

Oversight / NHS

FHWA OVERSIGHT NO YES

NATIONAL HIGHWAY SYSTEM NO YES

Related Projects:
P. E. UNDER PROJECT:
Project Number - IM 070A-003
Project Code - 14123

R.O.W. Projects
R.O.W. Project Description
Project Number -
Project Code -

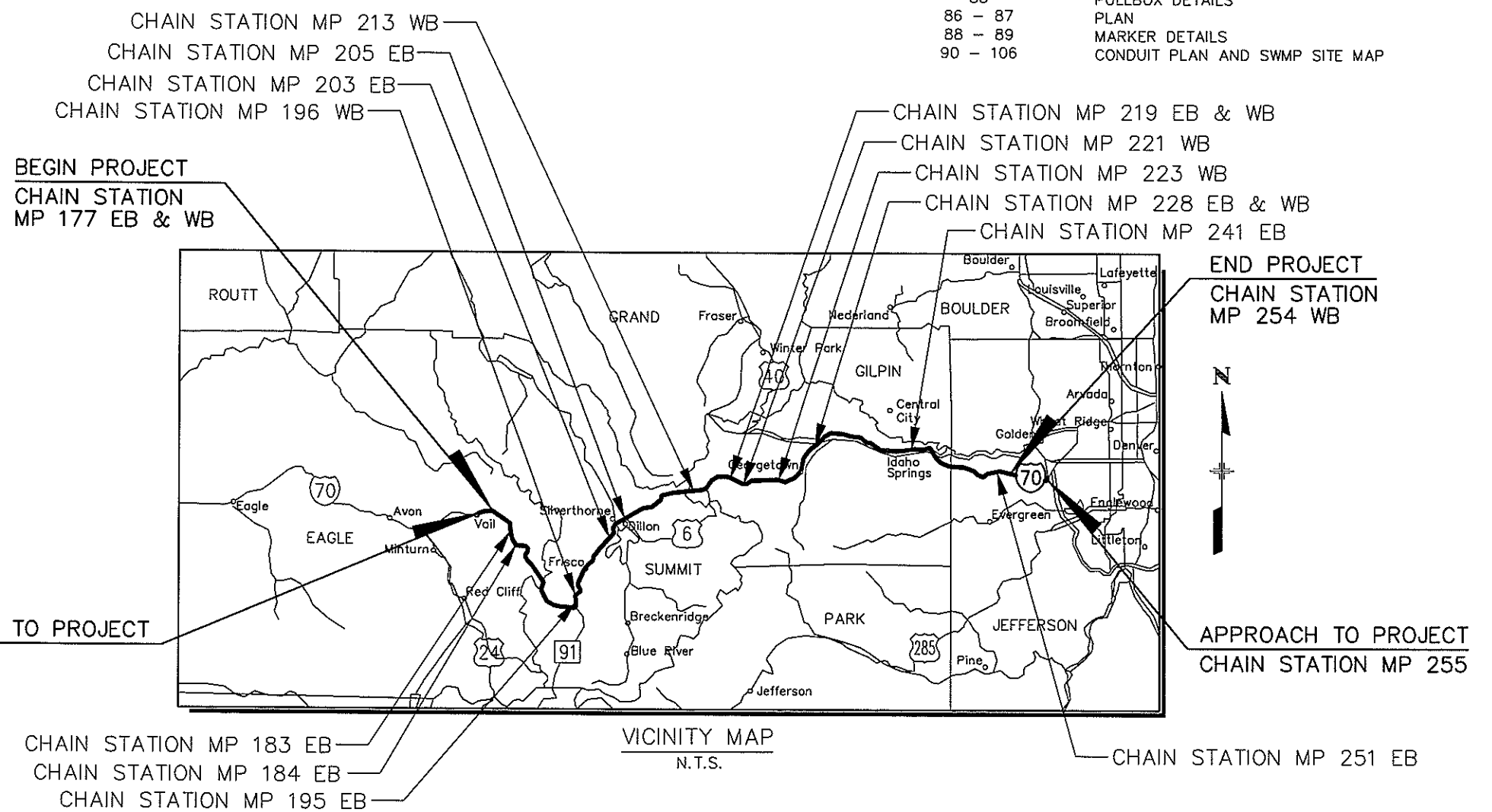
DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO
HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED
FEDERAL AID PROJECT NO. IM 070A-003
INTERSTATE 70
EAGLE, SUMMIT, CLEAR CREEK, JEFFERSON COUNTY
CONSTRUCTION PROJECT CODE NO. 16701

FINAL OFFICE REVIEW
03/28/08

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TABULATION OF LENGTH & DESIGN DATA

STATION	FEET		MAJOR STA.
	ROADWAY	I-70	
MILEPOST	STA. BEGINNING	STA. END	TOTAL DIST. (FT.)
Approach to Project MP 176			
MP 177 EB	10+00.00	36+50.00	2650.00
MP 183 EB	10+00.00	24+00.00	1400.00
MP 184 EB	10+00.00	23+00.00	1300.00
MP 195 EB	10+00.00	39+00.00	2900.00
MP 196 WB	10+00.00	24+00.00	1400.00
MP 203 EB	10+00.00	17+50.00	750.00
MP 205 EB	10+00.00	17+00.00	750.00
MP 211 WB	10+00.00	19+00.00	900.00
MP 219 EB	10+00.00	27+00.00	1700.00
MP 219 WB	10+00.00	29+00.00	1900.00
MP 221 WB	10+00.00	19+00.00	900.00
MP 223 WB	10+00.00	22+00.00	1200.00
MP 228 EB	10+00.00	38+00.00	2800.00
MP 228 WB	10+00.00	44+00.00	3400.00
MP 243 WB	10+00.00	23+00.00	1300.00
MP 251 WB	10+00.00	19+00.00	900.00
MP 254 WB	10+00.00	23+50.00	1350.00
End of Project MP 254			
TOTAL			27500.0
SUMMARY OF PROJECT LENGTH	FEET	MILES	
ROADWAY (NET LENGTH)	27500.0	5.2	
PROJECT GROSS LENGTH	411,840.0	78.0	



Computer File Information

Creation Date:	02/18/08	Initials:	SRB
Last Modification Date:	03/25/08	Initials:	BEG
Full Path:	S:\Tranproj\100000508\16701\Consultants\Plot_Sets\FOR		
Drawing File Name:	gets.01.dgn		
Scale:	NTS	Units:	ENGLISH

Index of Revisions

No.	Description

REGION I DW

Region 1
18500 East Colfax
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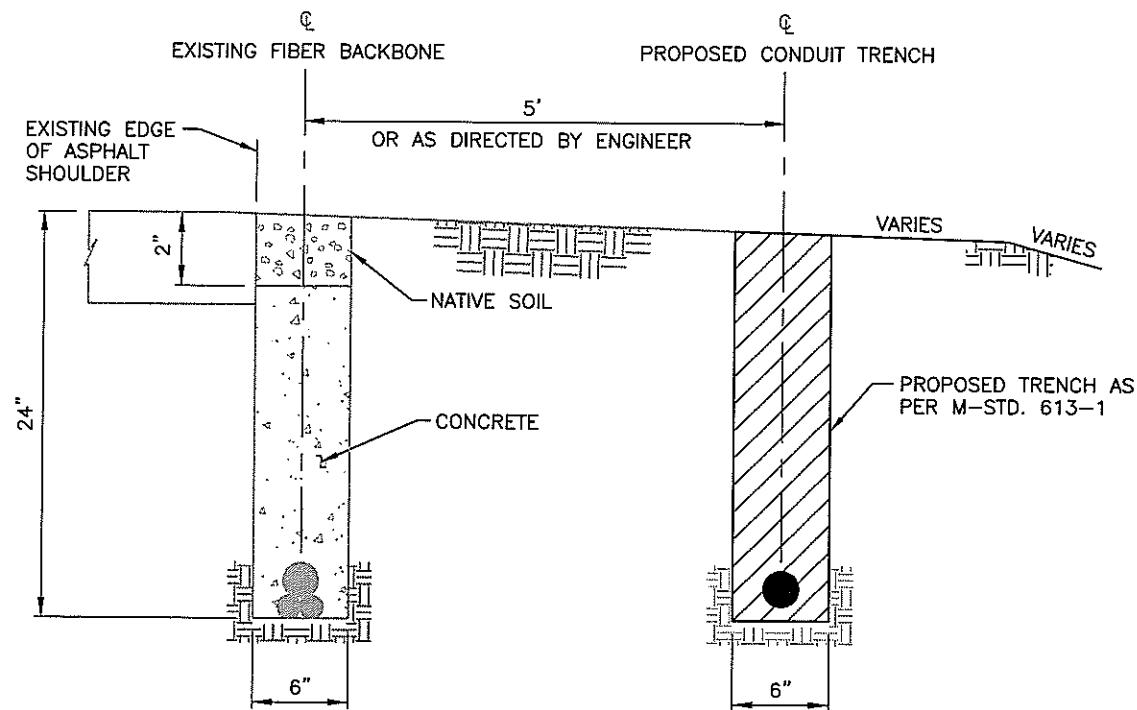
As Constructed	Contract Information	Project No./Code
No. Revisions:	Contractor:	IM 070A-003
Revised:	Resident Engineer:	16701
Void:	Project Engineer:	
	Project Started:	Project Accepted:
	Comments:	Sheet Number: 1

PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER	PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER	PLAN NUMBER	NEW OR REVISED	S STANDARD TITLE	PAGE NUMBER
<input checked="" type="checkbox"/> M-100-1	<input type="checkbox"/>	STANDARD SYMBOLS (3 SHEETS)	1-3	<input type="checkbox"/> M-607-1	<input type="checkbox"/>	WIRE FENCES AND GATES (3 SHEETS)	84-86	<input checked="" type="checkbox"/> S-612-1	<input type="checkbox"/>	DELINEATOR INSTALLATIONS (5 SHEETS)	131-135
<input type="checkbox"/> M-203-1	<input type="checkbox"/>	APPROACH ROADS	4	<input type="checkbox"/> M-607-2	<input type="checkbox"/>	CHAIN LINK FENCE (3 SHEETS)	87-89	<input checked="" type="checkbox"/> S-614-1	<input type="checkbox"/>	GROUND SIGN PLACEMENT (2 SHEETS)	136-137
<input type="checkbox"/> M-203-2	<input type="checkbox"/>	DITCH TYPES	5	<input type="checkbox"/> M-607-3	<input type="checkbox"/>	BARRIER FENCE	90	<input checked="" type="checkbox"/> S-614-2	<input type="checkbox"/>	CLASS I SIGNS	138
<input type="checkbox"/> M-203-11	<input type="checkbox"/>	SUPERELEVATION CROWNED AND DIVIDED HIGHWAYS (3 SHEETS)	6-8	<input type="checkbox"/> M-607-4	<input type="checkbox"/>	DEER FENCE AND GATES (2 SHEETS)	91-92	<input checked="" type="checkbox"/> S-614-3	<input type="checkbox"/>	CLASS II SIGNS	139
<input type="checkbox"/> M-203-12	<input type="checkbox"/>	SUPERELEVATION STREETS (2 SHEETS)	9-10	<input type="checkbox"/> M-607-10	<input type="checkbox"/>	PICKET SNOW FENCE	93	<input checked="" type="checkbox"/> S-614-4	<input type="checkbox"/>	CLASS III SIGNS (3 SHEETS)	140-142
<input checked="" type="checkbox"/> M-206-1	<input type="checkbox"/>	EXCAVATION AND BACKFILL FOR STRUCTURES (2 SHEETS)	11-12	<input type="checkbox"/> M-607-15	<input type="checkbox"/>	ROAD CLOSURE GATE (9 SHEETS)	94-102	<input checked="" type="checkbox"/> S-614-5	<input type="checkbox"/>	BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS (2 SHEETS)	143-144
<input type="checkbox"/> M-206-2	<input type="checkbox"/>	EXCAVATION AND BACKFILL FOR BRIDGES (2 SHEETS)	13-14	<input type="checkbox"/> M-608-1	<input type="checkbox"/>	CURB RAMPS (4 SHEETS)	103-106	<input checked="" type="checkbox"/> S-614-6	<input type="checkbox"/>	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS (2 SHEETS)	145-146
<input checked="" type="checkbox"/> M-208-1	<input type="checkbox"/>	TEMPORARY EROSION CONTROL (7 SHEETS)	15-21	<input type="checkbox"/> M-609-1	<input type="checkbox"/>	CURBS, GUTTERS, AND SIDEWALKS (3 SHEETS)	107-109	<input checked="" type="checkbox"/> S-614-8	<input type="checkbox"/>	TUBULAR STEEL SIGN SUPPORT DETAILS (5 SHEETS)	147-151
<input type="checkbox"/> M-210-1	<input type="checkbox"/>	MAILBOX SUPPORTS (2 SHEETS)	22-23	<input type="checkbox"/> M-611-1	<input type="checkbox"/>	CATTLE GUARD (2 SHEETS)	110-111	<input checked="" type="checkbox"/> S-614-10	<input type="checkbox"/>	MARKER ASSEMBLY INSTALLATIONS	152
<input type="checkbox"/> M-214-1	<input type="checkbox"/>	PLANTING DETAILS	24	<input checked="" type="checkbox"/> M-613-1	<input type="checkbox"/>	ROADWAY LIGHTING (4 SHEETS)	112-115	<input type="checkbox"/> S-614-12	<input type="checkbox"/>	STRUCTURE NUMBER INSTALLATION	153
<input type="checkbox"/> M-412-1	<input type="checkbox"/>	CONCRETE PAVEMENT JOINTS (5 SHEETS)	25-29	<input type="checkbox"/> M-614-1	<input type="checkbox"/>	RUMBLE STRIPS (3 SHEETS)	116-118	<input checked="" type="checkbox"/> S-614-14	<input type="checkbox"/>	FLASHING BEACON AND SIGN INSTALLATIONS (3 SHEETS)	154-156
<input type="checkbox"/> M-510-1	<input type="checkbox"/>	STRUCTURAL PLATE PIPE H-20 LOADING	30	<input type="checkbox"/> M-614-2	<input type="checkbox"/>	SAND BARREL ARRAYS (2 SHEETS)	119-120	<input checked="" type="checkbox"/> S-614-20	<input type="checkbox"/>	TYPICAL POLE MOUNT SIGN INSTALLATIONS	157
<input type="checkbox"/> M-601-1	<input type="checkbox"/>	SINGLE CONCRETE BOX CULVERT (2 SHEETS)	31-32	<input type="checkbox"/> M-615-1	<input type="checkbox"/>	EMBANKMENT PROTECTOR TYPE 3	121	<input type="checkbox"/> S-614-21	<input type="checkbox"/>	CONCRETE BARRIER SIGN POST INSTALLATIONS	158
<input type="checkbox"/> M-601-2	<input type="checkbox"/>	DOUBLE CONCRETE BOX CULVERT (2 SHEETS)	33-34	<input type="checkbox"/> M-615-2	<input type="checkbox"/>	EMBANKMENT PROTECTOR TYPE 5	122	<input checked="" type="checkbox"/> S-614-22	<input type="checkbox"/>	TYPICAL MULTI-SIGN INSTALLATIONS	159
<input type="checkbox"/> M-601-3	<input type="checkbox"/>	TRIPLE CONCRETE BOX CULVERT (2 SHEETS)	35-36	<input type="checkbox"/> M-616-1	<input type="checkbox"/>	INVERTED SIPHON	123	<input type="checkbox"/> S-614-40	<input type="checkbox"/>	TYPICAL TRAFFIC SIGNAL INSTALLATION DETAILS (7 SHEETS)	160-166
<input type="checkbox"/> M-601-10	<input type="checkbox"/>	HEADWALL FOR PIPES	37	<input type="checkbox"/> M-620-1	<input type="checkbox"/>	FIELD LABORATORY CLASS 1	124	<input type="checkbox"/> S-614-40A	<input type="checkbox"/>	ALTERNATIVE TRAFFIC SIGNAL INSTALLATION DETAILS (5 SHEETS)	167-171
<input type="checkbox"/> M-601-11	<input type="checkbox"/>	TYPE "S" SADDLE HEADWALLS FOR PIPE	38	<input type="checkbox"/> M-620-2	<input type="checkbox"/>	FIELD LABORATORY CLASS 2	125	<input type="checkbox"/> S-614-50	<input type="checkbox"/>	MONOTUBE OVERHEAD SIGNS (14 SHEETS)	172-185
<input type="checkbox"/> M-601-12	<input type="checkbox"/>	HEADWALLS AND PIPE OUTLET PAVING	39	<input type="checkbox"/> M-620-11	<input type="checkbox"/>	FIELD OFFICE CLASS 1	126	<input checked="" type="checkbox"/> S-627-1	<input type="checkbox"/>	PAVEMENT MARKINGS (5 SHEETS)	186-190
<input type="checkbox"/> M-601-20	<input type="checkbox"/>	WINGWALLS FOR PIPE OR BOX CULVERTS	40	<input type="checkbox"/> M-620-12	<input type="checkbox"/>	FIELD OFFICE CLASS 2	127	<input checked="" type="checkbox"/> S-630-1	<input type="checkbox"/>	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION (12 SHEETS)	191-202
<input type="checkbox"/> M-603-1	<input type="checkbox"/>	METAL AND PLASTIC PIPE (2 SHEETS)	41-42	<input type="checkbox"/> M-629-1	<input type="checkbox"/>	SURVEY MONUMENTS (2 SHEETS)	128-129	<input checked="" type="checkbox"/> S-630-2	<input type="checkbox"/>	BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP) AND VERTICAL PANELS	203
<input type="checkbox"/> M-603-2	<input type="checkbox"/>	REINFORCED CONCRETE PIPE	43					<input checked="" type="checkbox"/> S-630-3	<input type="checkbox"/>	FLASHING BEACON (PORTABLE) DETAILS	204
<input type="checkbox"/> M-603-3	<input type="checkbox"/>	PRECAST CONCRETE BOX CULVERT	44								
<input type="checkbox"/> M-603-10	<input type="checkbox"/>	CONCRETE AND METAL END SECTIONS (2 SHEETS)	45-46								
<input type="checkbox"/> M-604-10	<input type="checkbox"/>	INLET, TYPE C	47								
<input type="checkbox"/> M-604-11	<input type="checkbox"/>	INLET, TYPE D	48								
<input type="checkbox"/> M-604-12	<input type="checkbox"/>	CURB INLET TYPE R (2 SHEETS)	49-50								
<input type="checkbox"/> M-604-13	<input type="checkbox"/>	CONCRETE INLET TYPE 13	51								
<input type="checkbox"/> M-604-20	<input type="checkbox"/>	MANHOLES (3 SHEETS)	52-54								
<input type="checkbox"/> M-604-25	<input type="checkbox"/>	VANE GRATE INLET (5 SHEETS)	55-59								
<input type="checkbox"/> M-605-1	<input type="checkbox"/>	SUBSURFACE DRAINS	60								
<input type="checkbox"/> M-606-1	<input type="checkbox"/>	GUARDRAIL TYPE 3 W-BEAM (16 SHEETS)	61-76								
<input type="checkbox"/> M-606-13	<input type="checkbox"/>	GUARDRAIL TYPE 7 F-SHAPE BARRIER (4 SHEETS)	77-80								
<input type="checkbox"/> M-606-14	<input type="checkbox"/>	PRECAST TYPE 7 CONCRETE BARRIER (3 SHEETS)	81-83								

THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

COLORADO
 DEPARTMENT OF TRANSPORTATION
 STANDARD PLANS LIST
 M&S STANDARDS
 July 04, 2006

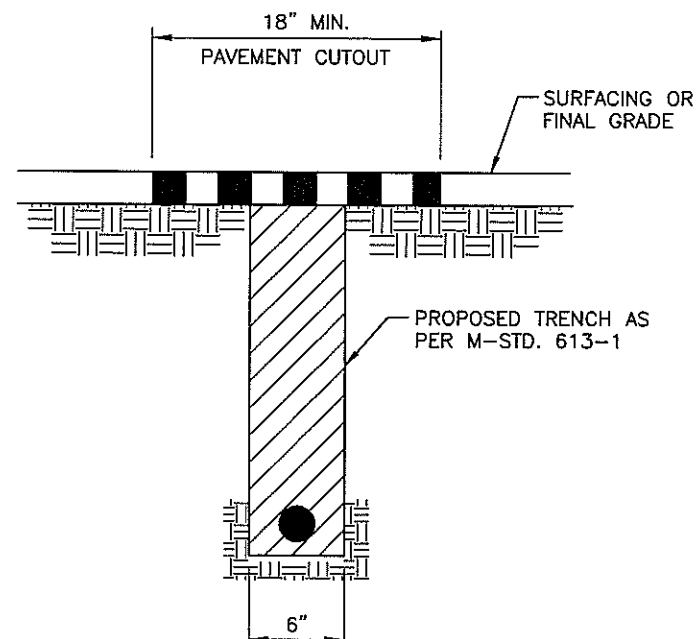
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						Designer: SRB Detailer: SRB Sheet Subset: Standard Subset Sheets:																				



TRENCHING IN FILL

NOTES:

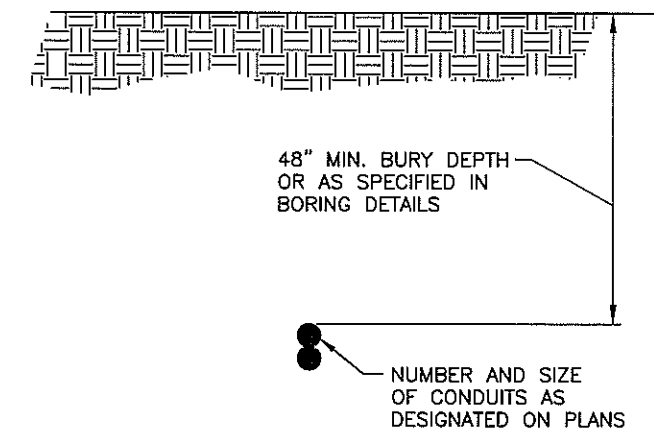
1. THIS WORK SHALL BE PAID AS: ITEM 613, 2½ INCH ELECTRICAL CONDUIT (PLASTIC). LATERALS LESS THAN 100' LONG ASSUMED TO BE STICK-TYPE CONDUIT (PVC SCHEDULE 80), AND LATERALS GREATER THAN 100' LONG ASSUMED TO BE REEL TYPE CONDUIT (HDPE SDR 13.5).
2. REFER TO M-STD. 613-1 FOR DETAILS OF TYPICAL CONDUIT BURIAL.



TRENCHING IN PAVEMENT

NOTES:



1. THIS WORK SHALL BE PAID FOR AS ITEM 613, 2½ INCH ELECTRICAL CONDUIT (PLASTIC).
2. CONDUIT SHALL BE HDPE SDR 13.5 AND SHALL HAVE NO JOINTS BETWEEN PULL BOXES. WATERTIGHT CONDUIT PLUGS SHALL BE PROVIDED AT EACH END OF CONDUIT PER PROJECT SPECIAL PROVISION.
3. REFER TO M-STD. 613-1 FOR DETAILS OF TYPICAL CONDUIT BURIAL.



DIRECTIONAL BORE

NOTE:



1. DIRECTIONAL BORES SHALL BE PAID AS ITEM 613, 3" ELECTRICAL CONDUIT (BORED). LINEAR FOOT PRICE SHALL BE FULL PAYMENT FOR ALL CONDUITS IN BUNDLE AS DESIGNATED ON PLANS.

Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed			TYPICAL SECTIONS		Project No./Code	
Creation Date: 02/18/08	Initials: SRB					No. Revisions:		Designer: SRB	Structure Numbers	IM 070A-003		16701
Last Modification Date: 03/25/08	Initials: BEG			Revised:		Detailer: SRB		Sheet Subset: Typical		Subset Sheets: 1 of 1		
Full Path: S:\Tranpro\100000508\16701\Consultants\Plot_Sets\FOR				Void:						Sheet Number: 3		
Drawing File Name: borings.dgn												
Scale: Units: ENGLISH												

GENERAL NOTES



1. THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF RIGHT OF WAY. CONTRACTOR SHALL INDEMNIFY AND HOLD CDOT SAFE AND HARMLESS FROM ANY CLAIMS OR DAMAGES ARISING FROM THE CONTRACTOR'S USE OF PROPERTY OUTSIDE THE LIMITS OF RIGHT-OF-WAY.
2. DEPTH OF MOISTURE AND DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
 FULL DEPTH OF EMBANKMENTS
 MINIMUM R VALUE OF 70 REQUIRED IN TOP TWO FEET
 BASES OF CUTS AND FILLS ~ 0.5 FT DEPTH
 EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS SHALL BE CONSIDERED AS INCIDENTAL TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.
3. TYPE OF COMPACTION FOR THIS PROJECT WILL BE AASHTO T-180.
4. FULL COMPLIANCE PAVEMENT MARKINGS AND ROADSIDE DELINEATION SHALL BE IN PLACE AT THE END OF EACH WORKING DAY UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. IF ANY SOIL CONTAMINATION IS SUSPECTED WHILE EXCAVATING, IMMEDIATELY CONTACT THE ENGINEER.
6. THE CONTRACTOR SHALL NOT STOCKPILE ANY MATERIAL WITHIN CDOT ROW UNLESS APPROVED BY THE ENGINEER.
7. THE CONTRACTOR SHALL SUBMIT A PLAN ADDRESSING LOCAL DRAINAGE DURING EACH PHASE OF CONSTRUCTION TO THE ENGINEER FOR REVIEW. THIS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
8. CONTROL OF SURFACE RUNOFF AND REPAIR OF DAMAGES RESULTING FROM RUNOFF IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCLUDED IN THE COST OF THE WORK.
9. ALL REMOVED MATERIALS WILL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
10. ALL SHOULDERS AND OTHER PAVED AREAS SHALL BE SWEEPED ON A DAILY BASIS TO REMOVE ANY FOREIGN DEBRIS FROM THE SHOULDER AND TRAVELED WAY. ALL SWEEPING OPERATIONS SHALL BE DONE BY A PICK-UP TYPE BROOM AND SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
11. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION AND IS RESPONSIBLE FOR ANY DAMAGE THERETO.
12. CLEARING AND GRUBBING WILL NOT BE ALLOWED BEYOND THE CONSTRUCTION LIMITS OR REQUIRED CLEAR ZONE.
13. TEMPORARY EROSION CONTROLS MUST BE INSTALLED PRIOR TO EACH CONSTRUCTION STAGE AND MAINTAINED UNTIL THEY ARE NO LONGER NEEDED OR CONFLICT WITH THE WORK.
14. APPROPRIATE MEASURES WILL BE TAKEN TO PREVENT THE INTRODUCTION AND SPREAD OF NOXIOUS WEEDS BE RE-ESTABLISHING A PERMANENT DESIRABLE VEGETATION COMMUNITY ALONG ALL AREAS BY CDOT, WHICH THE CONSTRUCTION CONTRACTOR MUST FOLLOW.
15. HAZARDOUS MATERIALS, INCLUDING FUELS AND LUBRICATING OILS, WILL NOT BE STORED WITHING 15 METERS (50 FEET) OF WETLANDS OR STREAMS.
16. THE PROJECT ENGINEER SHALL IMMEDIATELY REPORT TO CDOT BIOLOGIST ANY LYNX SIGHTINGS WITHIN OR ADJACENT TO THE PROPOSED PROJECT AREAS DURING CONSTRUCTION.
17. NIGHT TIME CONSTRUCTION WILL BE GEOGRAPHICALLY CONCENTRATED IN ORDER TO ALLOW LYNX THE OPPORTUNITY TO CROSS THE HIGHWAY.
18. NIGHT WORK WILL BE LIMITED TO A MAXIMUM OF FOUR CONSECUTIVE NIGHTS, TO ALLOW LYNX THE OPPORTUNITY TO CROSS THE HIGHWAY.
19. LIMIT NIGHT WORK IN THE FALL, WHEN LYNX ARE MORE ACTIVE THAN IN THE SUMMER.
20. WORK WILL BE SUPERVISED, INSPECTED, AND MONITORED BY AN ONSITE INDIVIDUAL FROM CDOT OR BY AN AUTHORIZED REPRESENTATIVE.
21. NO UTILITY RESEARCH WAS PERFORMED IN THE DESIGN OF THIS PROJECT. THE UTILITY INFORMATION SHOWN ON THE PLANS ARE PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING ALL EXISTING UTILITES AND AVOIDING THEM. REFER TO PARAGRAPH 105.10 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL CALL 1-800-922-1987 FOR UTILITY LOCATIONS AT LEAST TWO WORKING DAYS PRIOR TO ANY DIGGING, NOT INCLUDING THE DAY OF NOTIFICATION. CONDUIT RUNNING LINE ALIGNMENT MAYBE MOVED TO AVOID EXISTING UTILITIES WITH THE APPROVAL OF THE ENGINEER. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY UTILITY CONFLICT WHICH CANNOT BE READILY RESOLVED AND WHICH MAY REQUIRE REDESIGN OF ANY PART OF THE PROJECT.
22. IT IS ESTIMATED THAT 48 HOURS OF POTHOILING WILL BE REQUIRED FOR THE PROJECT, AND WILL BE PAID UNDER ITEM 203, POTHOILING. THE CONTRACTOR SHALL SUBMIT A POTHOILING PLAN TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE FOR APPROVAL WHICH DESCRIBES A PLAN FOR POTHOILING ALL EXISTING FACILITIES WHICH MAY BE IMPACTED BY CONSTRUCTION.
23. IT SHOULD BE ASSUMED THAT THE CONTRACTOR WILL ENCOUNTER BOULDERS AND ROCKS DURING ALL EXCAVATIONS INCLUDING LIGHT FOUNDATIONS, SITE GRADING, CONDUIT TRENCHING, CONDUIT BORING, AND SIGN FOOTINGS. THE CONTRACTOR WILL BE REQUIRED TO EITHER AVOID OR REMOVE BOULDERS AND ROCKS WHEN ENCOUNTERED. THE COST OF THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
24. DUST PALLIATIVE AND WATER SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
25. IT IS ESTIMATED THAT 72 DELINEATORS WILL BE RESET AS DIRECTED BY THE ENGINEER.
26. IT IS ESTIMATED THAT 400 LINEAR FEET OF FENCE (PLASTIC) (ITEM 607) WILL BE REQUIRED FOR THE PROJECT TO PROTECT MISCELLANEOUS ITEMS DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. FENCE SHALL BE RESET AS DIRECTED BY THE ENGINEER. NO ADDITIONAL PAYMENT SHALL BE MADE TO RESET FENCE.
27. TWO SANITARY FACILITY SHALL BE PROVIDED FOR THE ENGINEER'S USE AND SHALL BE TRAILER MOUNTED FOR EASY MOBILITY AROUND JOBSITE. THE CONTRACTOR SHALL MOVE THE FACILITY AROUND THE JOB SITE AS DIRECTED BY THE ENGINEER.
28. IT IS ESTIMATED THAT 1 LUMP SUM FOR MOBILIZATION (ITEM 626) WILL BE REQUIRED FOR THE PROJECT. IT IS ANTICIPATED THAT MORE THAN ONE MOBILIZATION WILL BE REQUIRED FOR MULTIPLE ACTIVITIES.
29. NO FUELS, LUBRICANTS OR OTHER HAZARDOUS MATERIALS WILL BE STORED ALONG THE CORRIDOR.
30. WHEREVER FOUND IN THESE PLANS OR ACCOMPANYING PROJECT SPECIAL PROVISIONS, THE TERM EJMT IS DEFINED AS "EISENHOWER-JOHNSON MEMORIAL TUNNELS."
31. THE CONTRACTOR SHALL KEEP ONE SET OF PLANS, REVIEWED SHOP DRAWINGS AND WORKING DRAWINGS AVAILABLE ON THE PROJECT SITE AT ALL TIMES. THIS SET SHALL BE DEFINED AS THE "CONSTRUCTION DRAWINGS." THE CONTRACTOR SHALL NOTE ON THESE CONSTRUCTION DRAWINGS ALL CHANGES AND DEVIATIONS FROM THE WORK SHOWN ON THE PLANS, SHOP DRAWINGS AND WORKING DRAWINGS. THE CONSTRUCTION DRAWINGS SHALL BE KEPT CURRENT AS THE WORK PROGRESSES AND NOTATION SHALL BE MADE WITHIN SEVEN DAYS OF THE CHANGE OR DEVIATION. THE FIRST SHEET OR PAGE OF EACH SET OF CONSTRUCTION DRAWINGS SHALL BE STAMPED "AS CONSTRUCTED" AND SIGNED BY THE CONTRACTOR. UPON COMPLETION OF THE WORK AND PRIOR TO FINAL PAYMENT, THE CONSTRUCTION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER.
32. AERIAL TOPOGRAPHIC MAPPING APPROXIMATELY 15 YEARS OLD WAS USED TO DESIGN THIS PROJECT. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THE EXISTING CONDITIONS AT EACH SITE.
33. IT IS ESTIMATED THAT 40 HRS OF BLADING, BACKHOE, AND COMBINATION LOADER WILL BE REQUIRED ON PROJECT AS DIRECTED BY THE ENGINEER.
34. ALL COMM. CABLES SHALL BE FURNISHED AND INSTALLED WITH AN ADDITIONAL 15'-0" COILED AT DEVICES ON BOTH ENDS OF CABLES. FINAL CONNECTION SHALL BE MADE BY CDOT STATE FORCES.

