develop and Implement Demobilization Plan for Equipment, Construction Site, and Relocation of Project Office

When the Construction Period nears 80% completion, the Construction Equipment Team develops the following items:

- A list of needed parts to complete the Project
- Written proof that all accounts are settled before the Discipline Superintendent leaves the Project
- A detailed equipment demobilization schedule including company-owned and rented equipment
- An inventory of the Construction Site small tools and supplies (ST&S)

KMP also prepares a plan for demobilizing the Construction Site and relocating the Project Office. KMP coordinates with landowners and local utilities during this process.

KMP prepares and maintains Construction Closeout records, including:

- Closeout specification reviews (controlled record)
- Closeout Task Force Meeting minutes (controlled record)
- Punch Lists (controlled record)
- Closeout audits (controlled record)
- Closeout responsibility matrix (uncontrolled record)
- Closeout schedule (uncontrolled record)
- Subcontractor final release checklists (uncontrolled record)
- Demobilization plans for Construction Site, Project Office, and equipment (uncontrolled record)

APPENDIX F

Relates to Part 3, Volume 2

Kiewit meridiam PARTNERS

Draft Transportation Management Plan

SUBMITTED TO:

Colorado Bridge Enterprise
High Performance Transportation Enterprise
c/o Colorado Department of Transportation

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SIGNATURE PAGE – APPENDIX F

PROJECT MANAGER DATE

DESIGN-BUILD MANAGER DATE

OPERATING MANAGER DATE

CONSTRUCTION MANAGER DATE

DESIGN MANAGER DATE

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RECORD OF REVISIONS

Revision number	Date issued	Pages affected	Comments
0	5/18/2017	All	Proposal Draft Submittal

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EVALUATION CRITERIA – APPENDIX F, VOLUME 2

KMP has provided a full Evaluation Criteria Matrix to align the requirements of the Transportation Management Plan (TMP) per the Project Agreement with the sections of this plan.

Sch. 10 Section	Item	TMP Section	Section Name	Check
2.2.3	**Transportation Management Plan**	2.0	Transportation Management Plan Contents	☐
2.2.3.a	An overview and description of the Project, subdivided as applicable, into the following components: Area, Phase, Stage	2.1.1	Description of the Work Areas, Phases, and Stages	☐
2.2.3.b	Provide information on existing and future conditions including traffic safety, lighting, and business/community access	2.3	Existing and Future Conditions	☐
2.2.3.c	**A list of known or potential roadway, ramp, and lane Closures, including the following information:**	2.4	Closures	☐
	• Description of traffic shift	2.1.1	Description of the Work Areas, Phases, and Stages	☐
	• Description of detour:	2.1.1	Description of the Work Areas, Phases, and Stages	☐
	○ Identification of detour limits to be used in each construction phase	2.1.1	Description of the Work Areas, Phases, and Stages	☐
		2.4	Closures	☐
	○ The Developer's identification and coordination with other construction projects within the vicinity of the proposed detour route. The impact of these construction projects shall be incorporated into the detour route planning and scheduling	2.5	KMP's Identification and Coordination With Other Projects Within Vicinity of Proposed Detour Route	☐
	• Number of shifts expected	2.4	Closures	☐
	• Duration of shifts and detours	2.9	Closures, Descriptions of Proposed Detour Routes	☐
2.2.3.d	A description of proposed detour routes	2.4	Closures	☐
		2.6	Description of Proposed Detour Routes	☐

Sch. 10 Section	Item	TMP Section	Section Name	Check
2.2.3.e	**Typical section requirements:** • Lane widths • Shoulder widths • Number of lanes • Barrier/wall locations • Proposed work zone locations	2.7	Typical Sections	☐
2.2.3.f	**Emergency requirements:**	2.8	Emergency Requirements	☐
	• Pullout locations;	2.8.1	Pullout Locations	☐
	• Emergency access	2.8.2	Emergency Access	☐
	• Courtesy patrol	2.8.3	Courtesy Patrol	☐
2.2.3.g	**Temporary Closure scenarios:** • Location • Time and duration	2.9	Temporary Closure Scenarios	☐
2.2.3.h	**Access:**	2.11	Access	☐
	• Pedestrian/bike	2.11.1	Pedestrian and Bike Access	☐
	• Business	2.11.3	Business Access and Other Local/Adjacent Property Owner Access	☐
	• Local/adjacent property owner access	2.11.3	Business Access and Other Local/Adjacent Property Owner Access	☐
	• Project	2.11.4	Project Access	☐
	• Bus/transit	2.11.5	Bus/Transit Access	☐
2.2.4	**Temporary Traffic Control Plan Strategies (TCP)**	3.0	Temporary Traffic Control Plan Strategies (TCP)	
2.2.4.a	The Developer shall provide a detailed approach to the development of TCPs, including Temporary Drainage as described in Schedule 10, Section 8 Drainage, and Methods of Handling Traffic (MHT) on the Project.	3.1	Approach to Developing TCPs and MHTs	☐

Sch. 10 Section	Item	TMP Section	Section Name	Check
2.2.4.b	The Developer shall provide a detailed approach to the implementation and monitoring of TCPs and Methods of Handling Traffic (MHT) on the Project. At a minimum, the Developer shall include the following:	3.2	Implementation and Monitoring of TCPs and MHTs	☐
	• Process for Developer MOT inspections (daytime and nighttime)	3.2.1	Process for KMP MOT Inspections	☐
	• Process for opening new MOT phases or stages to traffic (safe-to-open procedure)	3.2.2	Process for Opening New MOT Phases or Stages to Traffic	☐
	• Process for opening new MOT phases or stages to traffic on Local Agency Roadways	3.2.3	Process for Opening New MOT Phases or Stages to Traffic on Local Agency Roadways	☐
	• Process for winter maintenance of MOT devices and temporary striping	3.2.4	Process for Winter Maintenance of MOT Devices and Temporary Striping	☐
	• Process for monitoring the safety and effectiveness of TCPs and MHTs	3.2.5	Process for Monitoring the Safety and Effectiveness of TCPs and MHTs	☐
	• Process for refining unsafe or ineffective TCPs and MHTs	3.2.7	Process for Refining Unsafe or Ineffective TCPs and MHTs	☐
2.2.4.c	**Business and Private Access** The Developer shall maintain public and private access to the local street system. TCPs and MHTs shall incorporate stakeholder information from the PI, available surveys, and other pertinent studies relating to business and private access to the local street system and the highway facilities. At a minimum, the Developer shall communicate and document the following information relevant to business and private access:	3.3	Business and Private Access	☐
	• Access points impacted by a particular construction phase or stage	3.3.1	Access Points Impacted by Particular Construction Phase or Stage	☐
	• All notifications of affected businesses and land owners	3.3.2	All Notifications of Affected Businesses and Land Owners	☐
	• Schedule of Closures and estimated durations	3.3.3	Schedule of Closures and Estimated Durations	☐
	• Project-specific access or delivery requirements for local businesses (deliveries, wide load vehicles, etc.)	3.3.4	Project Specific Access or Delivery Requirements for Local Businesses	☐
	• Proposed mitigation efforts	3.3.5	Proposed Mitigation Efforts	☐

Sch. 10 Section	Item	TMP Section	Section Name	Check
	Colorado Transportation Management Center Coordination	3.4	Colorado Transportation Management Center (CTMC) Coordination	☐
2.2.4.d	i. The Developer shall provide an approach to the use of Intelligent Transportation System (ITS)/Variable Message Sign (VMS) boards and traffic signals/ramp meter stations, including coordination with the Denver Traffic Management Center, and Colorado Transportation Management Center (CTMC) ii. Routine requests for use of the CTMC VMS boards shall be submitted to the Department by 10:30 a.m. on Thursday of the week prior to when the VMS boards will be needed (Monday through Sunday of the following week). Requests for routine use of the VMS will be reviewed by noon Friday of the same week of the submittal. The Developer shall coordinate directly with the CTMC at 303-512-5830 following review by the Department; iii. For after-hours (non-construction work times) operations only, the Developer shall coordinate directly with the CTMC. The CTMC is available to the Developer to modify VMS messages 24 hours a day, seven days a week; and iv. The Developer shall coordinate with the Colorado Department of Transportation (CDOT), City of Denver (CCD), and the CTMC in relation to Emergencies, in accordance with the Accepted Incident Management Plan (IMP).	3.4.1	Requests for Use of CTMC VMS Boards	☐
2.2.5	**Transportation Operations Strategies (TOP)**	4.0	Transportation Operation Plan (TOP) strategies	☐
2.2.5.a	Provide a detailed approach to Travel Demand Management (TDM) strategies.	4.1	TDM Strategies	☐
2.2.5.b	Inventory existing bus and rail routes/stops and provide an approach to coordination with Regional Transportation District (RTD) to resolve disruptions in services due to the Construction Work.	4.2.1	RTD Coordination Approach	☐
		4.2.2	Public Transit Coordination	☐
		4.2.3	RTD Notification Procedures	☐
		4.2.4	Existing transit, Light Rail, and Express Shuttle Routes	☐
2.2.5.c	Provide an approach to traffic access management, including restrictions, bicycles, pedestrians, and potential impacts to handicapped mobility.	4.3	Traffic Access Management Approach	☐

Sch. 10 Section	Item	TMP Section	Section Name	Check
2.2.5.d	Provide an approach to coordinate with Denver International Airport during peak travel times	4.4	Denver International Airport Approach	☐
2.2.5.e	Provide an approach to pedestrian and bicycle movements associated with all school routes within the Site, including to/from Swansea Elementary, Bruce Randolph Junior High, and Garden Place Elementary Schools. The approach shall include handicap accessibility, bus and shuttle parking and access, parent drop-off and pick-up circulation and location, lighting, before and after school activities. The Developer's strategy shall include signing, pavement marking, and pedestrian signalization in compliance with MUTCD and CCD standards. The Developer's strategies shall be coordinated with the respective school and Denver Public Schools Department of Transportation. The Developer shall coordinate with the CCD Safe Route to School coordinator for current student distribution maps and overall pedestrian walk path ratings can be found at www.walkscope.org	4.5	School Access Approach	☐
2.2.5.f	The approach and strategies to be implemented for pedestrian and bicycle movements associated with the UPRR York Street Crossing shall specifically address safety and delays caused by UPRR train movements. The Developer's strategies shall consider flagging and shuttles during periods of start and end to the school day to safely move pedestrians and bicycles.	4.6	UPRR York Street Crossing Pedestrian & Bike Approach	☐
2.2.5.g	Develop a detailed IMP to manage traffic incidents and emergency operations on the Project. The IMP shall comply with the CDOT Guidelines for Developing Traffic Incident Management Plans for Work Zones. The IMP shall be submitted to the Department for Acceptance within 30 Calendar Days after the issuance of NTP1. At a minimum, the IMP shall include the following:	4.7	Incident Management Plan	☐
	• Coordination with the PIP	4.7.1	Coordination with the Public Information Plan	☐
	• Incident detection and identification	4.7.2	Incident Detection and Identification	☐
	• Incident response	4.7.3	Incident Response	☐
	• Incident site management	4.7.4	Incident Site Management	☐
	• Incident clearance	4.7.5	Incident Clearance	☐
	• Dissemination of traveler information regarding incidents	4.7.6	Dissemination of Traveler Information Regarding Incidents	☐
	• Courtesy patrol	4.7.7	Courtesy Patrol	☐

Sch. 10 Section	Item	TMP Section	Section Name	Check
	• Emergency Services notification, including local area police departments, the Colorado State Patrol (CSP), local area fire departments, ambulance services, and any other Emergency response providers	4.7.8	Notification of Emergency Services for Construction-Related Events	☐
	• Notification of local school districts about possible impacts to school bus routes, student drop-offs, and/or pedestrian facilities	4.7.9	Notification of Local School Districts	☐
	• Geographic and other special constraints	4.7.10	Geographic and Other Special Constraints	☐
	• Available resources	4.7.11	Available Resources	☐
	• Operational procedures	4.7.12	Operations Procedures for Traffic Incidents	☐
	• Detour routes to be used in the event of a catastrophic incident along I-70 Mainline or ramps that would require a Closure that is not permitted by any of Sections 2.11.6, 2.11.9, or 2.11.10.	4.7.13	Detour routes to be used in the event of a catastrophic incident along I-70 Mainline or ramps	☐
2.2.5.h	Coordinate and work cooperatively with the corridor-focused Transportation Management Organization (TMO) and the Department. Additionally, the Developer shall provide: • Four VMS boards used exclusively for TDM outreach • A grant program to be implemented, in cooperation with the Department, during the first three years of the Operating Period.	4.1	Travel Demand Management Strategies	☐
		4.8	Work with Corridor-Focused TMOs and the Department	☐
2.2.5.i	Cooperate with the Department with regards to any dynamic ride sharing programs established in the metro area.	4.9	Dynamic Ride Sharing Programs	☐
2.2.6	**Public Information Strategies**	5.0	Public Information (PI) Strategies	
2.2.6.a	Provide a detailed approach to coordinate the TMP Activities with performance of the Developer's obligations under Schedule 14 Strategic Communications	5.1	Public Information Approach	☐
2.2.6.b	A checklist identifying specific items shall be provided to the Department by the Developer's Project Communications Manager	5.2	Checklist	☐
2.2.6.c	The Developer's Project Communications Manager and the Department's Communications Manager shall meet once per week to discuss public information and management Activities on the Project. The checklist shall provide the inclusion of supporting information relevant to coping messages and public awareness and shall be included in the Construction Period Communications Plan (CPCP), as described in Schedule 14 Strategic Communications	5.3	Weekly Communication Coordination Meetings	☐

Sch. 10 Section	Item	TMP Section	Section Name	Check
2.2.6.d	The Developer shall establish a MOT Task Force to ensure proper coordination with affected agencies. The MOT Task Force shall include, at a minimum, the Developer's Project Communications Manager, Traffic Control Supervisor, Superintendent, the Department, RTD, Denver Police Department-Traffic Unit, and Local Agencies (e.g., CCD, Commerce City, Adams County, and City of Aurora). The Developer shall submit the proposed list of the MOT Task Force members to the Department for Acceptance within 30 Calendar Days after issuance of NTP1. Within 14 Calendar Days after Acceptance of the proposed list of MOT Task Force members, the Developer shall convene a TMP kick-off meeting. The meeting will be used to develop agreement upon the level of detail required for the TMP	5.4	Maintenance of Traffic Task Force	☐
2.2.6.e	The MOT Task Force shall meet weekly, and shall be an integrated component of the CPCP, as described in Schedule 14 Strategic Communications. The Developer is responsible for the preparation and distribution of agendas, meeting materials, and meeting minutes and shall submit the minutes to the Department for Acceptance in accordance with Section 9 of Schedule 8 Project Administration	5.5	Weekly Task Force Meetings	☐

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1. Project Summary

1.1 KIEWIT-MERIDIAM PARTNERS CORE VALUES

Kiewit-Meridiam Partners (KMP) is committed to delivering the Central 70 Project (Project) with a focus on client relations, achieving the Project goals, and maintaining transparency with the Department. To achieve these objectives, the KMP Team has adopted the following core values:

1.2 PLAN MANAGEMENT

This Project summary is presented at the start of each Appendix to serve as a quick reference to our core values, the Project overview, our Team's composition, and our Key Personnel and Critical Staff. We developed each Appendixto demonstrate our understanding of the Project requirements and facilitate timely Approval by the Department after award.

This document describes KMP's approach for the Work. KMP will resubmit this Plan, including an updated Project summary, to the Department as required per the Project Agreement.

All Project plans, including this document, are stored electronically per KMP's Document Control System (DCS) Plan. Revisions to these documents may be required as the Project progresses, and annual updates are completed in accordance with Section 4.2 of the Project Management Plan (PMP). The latest revision of all Management Plans will be stored per KMP's DCS and submitted to the Department through Aconex.

1.3 OVERVIEW

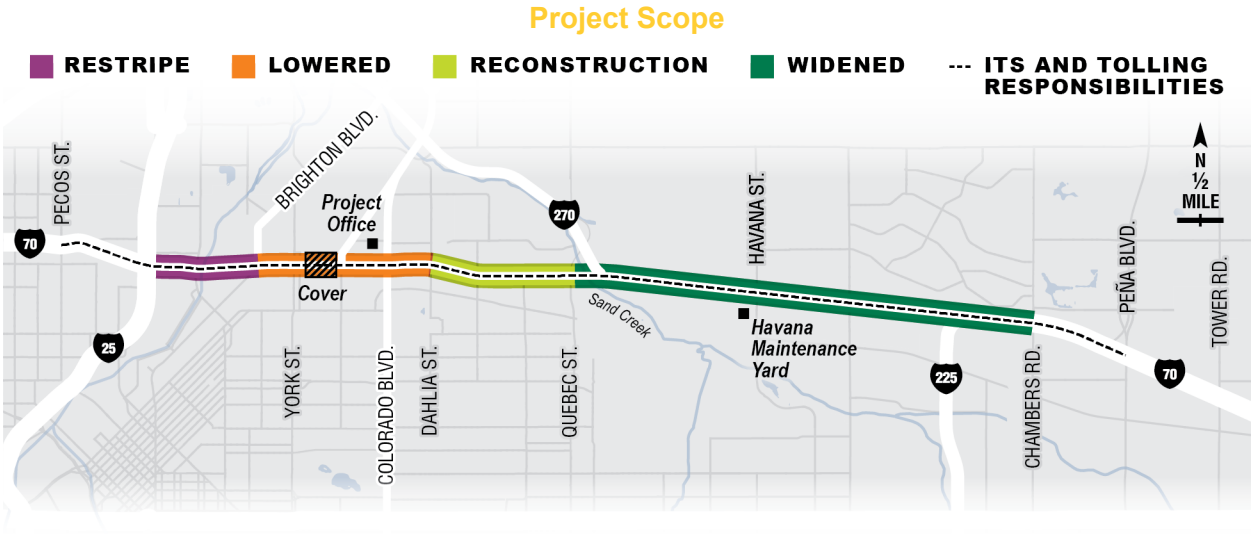
The Project is a Public-Private Partnership to design, build, finance, operate, and maintain planned improvements to the I-70 corridor between I-25 and Tower Road.

The Project's scope is broken down into the following timeframes:

Project Time Frames

Time Frame	Period	Description	Estimated Duration
Notice of Award to NTP1	Submittals	Plan development, submittals, and mobilization of Quality Management staff	3 months
NTP1 to NTP2	Construction	Financial Close and Design	6 months
NTP2 to Substantial Completion	Construction	Construction and O&M During Construction (other than snow and ice control services)	45 months
Pre-Substantial Completion to Substantial Completion	Transition	Transition from Construction to Operating Period, and O&M submittals	8 months
Substantial Completion to Final Acceptance	Operating	Final submissions and inspections	4 months
Substantial Completion to Expiry Date	Operating	Operations and Maintenance (including Renewal Work)	30 years
NTP3 to Term	Construction, Operating	KMP snow and ice control services	33-34 years
62-68 months prior to Expiry Date	Operating	Handback Inspections, Handback Work, and Department training to facilitate seamless handover at Expiry Date	62-68 months

Improvements made by KMP during the Construction Period, highlighted in the figure, are described below.



1.3.1 RESTRIPE: I-25 TO BRIGHTON BOULEVARD

Restriping I-70 from I-25 to Brighton Boulevard to accommodate one managed lane in each direction, including:

- Design and Construction for improvements to associated drainage infrastructure

1.3.2 LOWERED: BRIGHTON BOULEVARD TO DAHLIA STREET

Full reconstruction of I-70 between Brighton Boulevard and Dahlia Street, including:

- Removing the viaduct between Brighton Boulevard and Colorado Boulevard, and reconstructing the Interstate below grade to accommodate the Ultimate Project roadway configuration and associated elements
- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the Interstate structures over Brighton Boulevard
- Constructing the Cover and associated elements over the Interstate between Columbine Street and Clayton Street
- Constructing cross-street structures at York Street, Josephine Street, Columbine Street, Clayton Street, Fillmore Street, Steele Street/Vasquez Boulevard, Cook Street, Monroe Street, and Colorado Boulevard
- Constructing I-70 Mainline structures at Dahlia Street
- Removing one Railroad structure, and Constructing two Railroad structures at Union Pacific Railroad (UPRR) and BNSF Railway (BNSF)

1.3.3 RECONSTRUCTION: DAHLIA STREET TO SAND CREEK

Full reconstruction of I-70 Mainline between Dahlia Street and Sand Creek, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing Interstate structures over Holly Street, Monaco Street, Denver Rock Island Railroad, and Quebec Street

1.3.4 WIDENED: SAND CREEK TO CHAMBERS ROAD

Widening I-70 from Sand Creek to Chambers Road with associated elements, including:

- Adding one managed lane in each direction with supporting infrastructure to accommodate a second managed lane in the Ultimate Project roadway configuration
- Removing and replacing the I-270 flyover structure to I-70 eastbound
- Removing and replacing Interstate structures over Peoria Street

1.3.5 INTELLIGENT TRANSPORTATION SYSTEMS (ITS) AND TOLLING RESPONSIBILITIES

Additional ITS and tolling responsibilities, including:

- Closed circuit television (CCTV) camera coverage for I-70 corridor, including interchanges between Pecos Street and Airport Boulevard
- Microwave vehicle radar detection between Pecos Street and Tower Road
- Travel time indicators between Pecos Street and Tower Road
- Lane use signals between Pecos Street and Chambers Road
- Dedicated short range communications radios between Pecos Street and Tower Road

1.3.6 OPERATIONS AND MAINTENANCE (O&M) WORK DURING CONSTRUCTION

Operations and maintenance of existing infrastructure within the O&M Limits During Construction as defined by the Project Agreement, including:

- I-70 Mainline and associated infrastructure
- Local Agency infrastructure
- Drainage
- Water quality
- ITS and electronic toll collection facilities
- Utility services
- Traffic signals and lighting
- Railway structures
- Fencing
- Snow and ice control services (following NTP3)

1.3.7 OPERATIONS AND MAINTENANCE WORK DURING THE OPERATING PERIOD

Operations and maintenance of I-70 within the limits defined by Schedule 11 of the Project Agreement for the Operating Period (dashed line in figure above), including:

- Providing resources to safely maintain the roadway throughout the Term

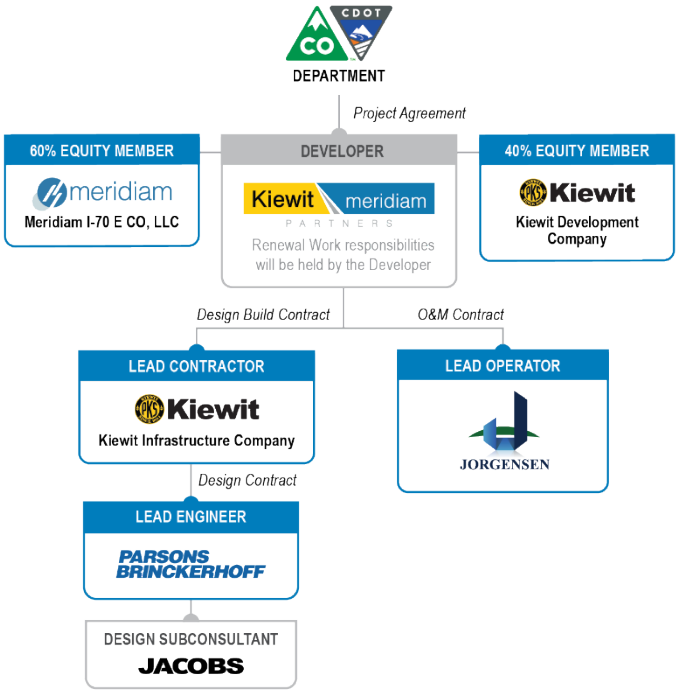
- Asset preservation including repair and Renewal
- Snow and ice control services
- Courtesy patrols
- Incident response
- Meet Handback requirements

1.4 KIEWIT-MERIDIAM PARTNERS COMPOSITION

KMP organized a streamlined Team to successfully deliver the Central 70 Project. The Core Proposer Team Members of Meridiam, Kiewit, Parsons Brinckerhoff, and Jorgenson are united by a commitment to Project success under a common project management system. KMP's lean approach has been cultivated from a history of working together, and by our shared cultures of safety, quality, environmental stewardship, and community service. The KMP Team needs no learning curve to start working together, and is positioned to execute on our joint Project delivery commitments from day one.

KMP's equity members—Meridiam and Kiewit Development Company—formed KMP for the sole purpose of developing this Project. KMP's Core Proposer Team Members, shown below, include Kiewit Infrastructure Company (KIC) as the Lead Contractor, Roy Jorgensen Associates (Jorgensen) as Lead Operator, and Parsons Brinckerhoff (PB) as Lead Engineer. Our Team is supported by the expertise of subconsultants and subcontractors who possess additional local knowledge and experience, including Jacobs as PB's main Design subconsultant. KMP is committed to identifying opportunities to maximize the involvement of small and disadvantaged businesses. Throughout the Project, KMP will remain the single point of responsibility for meeting all Project Agreement requirements.

KMP will co-locate with the Department in both the Project Office and the Colorado Transportation Management Center (CTMC) to foster a collaborative approach that ensures we meet the Department's Project goals throughout the Project.



1.5 KEY PERSONNEL AND CRITICAL STAFF

The table below shows KMP's Key Personnel who will be overseeing the Project. KMP has also identified positions, and individuals, as Critical Staff who will be instrumental in the successful delivery of the Project.

Key Personnel and Critical Staff

Staff Type	Title	Name	Employed by	Seconded to
KEY PERSONNEL	**Project Manager**	Chris Hodgkins	Meridiam	KMP
	Design-Build Manager	Tom Howell	KIC	
	Construction Manager	Barry Thoendel	KIC	
	Design Manager	Doug Andrew, PE	PB	
	O&M Manager	Abraham Henningsgaard, PE	Jorgensen	
	Project Quality Manager	Gordon Peterson, PE	KIC	KMP
	Independent Design Quality Manager	James Rozek, PE		
	Construction Process Control Manager	Sean McAfee	KIC	
	Independent Quality Control Manager	Tracy Martin, PE	KIC*	
	Environmental Manager	Jenn Bradtmueller, PE	KIC	KMP
	Utilities Manager	Kevin Custy	Jacobs	KIC
	Project Communications Manager	Hunter Sydnor	KIC	KMP
CRITICAL STAFF	**Technical Manager**	Martin Currie	KDC	KMP
	Financial Manager	Christopher Couallier	Meridiam	KMP
	Safety Manager	Ben Snow	KIC	KMP
	Construction Safety Manager	Kenyon Manley	KIC	
	Civil Rights Program Manager	Matt Christensen	KIC	
	DBE/ESB Program Manager and Outreach Training Manager	Colean Bembry	KIC	
	Lead Scheduler	Mauricio Solano	KIC	
	Design Integration Manager	Tim Nelson	KIC	
	Deputy Design Manager	Mark Talvite, PE	Jacobs	
	Cover Design Manager	Heath Therrien, PE	PB	
	Commercial Manager	Jamie Harvey, PE	KIC	

**Per Approved ATC 9.1 (see Attachment to the Quality Management Plan), KMP shall use in-house personnel in lieu of employees from an Independent Quality Control Firm*

2. Transportation Management Plan Contents

KMP has prepared this draft Central 70 Transportation Management Plan (TMP) following the requirements of Schedule 10, Section 2 of the Project Agreement to guide the execution of the maintenance of traffic (MOT) during construction. The goals of this TMP are to provide safe and effective traffic control, and to minimize impacts to local residents, businesses, and commuters. We accomplish this while limiting impacts to Swansea Elementary School to one construction season (ATC 57), and by optimizing 8 of the 16 allowable full ramp closures. Our Team will use this TMP during construction as a planning and policy guide in accomplishing the goals of the MOT program. This TMP is a living document that KMP will revise and update as needed during the duration of the Project's construction. The major components include:

- **Transportation Management Plan Strategies:** Highlights the three Work Areas of major construction, four phases of construction sequencing, and the various Stages of Construction Work. The TMP identifies existing and future conditions, major construction and MOT closures, detours, typical sections, and access.
- **Temporary Traffic Control Plan (TCP) Strategies:** Details KMP's approach to temporary traffic control and methods of handling traffic (MHT). The TCP defines KMP's strategy for applying, monitoring, and inspecting MHT for effectiveness and safety, as well as our processes for opening new MOT phases, and for handling winter maintenance of MOT devices and temporary striping. In addition, the TCP shows KMP's plan for working with affected owners to provide access points and to schedule closures. The TCP outlines how KMP will coordinate with the Colorado Transportation Management Center (CTMC) to control traffic, inform the traveling public, and handle after-hour or emergency needs.
- **Transportation Operations Plan (TOP) Strategies:** Provides KMP's approach to managing traffic, bicycle and pedestrian access, bus routes around schools, and impacts to handicapped mobility. The TOP outlines KMP's approach to working with Regional Transportation District (RTD), Denver International Airport (DEN), City and County of Denver (CCD), other applicable cities and agencies, and the Bruce Randolph School. In addition, the TOP defines KMP's approach for managing traffic incidents and emergency operations in its Incident Management Plan. The TOP outlines the Travel Demand Management strategies for working with the corridor-focused Transportation Management Organization (TMO) to improve traffic operation conditions during construction, including the grant program that we will provide to support community-based programs to encourage walking, bicycling, and transit use (see Section 4.8).
- **Public Information (PI) Strategies:** Summarizes the coordination and communication activities between the KMP Project Communication Manager, the Department's Communication Manager, and the MOT Task Force. KMP's PI strategies describe informing the public and affected agencies of TMP activities.

To prepare this TMP document, KMP reviewed and incorporated the contract requirements of Schedule 10, Section 2 Maintenance of Traffic Standards and other Project Agreement sections (Schedule 10, Section 11; Schedule 11; and Schedule 14). Our approach to MOT also follows the requirements of the Department's Work Zone Safety and Mobility Rule Procedures, the Guidelines for Developing Traffic Incident Management Plans for Work Zones, the Department's Standard Specifications, and FHWA's Manual on Uniform Traffic Control Devices (MUTCD).