CALL UTILITY NOTIFICATION CENTER OF COLORADO 1-800-922-1987	CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES
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Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		GENERAL NOTES		Project No./Code
Creation Date: 02/18/08	Initials: SRB	<input type="checkbox"/>				No. Revisions:				IM 070A-003
Last Modification Date: 03/25/08	Initials: BEG	<input type="checkbox"/>		Revised:		Designer: SRB	Structure	16701		
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Drawing File Name: geno01.dgn		<input type="checkbox"/>				Sheet Subset: General	Subset Sheets:			
Scale: UNITS: ENGLISH		<input type="checkbox"/>		REGION 1 DW				Sheet Number: 4		



SUMMARY OF APPROXIMATE QUANTITIES

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	TRAFFIC								TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.					PLAN	AS CONST.
			202-00700	REMOVAL OF LIGHT STANDARD	EACH	19								19	
			202-00810	REMOVAL OF GROUND SIGN	EACH	2								2	
			202-00821	REMOVAL OF SIGN PANEL	EACH	1								1	
			203-01500	BLADING	HOUR	40								40	
			203-01510	BACKHOE	HOUR	40								40	
			203-01594	COMBINATION LOADER	HOUR	40								40	
			203-01597	POTHOLING	HOUR	48								48	
			208-00002	EROSION LOG (12 INCH)	LF	7447								7447	
			208-00045	CONCRETE WASHOUT STRUCTURE	EACH	3								3	
			210-00090	RESET DELINEATOR	EACH	72								72	
			212-00006	SEEDING (NATIVE)	ACRE	1.65								1.65	
			212-00032	SOIL CONDITIONING	ACRE	1.65								1.65	
			213-00002	MULCHING (WEED FREE HAY)	ACRE	1.65								1.65	
			213-00061	MULCH TACKIFIER	LB	330								330	
			503-00020	DRILLED CAISSON (SPECIAL)	LF	244								244	
			503-00024	DRILLED CAISSON (24 INCH)	LF	256								256	
			607-11525	FENCE (PLASTIC)	LF	400								400	
			612-00260	LOCATION MARKER (FIBER OPTIC) (DOME)	EACH	30								30	
			612-00270	LOCATION MARKER (UTILITY) (FLAT SLAT)	EACH	36								36	
			613-00125	1-1/4 INCH ELECTRICAL CONDUIT	LF	250								250	
			613-00200	2 INCH ELECTRICAL CONDUIT	LF	387								387	
			613-00306	3 INCH ELECTRICAL CONDUIT (BORED)	LF	5952								5952	
			613-01200	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	25800								25800	
			613-01250	2-1/2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	23713								23713	
			613-05000	DIRECT BURIAL CABLE	LF	560								560	
			613-07034	PULL BOX (24X36X18)	EACH	24								24	
			613-10010	WRING (SPECIAL)	LS	1								1	

Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		SUMMARY OF APPROXIMATE QUANTITIES			Project No./Code	
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SUMMARY OF APPROXIMATE QUANTITIES

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	TRAFFIC								TOTALS		
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.					PLAN	AS CONST.	
			613-16020	LUMINAIRE (SPECIAL) INDUCTION (165 WATT)	EACH	4									4	
			613-34300	LIGHT STANDARD METAL (30 FOOT)	EACH	22									22	
			613-34352	LIGHT STANDARD METAL (35 FOOT) (SPECIAL) (2 ARM)	EACH	203									203	
			613-40000	CONCRETE FOUNDATION PAD	EACH	22									22	
			613-40010	LIGHT STANDARD FOUNDATION	EACH	62									62	
			613-40012	LIGHT STANDARD FOUNDATION SPECIAL	EACH	16									16	
			613-50100	LIGHTING CONTROL CENTER	EACH	17									17	
			613-70400	LUMINAIRE HIGH PRESSURE SODIUM (400 WATT)	EACH	5									5	
			613-75150	LUMINAIRE METAL HALIDE (150 WATT)	EACH	423									423	
			614-00012	SIGN PANEL (CLASS II)	SF	226									226	
			614-00013	SIGN PANEL (CLASS III)	SF	60									60	
			614-00612	STEEL SIGN POST (W 6X12)	LF	57									57	
			614-00821	STEEL SIGN POST (W 8X21)	LF	65									65	
			614-01585	STEEL SIGN SUPPORT (2-1/2 INCH ROUND SCH 80) (POST)	LF	233									233	
			614-01588	STEEL SIGN SUPPORT (2-1/2 INCH ROUND SCH 80) (SLIPBASE)	EACH	19									19	
			614-03001	CONCRETE FOOTING (TYPE 1)	EACH	4									4	
			614-03004	CONCRETE FOOTING (TYPE 4)	EACH	5									5	
			614-10128	BLANKOUT SIGN (FIBER OPTIC)	EACH	5									5	
			614-72830	COMMUNICATIONS CABINET	EACH	6									6	
			614-80000	FLASHING BEACON	EACH	4									4	
			614-86105	TELEMETRY (FIELD)	EACH	2									2	
			614-87350	TEST FIBER OPTIC CABLE	LS	1									1	
			614-87406	FIBER OPTIC CABLE (SINGLE MODE) (6 STRANDS)	LF	960									960	
			620-00020	SANITARY FACILITY	EACH	2									2	
			625-00000	CONSTRUCTION SURVEYING	LS	1									1	
			625-00001	CONSTRUCTION SURVEYING (HOURLY)	HOUR	20									20	
			626-00000	MOBILIZATION	LS	1									1	
			630-00000	FLAGGING	HOUR	756									756	
			630-00007	TRAFFIC CONTROL INSPECTION	DAY	42									42	
			630-00012	TRAFFIC CONTROL MANAGEMENT	DAY	105									105	

Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 Fax: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		SUMMARY OF APPROXIMATE QUANTITIES			Project No./Code	
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Last Modification Date: 03/25/08	Initials: SRB	<input type="checkbox"/>				Revised:		Detailer: SRB		Numbers	16701	
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SUMMARY OF APPROXIMATE QUANTITIES

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	TRAFFIC								TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.					PLAN	AS CONST.
			630-80341	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EACH	6								6	
			630-80342	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EACH	33								33	
			630-80343	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)	EACH	26								26	
			630-80344	CONSTRUCTION TRAFFIC SIGN (SPECIAL)	SF	94								94	
			630-80355	PORTABLE MESSAGE SIGN PANEL	EACH	1								1	
			630-80358	ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL (C TYPE)	EACH	1								1	
			630-80360	DRUM CHANNELIZING DEVICE	EACH	50								50	
			630-80380	TRAFFIC CONE	EACH	400								400	
			630-85040	IMPACT ATTENUATOR (TRUCK MOUNTED ATTENUATOR) (TEMPORARY)	EACH	1								1	
			700-70010	F/A MINOR CONTRACT REVISIONS	FA	1								1	
			700-70011	F/A PARTNERING	FA	1								1	
			700-70023	F/A ON-THE-JOB TRAINEE	FA	1								1	
			700-70028	F/A ESB PROGRAM	FA	1								1	
			700-70190	F/A ELECTRIC SERVICE	FA	1								1	
			700-70380	F/A EROSION CONTROL	FA	1								1	
			700-73351	F/A THIRD PARTY FORCE ACCOUNT	FA	1								1	

Computer File Information			Index of Revisions		<p style="font-size: small;">Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343</p>	<p style="font-size: small;">4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276</p>	As Constructed		SUMMARY OF APPROXIMATE QUANTITIES			Project No./Code			
Creation Date: 02/18/08									No. Revisions:					IM 070A-003	
Last Modification Date: 03/25/08									Revised:		Designer: SRB			16701	
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Drawing File Name: soq02.dgn											Sheet Subset: Summary			Subset Sheets: 3 of 3	
Scale: Units: ENGLISH				REGION I DW							Sheet Number: 7				



TABULATION OF CONDUIT, PULL BOXES, CABINETS AND MARKERS

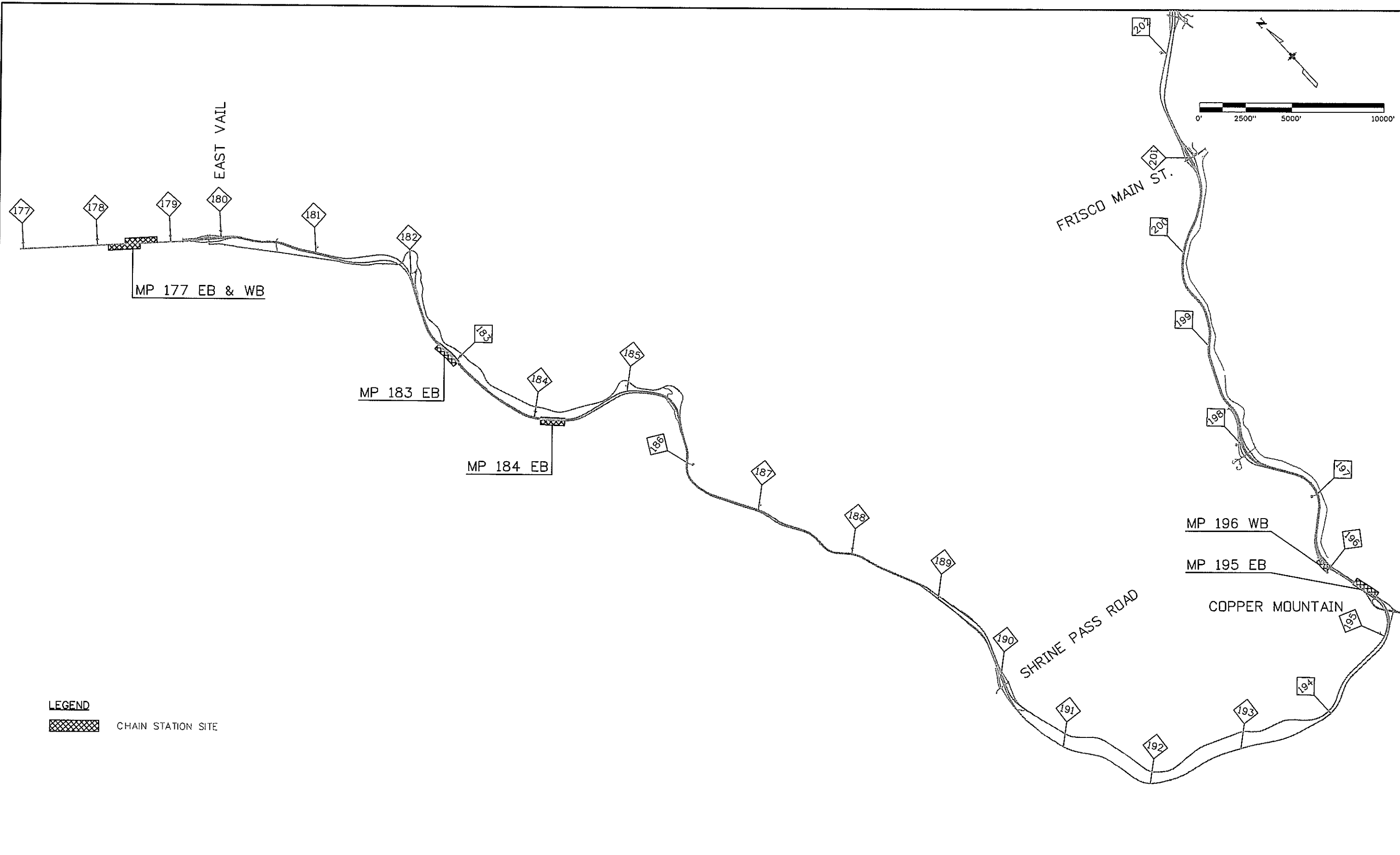
LOCATION	LOCATION MARKER (FIBER OPTIC) (DOME)			LOCATION MARKER (UTILITY) (FLAT SLAT)	3 INCH ELECTRICAL CONDUIT (BORED)	2 INCH ELECTRICAL CONDUIT	2 INCH ELECTRICAL CONDUIT (PLASTIC)		2-1/2 INCH ELECTRICAL CONDUIT (PLASTIC)		PULLBOX (24x36)	Communications Cabinet	FIBER OPTIC CABLE (SINGLE MODE)	Telemetry (Field)
	RUNNING LINE LOCATION MARKER	PULL BOX AND MANHOLE LOCATION MARKER	TOTAL				STICK-TYPE (PVC SCHEDULE 80)	REEL TYPE (HDPE SDR 13.5)	STICK-TYPE (PVC SCHEDULE 80)	REEL TYPE (HDPE SDR 13.5)			6 STRANDS	
	EACH	EACH	EACH				LF	LF	LF	LF			EA	
MP 177 WESTBOUND	2	3	5	2		191		1970	5	3257	3	1		2
MP 183 EASTBOUND	1	2	3	2	308			980	5	1982	2	1	60	
MP 184 EASTBOUND		2	2	2	414			0	5	558	2	1	60	
MP 195 EASTBOUND	3	4	7	2	3184			540	5	2907	6		120	
MP 196 WESTBOUND		1	1	2	90			740	5	1078	1		60	
MP 203 EASTBOUND		1	1	2	90			1410	5	176	1		60	
MP 205 EASTBOUND		1	1	2				2740	5	127	1		60	
MP 213 WESTBOUND			0	2	350			0	5	0				
MP 219 EASTBOUND	1		1	2	1016			1310	5	1761	2		120	
MP 219 WESTBOUND	1		1	2				1640	5	1284		1		
MP 221 WESTBOUND		1	1	2				2410	96	1899	1	1	60	
MP 223 WESTBOUND			0	2				650	5	281		1	60	
MP 228 EASTBOUND	1		1	2				2080	32	1625			120	
MP 228 WESTBOUND	1		1	2	80			3810	5	3323				
MP 241 EASTBOUND		3	3	2		196		1090	5	1790	3		60	
MP 251 EASTBOUND		2	2	2	350			650	29	1373	2		60	
MP 254 WESTBOUND			0	2	70			1260	70	0			60	
PROJECT TOTALS	10	20	30	34	5,952	387	0	23,280	292	23,421	24	6	960	2


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Creation Date: 02/18/08	Initials: SRB					No. Revisions:				IM 070A-003	
Last Modification Date: 03/25/08	Initials: SRB					Revised:	Designer: SRB	Structure Numbers	16701		
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MILE POST	SHEET NO.	INTERCHANGE/CHAIN STATION
177		EB Chain Station
180		Vail East Entrance Interchange
183		EB Chain Station
184		EB Chain Station
190		Shrine Pass Road Interchange
195		EB Chain Station
195		Copper Mountain, SH 91 Interchange
196		WB Chain Station
198		Officers Gulch Interchange
201		Frisco Main Street Interchange
203		SH9/Frisco Interchange
203		EB Chain Station; Frisco Overlook
205		Silverthorne Interchange
205		EB Chain Station
211		Hamilton Gulch Interchange
213		WB Chain Station
216		US6/Loveland Pass Interchange
218		Herman Gulch Interchange
219		EB Chain Station
219		WB Chain Station
221		Bakerville Interchange
221		WB Chain Station
223		WB Chain Station
226		Silver Plume Interchange
227		Georgetown Hill
228		EB Chain Station
228		WB Chain Station
232		Empire, US 40 Interchange
233		Lawson Interchange
234		Downieville Interchange
235		Dumont Interchange
238		Fall River Road Interchange
239		West Idaho Springs Interchange
240		Mount Evans, SH 103 Interchange
241		East Idaho Springs, County Road 314 Interchange
241		EB Chain Station
242		Twin Tunnels
243		Hidden Valley Interchange
244		Golden, US 6 to SH 119 Interchange
247		Hyland Hills Interchange
248		Beaver Brook Interchange
251		EB Chain Station
251		El Rancho Interchange
252		Evergreen Parkway, SH 74 Interchange
253		Chief Hosa Interchange
254		Genesse Park Interchange

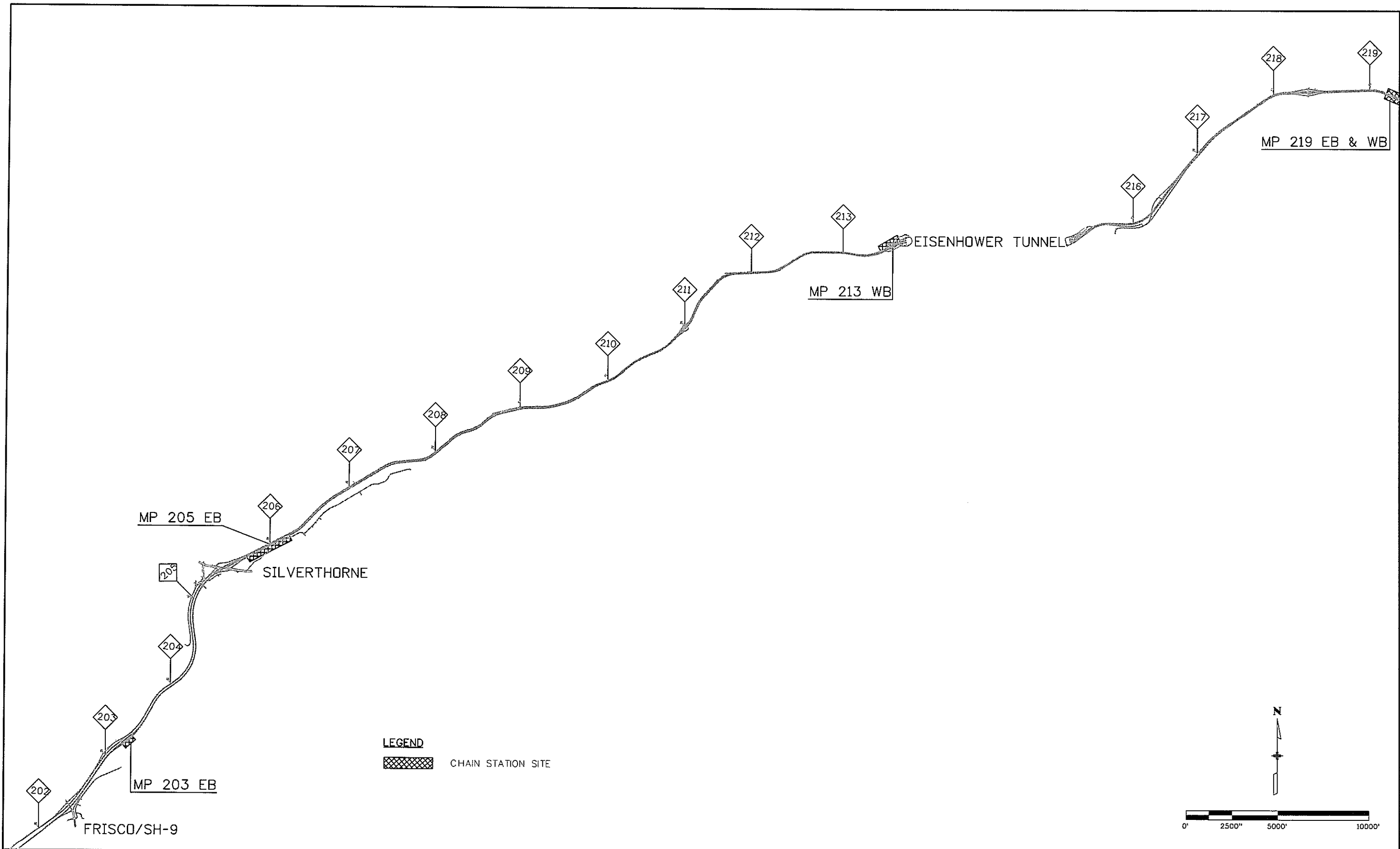
NOTES: THIS TABLE SHOWS THE STATION AND SHEET REFERENCE NUMBER FOR EACH CHAIN STATION IN THE PROJECT AREA. INTERCHANGES ARE ALSO SHOWN FOR QUICK REFERENCE.



Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		MILEPOST INFORMATION		Project No./Code	
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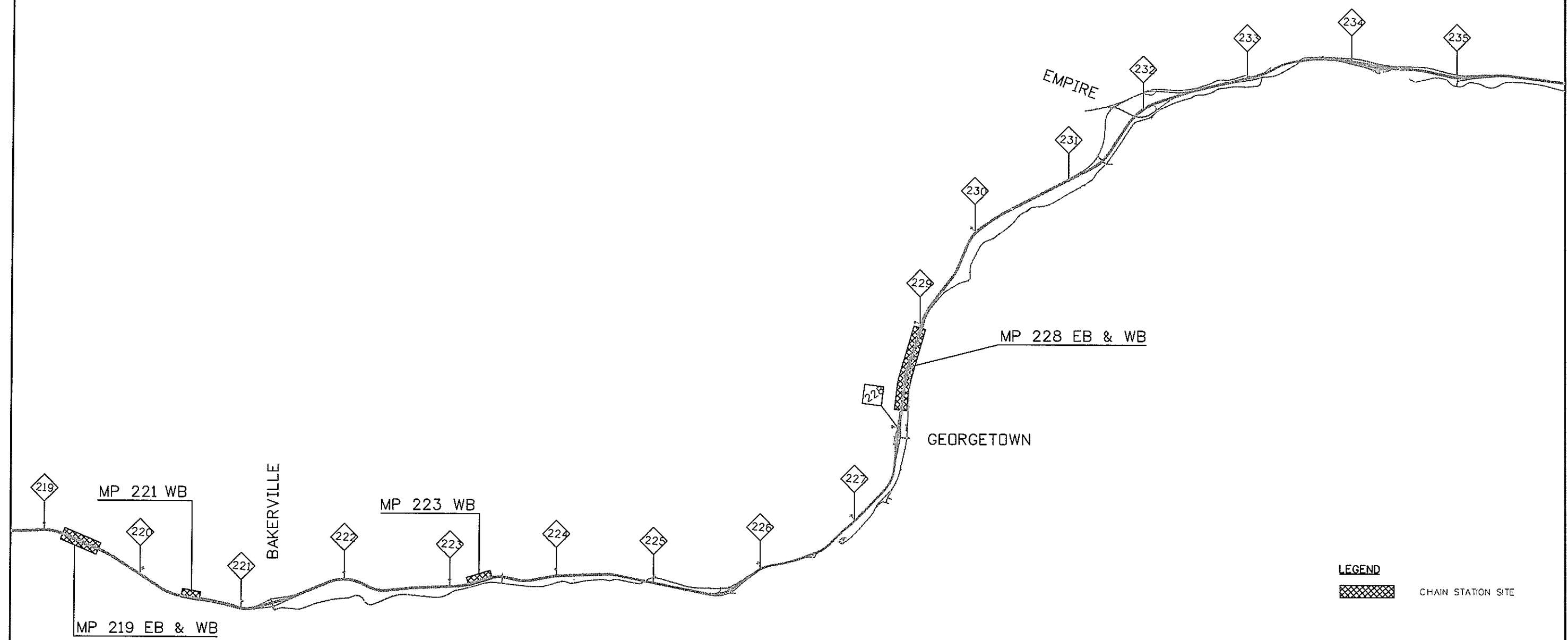
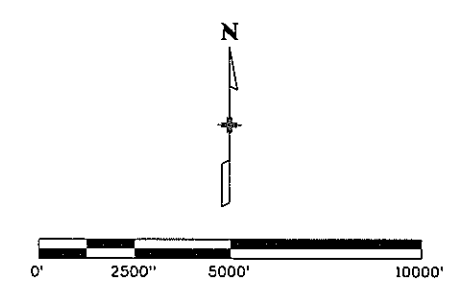