2.1 TRANSPORTATION MANAGEMENT PLAN STRATEGIES

2.1.1 DESCRIPTION OF THE WORK AREAS, PHASES AND STAGES

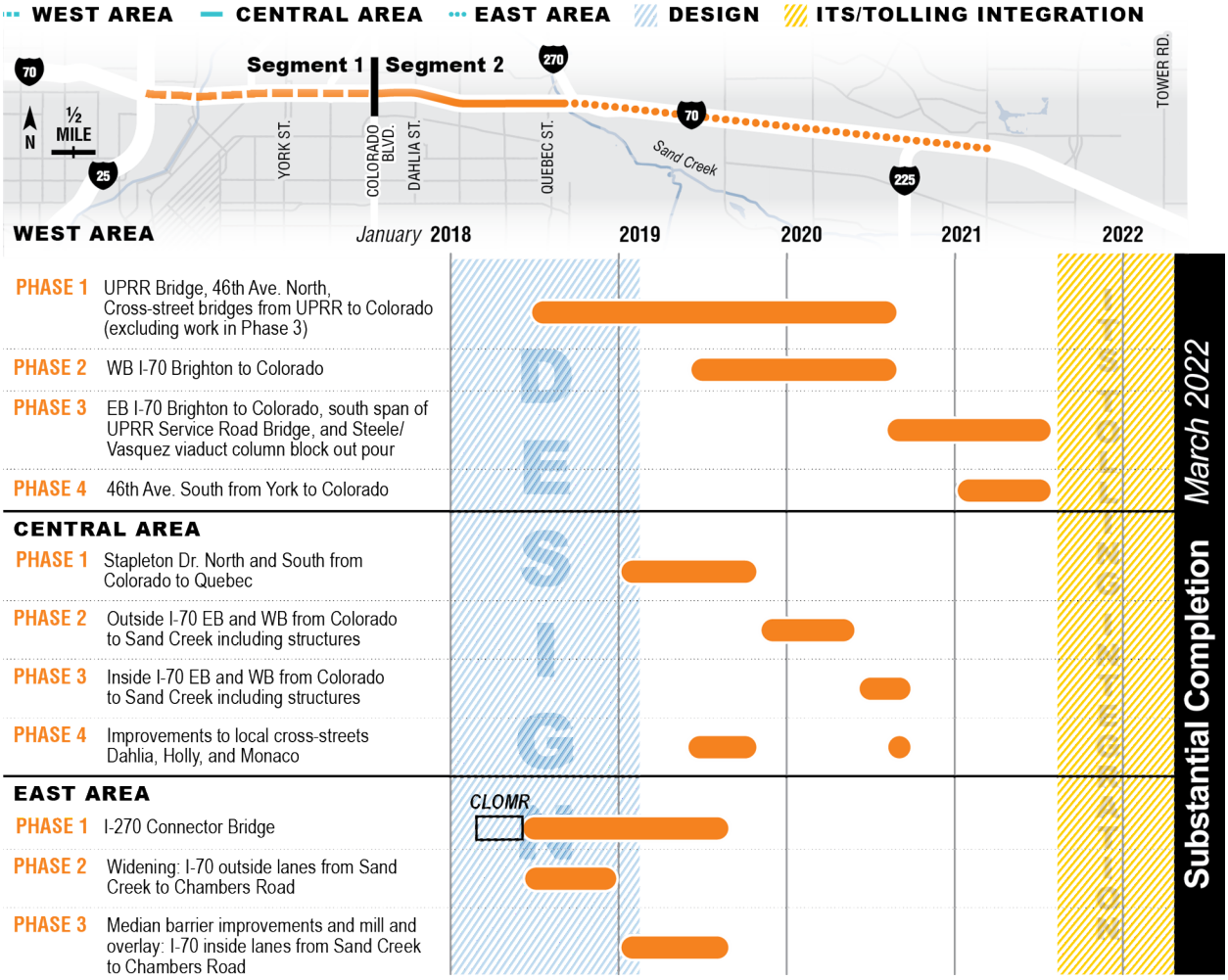
KMP has three Work Areas of major construction, with up to four phases of construction sequencing in each Work Area, and various Stages of Construction Work within each phase. KMP considered impacts to the traveling public, safety in the Work Area, and construction considerations to develop the MOT Work Areas, Phases, and Stages. Construction considerations include high-priority underground utilities installation, major construction needs, efficient resource management, and utility relocations. The Work Areas used to describe the MOT approach in the TMP address the construction schedule approach to meeting milestone completion commitments. Furthermore, as indicated in the graphics on the following pages, the use of the same Phase and Stage naming convention throughout the Project limits does not imply linear progression of the construction schedule across the Work Areas. KMP's construction phasing approach accommodates various sequencing of the Work between areas, while maintaining travel lanes and connectivity, as well as pedestrian, bicycle, and business access.

KMP's three major Work Areas are:

- **Work Area West:** Brighton Boulevard to Colorado Boulevard & I-25 to Brighton Boulevard
- **Work Area Central:** Colorado Boulevard to Sand Creek Bridge
- **Work Area East:** Sand Creek Bridge to Chambers Road

The graphic on the next page presents our overall approach to the Work Areas and phasing for the I-70 East Corridor.

Work Areas and Phasing Overview



2.1.2 WORK AREA WEST: I-70 BRIGHTON BOULEVARD TO COLORADO BOULEVARD & I-25 TO BRIGHTON BOULEVARD

Work Area West includes the entire Lowered Section of I-70 from SH-265 Brighton Boulevard to SH-2 Colorado Boulevard. The Work in this area includes:

- Construction of Brighton Boulevard, Steele Street/Vasquez Boulevard, and Colorado Boulevard interchanges
- The eastbound and westbound Lowered Section of I-70
- The Cover located between Columbine Street and Clayton Street
- UPRR and BNSF grade separation structures
- 46th Avenue North and South
- All cross-streets (York Street, Josephine Street, Columbine Street, Clayton Street, Fillmore Street, Cook Street, and Monroe Street)
- All drainage improvements
- New barrier rail
- Restriping between I-25 and SH-265 Brighton Boulevard
- Signing and ITS elements beyond the I-25 interchange

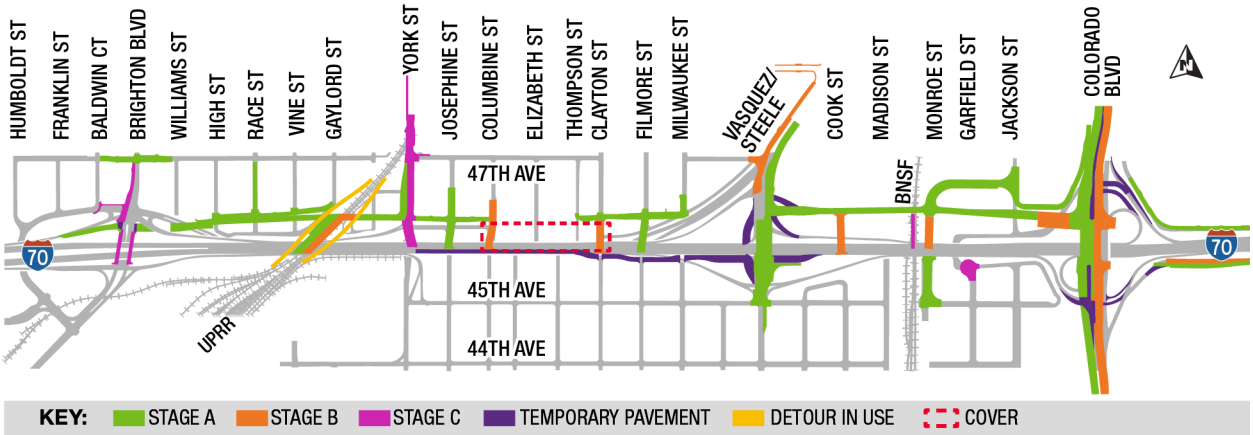
Each of the following sections includes additional details describing the sequencing of Work and maintenance of traffic for the Stages by Work Area and Phase. Approximate durations for each Stage are shown indicating the time necessary to complete all items of work within the Stage. To optimize the construction schedule, we will complete Work concurrently between Stages, if not precluded by maintaining traffic. Therefore, the durations shown do not indicate a linear progression of the Work.

2.1.2.1 Work Area West, Phase 1 (approximately 30 months)

In Phase 1 of Work Area West, KMP constructs 46th Avenue North, UPRR Bridge located between Brighton Boulevard and York Street, and all new cross-street bridges between the existing UPRR and Colorado Boulevard. KMP replaces the existing Colorado Boulevard Bridge, and reconstructs Steele Street/Vasquez Boulevard and Colorado Boulevard arterials along the I-70 corridor. The reconstruction of Brighton Boulevard also begins in Phase 1.

All of the I-70 eastbound and westbound traffic will stay in the existing alignments on the viaduct throughout Phase 1. KMP's phasing allows all entrance and exit ramp movements to be maintained throughout Phase 1. Existing eastbound and westbound traffic configuration on 46th Avenue is maintained in a head-to-head configuration on the existing westbound lanes. This allows KMP to construct and relocate utilities and drainage in 46th Avenue South from Brighton Boulevard to Colorado Boulevard, and mitigate significant schedule risk. Once the utilities and drainage are constructed, KMP shifts both eastbound and westbound traffic to a temporary 46th Avenue alignment south of the viaduct between Thompson Street and Cook Street so that 46th Avenue South and all cross-street bridges can be constructed in Phase 1.

Staged improvements of the cross-streets maintains vehicular, pedestrian, and bicycle connectivity throughout the construction phase. As an added value to the Project, KMP constructs Steele Street/Vasquez Boulevard using single-phase bridge construction. This single-phase approach creates an immediate benefit to the traveling public and businesses in the area by significantly reducing construction duration.



Work Area West, Phase 1

KMP maintains existing I-70 traffic in each direction on the viaduct. There are no long duration closures, and all ramps are maintained throughout Phase 1. There are no significant impacts to I-70 traffic or connectivity throughout this Phase (approximately two years).

STAGE A (12-14 MONTHS)

- **46th Avenue North/Jackson Street/47th Avenue:** A majority of this work is outside of existing roadways, and has little impact to traffic patterns. Between Monroe Street and Colorado Boulevard, the 46th Avenue North and Jackson Street improvements are staged to maintain access to existing 46th Avenue from 48th Avenue. Early completion of 46th Avenue North accommodates the maintenance of business, neighborhood, and ramp access, as well as providing improved pedestrian connectivity.
- **Brighton Boulevard:** Construction of the proposed westbound entrance ramp is completed outside of existing traffic. This approach limits the impacts of traffic to tie-ins with Brighton Boulevard and I-70. The existing westbound entrance ramp and slip ramp connection at 47th Avenue is maintained throughout this Stage. A more detailed description of KMP's construction phasing approach for the Brighton Boulevard interchange is included Section 2.2.1 of this TMP, below.
- **UPRR Bridge (west half)**: Our approach to the completion of the UPRR Bridge follows ATC 17 with a two-stage construction sequence that significantly improves safety of our Work, and facilitates a more efficient construction schedule. The existing west half of the UPRR Bridge is demolished, and the west half of the new bridge is completed. In this Stage, the east temporary shoofly and existing east half of the bridge accommodate all UPRR operations. Vehicular traffic on 46th Avenue between Brighton Boulevard and York Street is detoured to 48th Avenue at the beginning of this Stage.

The existing pedestrian path on 46th Avenue connecting the neighborhoods on the east and west sides of the railroad tracks, and which provides access to Swansea Elementary School, is maintained with a lit, covered, and secured access beneath the UPRR shoofly track. A more detailed description of KMP's construction phasing approach for the UPRR Bridge is included below in Section 2.2.2 of this TMP.

- **Steele Street/Vasquez Boulevard:** A temporary bypass maintains Steele Street/Vasquez Boulevard traffic to the west of the Work zone. This accommodates single-phase construction of the bridge, as well as a large portion of the arterial improvements in this Stage. Completing the Steele Street/Vasquez Boulevard bridge in a single Phase, and early in the Construction Period, greatly reduces the impact of the Work and creates an immediate benefit to the traveling public and businesses in the area. A more detailed description of KMP's construction phasing approach for the Steele Street/Vasquez Boulevard interchange is included below in Section 2.2.3 of this TMP.
- **Colorado Boulevard (west half):** Construction includes the west half of the new bridge over I-70, and the widening of Colorado Boulevard north and south of I-70. Traffic is maintained in the existing configuration with the exception of the southbound to eastbound entrance ramp. A temporary ramp connection to the existing northbound to eastbound entrance ramp and associated temporary intersection improvements is provided to maintain this movement. A more detailed description of KMP's construction phasing approach for the Colorado Boulevard interchange and arterial improvements is included below in Section 2.2.4 of this TMP.
- **Cross-streets – Josephine Street & Fillmore Street:** Our approach maintains neighborhood, business, and school access throughout construction. The cross-streets are staged to limit closures of adjacent streets. Josephine Street and Fillmore Street are completed in Stage A to facilitate early completion of utility relocations and mitigate construction risk. Vehicular, pedestrian, and bicycle detours are provided for both streets between 45th Avenue and 47th Avenue using adjacent cross-streets.

STAGE B (8-10 MONTHS)

- **UPRR Bridge (east half):** Railroad operations are moved to the west temporary shoofly and newly completed west half of the permanent bridge. Demolition of the existing east half of the UPRR Bridge, and the east temporary shoofly, occurs to accommodate completion of the permanent bridge. Vehicular, pedestrian, and bicycle traffic are maintained in the same covered and secured configuration as Stage A.
- **Colorado Boulevard (east half):** All traffic is shifted to the newly completed bridge and widened section of Colorado Boulevard. Temporary ramp connections are provided to maintain all movements. Demolition of the existing bridge and construction of the east half of the new bridge and reconstruction of Colorado Boulevard are completed.
- **Cross-streets—Columbine Street and Clayton Street:** Columbine and Clayton Street are critical access to Swansea Elementary School. To limit the

impacts to the school, following our ATC 57, these cross-streets are completed concurrently during a single summer break (i.e., when school is out of session) using the MOT Variance Process in accordance with Schedule 10 Section 2.3 of the Project Agreement. Vehicular, pedestrian, and bicycle traffic are maintained on a temporary detour along the Thompson Court and Elizabeth Street alignments.

- **Cross-streets – Cook Street & Monroe Street:** Both cross-street bridges are completed in this Stage. A temporary detour near the proposed Monroe Street crossing is provided to maintain connectivity between the new 46th Avenue North/Jackson Street roadways and existing 46th Avenue.

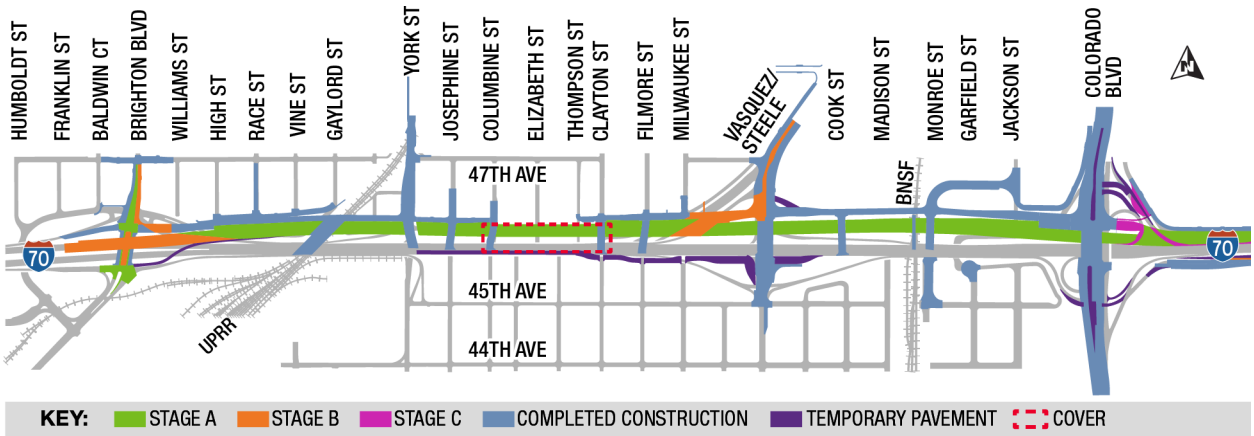
STAGE C (6-9 MONTHS)

- **Brighton Boulevard:** The first Stage of work along Brighton Boulevard includes utility relocations and partial width reconstruction under the bridge. A minimum of two lanes in each direction on Brighton Boulevard are maintained.
- **BNSF Railway:** The grade separation at the BNSF railroad is completed during the 9-month track outage period provided in the Project Agreement. The new 46th Avenue North alignment remains open to traffic, and access to businesses is maintained throughout this Work.
- **Cross-streets – York Street:** A full closure of York Street is implemented to complete the first phase of bridge construction and the cross-street improvements. Vehicular, pedestrian, and bicycle traffic are detoured between 46th Avenue and 47th Avenue to Josephine Street and Columbine Street. The first phase of bridge construction provides sufficient width to maintain up to four travel lanes and sidewalk on one side of the roadway. Due to a conflict with existing viaduct columns, KMP constructs the east half of the south span after demolition of the viaduct.

2.1.2.2 Work Area West, Phase 2 (approximately 14 months)

During Phase 2 of Work Area West, KMP constructs the westbound I-70 Lowered Section from Brighton Boulevard to Colorado Boulevard, including the westbound I-70 bridge over Brighton Boulevard and the north half of the Cover and all associated westbound ramps.

I-70 eastbound and westbound traffic remains on the viaduct in its existing configuration with minimal impacts to traffic throughout Phase 2. The 46th Avenue traffic under the viaduct remains in the eastbound lanes and detour pavement from Phase 1. KMP opens 46th Avenue North during Phase 2 as connections are completed. All cross-streets under the existing viaduct and to the north of I-70 are complete, providing improved pedestrian and bicycle access throughout the Work Area. By constructing Columbine and Clayton in the previous phase in a concurrent summer, KMP's phasing establishes the permanent, and improved, connectivity at Swansea Elementary School early with no further impacts.



Work Area West, Phase 2

KMP constructs the westbound I-70 Lowered Section with staged improvements at existing ramps to minimize impacts. I-70 traffic remains in existing configuration. All cross-streets are open, and neighborhood connectivity is improved with the additional sidewalks on 46th Avenue North and at the cross-streets.

STAGE A (8-10 MONTHS)

- **Westbound I-70 (Lowered Section):** The Lowered Section of the westbound I-70 lanes is constructed outside of the existing roadways. All ramp movements continue to be maintained, either in existing or proposed conditions, throughout this Stage.
- **Brighton Boulevard:** The center improvements in each direction on Brighton Boulevard are completed, while maintaining two lanes in each direction.

STAGE B (3-4 MONTHS)

- **Westbound I-70:** The west limits of full reconstruction is completed including half of the I-70 bridge over Brighton Boulevard. Westbound I-70 traffic crosses over to the existing eastbound lanes, before and after Brighton Boulevard, to accommodate the demolition of the existing bridge over Brighton Boulevard and a portion of the westbound viaduct. This crossover is the first of two major shifts of I-70 traffic in this section, and allows the existing I-70 lanes in both directions to be maintained.
- **Steele Street/Vasquez Boulevard Westbound Entrance Ramp:** The remainder of 46th Avenue North and the westbound entrance ramp are completed in this Stage. The existing ramp will be closed and traffic detoured to the Colorado Boulevard westbound entrance ramp through either 40th or 48th Avenues.
- **Brighton Boulevard:** The final Stage of Brighton Boulevard is the roadway along the centerline of Brighton Boulevard and the center piers for the new I-70 structure. Two lanes of traffic continue to be maintained in each direction.

STAGE C (1-2 MONTHS)

- **Westbound I-70:** The final sections of westbound I-70 near Colorado Boulevard is completed in this Stage. Traffic in both directions on I-70

remains in the existing configuration on the viaduct until the connections to the westbound exit ramps at Colorado Boulevard are complete, including temporary commissioning of the Cover systems in the westbound bore. By switching the westbound traffic on to the westbound lanes of the Lowered Section of I-70, before switching the eastbound lanes, KMP is able to maintain all I-70 travel lanes and ramp connectivity while completing these tie-in areas.

- **Colorado Boulevard Ramp:** Completion of the I-70 westbound exit ramp at Colorado Boulevard is completed during a short term ramp closure. All movements is restored when the I-70 westbound traffic is switched to the new Lowered Section.

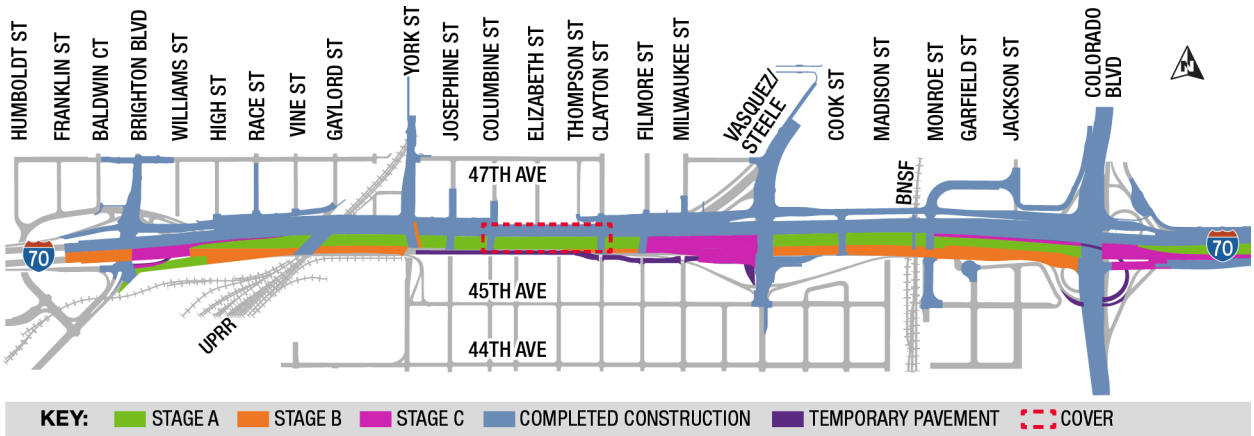
2.1.2.3 Work Area West, Phase 3 (approximately 11 months)

In Phase 3 of Work Area West, our phasing plan shifts all traffic to the newly constructed west half of the I-70 bridge over Brighton Boulevard and to the westbound Lowered Section. This allows construction on the eastbound Lowered Section, including the I-70 bridge at Brighton Boulevard and the south half of the Cover. This is the second of two major traffic switches for I-70 traffic in this Work Area.

KMP's Lead Contractor demolishes the existing viaduct from Colorado Boulevard to Brighton Boulevard in segments. This allows the construction of temporary ramps for the eastbound I-70 to Colorado Boulevard and eastbound I-70 to Steele Street/Vasquez Boulevard, and maintains access for the traveling public on Steele Street/Vasquez Boulevard and Colorado Boulevard exit ramps with minimal disruptions to traffic.

Traffic on 46th Avenue shifts further south along the temporary pavement constructed in Phase 1 between York Street and Steele Street/Vasquez Boulevard once the viaduct is demolished. This shift accommodates construction of the permanent retaining walls for the eastbound Lowered Section, and maintains the temporary connection between Clayton Street and Columbine Street in the Elyria-Swansea neighborhood. This approach does not impact bicycle or pedestrian access

Within Phase 3, MHTs for various Stages, the drainage, median barrier rail, and signing improvements to the west of Brighton Boulevard are completed. Most of this work can be completed within any Stage with very limited impact to traffic, because shoulder closures are the primary means of Work Zone delineation. The final sections of new median barrier rail in the area of the eastbound I-70 crossover (just west of Brighton Boulevard) is the last piece of work at the end of Phase 3, occurring at the beginning of Phase 4 after I-70 Mainline lanes are moved to the final configuration.



Work Area West, Phase 3

Allowing existing ramp traffic to stay on the viaduct after I-70 traffic is moved to the Lowered Section allows KMP to build temporary ramps and maintain access on York Street, Steele Street/Vasquez Boulevard, and Colorado Boulevard exit ramps with minimal disruption to traffic.

STAGE A (5-6 MONTHS)

- **Eastbound I-70 (Lowered Section):** Once the existing viaduct is demolished, a large portion of the eastbound Lowered Section is constructed. Segments of the eastbound construction are completed in later Stages to maintain ramp movements for the longest duration possible, and to minimize impacts to the traveling public. All I-70 traffic is maintained on the new westbound lanes.
    - **Eastbound Ramp Connectivity:** There are a coordinated series of ramp switches within Stage A. At the onset of this Stage, all exit ramps are maintained on the existing viaduct. This allows for the construction of temporary ramps at Colorado Boulevard and Steele Street/Vasquez Boulevard. The following table indicates the status of each eastbound ramp at the beginning and end of Stage A in the order of operation.

STAGE B (3-4 MONTHS)

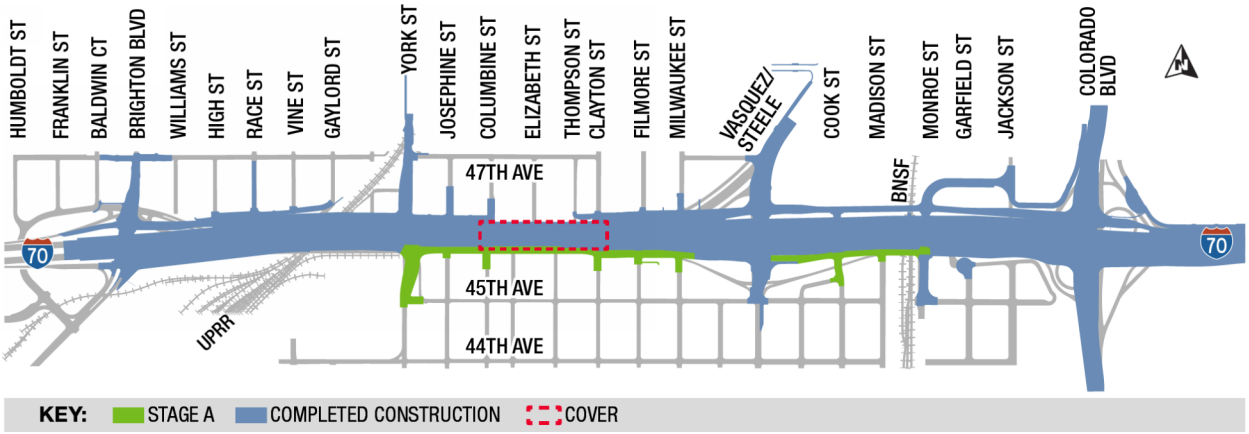
- **Eastbound I-70 (Lowered Section):** After all ramp movements are removed from the existing viaduct, the bridge over Brighton Boulevard and the remaining reconstruction to the west begins. Mainline traffic remains in the same configuration as Stage A.
- **46th Avenue South:** Construction of 46th Avenue South, with the exception of York Street to Steele Street/Vasquez Boulevard, occurs in this Stage.
- **Steele Street/Vasquez Boulevard:** With the viaduct demolition complete, the remainder of the bridge deck is installed in this Stage. Any work requiring a lane closure is completed within the allowable lane closure periods.
- **Cross-streets – York Street:** The second phase of the bridge (over the eastbound lanes of I-70) is completed in this Stage. There are no impacts to cross-street traffic.

STAGE C (2 MONTHS)

- **Eastbound I-70 (Lowered Section):** Once permanent ramps at Brighton Boulevard and Colorado Boulevard are opened, the remaining sections of the I-70 eastbound lanes are constructed. Changes in eastbound ramp connectivity for this Stage are detailed in the following text:
    - Brighton Boulevard entrance ramp: Traffic is shifted to the proposed ramp and ties in to the Mainline lanes prior to the UPRR structure.
    - York Street access: With the completion of the Brighton Boulevard entrance ramp and 46th Avenue South in this area, the permanent connectivity to York Street is open to traffic.
    - Steele Street/Vasquez Boulevard exit ramp: This ramp is closed to traffic for 6 months. A detour to the Colorado Boulevard exit ramp is provided. A signed detour is provided via 40th and 48th Avenues to return to Steele Street/Vasquez Boulevard.
    - Colorado Boulevard exit ramp: The permanent exit ramp to Colorado Boulevard is opened to traffic, and connected to the Mainline lanes across the completed eastbound I-70 pavement.
    - Colorado Boulevard entrance ramp: This ramp is maintained in a similar configuration to previous Stages, but the temporary intersection is shifted to the south to accommodate the completion of the permanent entrance ramp.
    - Final commissioning of Cover systems: All systems for the Cover are commissioned for final configuration of traffic.

2.1.2.4 Work Area West, Phase 4 (approximately 7 months)

During Phase 4 of Work Area West, much of the work is completed and open to traffic. All I-70 traffic, including ramp movements, is open in final configuration. Brighton Boulevard, Steele Street/Vasquez Boulevard, and Colorado Boulevard arterials are also completed.



Work Area West, Phase 4

I-70 traffic is in final configuration.

STAGE A (7-8 MONTHS)

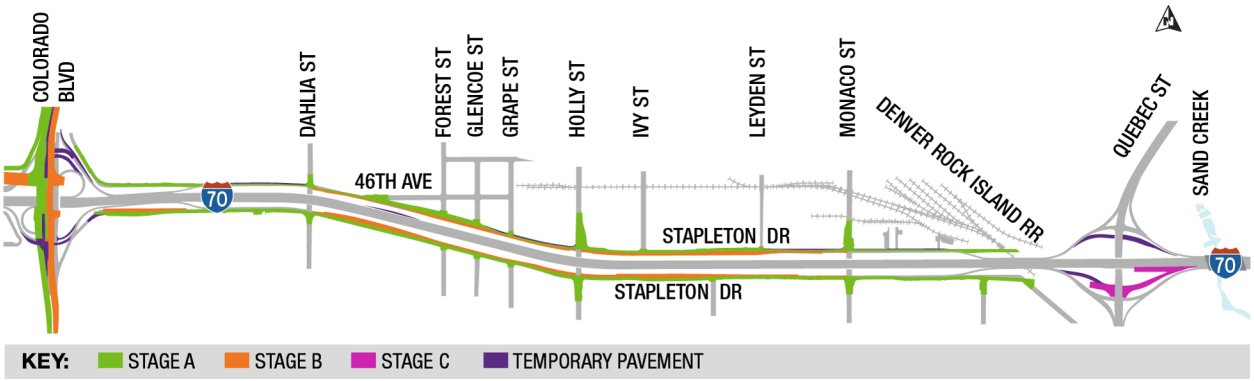
- **46th Avenue South:** The final section of 46th Avenue South between York Street and Colorado Boulevard is completed in this Stage. Two-way traffic operations between Columbine Street and Clayton Street, and near Swansea Elementary School, are maintained.
- **Cross-streets:** The remaining cross-street improvements at 46th Avenue South are completed, employing a similar approach as used in Phase 1. Where full closures are needed to complete the work, adjacent streets are used as detour routes. Adjacent streets are not closed concurrently, and access to Swansea Elementary School is maintained at all times while school is in session.

2.1.3 WORK AREA CENTRAL: I-70 COLORADO BLVD TO SAND CREEK

This Work Area includes the reconstruction of I-70 beginning from Colorado Boulevard to Sand Creek Bridge, and entails a four-phased construction sequence. Within this Work Area, KMP completes the improvements at Stapleton Drive North and South, widens I-70 including the bridges over the Denver and Rock Island Railroad and the median work on the existing Sand Creek bridge, and replaces bridges at Dahlia Street, Holly Street, Monaco Street, and Quebec Street. KMP maintains all lanes of traffic on I-70 and ramp connections, and maintains connectivity north and south of the freeway.