LEGEND
 CHAIN STATION SITE

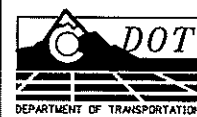

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Creation Date: 02/18/08	Initials: SRB					No. Revisions:	Designer: SRB	Structure Numbers:	IM 070A-003		
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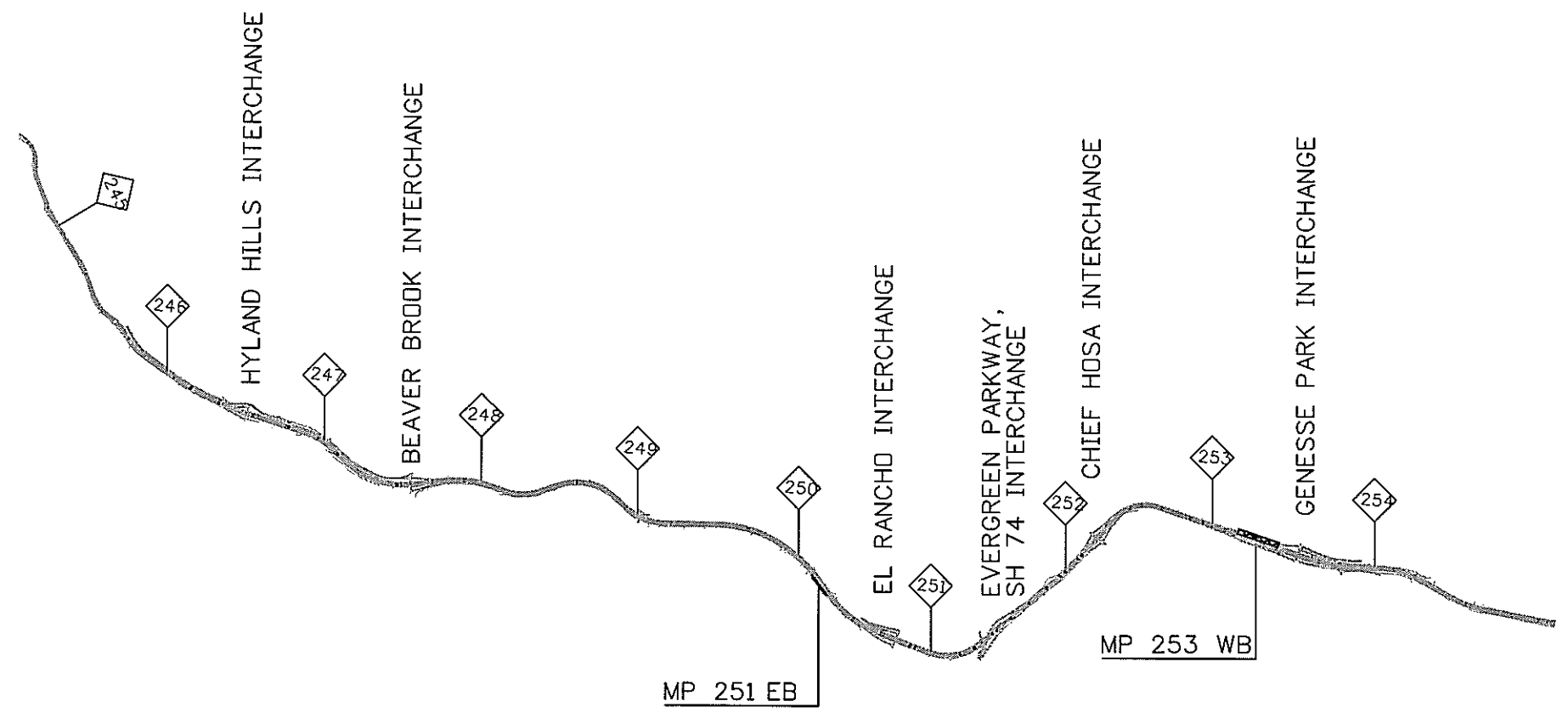
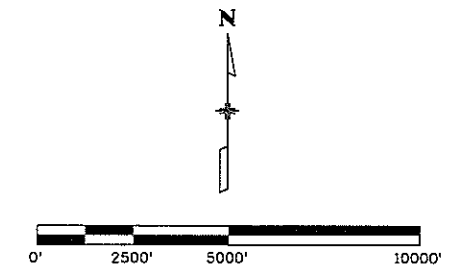


Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		STATION LOCATION PLAN		Project No./Code	
Creation Date: 02/18/08	Initials: SRB					No. Revisions:		Designer: SRB Detailer: SRB		IM 070A-003	
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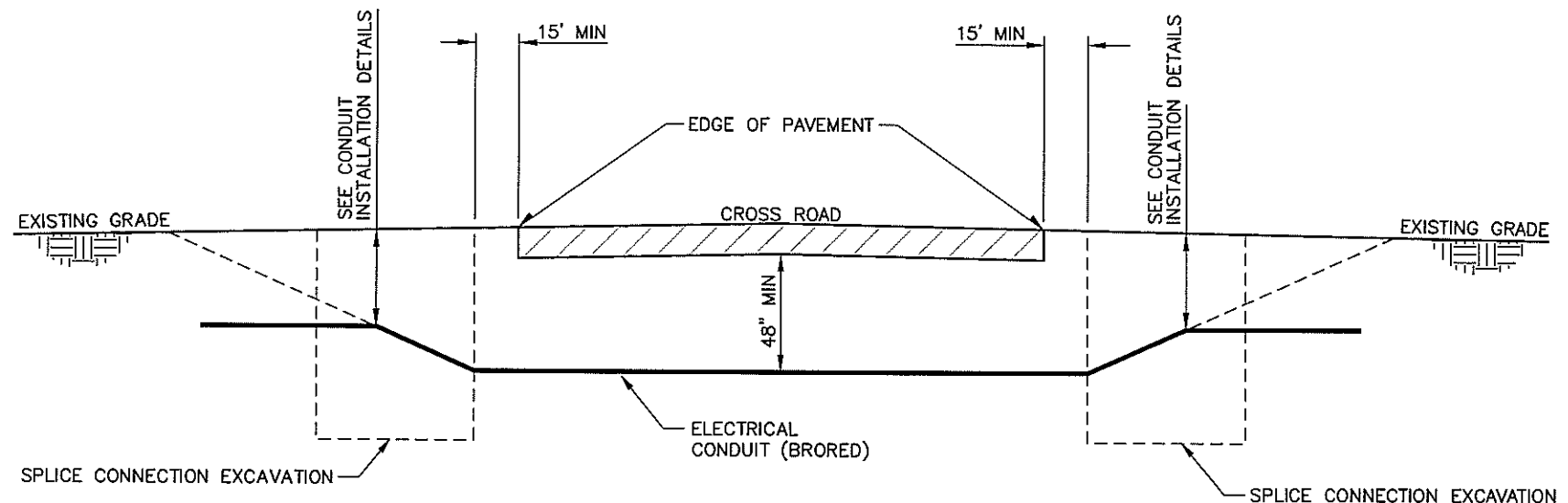
LEGEND
 CHAIN STATION SITE

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Creation Date: 02/18/08	Initials: SRB					No. Revisions:			IM 070A-003		
Last Modification Date: 03/25/08	Initials: SRB			Revised:	Designer: SRB	Structure Numbers	16701				
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LEGEND
 CHAIN STATION SITE

Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		STATION LOCATION PLAN		Project No./Code	
Creation Date: 02/18/08	Initials: SRB					No. Revisions:			IM 070A-003		
Last Modification Date: 03/25/08	Initials: SRB					Revised:	Designer: SRB	Structure Numbers	16701		
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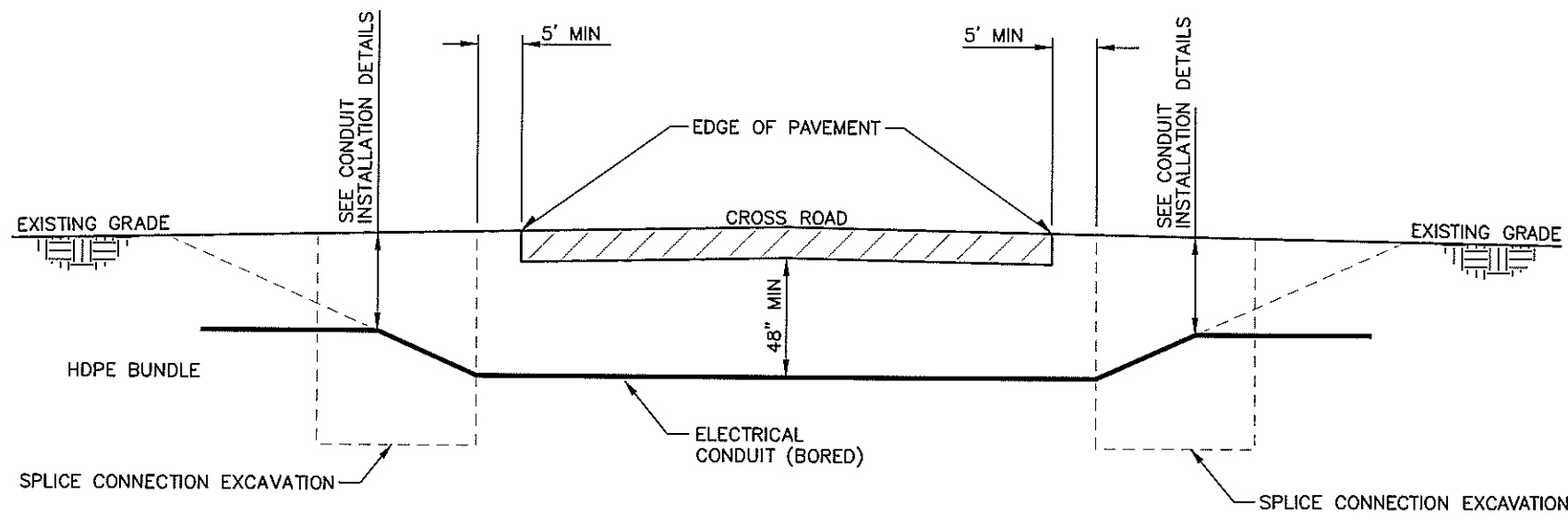


CROSS ROAD DIRECTIONAL BORE PROFILE
N.T.S

NOTES:

1. CONTRACTOR SHALL CONFORM TO THE APPLICABLE AGENCY REQUIREMENTS AND SPECIFICATION FOR BORE CROSSINGS
2. CLEARANCE BETWEEN EXISTING ROAD BASE AND TOP OF PROPOSED CASING SHALL BE A MINIMUM OF 48 INCHES OR AS SPECIFIED BY THE ENGINEER.
3. MINIMUM DEPTH OF 48 INCHES MUST BE ACHIEVED AT LEAST 15 FEET FROM EDGE OF PAVEMENT AS NO EXCAVATION IS ALLOWED WITHIN 15 FEET.
4. EXCAVATIONS REQUIRE SEEDING AND MULCHING.
5. CONDUIT SPLICE CONNECTION EXCAVATION AND CONDUIT SPLICE SHALL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
6. CONTRACTOR SHALL BACKFILL AND REGRADE SITE TO MATCH EXISTING CONDITIONS.
7. CONTRACTOR MUST REPAIR ANY DAMAGE TO PAVEMENT CAUSED BY ERRANT BORING AT THEIR COST.

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Creation Date: 02/18/08	Initials: SRB					No. Revisions:			IM 070A-003		
Last Modification Date: 03/25/08	Initials: SRB					Revised:	Designer: SRB	Structure Numbers	16701		
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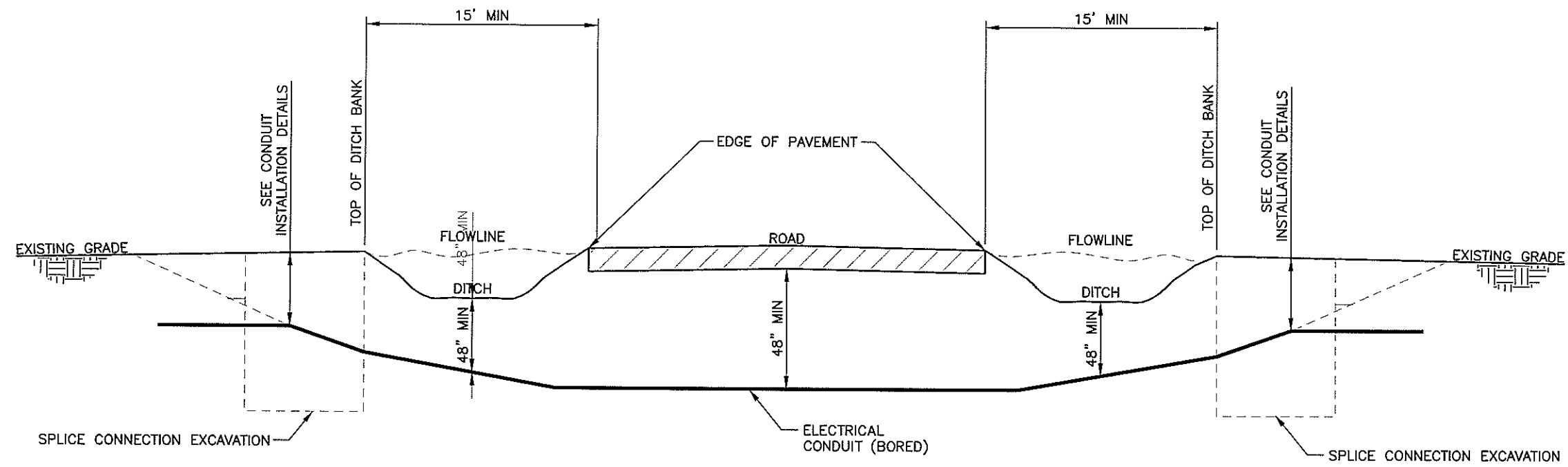


LOCAL ROAD/DIRECTIONAL BORE PROFILE
N.T.S

NOTES:

1. CONTRACTOR SHALL CONFORM TO THE APPLICABLE AGENCY REQUIREMENTS AND SPECIFICATION FOR BORE CROSSINGS
2. CLEARANCE BETWEEN EXISTING ROAD BASE AND TOP OF PROPOSED CASING SHALL BE A MINIMUM OF 48 INCHES OR AS SPECIFIED BY THE ENGINEER.
3. MINIMUM DEPTH OF 48 INCHES MUST BE ACHIEVED AT LEAST 15 FEET FROM EDGE OF PAVEMENT AS NO EXCAVATION IS ALLOWED WITHIN 15 FEET.
4. EXCAVATIONS REQUIRE SEEDING AND MULCHING.
5. CONDUIT SPLICE CONNECTION EXCAVATION AND CONDUIT SPLICE SHALL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
6. CONTRACTOR SHALL BACKFILL AND REGRADE SITE TO MATCH EXISTING CONDITIONS.
7. CONTRACTOR MUST REPAIR ANY DAMAGE TO PAVEMENT CAUSED BY ERRANT BORING AT THEIR COST.

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Creation Date: 02/18/08	Initials: SRB					No. Revisions:			IM 070A-003		
Last Modification Date: 03/25/08	Initials: SRB					Revised:	Designer: SRB	Structure Numbers	16701		
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Drawing File Name: bore-02.dgn							Sheet Subset: Boring	Subset Sheets: 2 of 6			
Scale:	Units: ENGLISH			REGION I	DW						



ROAD AND DITCH DIRECTIONAL BORE PROFILE
N.T.S

NOTES:

1. CONTRACTOR SHALL CONFORM TO THE APPLICABLE AGENCY REQUIREMENTS AND SPECIFICATION FOR BORE CROSSINGS
2. CLEARANCE BETWEEN EXISTING ROAD BASE AND TOP OF PROPOSED CASING SHALL BE A MINIMUM OF 48 INCHES OR AS SPECIFIED BY THE ENGINEER.
3. MINIMUM DEPTH OF 48 INCHES MUST BE ACHIEVED AT LEAST 15 FEET FROM EDGE OF PAVEMENT AS NO EXCAVATION IS ALLOWED WITHIN 15 FEET.
4. EXCAVATIONS REQUIRE SEEDING AND MULCHING.
5. CONDUIT SPLICE CONNECTION EXCAVATION AND CONDUIT SPLICE SHALL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
6. CONTRACTOR SHALL BACKFILL AND REGRADE SITE TO MATCH EXISTING CONDITIONS.
7. CONTRACTOR MUST REPAIR ANY DAMAGE TO PAVEMENT CAUSED BY ERRANT BORING AT THEIR COST.

Computer File Information		Index of Revisions		Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		BORING DETAILS		Project No./Code	
Creation Date: 02/18/08	Initials: SRB					No. Revisions:		IM 070A-003			
Last Modification Date: 03/25/08	Initials: SRB			Revised:		Designer:	SRB	Structure		16701	
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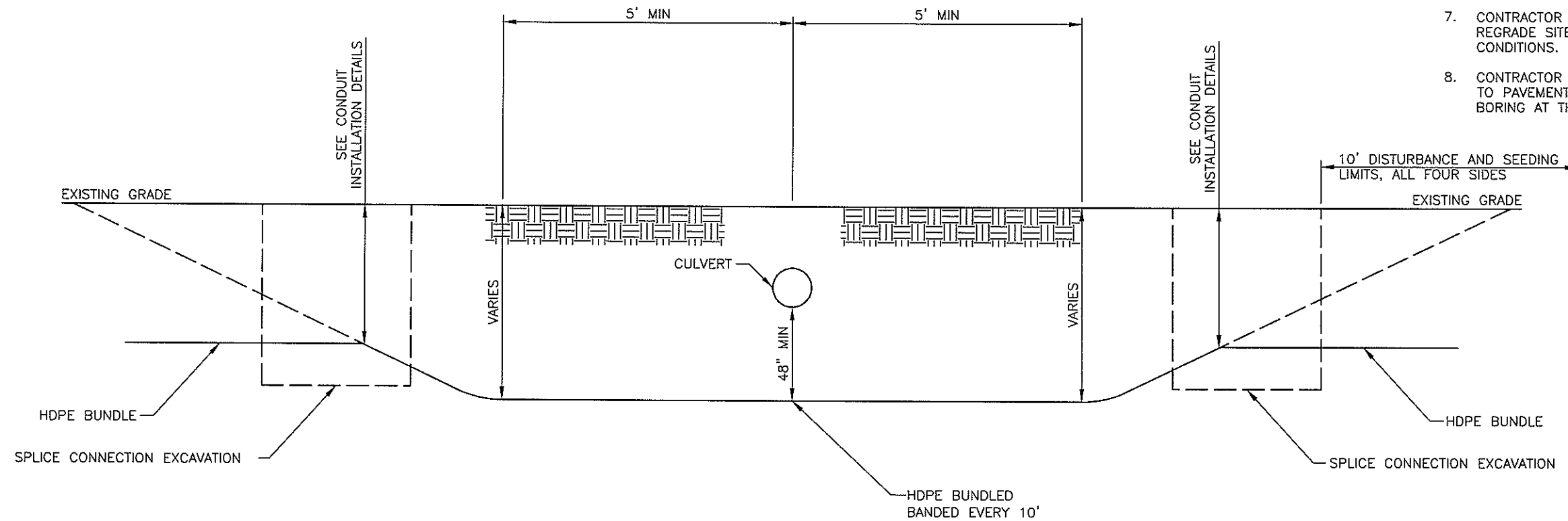


CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987

CALL 2 BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE OR EXCAVATE
FOR THE MARKING OF UNDERGROUND
MEMBER UTILITIES.

NOTES:

1. CONTRACTOR SHALL CONFORM TO THE APPLICABLE AGENCY REQUIREMENTS AND SPECIFICATION FOR BORE CROSSINGS.
2. CLEARANCE BETWEEN EXISTING ROAD BASE AND TOP OF PROPOSED CASING SHALL BE A MINIMUM OF 48 INCHES OR AS SPECIFIED BY THE ENGINEER.
3. MINIMUM DEPTH OF 48 INCHES MUST BE ACHIEVED AT LEAST 5 FEET FROM EDGE OF PAVEMENT.
4. EXCAVATIONS AND DISTURBANCE LIMITS REQUIRE SEEDING AND MULCHING.
5. REFER TO SPECIAL PROVISIONS FOR REQUIREMENTS ON HANDLING AND DISPOSING OF BORING SLUDGE.
6. CONDUIT SPLICE CONNECTION EXCAVATION AND CONDUIT SPLICE SHALL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
7. CONTRACTOR SHALL BACKFILL AND REGRADE SITE TO MATCH EXISTING CONDITIONS.
8. CONTRACTOR MUST REPAIR ANY DAMAGE TO PAVEMENT CAUSED BY ERRANT BORING AT THEIR COST.



CULVERT DIRECTIONAL BORE PROFILE

N.T.S.

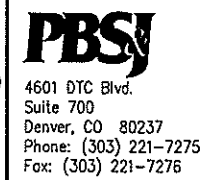
NOTE:

REFER TO CONDUIT INSTALLATION DETAILS FOR CASES WHERE TRENCH CROSSES OVER TOP OF CULVERT.

Computer File Information		Index of Revisions		As Constructed		BORING DETAILS		Project No./Code	
Creation Date: 02/18/08	Initials: SRB			No. Revisions:		Designer: SRB		IM 070A-003	
Last Modification Date: 03/25/08	Initials: SRB			Revised:		Detailer: SRB		16701	
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REGION 1 DW



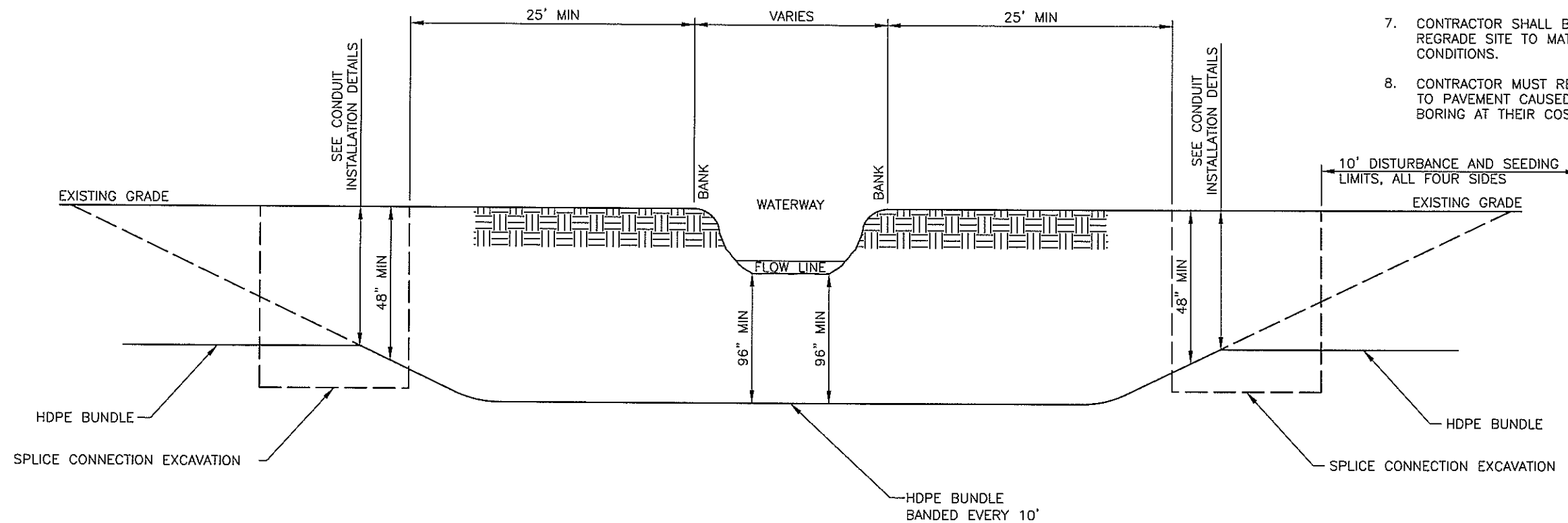
4601 DTC Blvd.
Suite 700
Denver, CO 80237
Phone: (303) 221-7275
Fax: (303) 221-7276



CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
CALL 2 BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE OR EXCAVATE
FOR THE MARKING OF UNDERGROUND
MEMBER UTILITIES.

NOTES:

1. CONTRACTOR SHALL CONFORM TO THE APPLICABLE AGENCY REQUIREMENTS AND SPECIFICATION FOR BORE CROSSINGS.
2. CLEARANCE BETWEEN EXISTING BOTTOM OF WATERWAY AND TOP OF PROPOSED CASING SHALL BE A MINIMUM OF 96 INCHES OR AS SPECIFIED BY THE ENGINEER.
3. MINIMUM DEPTH OF 96 INCHES MUST BE ACHIEVED AT LEAST 25 FEET FROM EDGE OF WATERWAY AS NO EXCAVATION IS ALLOWED WITHIN 25 FEET OF THE BANKS.
4. EXCAVATIONS AND DISTURBANCE LIMITS REQUIRE SEEDING AND MULCHING.
5. REFER TO SPECIAL PROVISIONS FOR REQUIREMENTS ON HANDLING AND DISPOSING OF BORING SLUDGE.
6. CONDUIT SPLICE CONNECTION EXCAVATION AND CONDUIT SPLICE SHALL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
7. CONTRACTOR SHALL BACKFILL AND REGRADE SITE TO MATCH EXISTING CONDITIONS.
8. CONTRACTOR MUST REPAIR ANY DAMAGE TO PAVEMENT CAUSED BY ERRANT BORING AT THEIR COST.





WATERWAY DIRECTIONAL BORE PROFILE

N.T.S.

NOTE:

SENSITIVE ENVIRONMENTAL AREA. NO PARKING, NO WORK AND NO STORING OF EQUIPMENT OR SUPPLIES IN THESE SENSITIVE ENVIRONMENTAL AREAS.

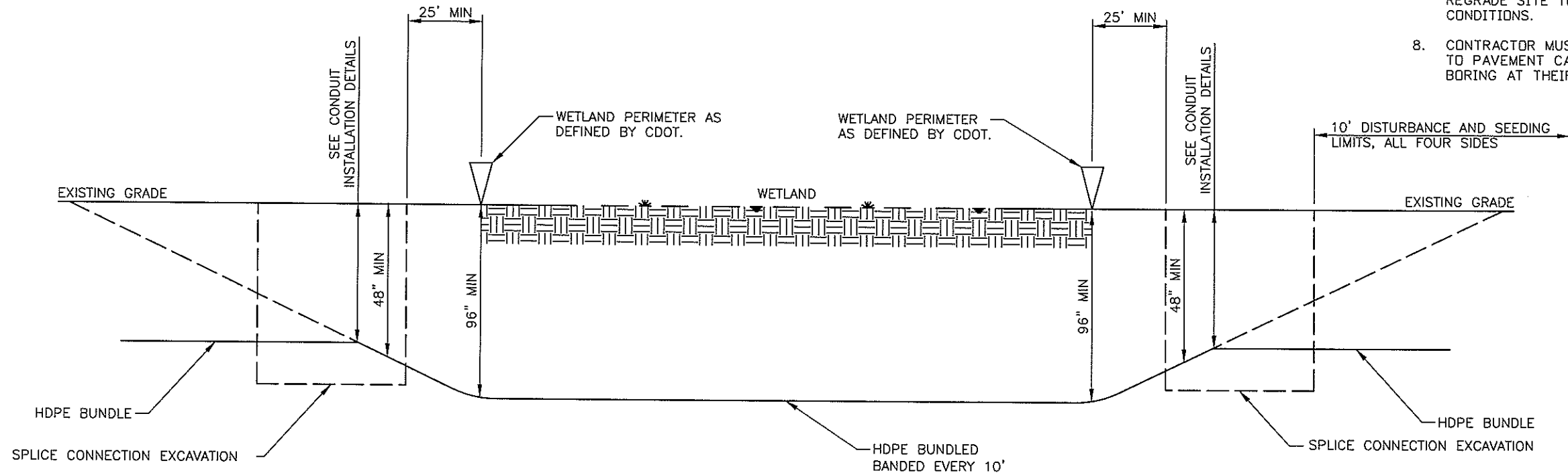
Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		BORING DETAILS		Project No./Code	
Creation Date: 02/18/08	Initials: SRB					No. Revisions:	Designer: SRB	Structure Numbers:	IM 070A-003		16701
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Scale: Units: ENGLISH				REGION I	DW						



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CENTER OF COLORADO
1-800-922-1987
CALL 2 BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE OR EXCAVATE
FOR THE MARKING OF UNDERGROUND
MEMBER UTILITIES.



NOTES:

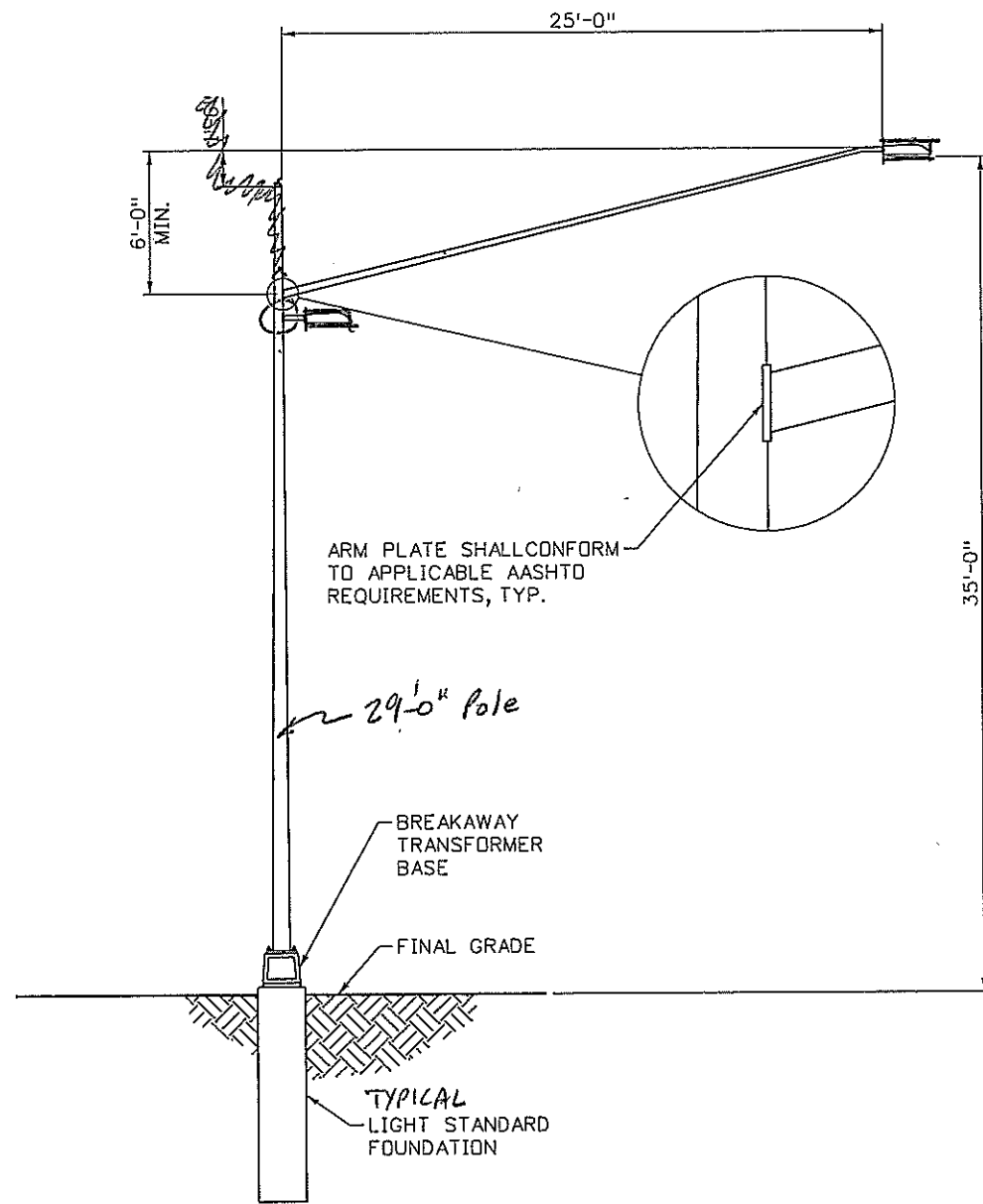
1. CONTRACTOR SHALL CONFORM TO THE APPLICABLE AGENCY REQUIREMENTS AND SPECIFICATION FOR BORE CROSSINGS.
2. CLEARANCE BETWEEN EXISTING GROUND AND TOP OF PROPOSED CASING SHALL BE A MINIMUM OF 96 INCHES OR AS SPECIFIED BY THE ENGINEER.
3. MINIMUM DEPTH OF 48 INCHES MUST BE ACHIEVED AT LEAST 25 FEET FROM EDGE OF WETLAND PERIMETER AS NO EXCAVATION IS ALLOWED WITHIN 25 FEET OF THE WETLAND PERIMETER.
4. EXCAVATIONS AND DISTURBANCE REQUIRE SEEDING AND MULCHING.
5. REFER TO SPECIAL PROVISIONS FOR REQUIREMENTS ON HANDLING AND DISPOSING OF BORING SLUDGE.
6. CONDUIT SPLICE CONNECTION EXCAVATION AND CONDUIT SPLICE SHALL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
7. CONTRACTOR SHALL BACKFILL AND REGRADE SITE TO MATCH EXISTING CONDITIONS.
8. CONTRACTOR MUST REPAIR ANY DAMAGE TO PAVEMENT CAUSED BY ERRANT BORING AT THEIR COST.