2.1.3.1 Work Area Central, Phase 1 (approximately 11 months)

During Phase 1 of Work Area Central, KMP constructs Stapleton Drive North and South from Colorado Boulevard to Quebec Street. A sidewalk on each direction of Stapleton Drive and business access is maintained throughout this phase. On I-70 eastbound and westbound, between Dahlia Street and Monaco Street, KMP removes inside guardrails and provides temporary paving and bridge improvements required to maintain traffic in the next phase. Traffic on Dahlia Street, Holly Street, Monaco Street, and Quebec Street stays in existing alignment for this phase, including existing bicycle and pedestrian access. All ramp movements are maintained throughout Phase 1.



Work Area Central, Phase 1

We maintain Stapleton Drive connectivity throughout this phase. I-70 is in its existing configuration, including ramps for the entire area during this phase, while work on temporary pavement occurs on the inside.

STAGE A (3-4 MONTHS)

Stapleton Drive North & South: Improvements on Stapleton Drive North and South are staged to maintain a minimum of one lane and a pedestrian path at all times. Where necessary, temporary pavement and temporary walls are constructed to maintain traffic while the first Stage of permanent improvements are completed.

STAGE B (3-4 MONTHS)

Stapleton Drive North & South: Generally, traffic is switched to the pavement completed in Stage A to maintain the single travel lane and pedestrian access on

both roadways. The exception is at the existing I-70 slip ramps. All four slip ramps are maintained in existing configuration until the new Holly Street ramps are completed and open to traffic in Phase 2.

STAGE C (3-5 MONTHS)

- **I-70:** To facilitate traffic shifts required for the I-70 improvements in Phase 2, the existing inside barrier rail and guardrail are removed and replaced with temporary pavement and temporary barrier rail. Temporary bridge improvements are completed at Dahlia Street and Holly Street to accommodate Phase 2 traffic as well. Existing lanes on I-70 are maintained by shifting traffic to the outsides in both directions.
- **Quebec Street Ramps:** The permanent eastbound entrance ramp and the eastbound exit ramp terminal are constructed along with temporary ramps for both westbound ramps. These ramps provide connectivity throughout construction at Quebec Street in future Stages until all permanent movements are open. During Phase 1, traffic is maintained on the existing ramps. A more detailed description of KMP's construction phasing approach for Quebec Street interchange is included below in Section 2.2.5 of this TMP.

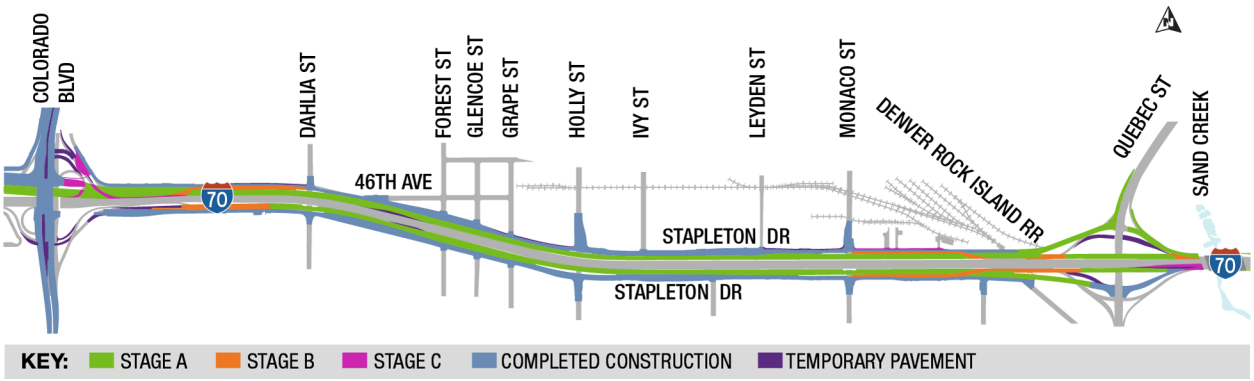
2.1.3.2 Work Area Central, Phase 2 (approximately 7 months)

During Phase 2 of Work Area Central, KMP constructs the outside widening and improvements to I-70 eastbound and westbound from Colorado Boulevard to Quebec Street. KMP also constructs the outside halves of the north and south bridge structures at Dahlia Street, Holly Street, Monaco Street, Denver Rock Island Railroad, and Quebec Street. The new bridge carrying I-70 over Quebec Street was revised to a single-span to simplify traffic control on Quebec Street during construction. The Work completed in this phase allows traffic to switch to the new pavement in the next phase, ensuring that all travel lanes remain open. Mainline traffic is maintained on existing I-70, and all ramp traffic is maintained throughout the phase.

STAGE A (2 MONTHS)

I-70: Existing travel lanes in both directions is maintained with a minor traffic shift towards the center. To accommodate all travel lanes, and construct enough width for traffic in Phase 3, reduced shoulders are provided in this area with emergency pullouts located at half-mile intervals as needed. Ramp connectivity for this Stage is described below:

- **Slip Ramps (Dahlia Street and Monaco Street):** Existing ramps are maintained between Stapleton Drive North and South and I-70.
- **Holly Street:** Permanent ramps are constructed.
- **Quebec Street:** All ramp movements are maintained by way of the temporary and permanent ramps completed in Phase 1.



Work Area Central, Phase 2

We maintain I-70 traffic in its existing condition with some minor shifting. North-south connectivity is maintained on all cross-streets, and east-west connectivity is maintained along Stapleton Drive North and South at all times.

STAGE B (2-3 MONTHS)

I-70: The remaining outside sections of I-70, including Stapleton Drive North and South, in the areas of the existing ramps are completed in this Stage. I-70 Mainline lanes remain in the same configuration as Stage A. Ramp connectivity for this Stage is described below:

- Slip Ramps (Dahlia Street and Monaco Street): These ramps are permanently closed.
- Holly Street: All traffic from the slip ramps is moved to the permanent configuration at Holly Street.
- Quebec Street: Both westbound permanent ramps are open to traffic. The westbound entrance ramp and eastbound exit ramp have short term closures to complete “plugs,” and are then reopened on the temporary ramp connections.

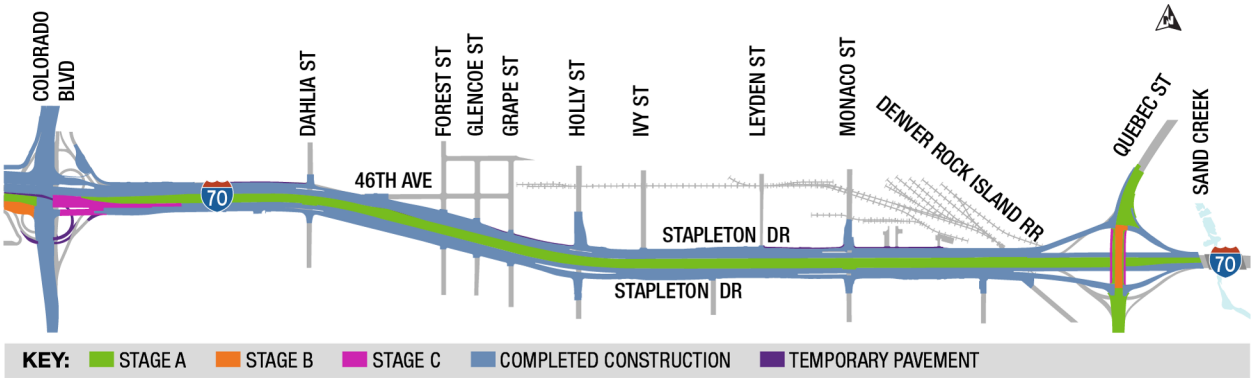
STAGE C (2-3 MONTHS)

- **I-70:** Final outside I-70 improvements are completed to facilitate traffic in Phase 3. All Mainline and ramp lanes are maintained with minor shifts to accommodate the work zone.
- **Stapleton Drive:** Final improvements for both Stapleton Drive North and South are completed. A minimum of one lane and a sidewalk on each roadway is maintained throughout this Stage.

2.1.3.3 Work Area Central, Phase 3 (approximately 4 months)

In Phase 3 of Work Area Central, a major traffic shift occurs moving traffic to the newly constructed outside lanes. KMP then constructs the remaining inside portion of I-70, including bridge structures at Dahlia Street, Holly Street, Monaco Street, Denver Rock Island Railroad, and Quebec Street.

All ramps are provided in the permanent configuration, and at the beginning of Phase 3, all traffic is located on new pavement, and final ramp configurations are operational.



Work Area Central, Phase 3

Ramps and Stapleton Drive are in permanent configurations throughout this phase. This benefits traffic operations, business access, and emergency services.

STAGE A (2-3 MONTHS)

- **I-70:** Traffic in both directions is shifted to the outside, onto the completed permanent pavement. This is the major traffic shift in this Work Area. All existing lanes are provided, but shoulders are still reduced. Emergency pullouts are provided at half-mile intervals as needed in both directions.
- **Quebec Street:** Traffic on Quebec Street under I-70 is maintained by providing through lanes to the outside, and turn lanes in the center, to accommodate the sequential improvements on Quebec Street. North and south of the ramp intersections, improvements are staged to maintain existing lanes.

STAGE B (1 MONTH)

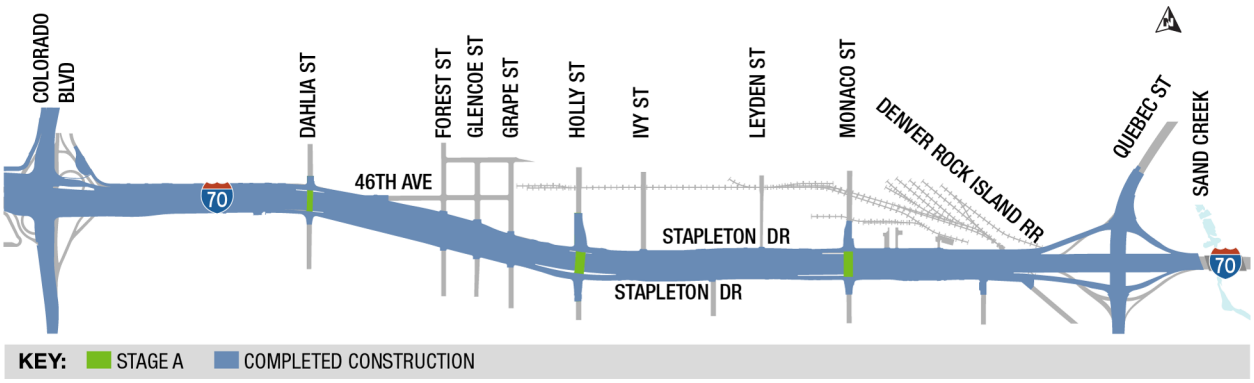
Quebec Street: Travel lanes are shifted to the outside in both directions while the center portion of Quebec Street under I-70 is completed.

STAGE C (1 MONTH)

Quebec Street: After the new I-70 bridge over Quebec Street is complete, the permanent widening of Quebec Street is completed. Traffic is shifted to the center on Quebec Street.

2.1.3.4 Work Area Central, Phase 4 (approximately 6 months)

In Phase 4, eastbound and westbound I-70 construction from Dahlia Street to Quebec Street has been completed, and traffic is in its final configuration, including Stapleton Drive North and South and all ramp access. All I-70 bridge structures are completed and open to traffic. The final improvements on the cross-streets under I-70 are completed in this phase.



Work Area Central, Phase 4

We stage cross-street construction in this final phase of work to maintain north-south connectivity at all times.

STAGE A (6 MONTHS)

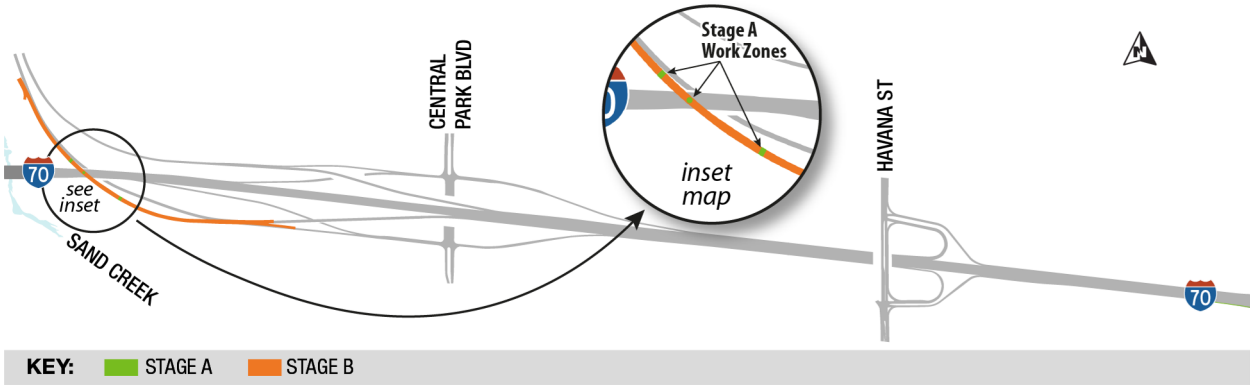
Cross-streets—Dahlia Street, Holly Street & Monaco Street: KMP coordinates the Construction Work on the cross-streets to minimize impacts to traffic in concurrence with the completion of Phase 3.

2.1.4 WORK AREA EAST: I-70 SAND CREEK TO CHAMBERS ROAD

Work Area East consists of the widening of I-70 between Sand Creek and I-225, reconstruction of the bridge over Peoria Street, construction of a new I-270 flyover structure, and barrier rail improvements and restriping from the east end of the widening to approximately Chambers Road.

2.1.4.1 Work Area East, Phase 1 (approximately 15 months)

During Phase 1 of Work Area East, KMP constructs the I-270 bridge structure over I-70. All traffic is generally in the existing configuration, with minor lane shifts and shoulder closures to accommodate safe work zones.



Work Area East, Phase 1 (west end)

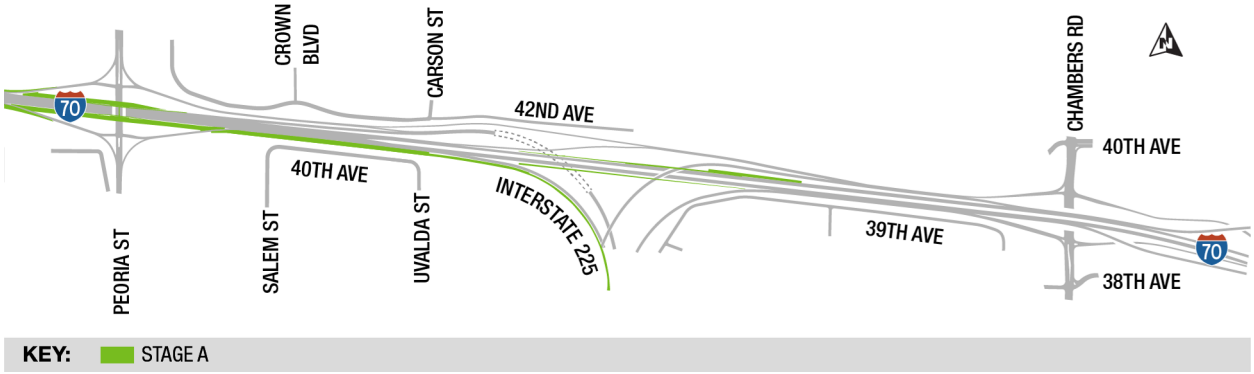
KMP will construct the I-270 bridge median piers while I-70 traffic is shifted to the outside.

STAGE A (7-8 MONTHS)

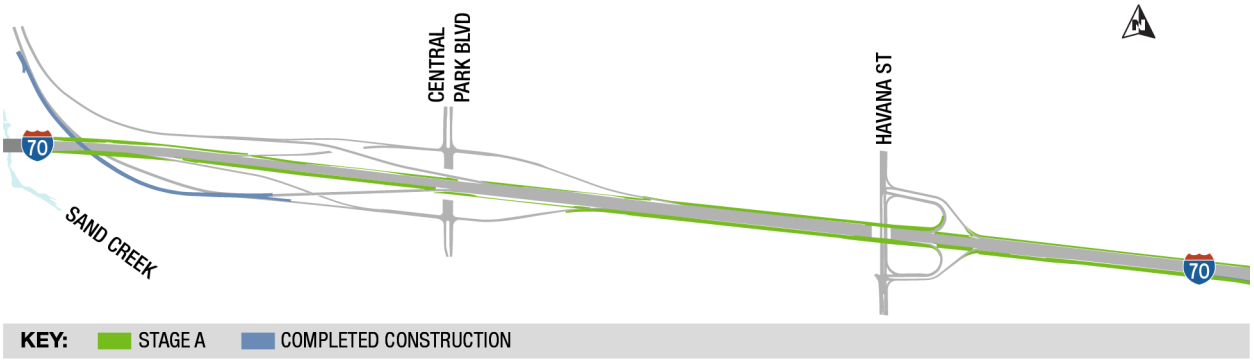
I-270: KMP shifts traffic on eastbound and westbound I-70 to the outside to accommodate the I-270 median pier construction. Both abutments are completed outside of existing I-70 in this Stage. Travel lanes on the existing I-270 flyover are maintained by shifting to the inside, away from the north abutment work zone.

STAGE B (7-8 MONTHS)

I-270: We complete the superstructure in this Stage. Nighttime closures of I-70 are required to accommodate girder erection, deck pours, and the demolition of the existing flyover structure. Traffic remains on the existing I-270 flyover until the new flyover is complete.



Work Area East, Phase 2 (east end)



Work Area East, Phase 2 (west end)

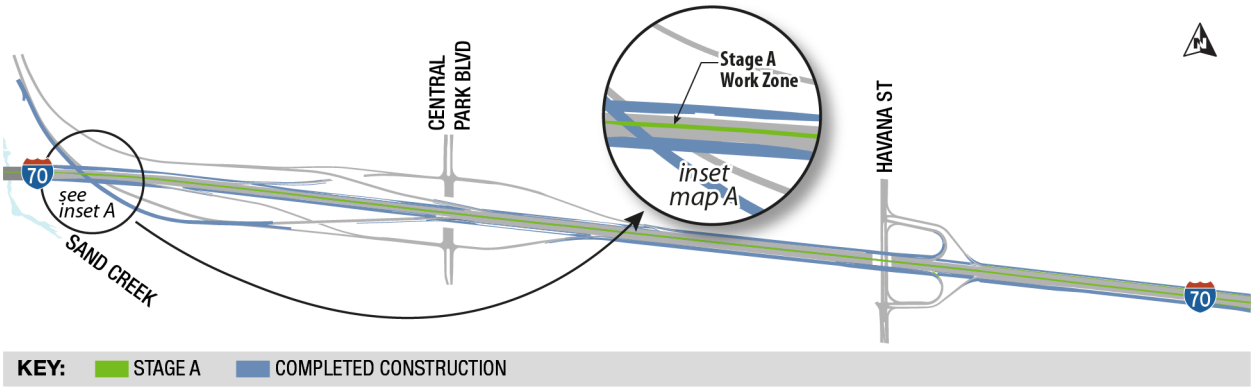
2.1.4.2 Work Area East, Phase 2 (approximately 7 months)

In Phase 2 of Work Area East, KMP completes the widening of I-70 between Sand Creek and I-225, including the I-70 bridge over Peoria Street. All existing lanes and ramp movements are maintained throughout this phase.

STAGE A (6-8 MONTHS)

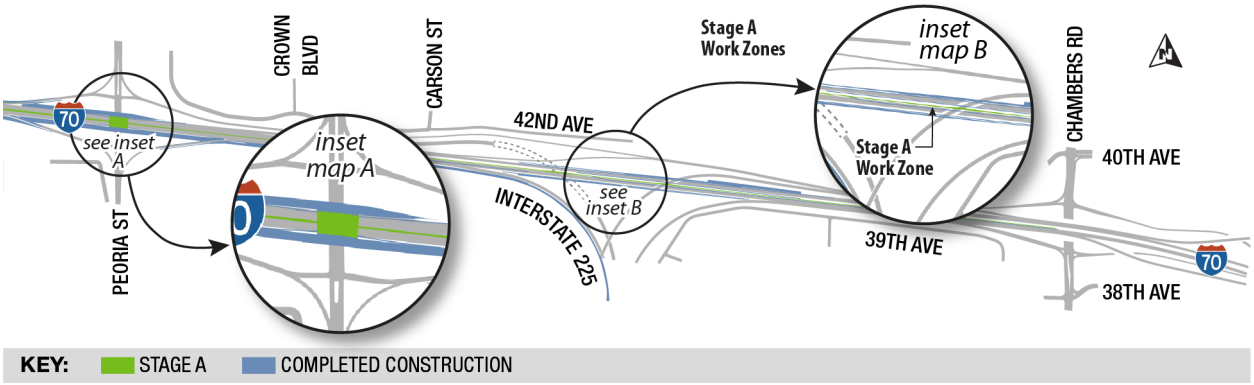
I-70: Traffic in both directions is shifted to the inside to accommodate the widening. In this Phase, KMP completes all widening work. Widening at the eastbound I-225 exit ramp is included in this Stage.

Peoria Street: Widening to the north and south of the existing bridge over Peoria Street is completed in this Stage. Our proposed bridge Design accommodates these widenings without requiring partial demolition of the existing structure. The new center piers on Peoria Street are completed in this Stage as well. To accommodate traffic, we install temporary soil nail walls in place of the existing slope abutments and widening the existing pavement. This wall allows existing lanes and pedestrian access to be maintained throughout construction in this Work Area.



Work Area East, Phase 3 (west end)

We complete all work for the widening in this phase. The traffic shift is finished in conjunction with the traffic shift in Phase 2



Work Area East, Phase 3 (east end)

KMP completes construction of the I-70 bridge over Peoria Street in two Stages while maintaining all existing lanes.

2.1.4.3 Work Area East, Phase 3 (approximately 8 months)

In Phase 3 of Work Area East, KMP completes the median work and the Peoria Bridge.

STAGE A (8-9 MONTHS)

I-70: With all widening in the Work Area complete, KMP shifts traffic to the permanent General Purpose Lanes in both directions to complete the median improvements and the I-70 bridge over Peoria Street. New barrier rail is installed to approximately Chambers Road. The newly completed widening at Peoria Street accommodates all existing lanes.

Peoria Street: Closures of Peoria Street are required for demolition of the existing structure and completion of the new bridge (girder setting, deck pours, etc.).

2.2 COMPLEX MOT PHASING AND STAGING – EXAMPLES

Our Team has developed a detailed construction phasing approach to address the complexities of the Project, and meet or exceed expectations. The following section describes several of the more complex areas, and our approach to limit impacts to the traveling public, neighborhoods, and businesses. The detailed exhibits address the access issues discussed above, including key points related to these MOT solutions, Project constraints, and areas where we exceed the Project Agreement requirements.

The following pages display exhibits and staging details for Brighton Boulevard, the UPRR Bridge, Steele Street/Vasquez Boulevard, Colorado Boulevard, and Quebec Street with the text describing the phasing appearing on the left page and accompanying graphics appearing on the right.

2.2.1 BRIGHTON BOULEVARD

Several activities define the construction phasing for the improvements on Brighton Boulevard:

- Reprofiling of Brighton Boulevard to provide clearance under the new I-70 bridge
- Relocation of utilities
- Maintenance of at least two lanes of traffic in each direction and pedestrian access
- Construction of the center piers for the new I-70 bridge

Based on our comprehensive traffic analysis, we can reduce Brighton Boulevard to two lanes in each direction and still maintain operations. This traffic approach is implemented throughout the Stages of work on Brighton Boulevard, in order to complete the Work outside of the National Western Stock Show in January. Providing two lanes of traffic throughout construction limits the impacts to the neighborhood and businesses, and maintains the gateway access to downtown Denver. Additionally, our phasing approach includes only one long term ramp closure.

2.2.1.1 Phase 1, Stage C

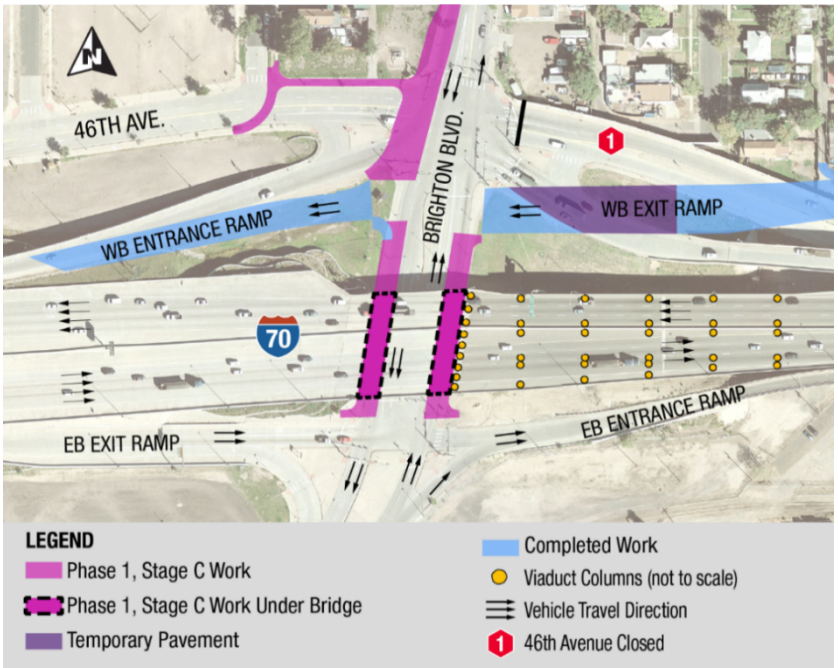
Because the new I-70 bridge does not provide sufficient clearance over existing Brighton Boulevard, the reprofiling of Brighton Boulevard is completed to provide minimum travel lanes before any part of the new bridge spans the cross-street. In this first Stage of Work, utility relocations and reconstruction of the outside lanes and sidewalks in both directions are completed. Pedestrian access is maintained on one side of the street at all times, and two lanes in each direction are maintained under I-70. We also complete the widening to the north of I-70, including the permanent closure of 46th Avenue to the west.

Before switching traffic for the next Stage of work, we provide temporary tie-ins (grade modifications) at the ramp intersections during overnight closures to maintain connectivity to the ramps and Brighton Boulevard.

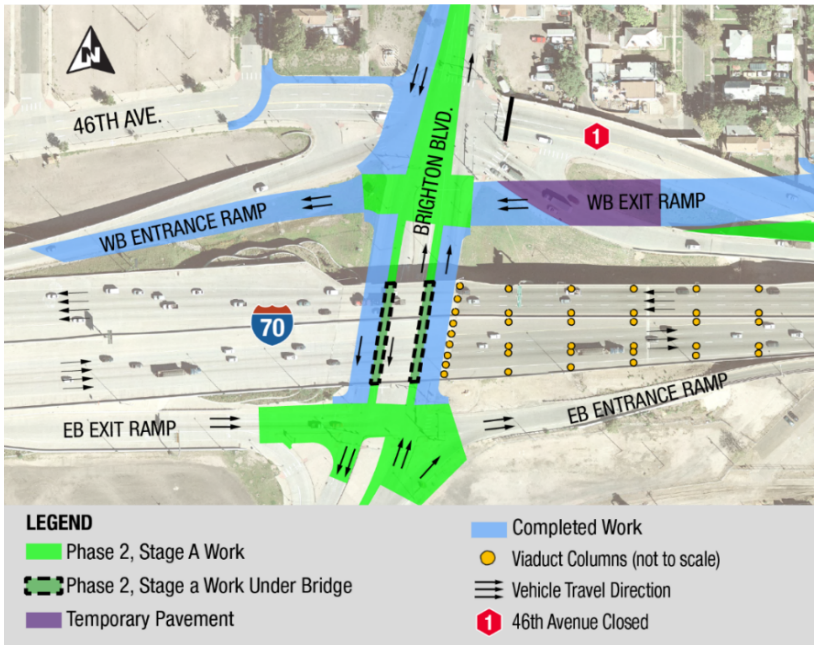
2.2.1.2 Phase 2, Stage A

With minor changes to the width of Brighton Boulevard, maintaining two lanes throughout construction requires a three-stage construction approach. In this Stage, through traffic in both directions is shifted to the new pavement, and ramp lanes are maintained on the existing inside pavement. Sidewalks on both sides of Brighton Boulevard are complete.

construction on the south side of the interchange is minor because the new profile is close to the existing grade. This Work is staged with Utility Work, using overnight lane closures in accordance with the allowable closure periods.



Brighton Boulevard Phase 1, Stage C



Brighton Boulevard Phase 2, Stage A

2.2.1.3 Phase 2, Stage B

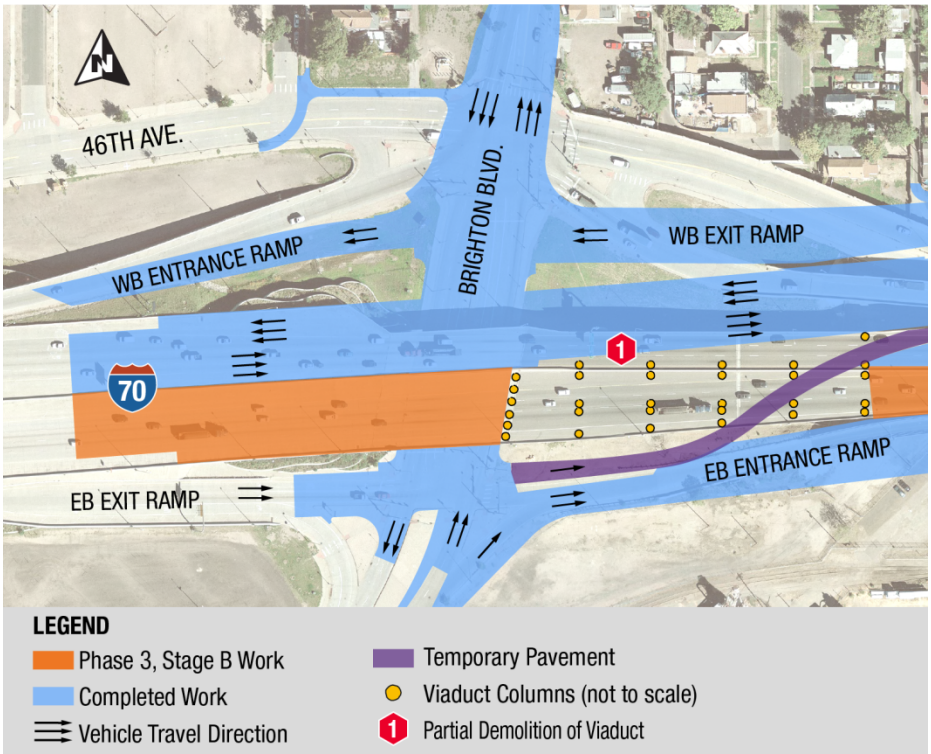
In this Stage, traffic is shifted to the new reprofiled Brighton Boulevard, allowing the construction of the north half of the I-70 bridge to begin. KMP completes the remaining improvements in the center of Brighton Boulevard, including the center piers for the north half of the I-70 bridge, and the foundations for the south half. The benefit of completing all pier foundations in this Stage is that it allows for a smaller staging area to complete the south half of the I-70 bridge in Phase 3, thereby reducing impacts to traffic.