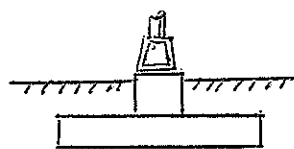
WETLAND DIRECTIONAL BORE PROFILE
N.T.S.

NOTE:
SENSITIVE ENVIRONMENTAL AREA. NO PARKING, NO WORK AND NO STORING OF EQUIPMENT OR SUPPLIES IN THESE SENSITIVE ENVIRONMENTAL AREAS.

Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		BORING DETAILS		Project No./Code	
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Last Modification Date: 03/25/08	Initials: SRB			Revised:			Detailer: SRB		16701		
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Drawing File Name: bore-06.dgn											
Scale:	Units: ENGLISH			REGION I	DW						



LIGHT STANDARD



ALTERNATE LIGHT STANDARD FOUNDATION

GENERAL NOTES *LIGHTING*

1. REFER TO THE ROADWAY PLANS FOR THE ACTUAL CONFIGURATION AND LOCATION OF LIGHT STANDARDS.
2. FOR CONDUIT, PULL OR SPLICE BOX, CONTROL CENTER, AND CABINET DETAILS SEE STANDARD PLAN M-613-1 SHEET 4 OF 4.
3. LIGHT STANDARDS SHALL NOT BE PLACED IN DITCHES OR OTHER LOW AREAS. EMBANKMENT AND BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 203.
4. POLE CAPS ARE REQUIRED.
5. BREAK-AWAY TRANSFORMER BASES SHALL BE INCLUDED ON ALL LIGHT STANDARDS. FOR DETAILS SEE STANDARD PLAN NO. M-613-1 SHEET 2 OF 4.
6. CABINET BASE OR PAD AND LEVELING CONCRETE SHALL BE CLASS B CONCRETE.
7. WELDING OF STEEL SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWS D1.1 ALL AREAS TO BE WELDED SHALL BE GROUND TO BRIGHT METAL. ALL WELDING AND REQUIRED TESTING SHALL BE COMPLETE BEFORE ANY MATERIAL IS GALVANIZED. ALL CIRCUMFERENTIAL WELDS SHALL BE NONDESTRUCTIVELY TESTED USING THE ENHANCED MAGNETIC PARTICLE METHOD IN ACCORDANCE WITH SUBSECTION 509.18 (D) OF THE STANDARD SPECIFICATIONS. THE ACCEPTANCE CRITERIA IS STATED IN TABLE 6.1 OF ANSI/AWS D1.1.
8. LIGHT STANDARDS SHALL BE DESIGNED AND CONSTRUCTED TO THE DESIGN CRITERIA LISTED ON THIS SHEET AND IN THE SPECIAL PROVISIONS. *BY THE CONTRACTOR ENTIRE ASSEMBLY SHALL BE MANUFACTURED BY ONE SUPPLIER.*
9. WORKING DRAWINGS AND DESIGN CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER.

LUMINAIRE AND ELECTRIC NOTES

1. LUMINAIRES WITH LAMPS RATED MORE THAN 3200 LUMENS SHALL BE IESNA FULL CUTOFF DISTRIBUTION.
2. FLAT LENS IS REQUIRED ON ALL ~~INSTALLATIONS~~ LUMINAIRES.
3. PHOTO ELECTRIC CONTROLS SHALL BE LOCATED AT THE LIGHTING CONTROL CENTER. SEE CDOT STANDARD PLAN NO. M-613-1 SHEET 4 OF 4 DETAILS FOR ADDITIONAL INFORMATION.

DESIGN CRITERIA



GENERAL

1. LIGHT STANDARDS AND FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 4TH EDITIONS INCLUDING INTERIMS THROUGH 2006. LIGHT STANDARDS SHALL BE DESIGNED AND CONSTRUCTED TO THE FATIGUE REQUIREMENTS IN THESE PUBLICATIONS.
2. A DESIGN WIND VELOCITY OF 100 MPH AND ONE 12 FT. LANE WITH A 65 MPH TRUCK-INDUCED GUST LOADING SHALL BE USED FOR DESIGN.
3. GALLOPING LOADS ARE EXCLUDED FROM FATIGUE DESIGN AND CATEGORY 2 IMPORTANCE FACTORS SHALL BE USED.

FOUNDATIONS

1. DUE TO THE PRESENCE OF BEDROCK AND SHOT ROCK, ALTERNATE FOUNDATIONS ARE ~~REQUIRED~~ ALLOWED. *DRILLED SHAFT AND SPREAD FOOTING* SPREAD FOOTING ALTERNATE FOUNDATIONS SHALL ONLY BE USED WHEN BEARING ON BEDROCK OR SHOT ROCK. ALTERNATE SPREAD FOOTING FOUNDATIONS ARE SHOWN ON SHEET 4 OF 4.
2. STANDARD DRILLED SHAFT FOUNDATIONS ARE SHOWN ON SHEETS 2 AND 3 OF 4.

PAYMENT

Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		SPECIAL LIGHT STANDARD DETAILS		Project No./Code
Creation Date: 02/22/08	Initials: ERS					No. Revisions:			CHAIN STATIONS (1 OF 3) 4	
Last Modification Date: 02/22/08	Initials: ERS			Revised:	Designer: AGW	Structure:			16701	
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Drawing File Name: 16701LightStandardDet01.dgn					Sheet Subset: Light Stds.	Subset Sheets:	1 of 3		19	
Scale: 1/8" = 1'-0"	Units: ENGLISH									

ALL CONDUCTORS SHALL BE SIZED IN CONFORMANCE WITH N.E.C. REQUIREMENTS IMSA 19-1 3 CONDUCTOR #14 AWG MINIMUM

IN-LINE FUSE HOLDERS AND FUSES



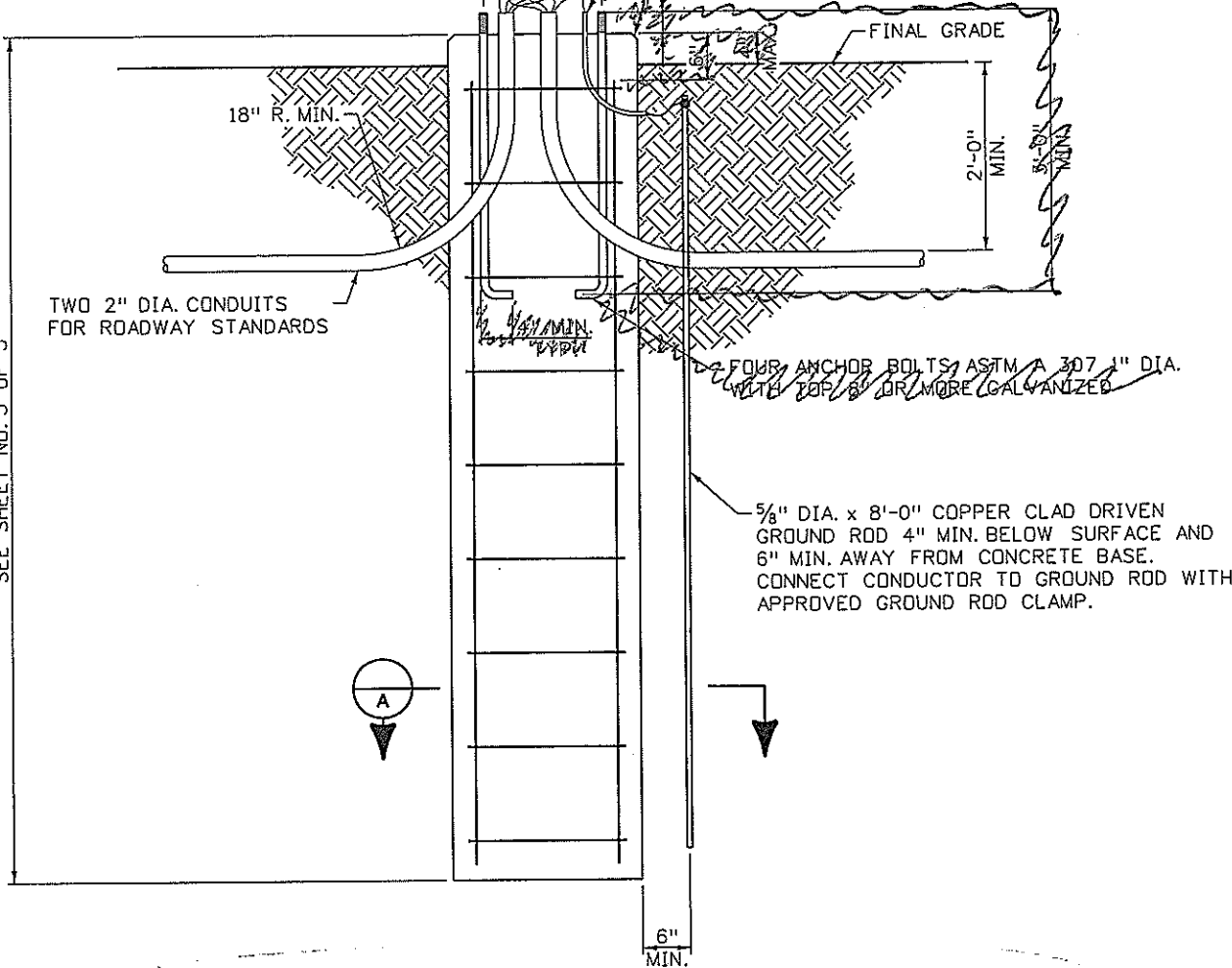
ACCEPTABLE CONNECTOR
NOTE: WIRE NUTS AND SPLIT BOLTS ARE NOT ACCEPTABLE

BOLT CIRCLE DIMENSIONS VARY, BOLT CIRCLE SHALL BE CENTERED ON FOUNDATION

BOND ONE #6 SOFT DRAWN BARE COPPER GROUND WIRE FROM GROUNDING LUG AT BASE OF POLE TO GROUND ROD

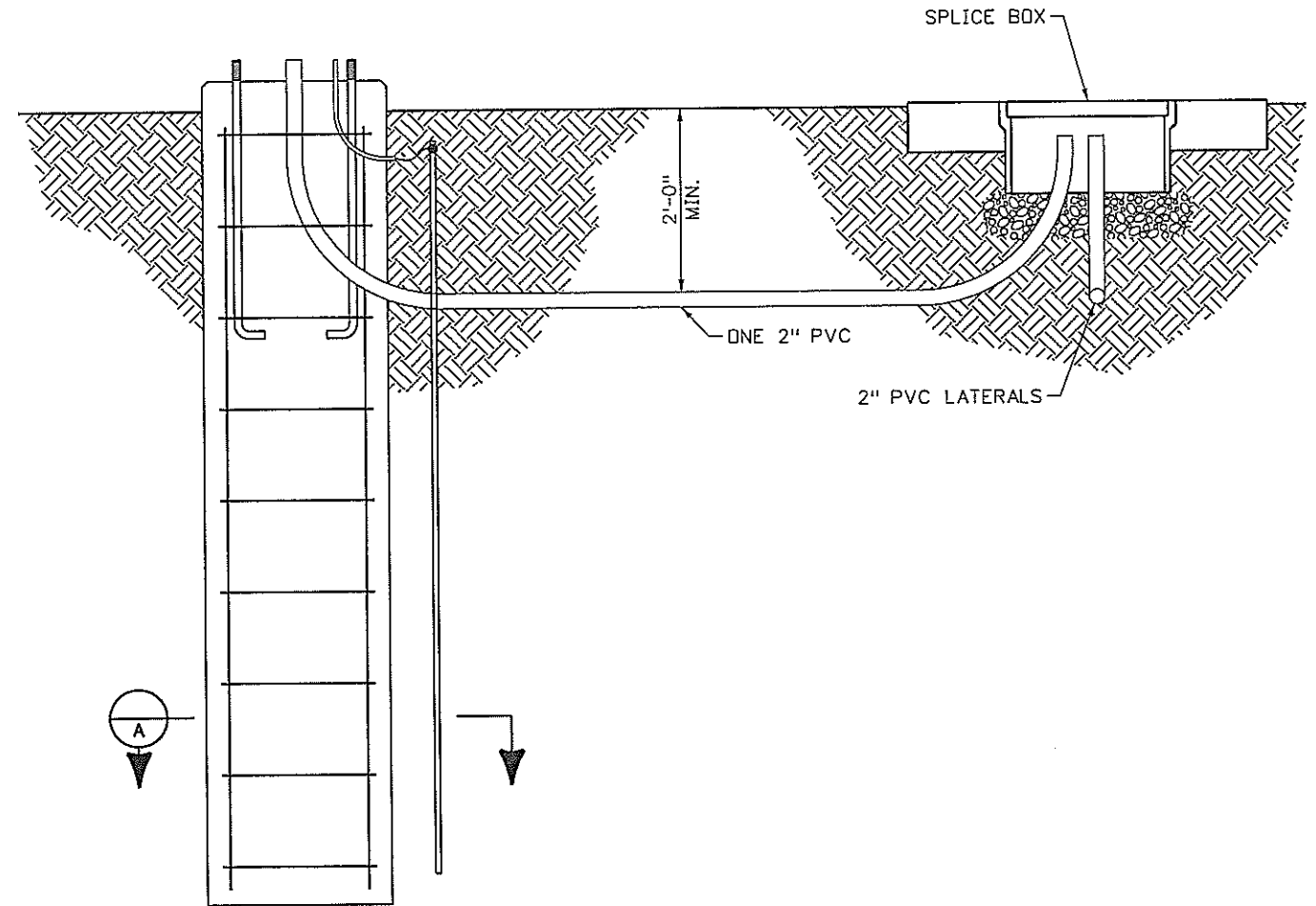
1/2" PVC SLEEVE INSTALLED IN POLE BASE AS SHOWN FOR GROUNDING CONDUCTOR

CHAMFER ON ALL EXPOSED EDGES



SEE SHEET NO. 3 OF 3

TYPICAL CONCRETE LIGHT STANDARD FOUNDATION
(ELECTRICAL)



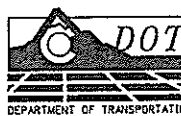

SPECIAL
~~ALTERNATIVE~~ CONCRETE LIGHT STANDARD
FOUNDATION WITH SPLICE BOX

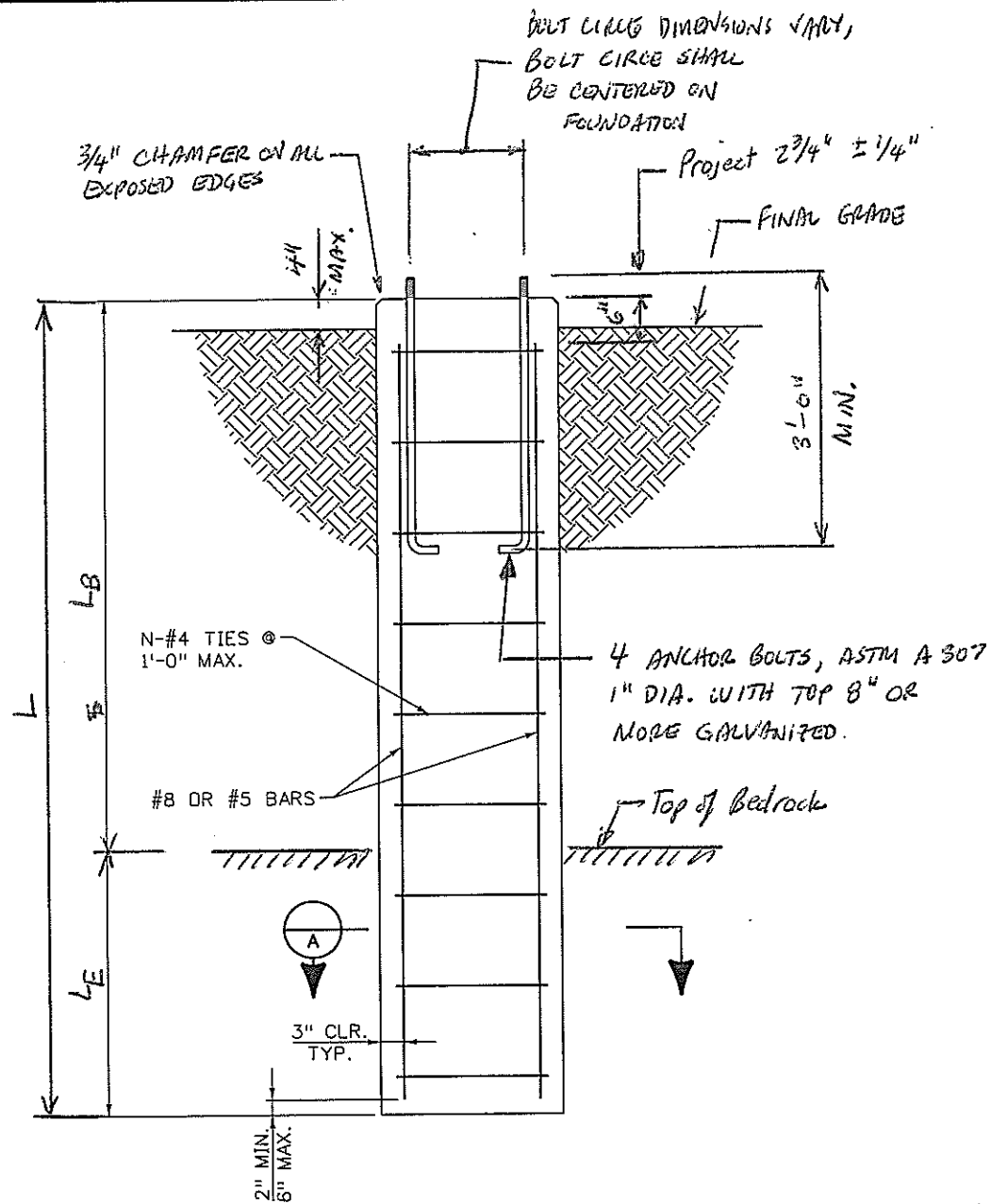
(FOR DETAILS NOT SHOWN, SEE "TYPICAL CONCRETE LIGHT STANDARD FOUNDATION", THIS SHEET)

NOTE: FOR LOCATIONS SEE LIGHTING PLANS

NOTES:

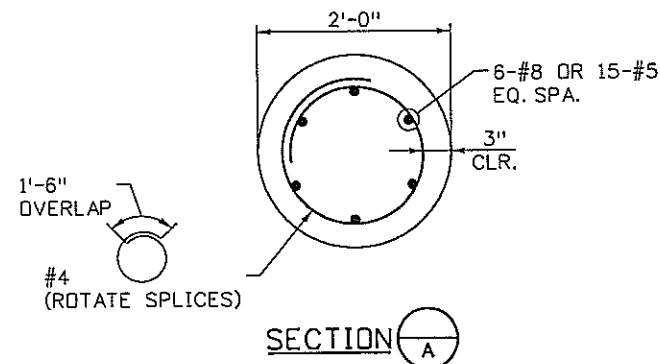
- FOR GENERAL NOTES SEE SHEET 1 OF 3
- FOR FOUNDATION DETAILS SEE SHEET 3 OF 3

Computer File Information		Index of Revisions		 Region I 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		SPECIAL LIGHT STANDARD DETAILS CHAIN STATIONS (2 OF 2) 4		Project No./Code	
Creation Date: 02/22/08	Initials: ERS							No. Revisions:		Designer: AGW	Structure Numbers
Last Modification Date: 02/22/08	Initials: ERS					Revised:		Detailer: ERS		16701	
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Drawing File Name: 16701LightStandardDet02.dgn											
Scale: 1/2" = 1'-0"	Units: ENGLISH										



TYPICAL CONCRETE LIGHT STANDARD FOUNDATION (STRUCTURAL)

(FOR DETAILS NOT SHOWN, SEE "TYPICAL CONCRETE LIGHT STANDARD FOUNDATION", SHEET 2 OF 3)



FOUNDATION NOTES

- CONCRETE FOR DRILLED FOUNDATIONS SHALL BE AIR ENTRAINED CLASS BZ CONCRETE IN ACCORDANCE WITH SECTION 503 OF THE STANDARD SPECIFICATIONS.
- DRILLED FOUNDATION CONCRETE SHALL REACH THE SEVEN DAY PREDICTED STRENGTH PRIOR TO INSTALLING THE LIGHT STANDARD.
- DRILLED FOUNDATIONS SHALL BE PLACED AGAINST UNDISTURBED EARTH. PRECAST CONCRETE FOUNDATIONS ARE NOT ALLOWED.
- REINFORCING STEEL FOR FOUNDATIONS SHALL BE GRADE 60.
- ~~SIX DRILLED FOUNDATION LENGTHS ARE PROVIDED FOR THE THREE SETS OF SOIL PROPERTIES. THE CONTRACTOR SHALL OBTAIN SOIL SAMPLES PRIOR TO FOUNDATION CONSTRUCTION TO VERIFY THAT AS-DESIGNED SOIL PROPERTIES ADEQUATELY MATCH THE IN-SITU SOIL PROPERTIES. THE CONTRACTOR SHALL FORWARD COPIES OF THE SOIL DATA TO THE ENGINEER PRIOR TO FOUNDATION CONSTRUCTION.~~
- THE CONTRACTOR SHALL SUBMIT THE PROPOSED DRILLED FOUNDATION LENGTH TO THE ENGINEER FOR APPROVAL PRIOR TO DRILLING. DRILLING SHALL NOT COMMENCE WITHOUT APPROVAL OF THE DRILLED FOUNDATION FROM THE ENGINEER. *CONSTRUCTING SHAFT CONSTRUCTION*
- THE CONTRACTOR SHALL STOP FOUNDATION INSTALLATION AND CONTACT THE ENGINEER IF ANY OF THE FOLLOWING SOIL CONDITIONS ARE ENCOUNTERED DURING DRILLING:
 - THE SOIL HAS A HIGH ORGANIC CONTENT OR CONSISTS OF SATURATED SILT AND CLAY
 - THE SITE WILL NOT SUPPORT THE WEIGHT OF THE DRILLING RIG
 - THE FOUNDATION SOILS ARE NOT HOMOGENOUS
 - FIRM BEDROCK IS ENCOUNTERED
- DRILLED FOUNDATIONS HAVE BEEN DESIGNED FOR THE FOLLOWING SAFETY FACTORS:
 - SF = 3.0 FLEXURAL RESISTANCE
 - SF = 1.25 TORSIONAL RESISTANCE
- FOR ALTERNATE SPREAD FOOTING FOUNDATION SEE SHEET 4 OF 4.

THE DRILLED SHAFT LENGTH SHALL BE DETERMINED USING THE DRILLED FOUNDATION LENGTH TABLE AFTER THE LOCATION AND QUALITY OF BEDROCK HAS BEEN DETERMINED

L _B (Depth to Bedrock)	L _E (Embedment in Bedrock)	L _r (Required shaft length)
L _B ≤ 5'-0"	4'-0"	L _B + 4'-0"
L _B > 5'-0"	9'-0" - L _B	9'-0"

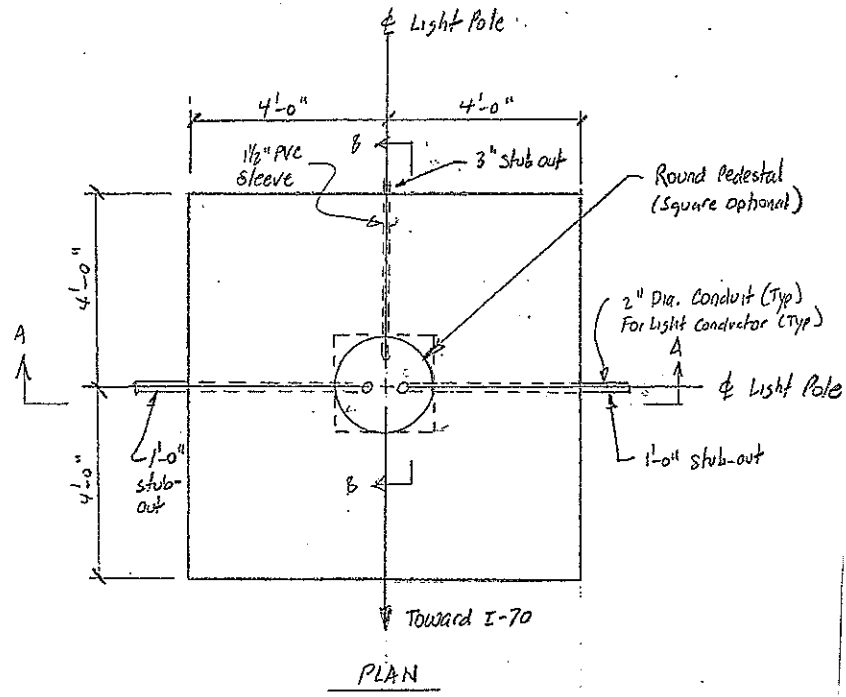
DENSITY	COHESION	L	NO. OF TIES N
90 PCF	500 PSF	10'	10
110 PCF	750 PSF	9'	9
130 PCF	1000 PSF	6'	6

5. DRILLED FOUNDATION LENGTHS ARE PROVIDED FOR THE FOLLOWING SOIL PROPERTIES:
 DENSITY γ = 110 PCF (COHESIONLESS SOIL)
 ϕ ANGLE = 30° (COHESIONLESS SOIL)
 DENSITY γ = 110 PCF (COHESIVE SOIL)
 COHESION C = 750 PSF (COHESIVE SOIL)
 COHESION C = 4000 PSF (WEATHERED ROCK)
 K_H = 1000 PCF (WEATHERED ROCK)

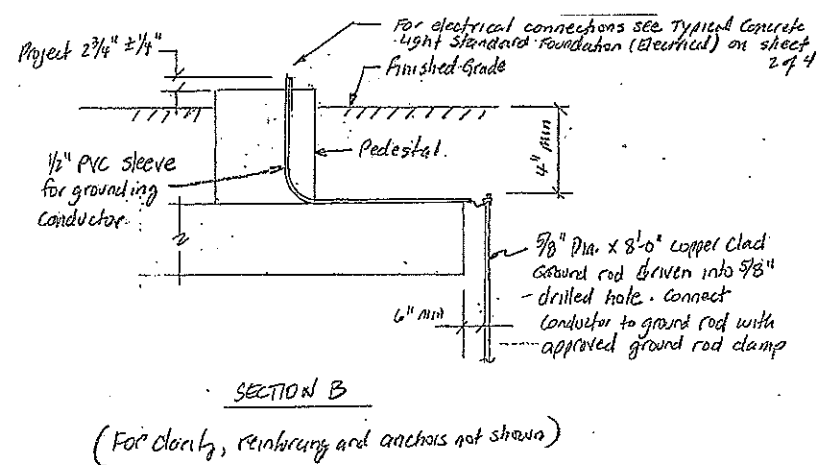
GENERAL NOTES

- FOR GENERAL NOTES SEE SHEET 1 OF 3.
- FOR ELECTRICAL DETAILS SEE SHEETS 1 AND 2 OF 3 AND CONDUIT
- FOR DESIGN CRITERIA SEE SHEET 1 OF 3

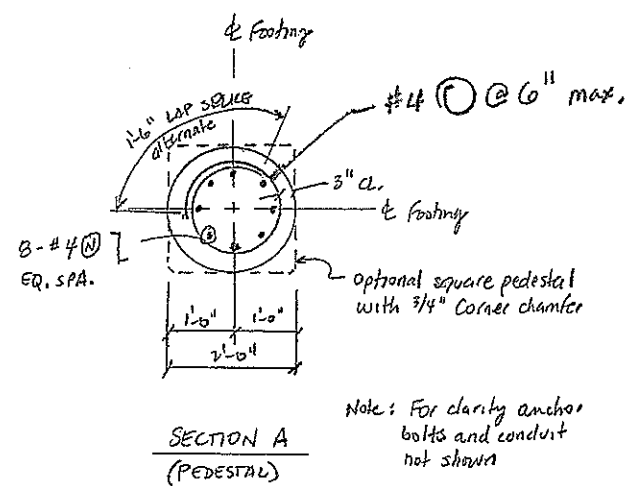
Computer File Information		Index of Revisions		 Region I 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		SPECIAL LIGHT STANDARD DETAILS CHAIN STATIONS (3 OF 4)		Project No./Code
Creation Date: 02/22/08	Initials: ERS				No. Revisions:	Designer: AGW	Structure		IM 070A-003
Last Modification Date: 02/22/08	Initials: ERS			Revised:	Detailer: ERS	Numbers		16701	
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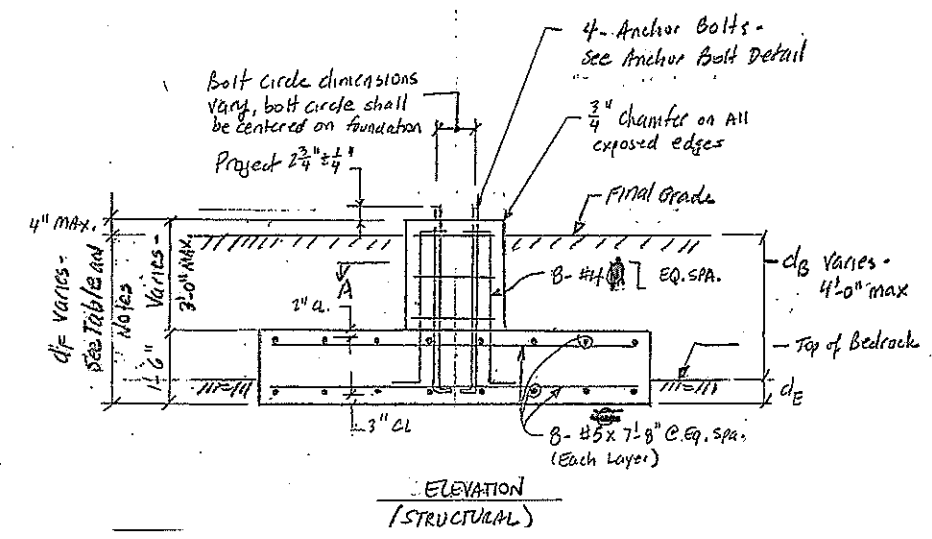
ALTERNATIVE LIGHT STANDARD FOUNDATION



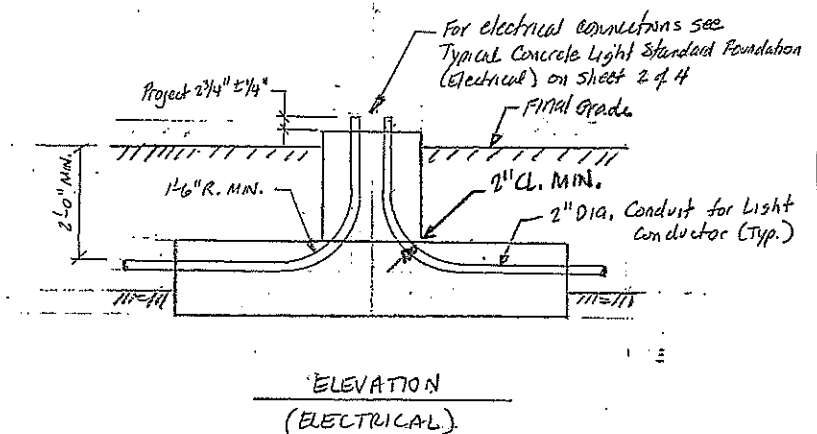
(For clarity, reinforcing and anchors not shown)



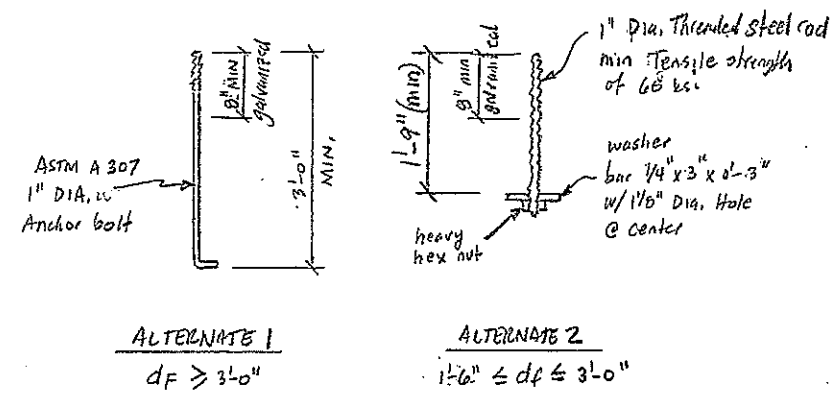
Note: For clarity anchor bolts and conduit not shown



ELEVATION (STRUCTURAL)



ELEVATION (ELECTRICAL)



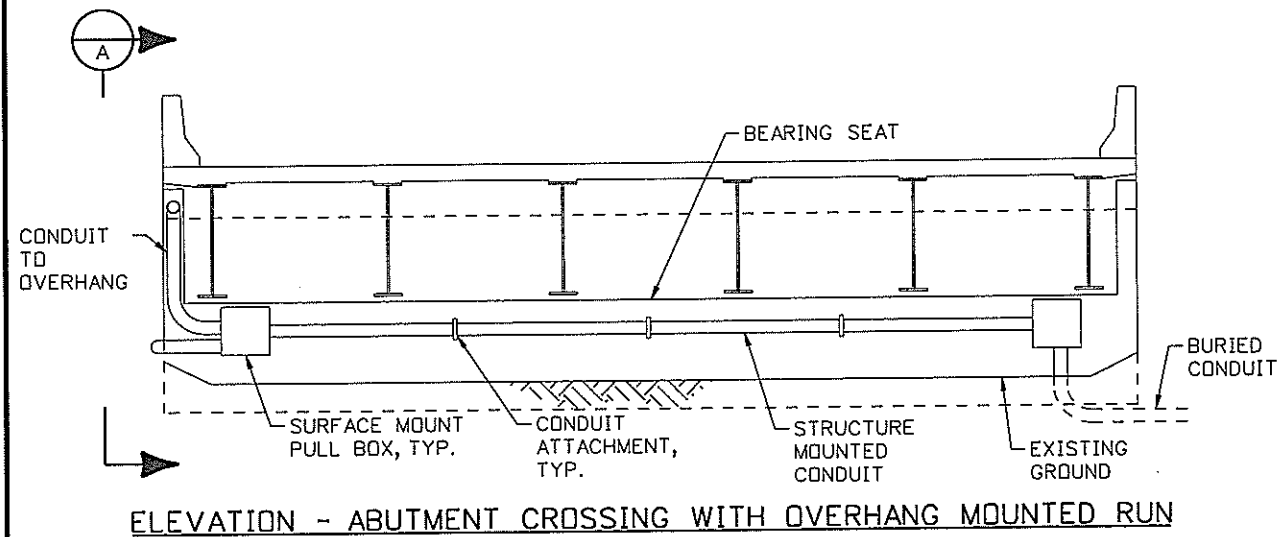
ANCHOR BOLT DETAIL (SPREAD FOOTING ONLY)

SPREAD FOOTING NOTES:

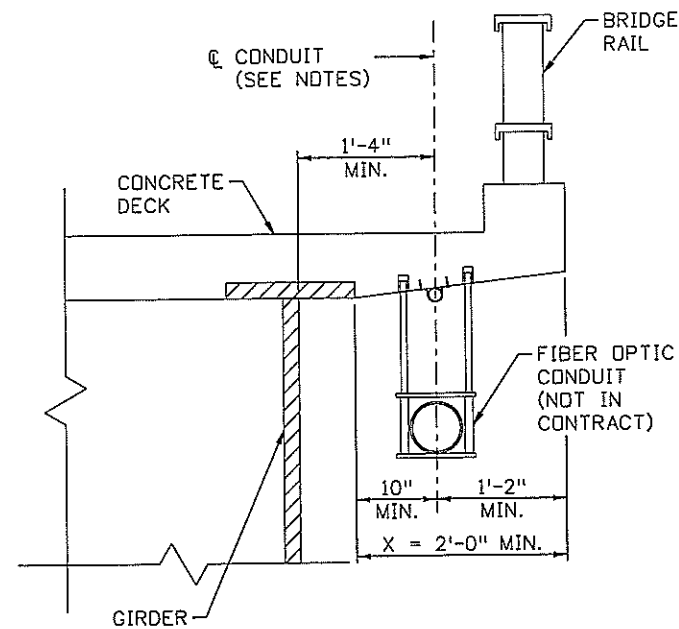
1. A spread footing alternative is provided for use where shot rock or bedrock is encountered within 4'-0" of the finished grade. Spread footing use will only be allowed with approval from the Engineer.
2. The presence and location of bedrock shall be approved by the Engineer prior to constructing footing.
3. Footings have been designed for a maximum ultimate rock bearing capacity of 30,000 psf with the following safety factors:
 - SF = 3.0 BEARING RESISTANCE
 - SF = 3.0 FLEXURAL RESISTANCE
 - SF = 1.25 TORSIONAL RESISTANCE
4. CONCRETE FOR SPREAD FOOTINGS AND PEDESTALS SHALL BE CLASS D, $f'_c = 4,500$ psi.
5. All concrete shall reach the seven day predicted strength prior to installing the light standard.
6. All concrete shall be cast-in-place.
7. Reinforcing steel shall be grade 60.
8. THE FOOTING DEPTH SHALL BE DETERMINED AS SHOWN IN THE FOLLOWING TABLE. FOOTING DEPTH AND EMBEDMENT IN BEDROCK SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTING FOOTING.

SUPPORT STRATUM	DEPTH TO BEDROCK	DEPTH OF FOOTING	BEDROCK EMBEDMENT
	$d_B \leq 1'-0"$	$d_F = 2'-0"$	$d_E = 1'-0"$ min
BEDROCK	$1'-0" \leq d_B < 3'-0"$	$d_F = d_B + 1'-0"$	$d_E = 1'-0"$
	$d_B \geq 3'-0"$	$d_F = d_B + 6"$	$d_E = 6"$
SHOT ROCK	N/A	$d_F = 3'-0"$	N/A

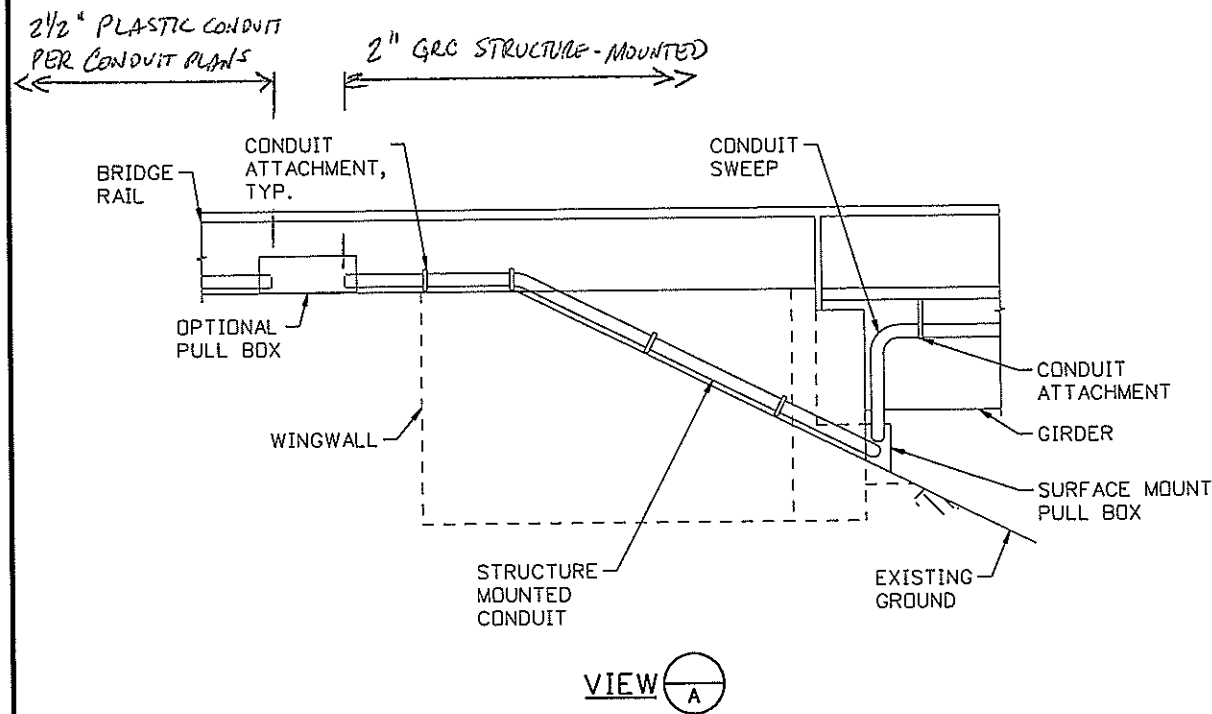
SPECIAL LIGHT STANDARD DETAILS
CHAIN STATIONS
(4 OF 4)



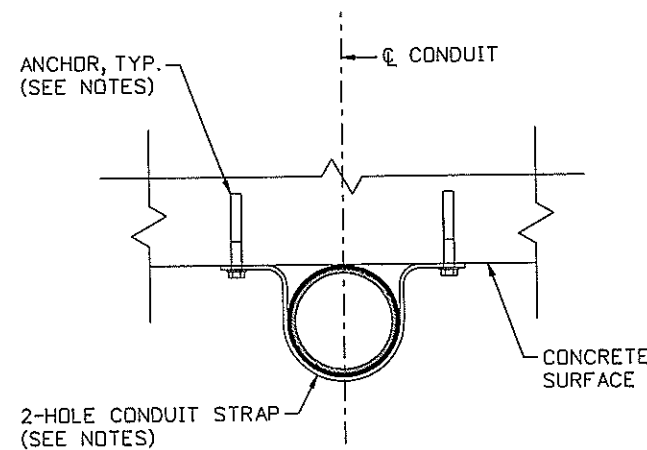
ELEVATION - ABUTMENT CROSSING WITH OVERHANG MOUNTED RUN



CONDUIT MOUNTING DETAIL



VIEW A

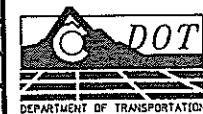


CONDUIT ATTACHMENT DETAIL

NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2005 COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- ALL EXPOSED SWEEPS SHALL BE GRC CONDUIT.
- SURFACE MOUNTED PULL BOXES AND J-BOXES SHALL BE MECHANICALLY FASTENED TO STRUCTURES PER THE MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER RECOMMENDATIONS DO NOT SPECIFY ANCHOR TYPE, DROP-IN ANCHORS SHALL BE USED.
- ACTUAL MOUNTING LOCATION OF CONDUITS, PULL BOXES, AND J-BOXES MAY VARY DUE TO PRESENCE OF EXISTING CONDUITS, LIGHTING SUPPORTS, OR OTHER OBSTACLES. THE CONTRACTOR SHALL FIELD VERIFY ALL MOUNTING LOCATIONS PRIOR TO INSTALLATION.
- ALL PULL BOX LOCATIONS SHALL BE APPROVED PRIOR TO INSTALLATION. PULL BOX INSTALLATION IS OPTIONAL ON BRIDGES THAT ARE LESS THAN 1000 LF AND HAVE LESS THAN 360 DEGREES OF BENDS. 500
- EXPANSION JOINTS SHALL BE PROVIDED ON ALL BRIDGE STRUCTURES. REFER TO THE EXPANSION JOINT DETAILS IN THESE PLANS FOR MORE INFORMATION.
- ALL WORK TO BE PERFORMED IN STRICT ACCORDANCE WITH THE APPLICABLE CODES OR REQUIREMENTS OF ANY REGULATING GOVERNMENTAL AGENCY OR THE RIGHT OF WAY GRANTOR.
- STRUCTURE MOUNTED CONDUIT SHALL BE 2-INCH DIA. GALVANIZED RIGID CONDUIT.
- 2-HOLE CONDUIT STRAP SHALL BE GALVANIZED OR ZINC PLATED. SPACING OF CONDUIT STRAPS SHALL BE DETERMINED BY THE CONTRACTOR AND SHALL NOT EXCEED 10 FEET.
- ANCHOR SIZE SHALL BE SELECTED BY THE CONTRACTOR. ~~AND SUBMITTED TO THE ENGINEER FOR APPROVAL~~
- ANCHOR SHALL BE EXPANSION BOLT OR SLEEVE ANCHOR. ANCHORS SHALL BE GALVANIZED OR ZINC PLATED TO MATCH 2-HOLE CONDUIT STRAP. ALTERNATE ANCHORS MAY BE CONSIDERED AND MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- A REBAR LOCATOR SHALL BE USED BEFORE DRILLING OR CORING THROUGH EXISTING CONCRETE. IF STEEL IS ENCOUNTERED WHILE DRILLING, THE HOLE WILL BE ABORTED AND REPAIRED WITH NON-SHRINK GROUT.
- ALL UTILITIES ARE NOT SHOWN ON THESE DRAWINGS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL UTILITIES.
- THE CONTRACTOR MAY SUBMIT ALTERNATE ATTACHMENT DETAILS THAT ARE EQUAL TO OR BETTER THAN THOSE PROVIDED IN THESE PLANS TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONNECTION DETAILS ARE CORROSION COMPATIBLE IN MATERIAL AND SIZE.
- THE CONTRACTOR SHALL VERIFY ATTACHMENT TYPES IN THE FIELD AND NOTIFY THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- THE FOLLOWING ARE STANDARD ABBREVIATIONS:
I.D. = INSIDE DIAMETER
O.D. = OUTSIDE DIAMETER
CBC = CONCRETE BOX CULVERT
GRC = GALVANIZED RIGID CONDUIT
- THE EXISTING BRIDGE DETAILS SHOWN IN THESE PLANS ARE APPROXIMATE AND MAY NOT REFLECT THE EXACT CONDITIONS OF ALL STRUCTURES. IF CONDITIONS ARE ENCOUNTERED IN THE FIELD THAT DO NOT PERMIT THE CONDUIT TO BE ATTACHED IN ACCORDANCE WITH THESE DETAILS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO ATTACHMENT AT THAT LOCATION
- PAYMENT FOR STRUCTURE MOUNTED CONDUIT SHALL BE UNDER ITEM 613-00200, 2 INCH ELECTRICAL CONDUIT, AND SHALL INCLUDE GRC CONDUIT, CONDUIT ATTACHMENT, PULL BOXES, AND ALL LABOR AND MATERIALS AND EQUIPMENT REQUIRED TO INSTALL THE CONDUIT.

Computer File Information		Index of Revisions		As Constructed		STRUCTURE MOUNTED ELECTRICAL CONDUIT		Project No./Code	
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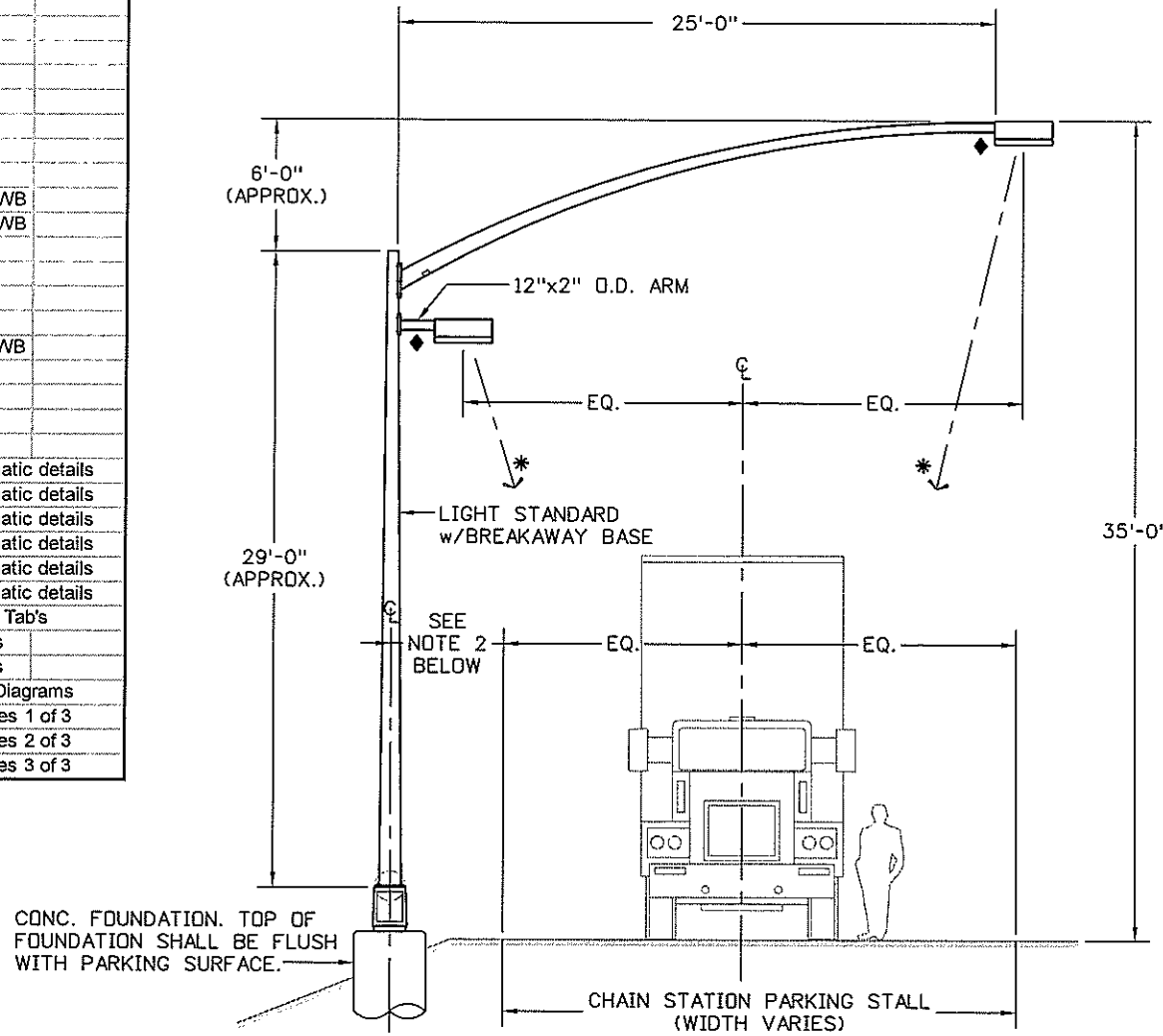


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LIGHTING SUBSET SHEET INDEX

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LE- 03	Lighting Plan, MP-177EB & WB
LE- 04	Lighting Plan, MP-177WB
LE- 05	Lighting Plan, MP-183EB
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LE- 10	Lighting Plan, MP-205EB
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- ◆ PROVIDE LUMINAIRE WITH HORIZONTAL SLIPFITTER FOR USE WITH 2" O.D. PIPE TENON.
- * LUMINAIRE OPTICS SHALL BE AIMED INWARD TOWARDS TRUCK.



A TYPICAL CHAIN STATION LIGHT STANDARD
 NOT TO SCALE TWIN HEAD ASSEMBLY

INSTALLATION NOTES:

1. ALL STEEL COMPONENTS FOR LIGHTING ASSEMBLY SHALL BE FURNISHED BY THE SAME MANUFACTURER.
2. LIGHT STANDARD SETBACK WILL VARY PER SITE CONDITIONS. TWIN LUMINAIRES ON MAST ARM ARE INTENDED TO BE CENTERED OVER TRUCK PARKING LANE BELOW AND SPACED AS SHOWN ON PLANS. PARKING LANE SHALL BE DETERMINED BY STRIPING OR VERIFIED BY FIELD ENGINEER.
3. SINGLE HEAD ASSEMBLIES SHALL BE SET BACK 3'-8" FROM BACK OF GUARDRAIL OR EDGE OF ASPHALT TO THE CENTERLINE OF THE FOUNDATION.

TABULATION OF APPROXIMATE QUANTITIES

ITEM NUMBER	LONG DESCRIPTION	UNIT	QUANTITY	NOTES
202-00700	REMOVAL OF LIGHT STANDARD	EA	19	
613-00125	1-1/4 INCH ELECTRICAL CONDUIT	LF	250	
613-00306	3 INCH ELECTRICAL CONDUIT (Bored)	LF	700	
613-05000	DIRECT-BURIAL CABLE	LF	560	
613-01200	2 INCH ELECTRICAL CONDUIT (Plastic)	LF	25,800	
613-10010	WIRING (Special)	LS	1	
613-16020	LUMINAIRE (Special) INDUCTION (165 Watt)	EA	4	(120V)
613-34300	LIGHT STANDARD METAL (30 Foot)	EA	22	
613-34352	LIGHT STANDARD METAL (35 Foot) (Special) (2 Arm)	EA	203	
613-40010	LIGHT STANDARD FOUNDATION	EA	22	
613-40012	LIGHT STANDARD FOUNDATION (Special)	EA	203	
613-50100	LIGHTING CONTROL CENTER	EA	17	1
613-70400	LUMINAIRE HIGH PRESSURE SODIUM (400 Watt)	EA	5	(480V)
613-75150	LUMINAIRE METAL HALIDE (150 Watt)	EA	405	(120V)
		EA	18	(277V)

TABULATION NOTES:

1. LIGHTING CONTROL CENTER TO BE 'CABINET' TYPE PER CDOT STANDARD M-613-1 WITH THE EXCEPTION OF A NEMA 4 INSTEAD OF A NEMA 3R ENCLOSURE.