I-70 Mainline traffic is maintained on the existing eastbound bridge. We demolish the north half of the bridge over Brighton Boulevard and a portion of the existing westbound viaduct. Overnight closures of Brighton Boulevard are implemented during demolition and specific Construction Work over the travel lanes (girder setting, deck pours, etc.). Temporary shoring of the viaduct is installed to maintain the stability and safety of the remaining structure. KMP constructs the final section of the proposed westbound exit ramp in this Stage under a full closure of the ramp. The detour at Washington Street accommodates traffic.

2.2.1.4 Phase 3, Stage B

Once the eastbound ramp lanes are shifted into the Lowered Section, we begin the construction of the south half of the I-70 bridge over Brighton Boulevard. Similar to Phase 2 Stage B, overnight closures of Brighton Boulevard are implemented during demolition and specific Construction Work over the travel lanes (girder setting, deck pours, etc). Outside of these closures, there are limited impacts to the traveling public on either Brighton Boulevard or I-70 because all lanes, ramps, and sidewalks are maintained.

Brighton Boulevard Phase 2, Stage B



Brighton Boulevard Phase 3, Stage B

2.2.2 UPRR

We are proposing sub-phasing of the UPRR improvements per ATC 17, to enhance construction safety, access, and efficiency. Our plan eliminates the need to perform construction between active railroad tracks, increasing safety for the workers and railroad employees. This also reduces the impacts to railroad operations.

A major concern of the Project stakeholders is the impact to pedestrian access along 46th Avenue during this Work, specifically access to the Swansea Elementary School. For the duration of UPRR bridge construction, installation of a lit, covered, and secured access beneath the UPRR shoofly track provides safe pedestrian movement, including for students. This solution eliminates detours of pedestrian traffic traveling to Swansea Elementary School, and the additional safety concerns of increased pedestrian activity at the York Street grade crossing of the UPRR.

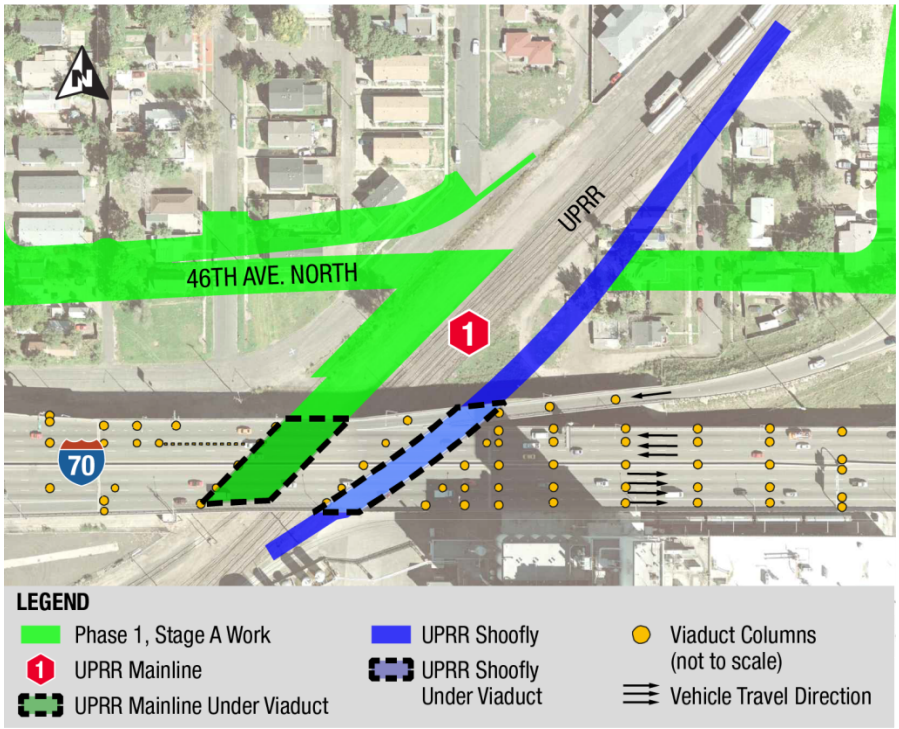
We close 46th Avenue between Brighton Boulevard and York Street at the onset of this construction activity. Brighton Boulevard, 48th Avenue, and York Street serve as the detour route.

2.2.2.1 Phase 1, Stage A

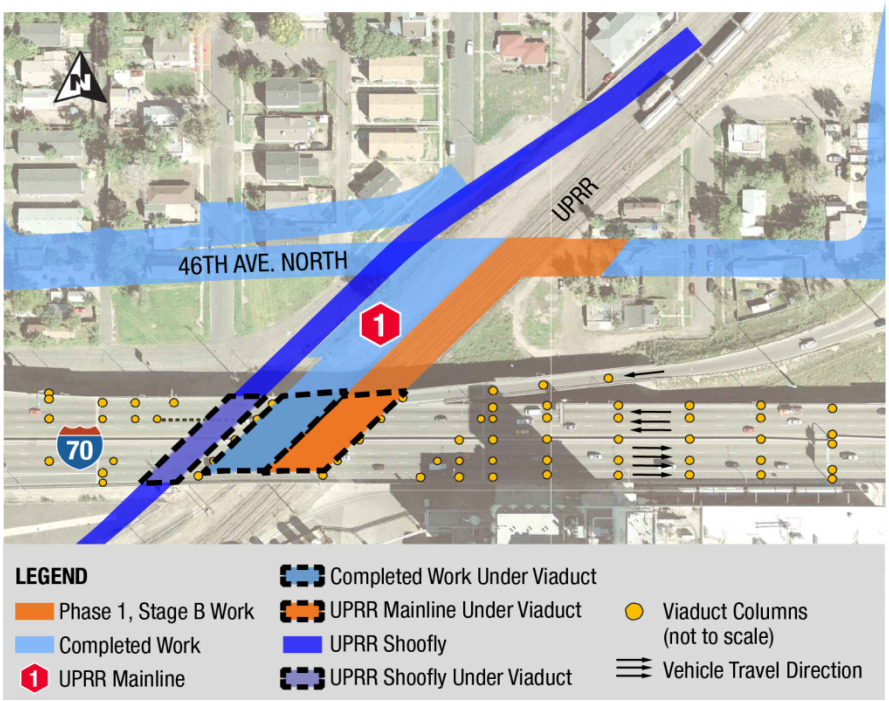
After traffic on 46th Avenue is detoured, the east shoofly is constructed. All railroad traffic is shifted to the existing east half of the bridge and the shoofly. KMP demolishes the existing west half of the UPRR structure, and constructs the west half of the new bridge. All work in this Stage is accessed and completed from the west side of the Work Zone to minimize impacts to UPRR operations. We construct the west shoofly at the end of this Stage.

2.2.2.2 Phase 1, Stage B

All railroad operations are switched to the west temporary shoofly and newly completed west half of the permanent bridge. Demolition of the existing east half of the bridge, and the east temporary shoofly, occurs to accommodate completion of the permanent bridge. Vehicular, pedestrian, and bicycle traffic are maintained in the same configuration as Stage A. Similar to Stage A, work zone access does not impact UPRR operations.



UPRR Phase 1, Stage A



UPRR Phase 1, Stage B

2.2.3 STEELE STREET/VASQUEZ BOULEVARD

The Steele Street/Vasquez Boulevard structure is a first-stage Work item that accommodates the critical path relocation of the CenturyLink fiber optic backbone (CLNK201, CLNK202, and CLNK203). The existing Century Link lines preclude construction of several other improvements, including the south abutment of the new UPRR Bridge, and relocation is critical to the overall construction schedule. We maintain Steele Street/Vasquez Boulevard traffic on a temporary bypass to accommodate single-phase bridge construction. Early completion of this structure facilitates utility relocations, and is critical to the overall construction schedule.

2.2.3.1 Phase 1, Stage A

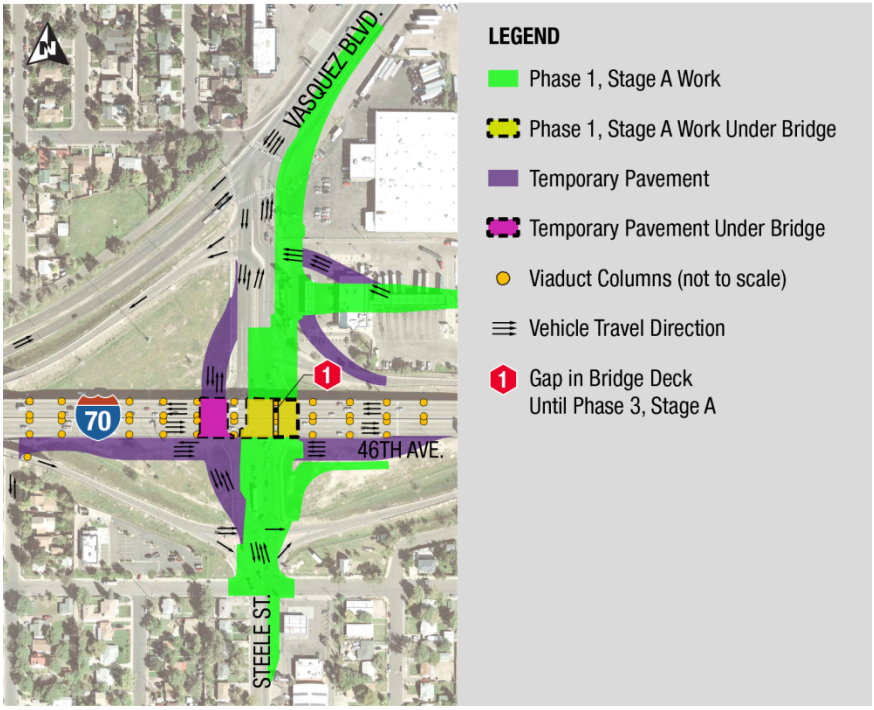
KMP completes early work construction items to provide a temporary by-pass for Steele Street/Vasquez Boulevard traffic, and a temporary ramp connection for the westbound exit ramp to the proposed 46th Avenue North intersection. The temporary bypass includes a pedestrian path to maintain access throughout the Stage. These two connections maintain all traffic movements. The proposed bridge is completed in a single Stage. Although there are existing viaduct columns within the proposed bridge deck, all girders, abutments, sidewalks, and deck are constructed, with the exception of a section of deck. KMP constructs enough deck surface to accommodate travel lanes in both directions in future Stages.

Widening of Vasquez Boulevard and the improvements to Steele Street south of the bridge are completed as well. To maintain traffic, the improvements to the south are staged while the bridge is under construction.

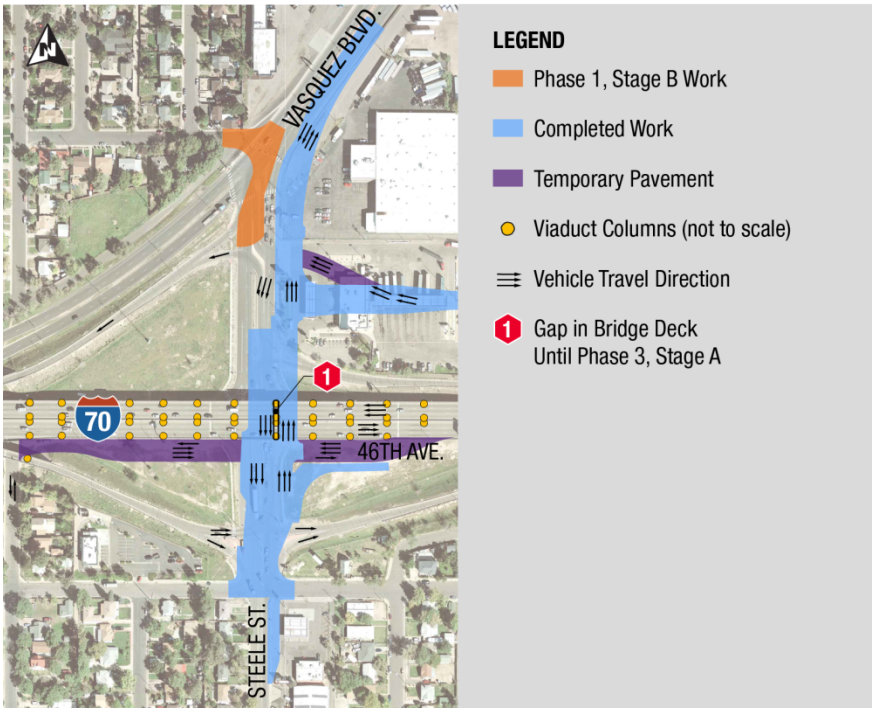
2.2.3.2 Phase 1, Stage B

Cross-street traffic is shifted to the new bridge. Positive protection of the viaduct columns and open deck section is maintained until Phase 3, Stage A when this Work is completed. Although the remaining improvements on the cross-street are completed over the next several Stages, the general lane configuration is maintained. KMP completes a portion of Vasquez Boulevard, including the permanent closure of access to 46th Avenue and Vasquez Boulevard.

All ramp movements are maintained in this Stage and through Phase 2, Stage A. The various ramp closures at this interchange are discussed in the overall Work Area descriptions in the previous section.



Steele Street/Vasquez Boulevard Interchange Phase 1, Stage A

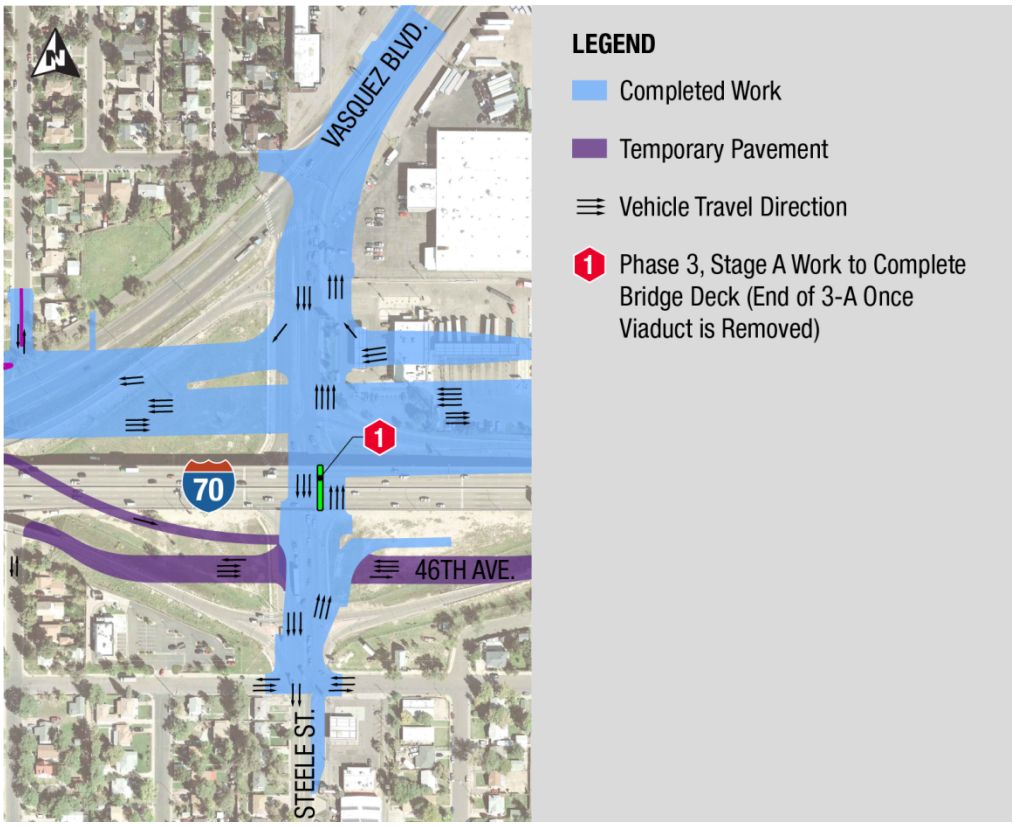


Steele Street/Vasquez Boulevard Interchange Phase 1, Stage B

2.2.3.3 Phase 3, Stage A

KMP completes the demolition of the viaduct from east to west. After traffic is switched to the temporary eastbound Colorado Boulevard exit ramp, the viaduct demolition is finished from west of the Steele Street/Vasquez Boulevard structure to Colorado Boulevard, and the remaining section of bridge deck on Steele Street/Vasquez Boulevard is completed.