LEGEND:

- ⊗ (1) EXISTING LIGHT STANDARD AND LUMINAIRE TO BE REMOVED.
- ⊗ (1) 165W INDUCTION (120V), FULL CUTOFF ROADWAY LUMINAIRE INSTALLED ON A 29' POLE. SUBSCRIPT DENOTES CIRCUIT NUMBER.
- ⊗ (1) 150W METAL HALIDE (120V), FULL CUTOFF ROADWAY LUMINAIRE INSTALLED ON A 29' POLE. SUBSCRIPT DENOTES CIRCUIT NUMBER.
- ⊗ (2) 150W METAL HALIDE (120V or 277V), FULL CUTOFF ROADWAY LUMINAIRES AND A 29' POLE. ONE LUMINAIRE INSTALLED ON A 25'-0" MAST ARM AND THE OTHER INSTALLED ON 12" LONG x 2" O.D. PIPE TENON. SUBSCRIPT DENOTES CIRCUIT NUMBER.
- ⊗ (1) 400W HPS (480V), FULL CUTOFF ROADWAY LUMINAIRE INSTALLED ON A 30' POLE. SUBSCRIPT DENOTES CIRCUIT NUMBER.
- 24" DEEP TRENCH, BURY ELECTRICAL RACEWAY. RACEWAY TO BE (3*4 THWN & 1*4 GND) IN 2" HDPE CONDUIT > 100' (OR SCHEDULE 80 PVC FOR <100' MAY BE USED). UNLESS OTHERWISE NOTED (U.O.N.)
- LCCx NEW LIGHTING CONTROL CENTER PER CDOT STANDARD M-613-1 WITH THE EXCEPTION OF NEMA 4. SUBSCRIPT DENOTES LCC DESIGNATION.
- ← CIRCUIT HOMERUN OR CIRCUIT BREAK, NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS.
- ⊗ CAST POLYMER CONCRETE TYPE FLUSH-TO-GRADE SPLICE BOX WITH TRAFFIC RATED COVER. COVER TO READ: "LIGHTING".
- ⊗ (1) 3" HDPE (SDR 13.5) SLEEVE UNDER ROADWAY WITH SPLICE BOXES AT EACH END FOR CHAIN STATION LIGHTING. COVER TO READ "LIGHTING".
- ⌒ EROSION LOG

PRELIMINARY

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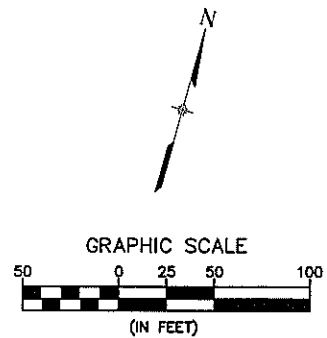
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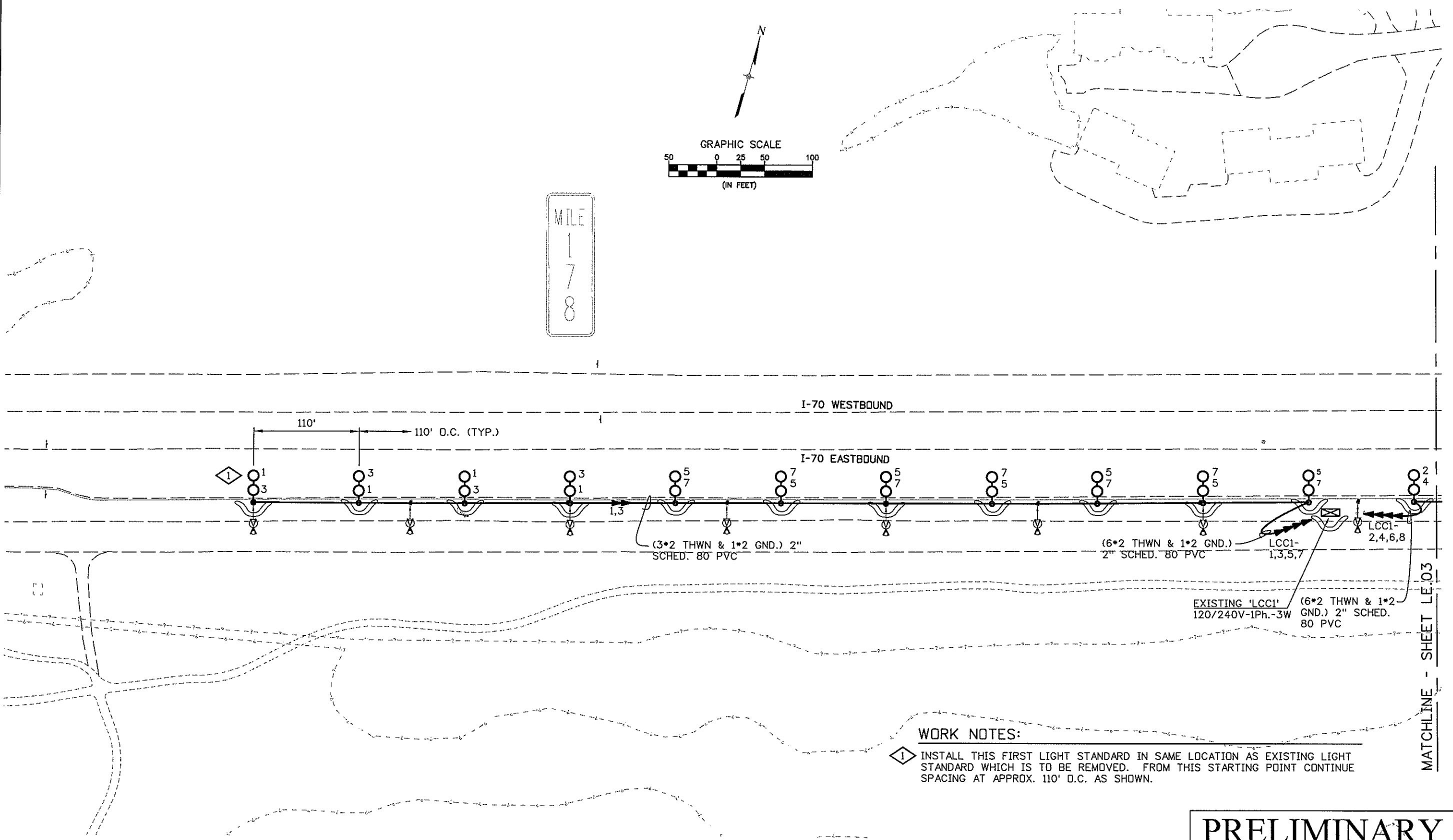
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LIGHTING PLAN TABULATIONS AND DETAIL			
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MILE
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8



WORK NOTES:

- 1 INSTALL THIS FIRST LIGHT STANDARD IN SAME LOCATION AS EXISTING LIGHT STANDARD WHICH IS TO BE REMOVED. FROM THIS STARTING POINT CONTINUE SPACING AT APPROX. 110' D.C. AS SHOWN.

PRELIMINARY

MP 177EB

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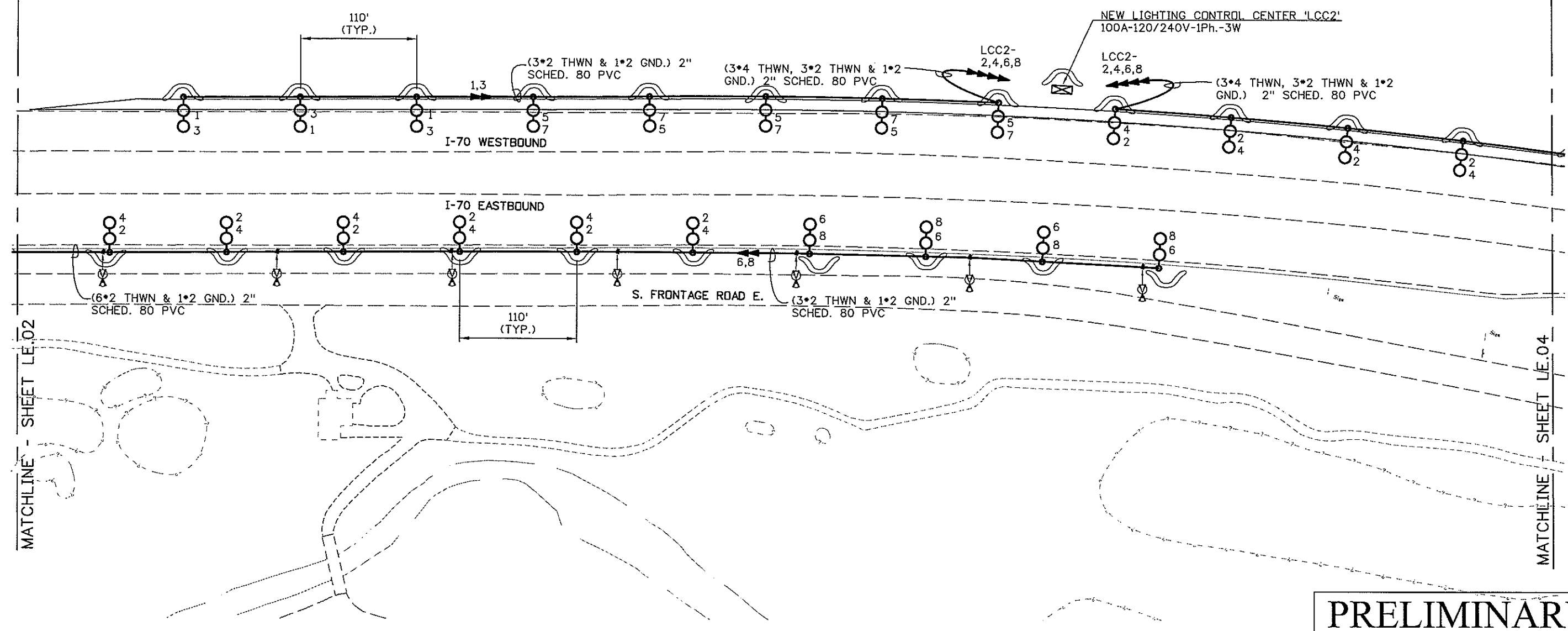
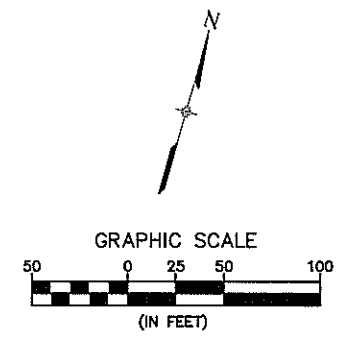
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MP 177EB & WB

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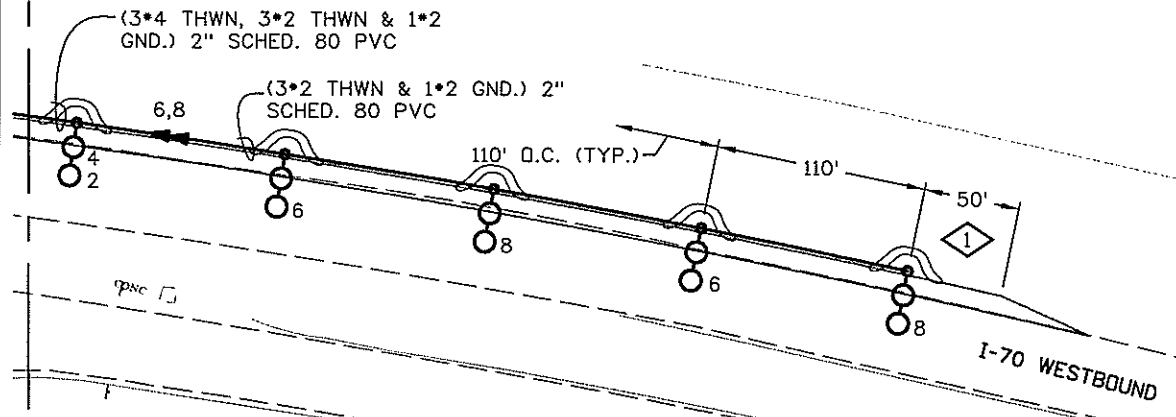
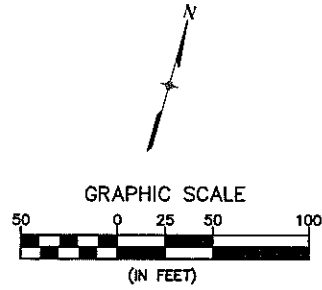
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MATCHLINE SHEET LE-04

WORK NOTES:

1 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 50'-0" FROM BEGINNING OF FULL-WIDTH STATION. FROM THIS STARTING POINT CONTINUE SPACING AT APPROX. 110' O.C. AS SHOWN.

PRELIMINARY

MP 177WB

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4699 N. WILSON COURT SOUTH STE. 102
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303-630-7229

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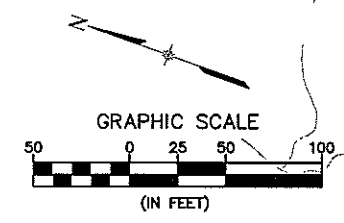
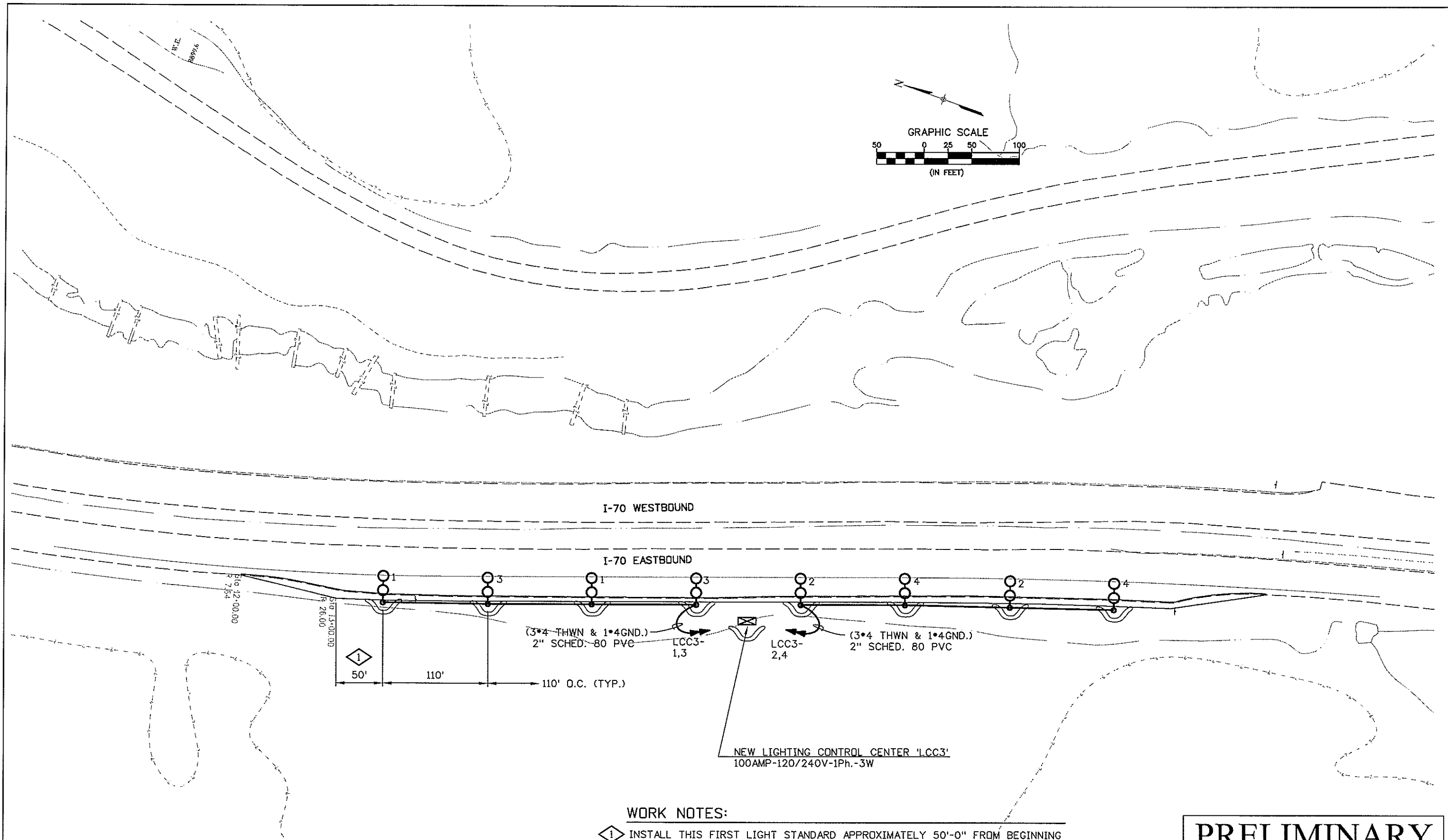
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WORK NOTES:

- 1 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 50'-0" FROM BEGINNING OF FULL-WIDTH STATION. FROM THIS STARTING POINT CONTINUE SPACING AT APPROX. 110' O.C. AS SHOWN.

PRELIMINARY

MP 183EB

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 6099 NATURES COURT SOUTH STE. 122
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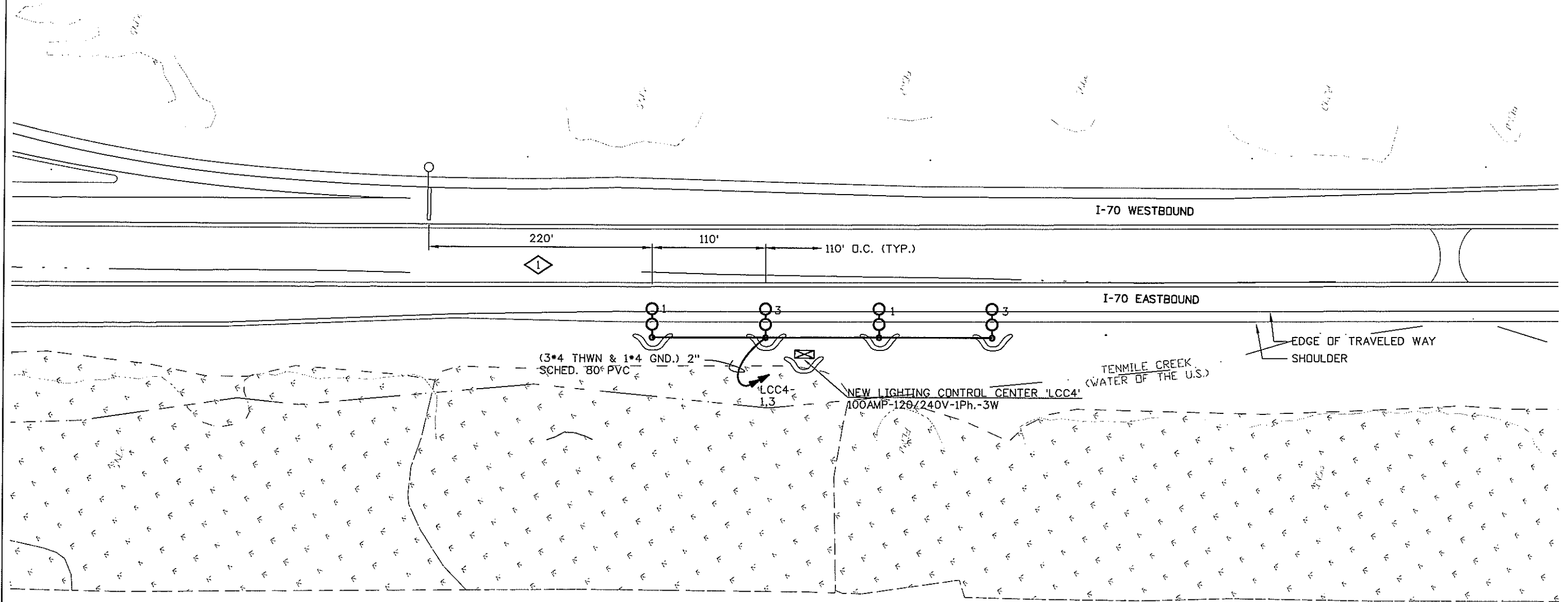
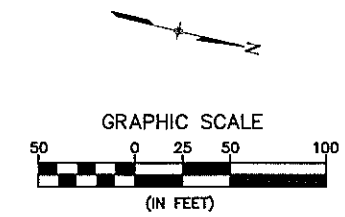
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WORK NOTES:

- 1 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 220'-0" FROM EXISTING SIGN OVER WESTBOUND LANES. FROM THIS STARTING POINT CONTINUE SPACING AT APPROX. 110' O.C. AS SHOWN.

PRELIMINARY

MP 195EB

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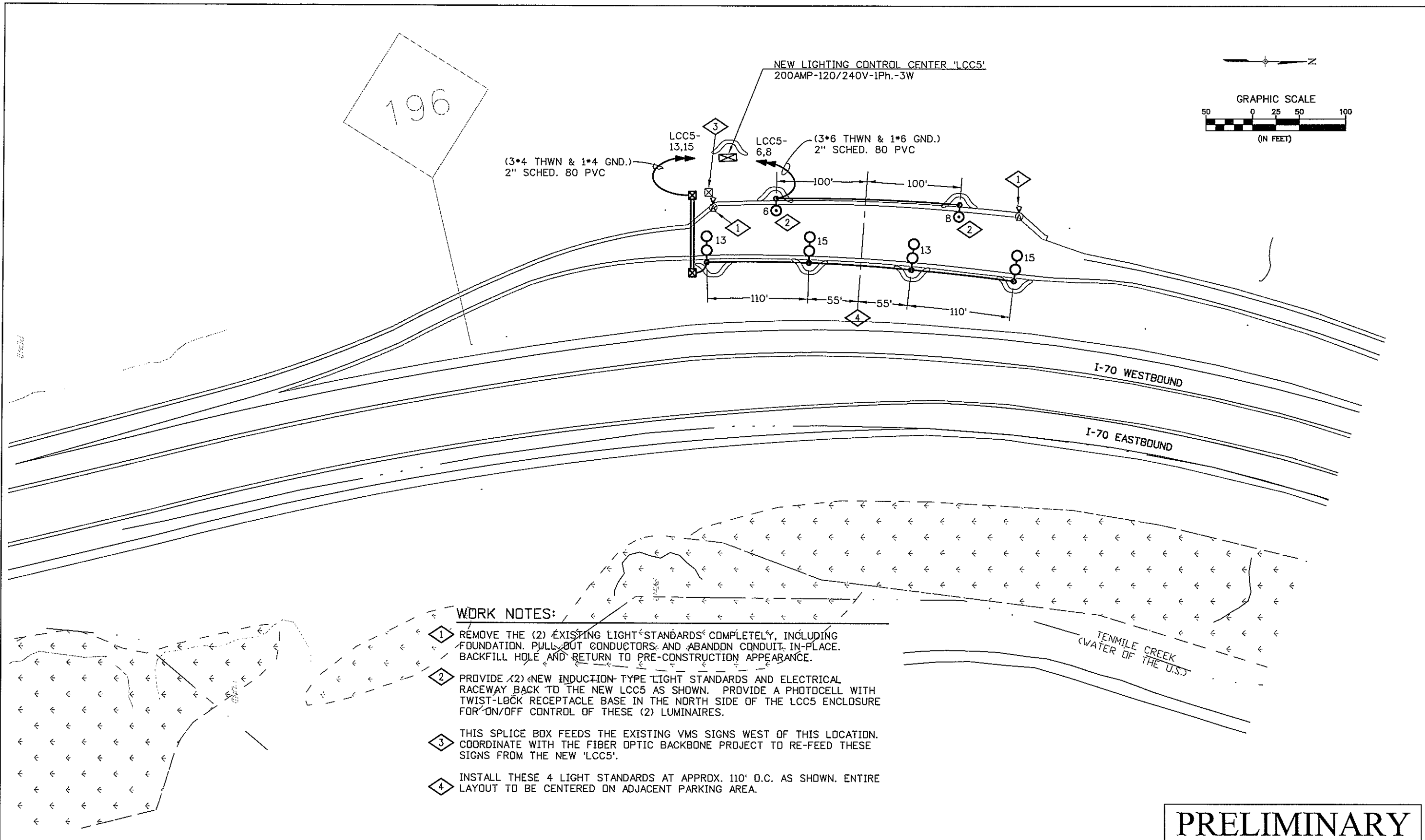
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MP 196WB

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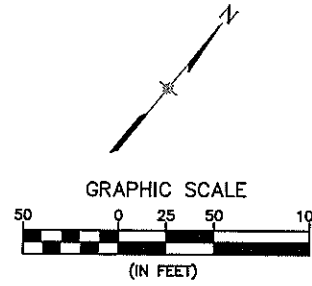
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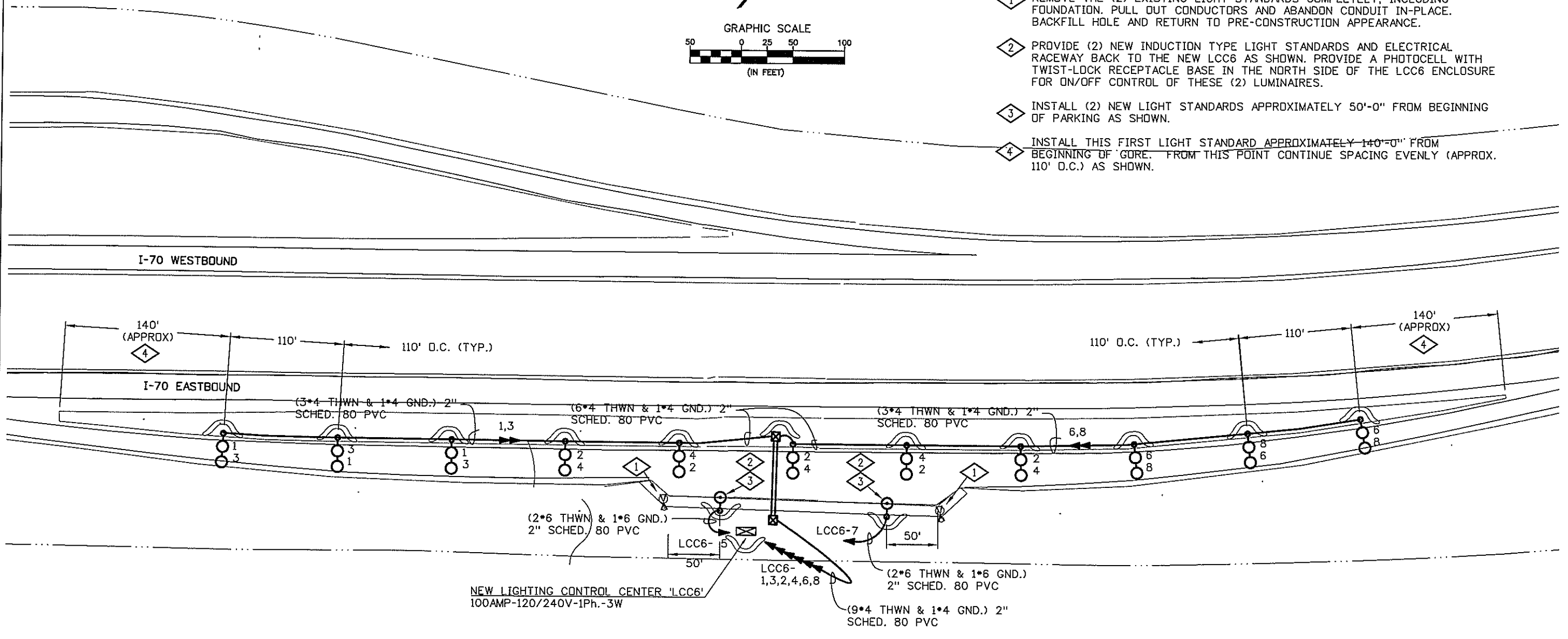
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WORK NOTES:

- 1 REMOVE THE (2) EXISTING LIGHT STANDARDS COMPLETELY, INCLUDING FOUNDATION. PULL OUT CONDUCTORS AND ABANDON CONDUIT IN-PLACE. BACKFILL HOLE AND RETURN TO PRE-CONSTRUCTION APPEARANCE.
- 2 PROVIDE (2) NEW INDUCTION TYPE LIGHT STANDARDS AND ELECTRICAL RACEWAY BACK TO THE NEW LCC6 AS SHOWN. PROVIDE A PHOTOCELL WITH TWIST-LOCK RECEPTACLE BASE IN THE NORTH SIDE OF THE LCC6 ENCLOSURE FOR ON/OFF CONTROL OF THESE (2) LUMINAIRES.
- 3 INSTALL (2) NEW LIGHT STANDARDS APPROXIMATELY 50'-0" FROM BEGINNING OF PARKING AS SHOWN.
- 4 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 140'-0" FROM BEGINNING OF GORE. FROM THIS POINT CONTINUE SPACING EVENLY (APPROX. 110' D.C.) AS SHOWN.



PRELIMINARY

MP 203EB

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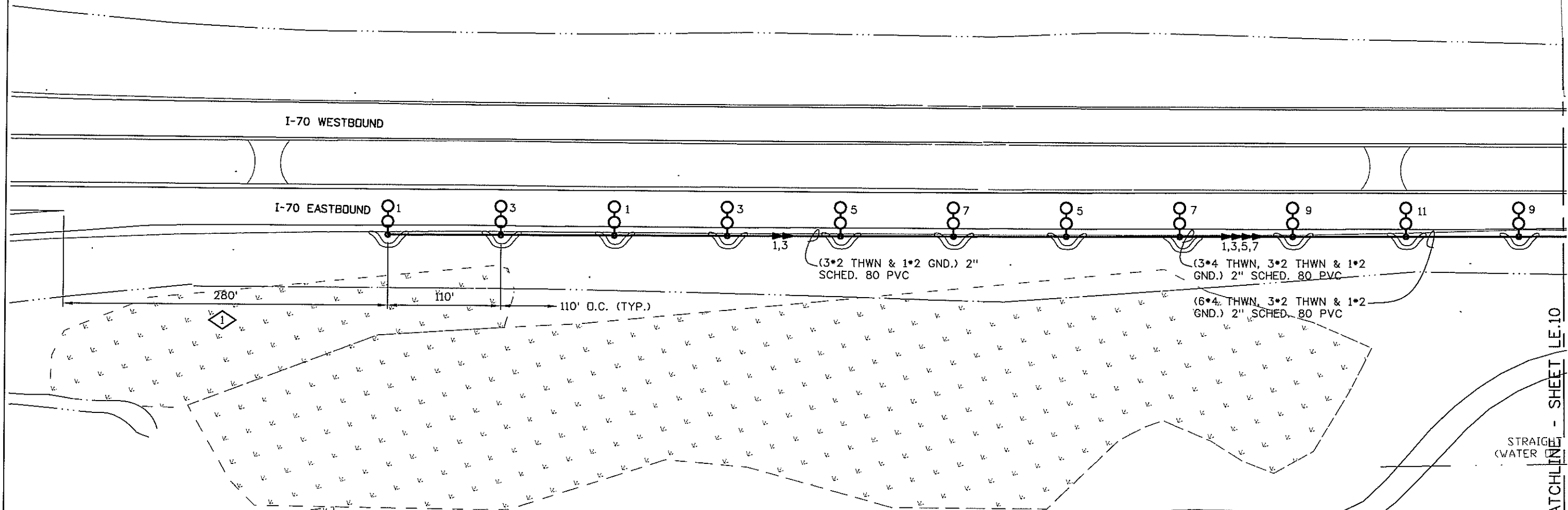
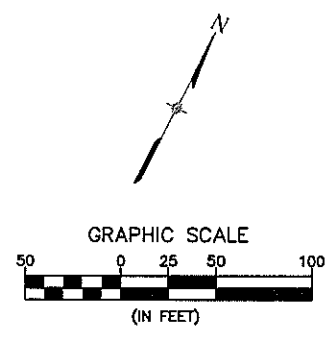
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WORK NOTES:

- 1 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 280'-0" FROM INTERSECTION OF EXISTING RAMP AND ROADWAY STRIPING. FROM THIS STARTING POINT CONTINUE SPACING AT APPROX. 110' O.C. AS SHOWN.