The temporary eastbound Steele Street/Vasquez Boulevard exit ramp, from the Lowered Section to the cross-street, and the 46th Avenue temporary pavement shift are completed to accommodate traffic in Phase 3, Stage B.



Steele Street/Vasquez Boulevard Interchange Phase 3, Stage B

2.2.4 COLORADO BOULEVARD INTERCHANGE

The key to KMP's construction phasing approach at Colorado Boulevard is our permanent design optimization. The Colorado Boulevard alignment accommodates the first Stage of bridge construction to provide enough width to maintain existing lanes in Stage B, without requiring partial demolition of the existing structure. The I-70 alignment, and the modifications to the abutment and center pier locations, allow the existing travel lanes on I-70 to remain open throughout construction. Additionally, we have optimized the Colorado Boulevard proposed profile to accommodate temporary ramp tie-ins throughout construction so that no long term ramp closures are required at this interchange.

2.2.4.1 Phase 1, Stage A

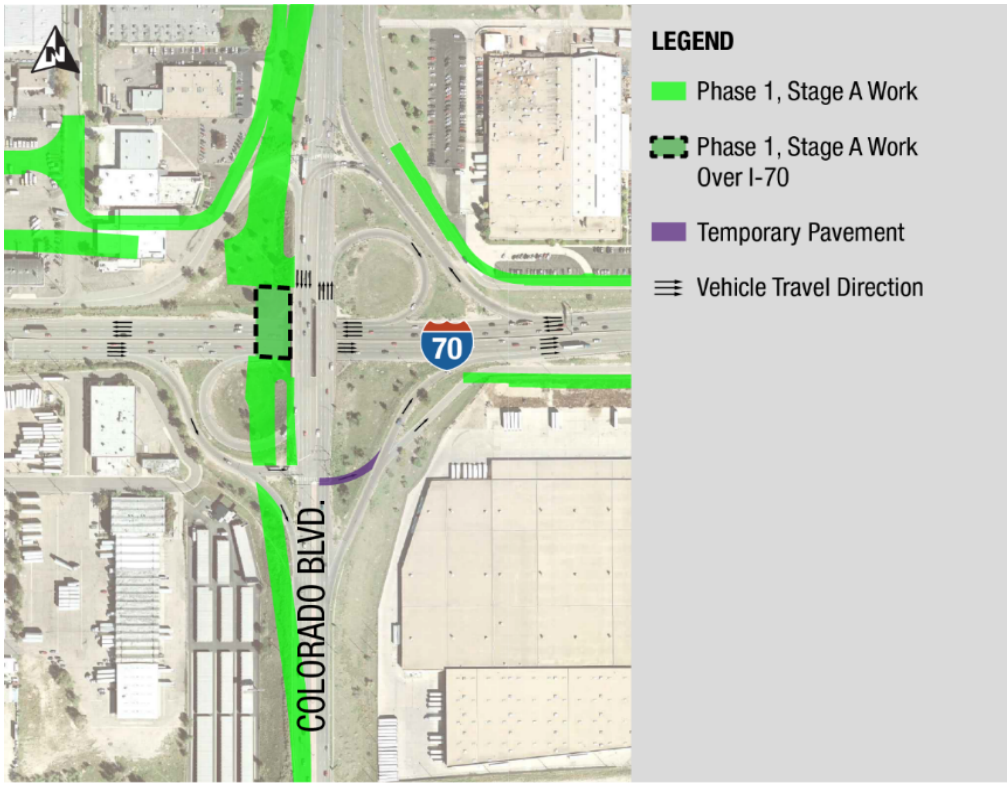
KMP completes early work to provide a temporary ramp connection to the existing northbound to eastbound entrance ramp. This connection is used for southbound to eastbound traffic upon the closure of the existing loop ramp. A temporary left-turn pocket is provided for this new movement.

We complete the west half of the bridge and the widening of Colorado Boulevard in this Stage. No demolition is required in this Stage. However, overnight closures of I-70 are necessary for girder setting and deck pours. All travel lanes on Colorado Boulevard, including ramps and pedestrian access, are maintained in their existing conditions.

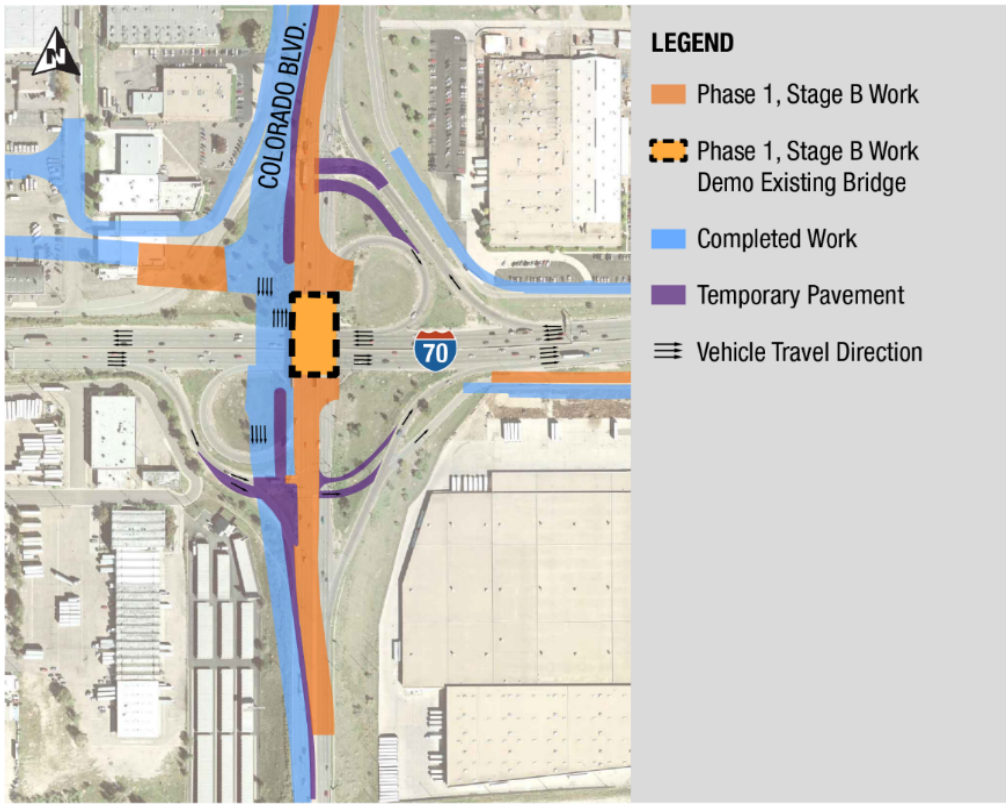
2.2.4.2 Phase 1, Stage B

Short-term closures of the westbound ramps are used to complete temporary tie-ins between the existing ramps and the new Colorado Boulevard grades. All Colorado Boulevard travel lanes are switched to the widened section and all ramp movements are maintained throughout this Stage.

KMP completes the remaining improvements and the east half of the Colorado Boulevard Bridge, including the demolition of the existing structure. Overnight closures of I-70 are necessary for demolition, girder setting, and deck pours.



Colorado Boulevard Interchange Phase 1, Stage A



Colorado Boulevard Interchange Phase 1, Stage B

2.2.5 QUEBEC STREET INTERCHANGE

Our single-span bridge design for the Quebec Street crossing reduces the impacts to traffic on the cross-street during construction. We also provide temporary ramp connections to maintain all interchange movements throughout construction.

2.2.5.1 Phase 1, Stage C (Not Shown)

To maintain all ramp movements, KMP constructs the permanent eastbound entrance ramp and temporary ramp connections for the other three ramps at the interchange.

2.2.5.2 Phase 2, Stage A

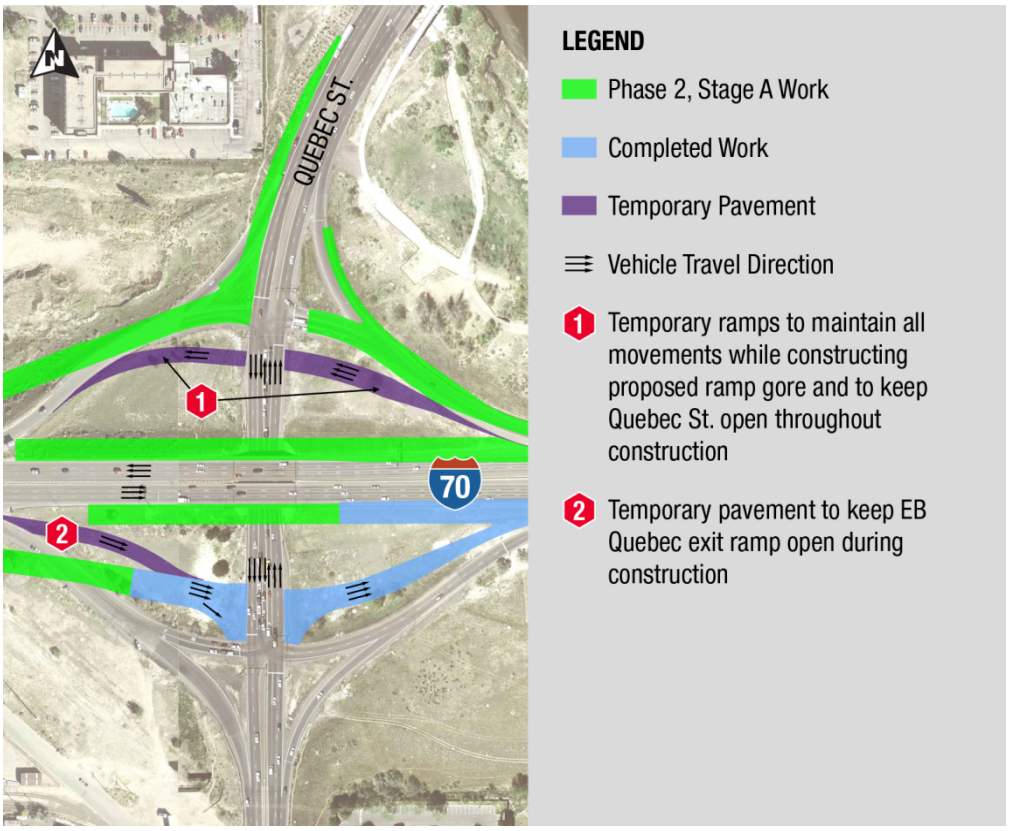
Ramp traffic is switched to the new temporary and permanent ramps in this Stage. All traffic on Quebec Street is maintained in the existing configuration.

KMP completes the outside widening on I-70 and the remaining permanent ramps. In order to construct enough width for Mainline lanes in Phase 3, partial demolition of the existing Quebec Street structure on both sides is required. Overnight closures of Quebec Street is necessary during demolition, girder setting, and deck pours. The single-span bridge Design allows widening of I-70 to occur without additional impacts to Quebec Street, in order to accommodate center pier construction.

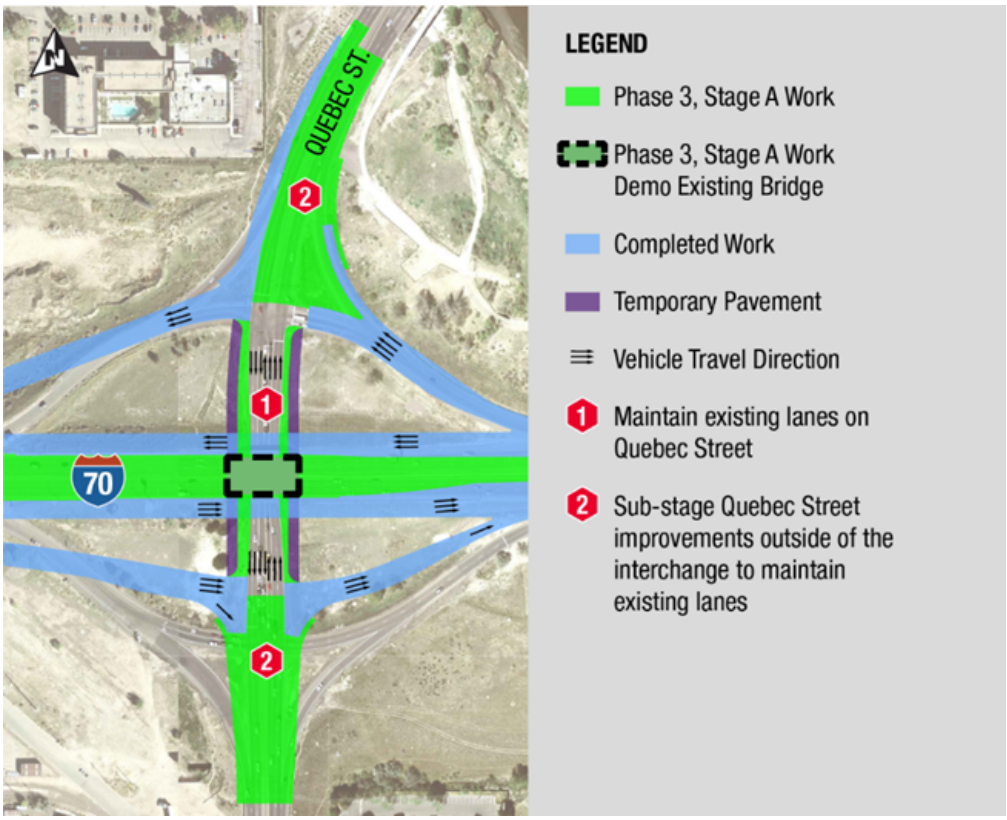
2.2.5.3 Phase 3, Stage A

All I-70 Mainline traffic is shifted to the outsides in this Work Area for Phase 3 to accommodate construction of the center portion of I-70. Overnight closures of Quebec Street are necessary during demolition of the remaining bridge, and during girder setting and deck pours for the new structure.

Once the existing structure is demolished, we widen Quebec Street between the ramp terminals. Temporary pavement is placed along the outside limits to accommodate travel lanes in the next Stage. KMP stages the improvements on Quebec Street north and south of the interchange to maintain existing travel lanes.



Quebec Street Interchange Phase 2, Stage A



Quebec Street Interchange Phase 3, Stage A