PRELIMINARY

MP 205EB

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
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FAX: (303) 365-7343

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4601 DTC Blvd.
Suite 700
Denver, CO 80237
Phone: (303) 221-7275
Fax: (303) 221-7276

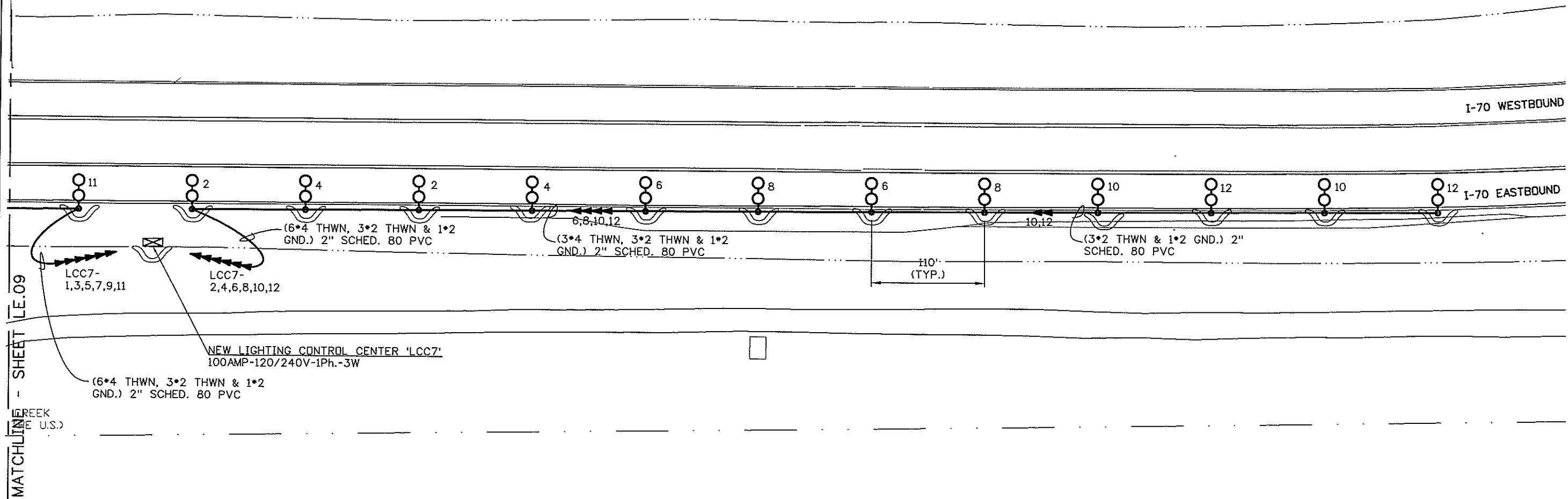
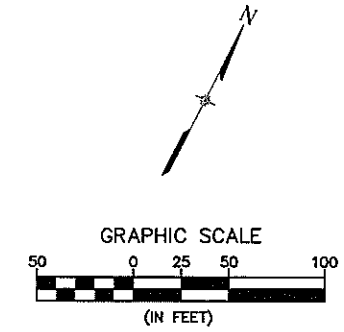
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MATCHLINE SHEET LE.09

CREEK (E. U.S.)

PRELIMINARY

MP 205EB

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
4999 NAUTILUS COURT SOUTH STE. 102
DENVER, CO 80231
303-535-7229

Computer File Information	
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Region 1
18500 East Colfax
Aurora, CO 80011
Phone: (303) 365-7340
FAX: (303) 365-7343

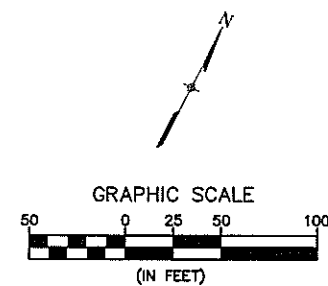
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Suite 700
Denver, CO 80237
Phone: (303) 221-7275
Fax: (303) 221-7276

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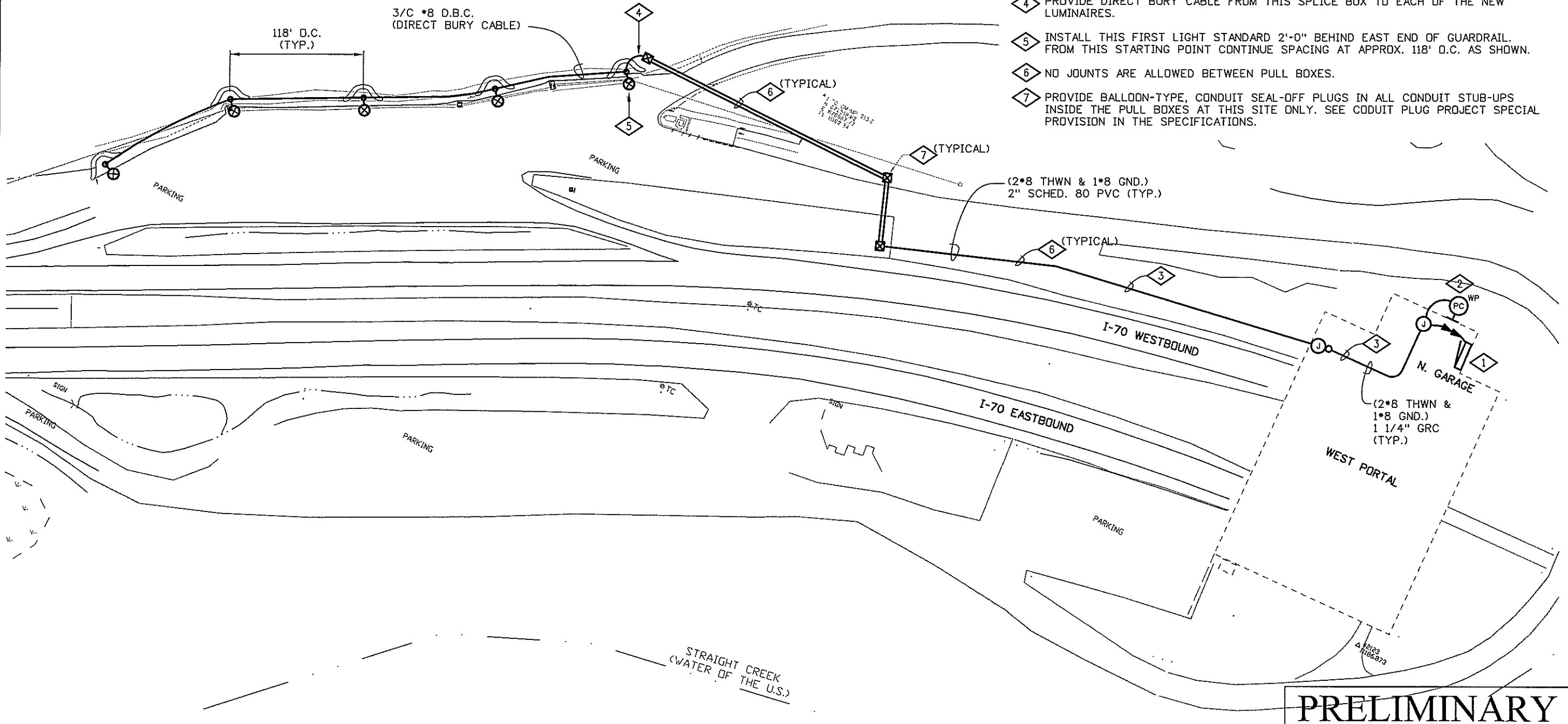
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WORK NOTES:

- 1 PROVIDE (1) NEW 15A, 2-POLE, 480V BREAKER IN EXISTING PANEL IN THE TUNNEL MAINTENANCE GARAGE.
- 2 PROVIDE 480V, PHOTOCELL WITH TWIST-LOCK RECEPTACLE BASE MOUNTED ON THE NORTH SIDE OF THE MAINTENANCE GARAGE FOR ON/OFF CONTROL OF THE (5) NEW 400W HPS, LUMINAIRES.
- 3 PROVIDE 1 1/4" GRC INSIDE THE MAINTENANCE GARAGE OVERHEAD TO THE GARAGE DOOR. TRANSITION TO 2-1/2" HDPE AND TRENCH ASPHALT WEST TO THE DIRT ISLAND. THEN CONTINUE WEST TO THE LUMINAIRES AS SHOWN.
- 4 PROVIDE DIRECT BURY CABLE FROM THIS SPLICE BOX TO EACH OF THE NEW LUMINAIRES.
- 5 INSTALL THIS FIRST LIGHT STANDARD 2'-0" BEHIND EAST END OF GUARDRAIL. FROM THIS STARTING POINT CONTINUE SPACING AT APPROX. 118' O.C. AS SHOWN.
- 6 NO JOINTS ARE ALLOWED BETWEEN PULL BOXES.
- 7 PROVIDE BALLOON-TYPE, CONDUIT SEAL-OFF PLUGS IN ALL CONDUIT STUB-UPS INSIDE THE PULL BOXES AT THIS SITE ONLY. SEE CONDUIT PLUG PROJECT SPECIAL PROVISION IN THE SPECIFICATIONS.



PRELIMINARY

MP 213WB

CLANTON & ASSOCIATES
 LIGHTING DESIGN AND ENGINEERING
 4699 HAWTHORNE COURT SOUTH STE. 102
 BOULDER, CO 80509
 303-440-7229

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 Phone: (303) 365-7340
 FAX: (303) 365-7343

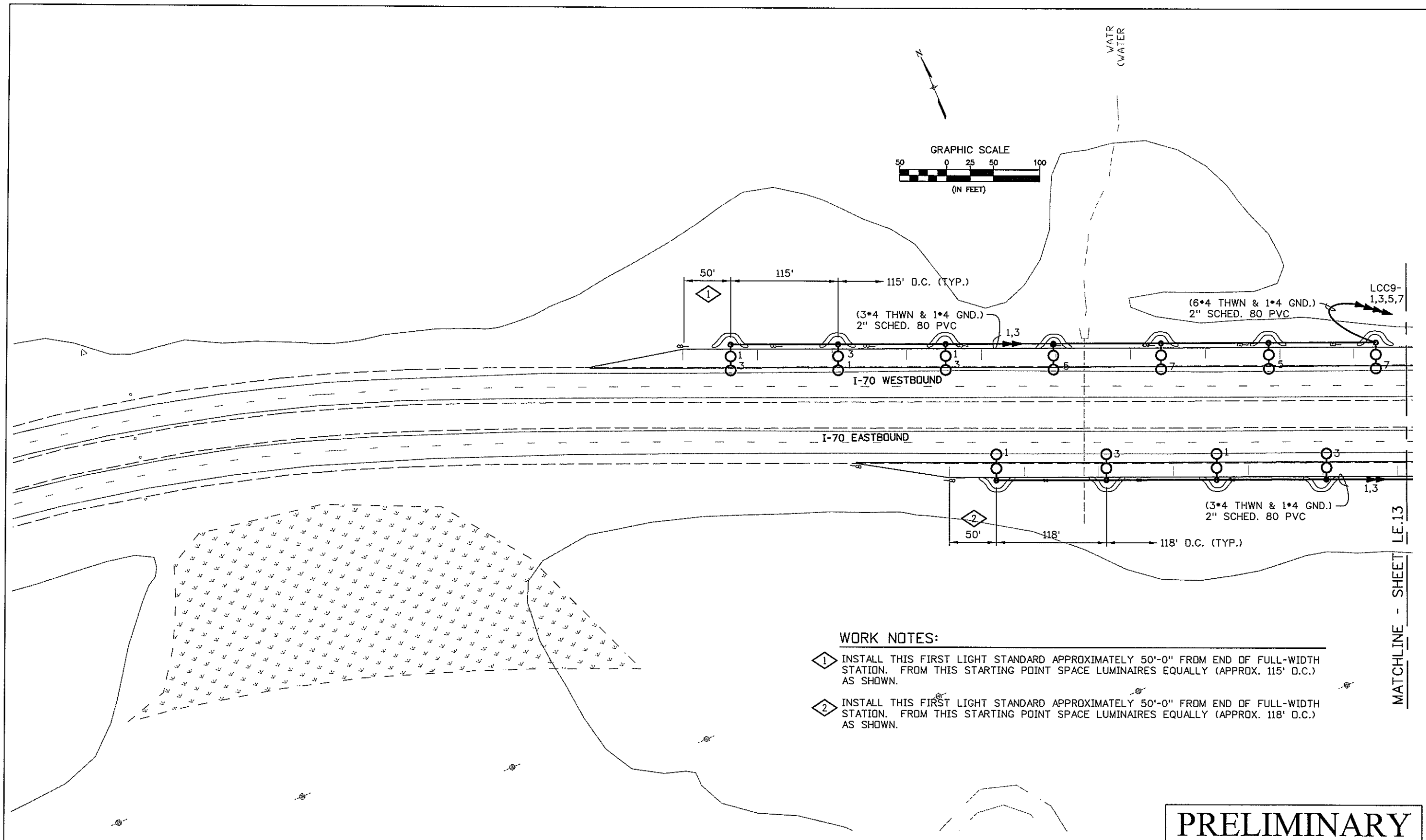
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WORK NOTES:

- ① INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 50'-0" FROM END OF FULL-WIDTH STATION. FROM THIS STARTING POINT SPACE LUMINAIRES EQUALLY (APPROX. 115' O.C.) AS SHOWN.
- ② INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 50'-0" FROM END OF FULL-WIDTH STATION. FROM THIS STARTING POINT SPACE LUMINAIRES EQUALLY (APPROX. 118' O.C.) AS SHOWN.

PRELIMINARY

MP 219EB & WB

CLANTON & ASSOCIATES
 LIGHTING DESIGN AND ENGINEERING
 4699 NAUTICALS COURT SOUTH STE. 102
 BOULDER, CO 80501
 303-530-7229

Computer File Information	
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PBSJ
 4601 DTC Blvd.
 Suite 700
 Denver, CO 80237
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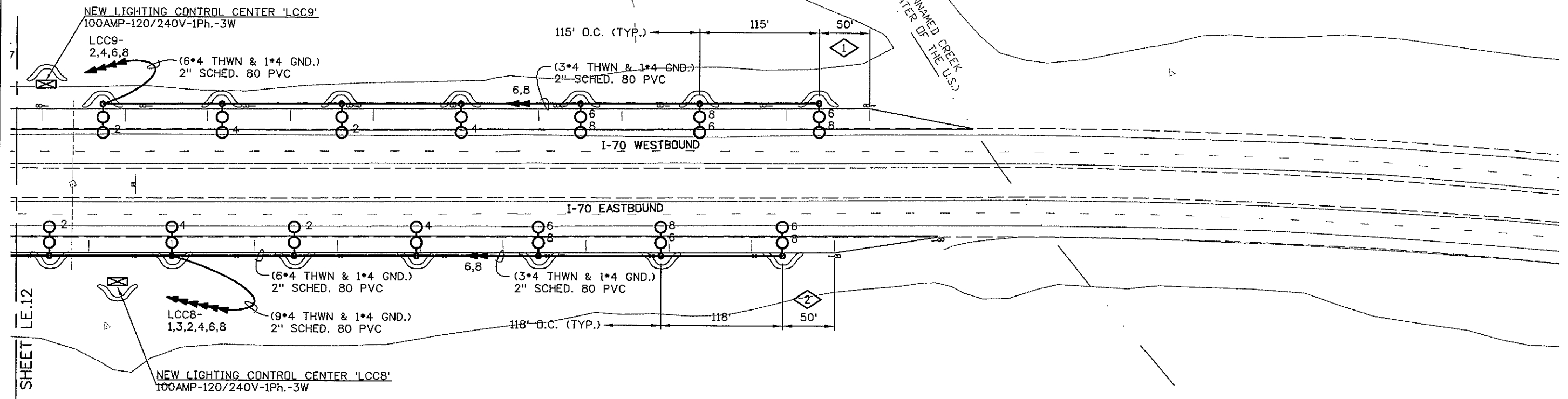
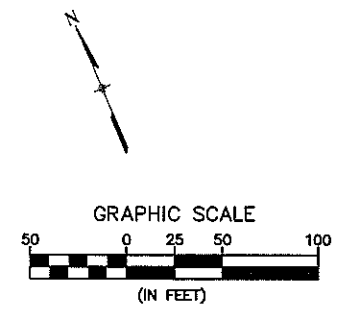
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MATCHLINE - SHEET LE.13



MATCHLINE - SHEET LE.12

WORK NOTES:

- 1 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 50'-0" FROM END OF FULL-WIDTH STATION. FROM THIS STARTING POINT SPACE LUMINAIRES EQUALLY (APPROX. 115' O.C.) AS SHOWN.
- 2 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 50'-0" FROM END OF FULL-WIDTH STATION. FROM THIS STARTING POINT SPACE LUMINAIRES EQUALLY (APPROX. 118' O.C.) AS SHOWN.

PRELIMINARY

MP 219EB & WB

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
 1499 MAFFELIUS COURT SOUTH STE. 102
 BOULDER, CO 80521
 303-440-7229

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Aurora, CO 80011
Phone: (303) 365-7340
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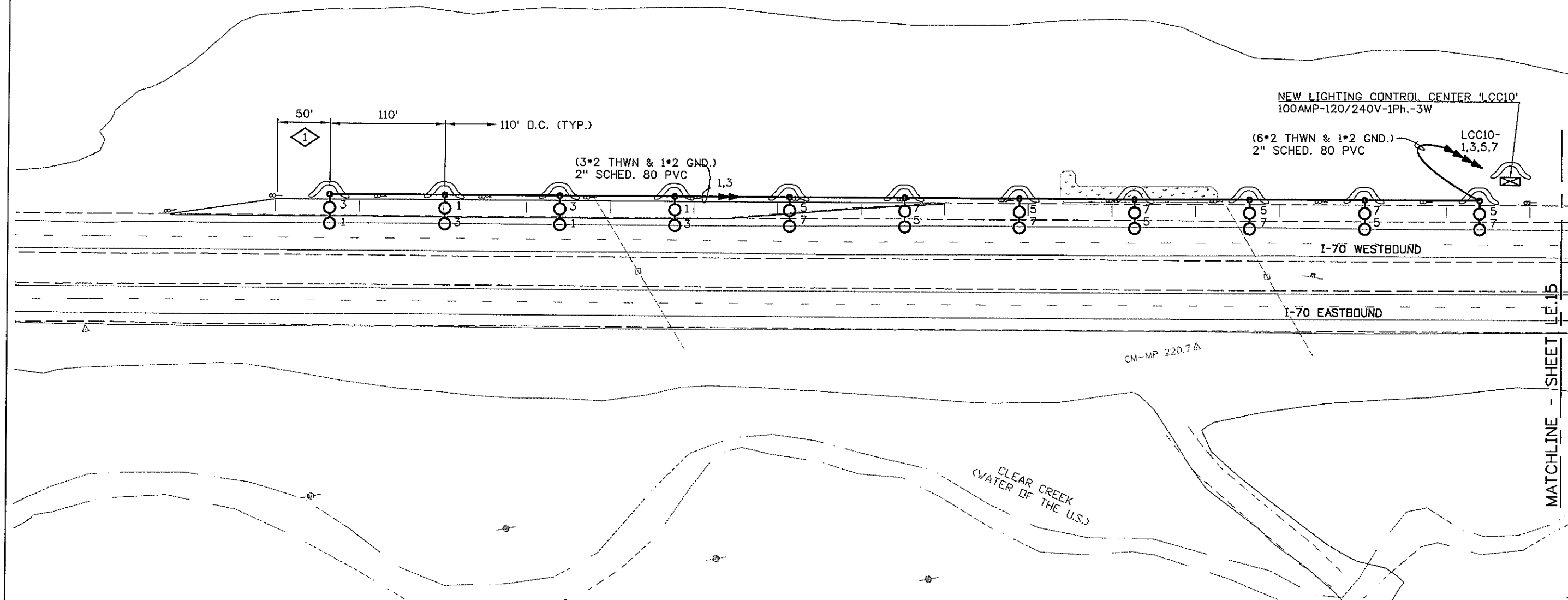
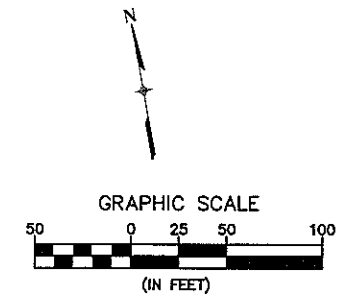
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Phone: (303) 221-7275
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WORK NOTES:



① INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 50'-0" FROM END OF FULL WIDTH STATION. FROM THIS STARTING POINT SPACE LUMINAIRES EQUALLY (APPROX. 110' D.C.) AS SHOWN.

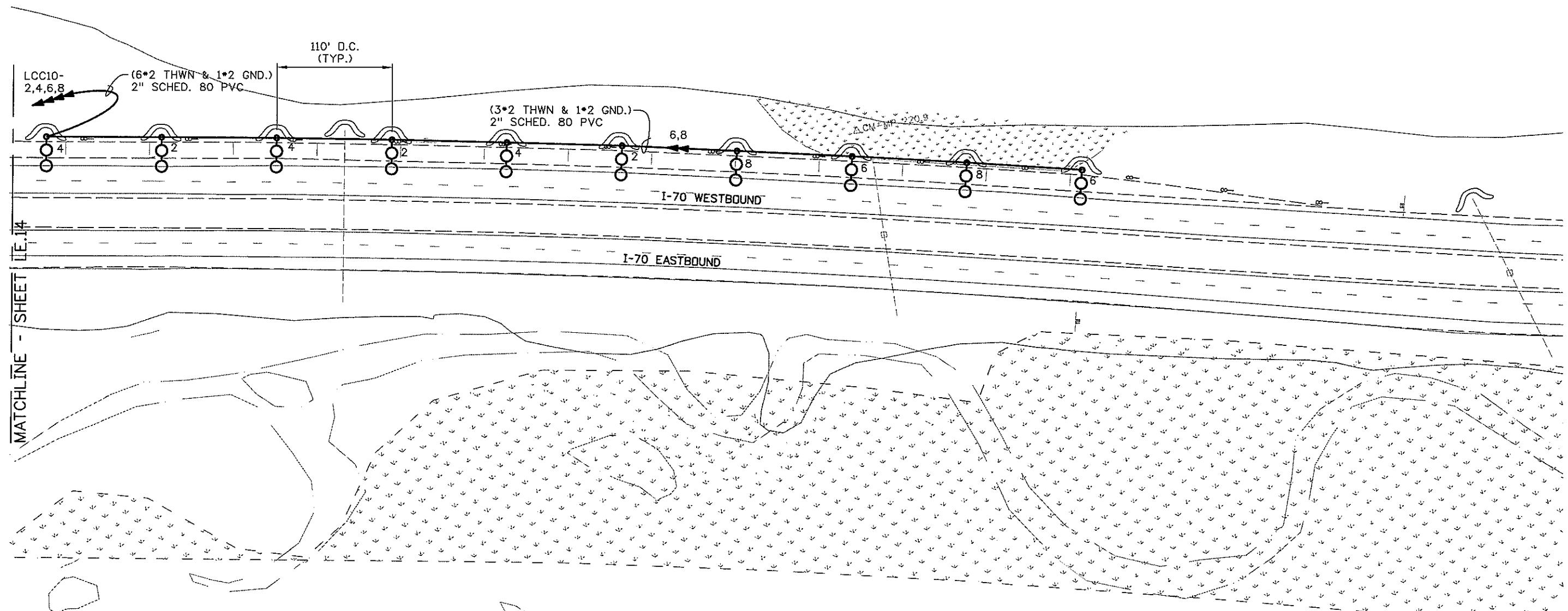
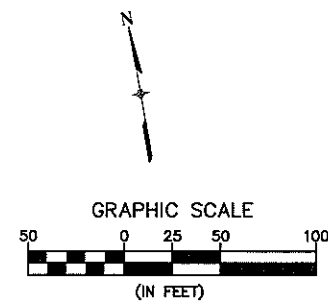
PRELIMINARY

MATCHLINE - SHEET LE.1B

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
4699 NAUFELIS COURT SOUTH STE 107
BOULDER, CO 80501
303-440-7229

MP 221WB

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MATCHLINE - SHEET LE.14

PRELIMINARY

MP 221WB

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
4699 N. I-70 EAST COURT SOUTH SITE 102
DENVER, CO 80231
303-550-7220

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FAX: (303) 365-7343

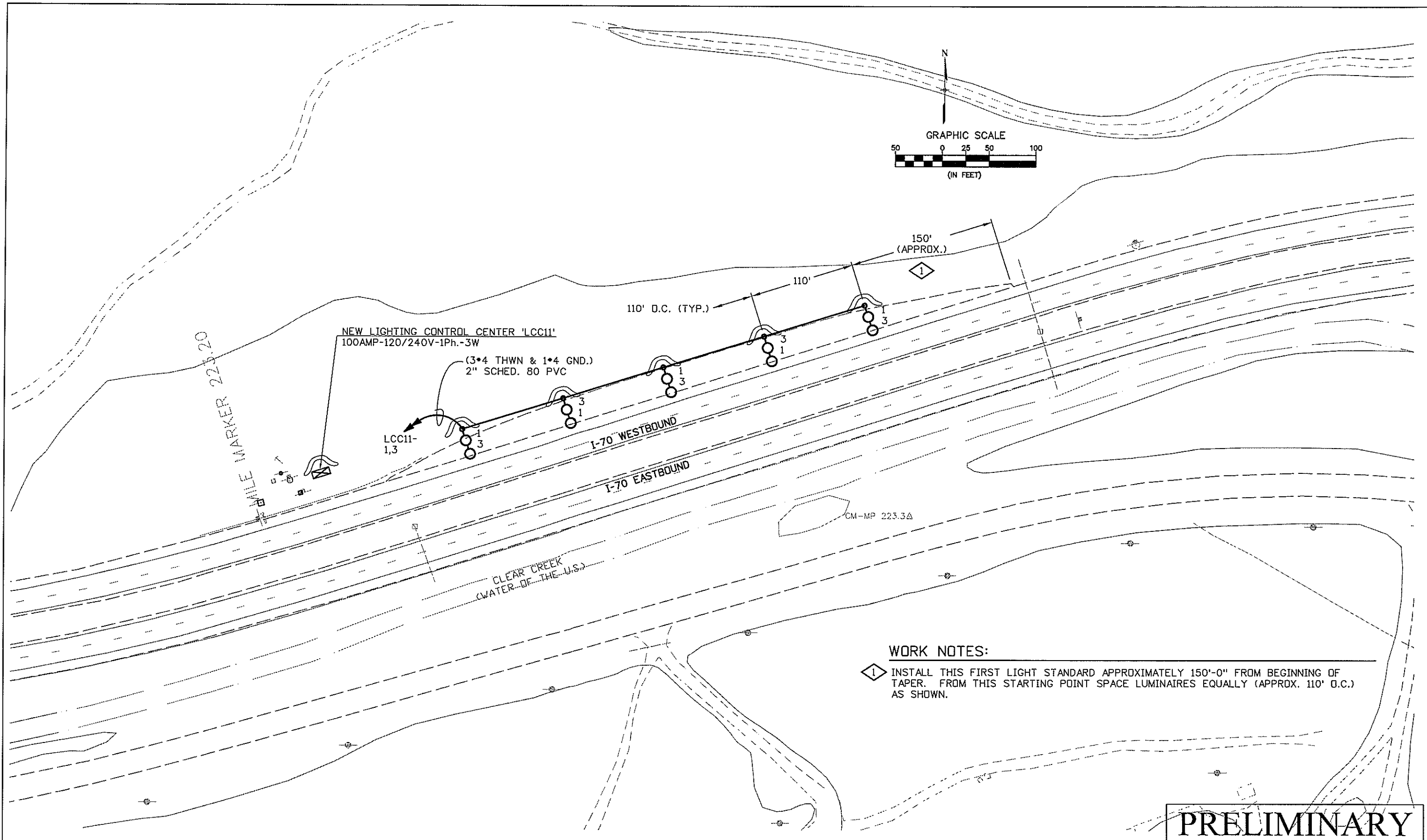
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PRELIMINARY

MP 223WB

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
 1499 NAUTICAL COURT SOUTH STE. 102
 BOULDER, CO 80501
 303-440-7229

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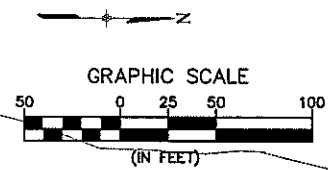
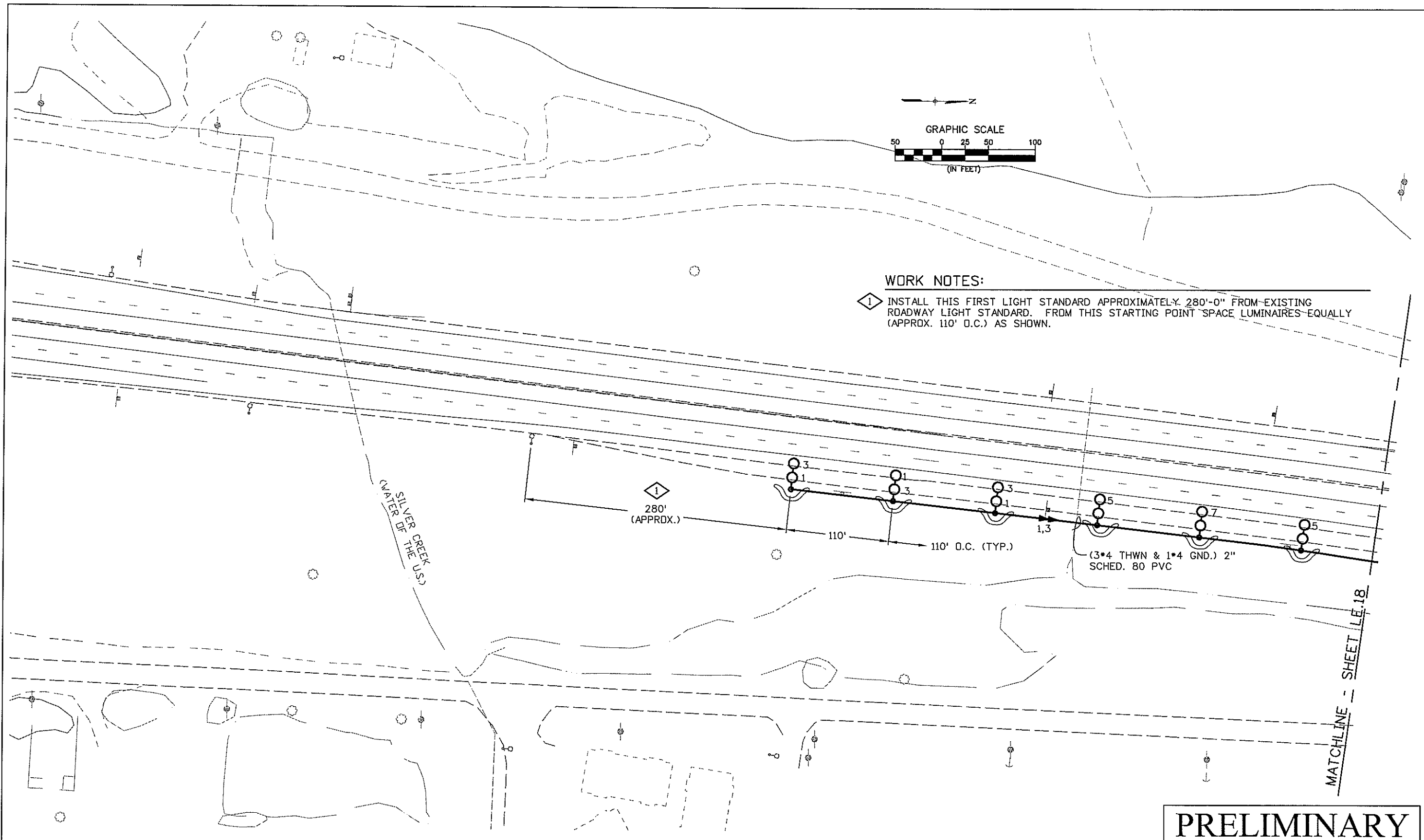
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WORK NOTES:
 1 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 280'-0" FROM EXISTING ROADWAY LIGHT STANDARD. FROM THIS STARTING POINT SPACE LUMINAIRES EQUALLY (APPROX. 110' O.C.) AS SHOWN.

PRELIMINARY

MP 228EB

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
 4699 NAUTICAL COURT SOUTH STE. 102
 BOULDER, CO 80501
 303-557-7229

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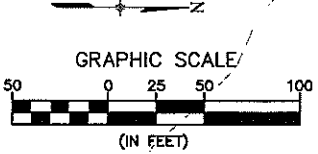
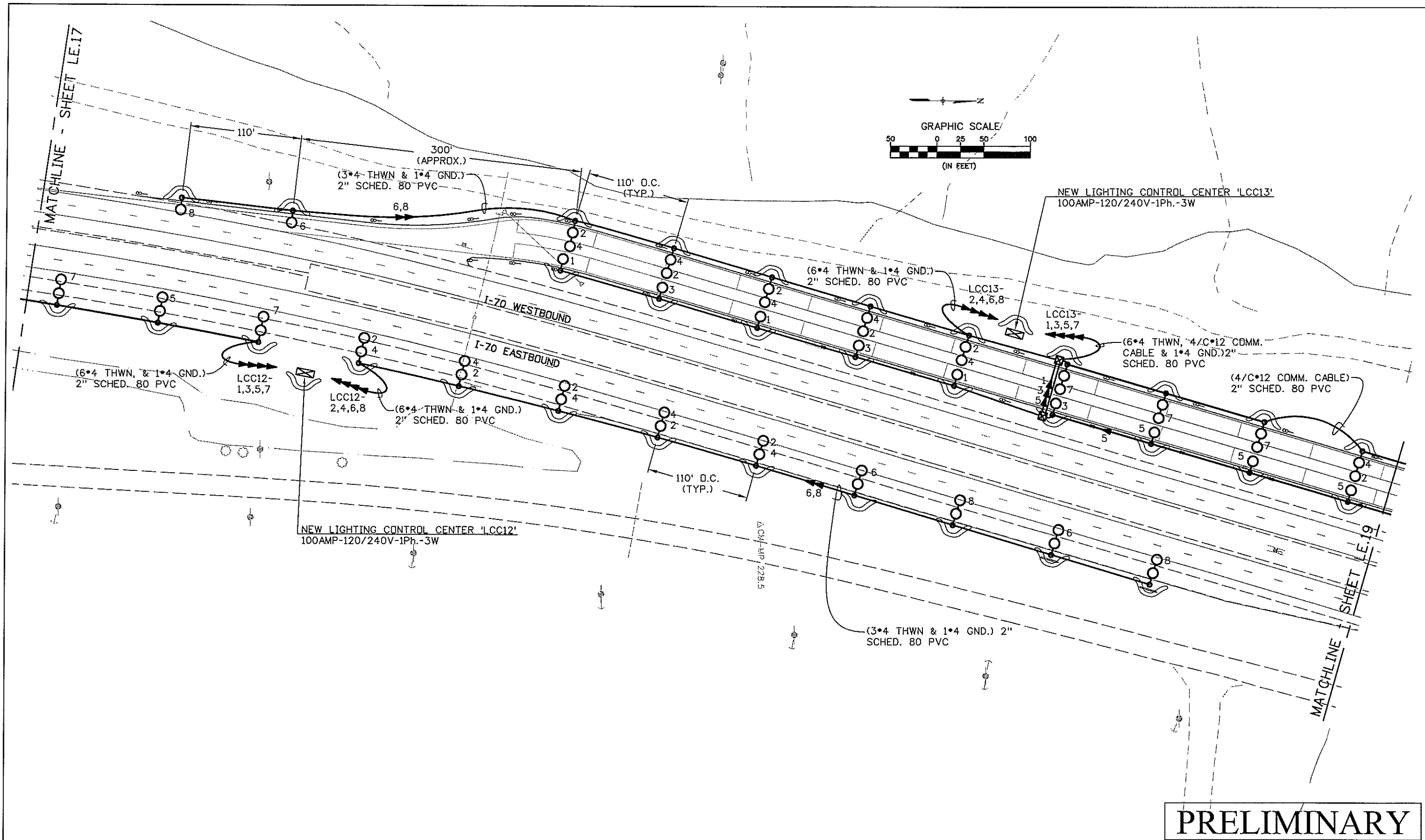
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PRELIMINARY

MP 228EB & WB

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
 4699 NAVILLE COURT SOUTH STE. 102
 BOULDER, CO 80501
 303-440-7229

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 FAX: (303) 365-7343

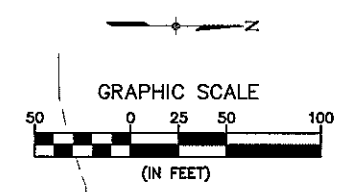
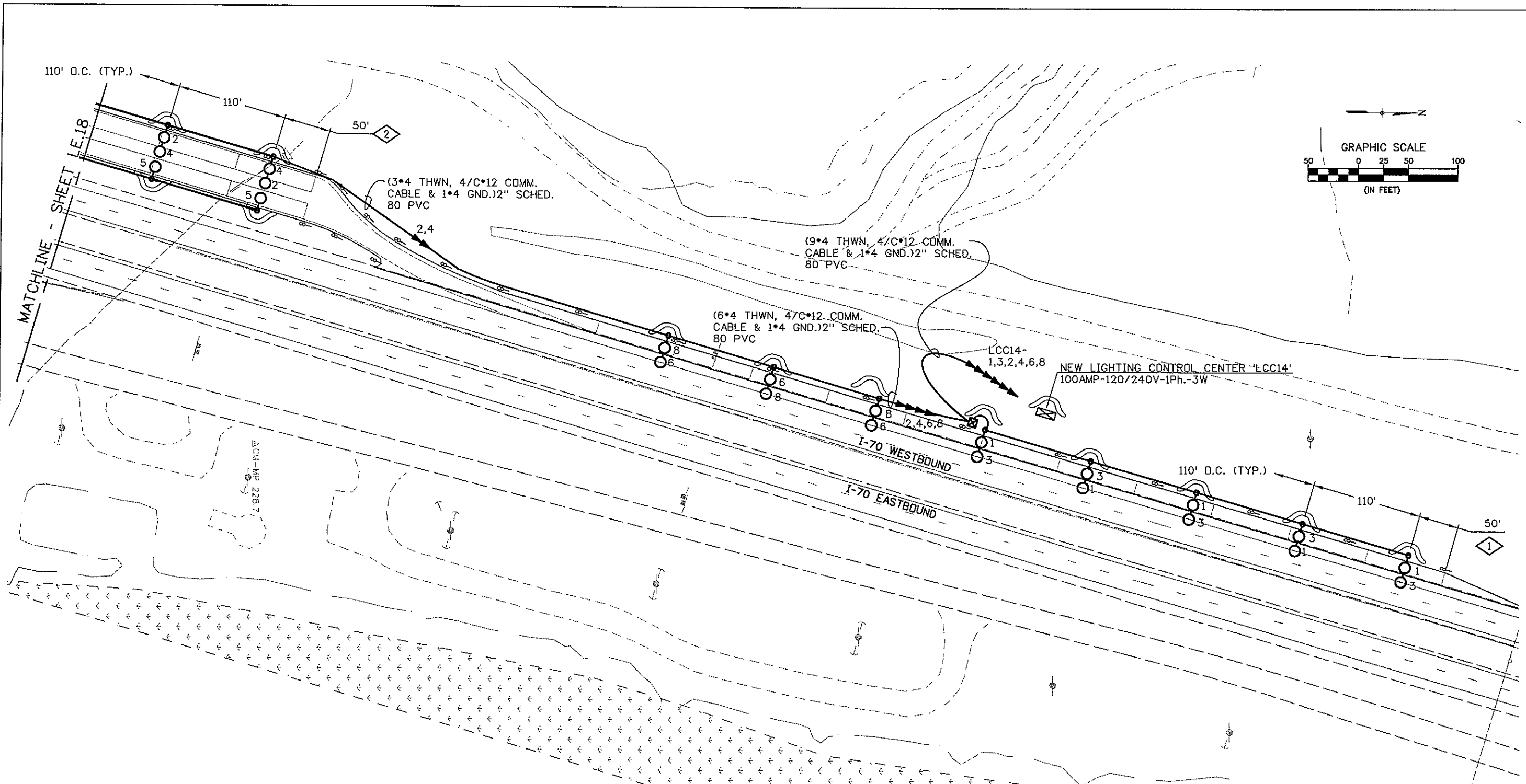
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WORK NOTES:

- 1 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 50'-0" FROM END OF FULL-WIDTH STATION. FROM THIS STARTING POINT SPACE LUMINAIRES EQUALLY (APPROX. 110' D.C.) AS SHOWN.
- 2 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 50'-0" FROM FIRST STA. FROM THIS STARTING POINT SPACE LUMINAIRES EQUALLY (APPROX. 110' D.C.) AS SHOWN.

PRELIMINARY

MP 228WB

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
 4899 HAUPTLIS COURT SOUTH, STE. 102
 BOULDER, CO 80536
 303-440-1229

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DOT
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Region 1
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 Aurora, CO 80011
 Phone: (303) 365-7340
 FAX: (303) 365-7343

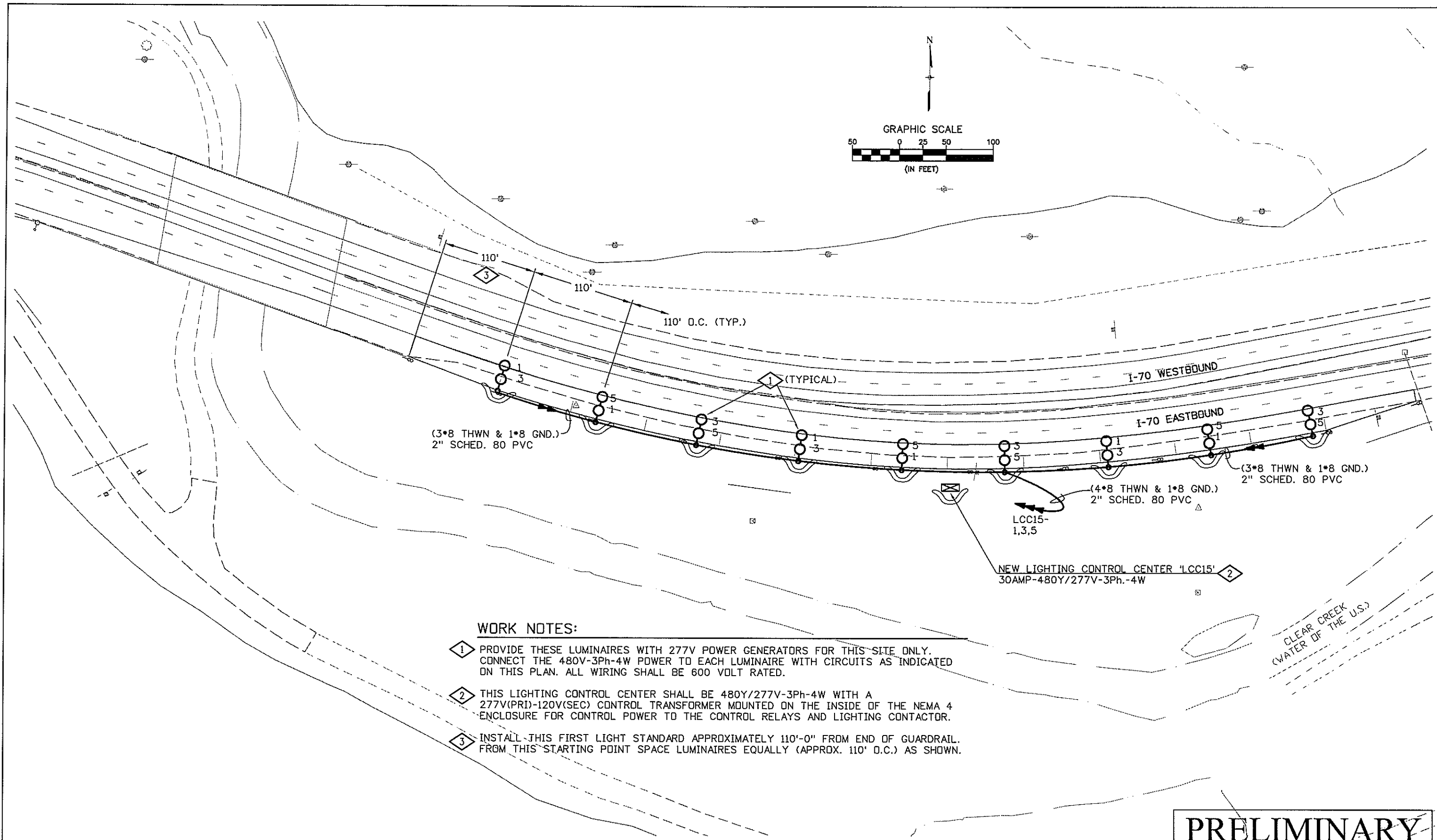
PBSJ
 4601 DTC Blvd.
 Suite 700
 Denver, CO 80237
 Phone: (303) 221-7275
 Fax: (303) 221-7276

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WORK NOTES:

- 1 PROVIDE THESE LUMINAIRES WITH 277V POWER GENERATORS FOR THIS SITE ONLY. CONNECT THE 480V-3Ph-4W POWER TO EACH LUMINAIRE WITH CIRCUITS AS INDICATED ON THIS PLAN. ALL WIRING SHALL BE 600 VOLT RATED.
- 2 THIS LIGHTING CONTROL CENTER SHALL BE 480Y/277V-3Ph-4W WITH A 277V(PRI)-120V(SEC) CONTROL TRANSFORMER MOUNTED ON THE INSIDE OF THE NEMA 4 ENCLOSURE FOR CONTROL POWER TO THE CONTROL RELAYS AND LIGHTING CONTACTOR.
- 3 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 110'-0" FROM END OF GUARDRAIL. FROM THIS STARTING POINT SPACE LUMINAIRES EQUALLY (APPROX. 110' O.C.) AS SHOWN.

PRELIMINARY

MP 241EB

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
 4099 SAUTER COURT SOUTH STE 102
 BOULDER, CO 80502
 303-440-7229

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 4601 DTC Blvd.
 Suite 700
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 Phone: (303) 221-7275
 Fax: (303) 221-7276

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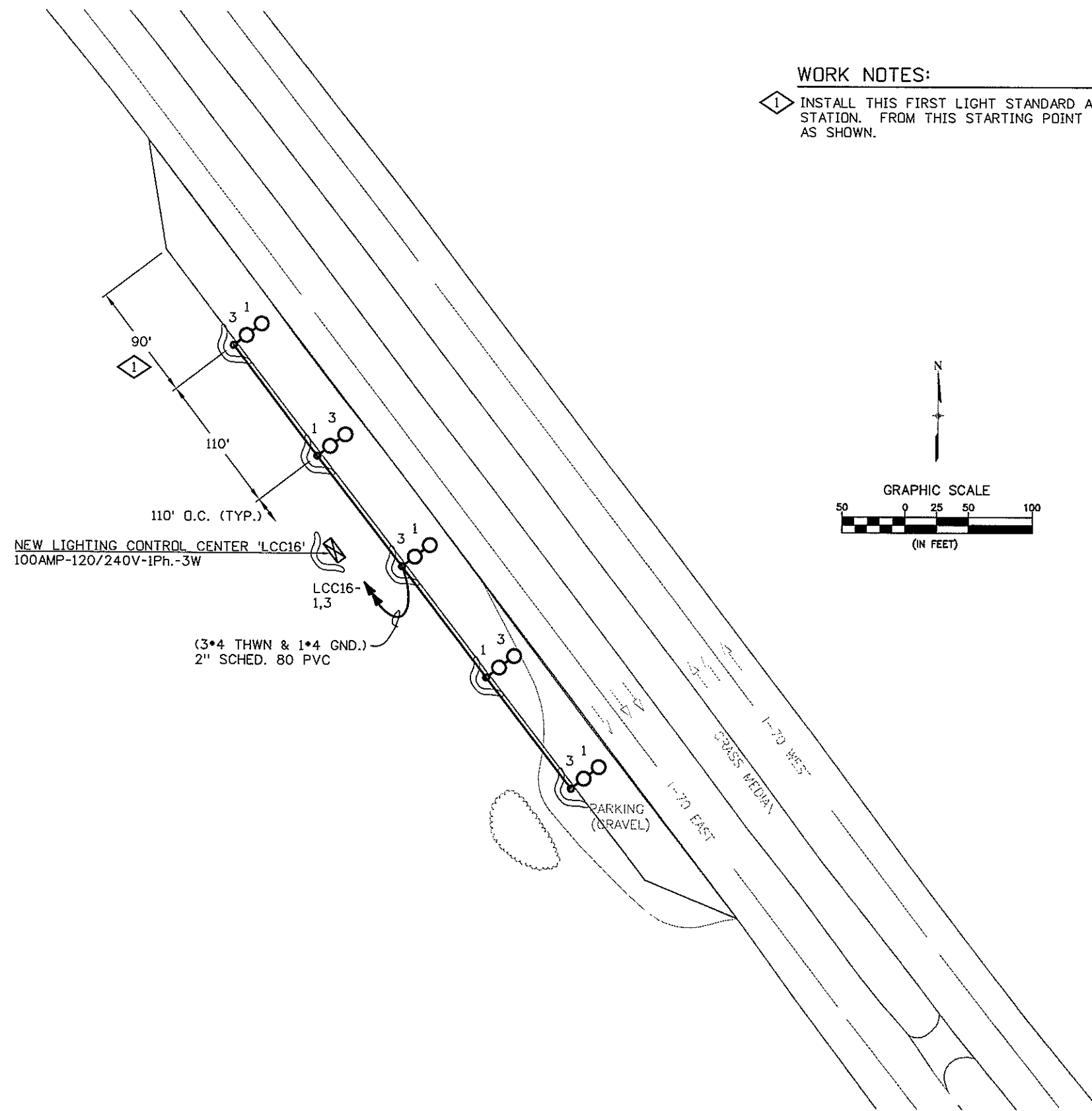
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WORK NOTES:

- 1 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 90'-0" FROM END OF FULL-WIDTH STATION. FROM THIS STARTING POINT SPACE LUMINAIRES EQUALLY (APPROX. 110' O.C.) AS SHOWN.



PRELIMINARY

MP 251EB

CLANTON & ASSOCIATES
LIGHTING DESIGN AND ENGINEERING
4699 NAUTICUS COURT SOUTH STE. 102
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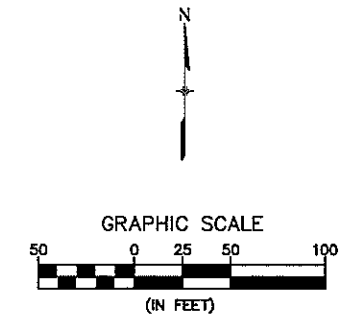
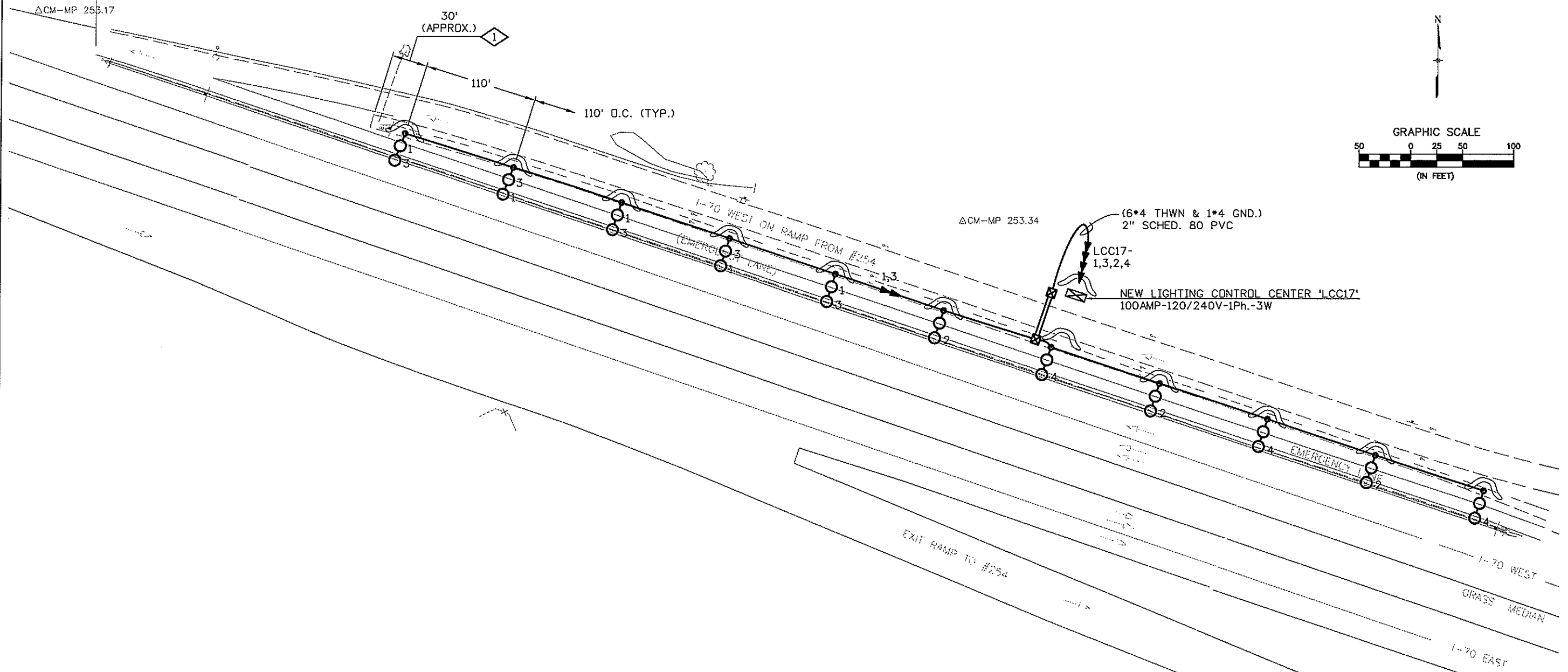
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WORK NOTES:

- 1 INSTALL THIS FIRST LIGHT STANDARD APPROXIMATELY 30'-0" FROM END OF MEDIAN. FROM THIS STARTING POINT SPACE LUMINAIRES EQUALLY (APPROX. 110' O.C.) AS SHOWN.



PRELIMINARY

MP 254WB

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
 4699 HAVELIUS COURT SOUTH STE 102
 BOULDER, CO 80531
 303-438-7229

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 Region 1
 18500 East Colfax
 Aurora, CO 80011
 Phone: (303) 365-7340
 FAX: (303) 365-7343

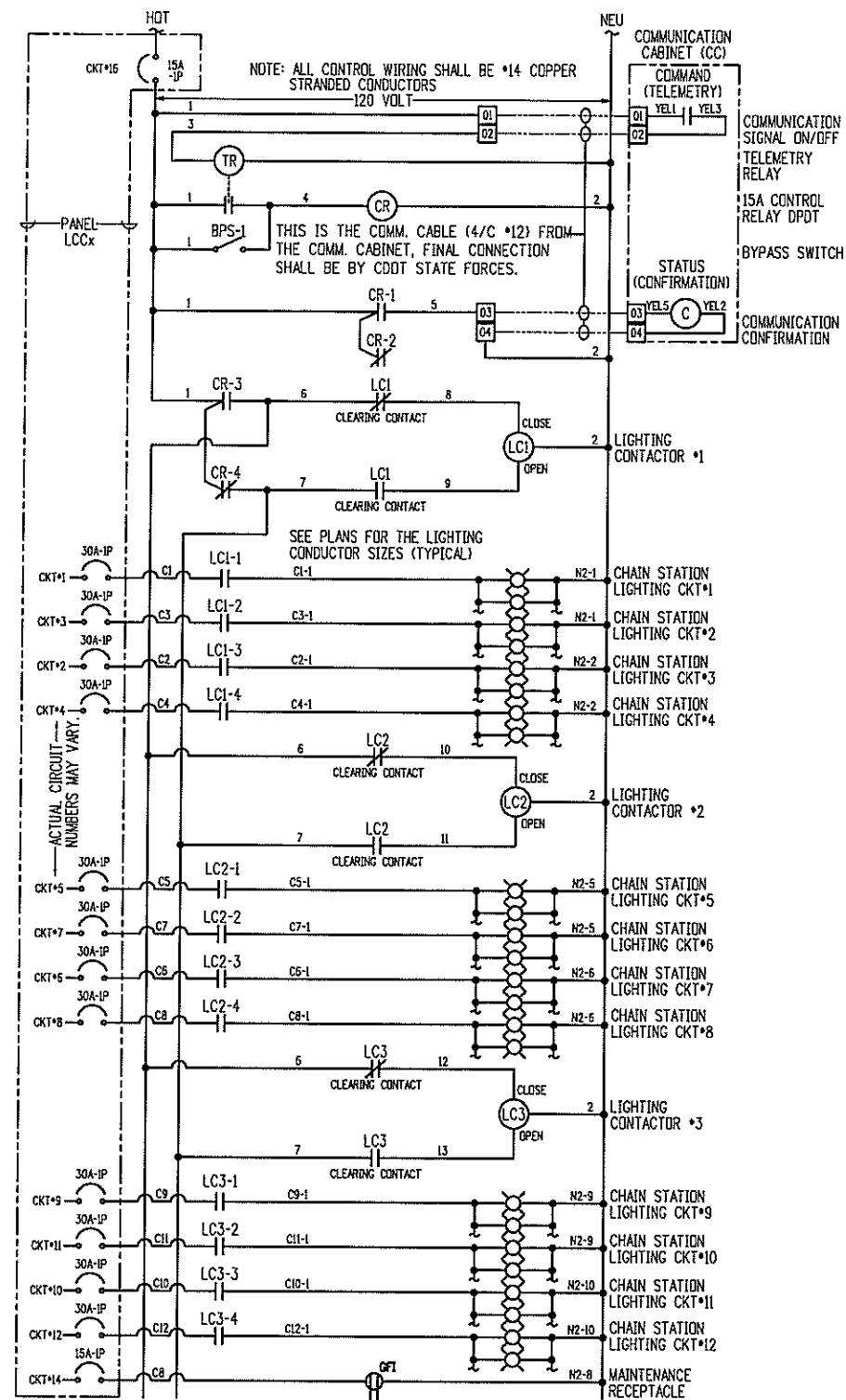
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 Fax: (303) 221-7276

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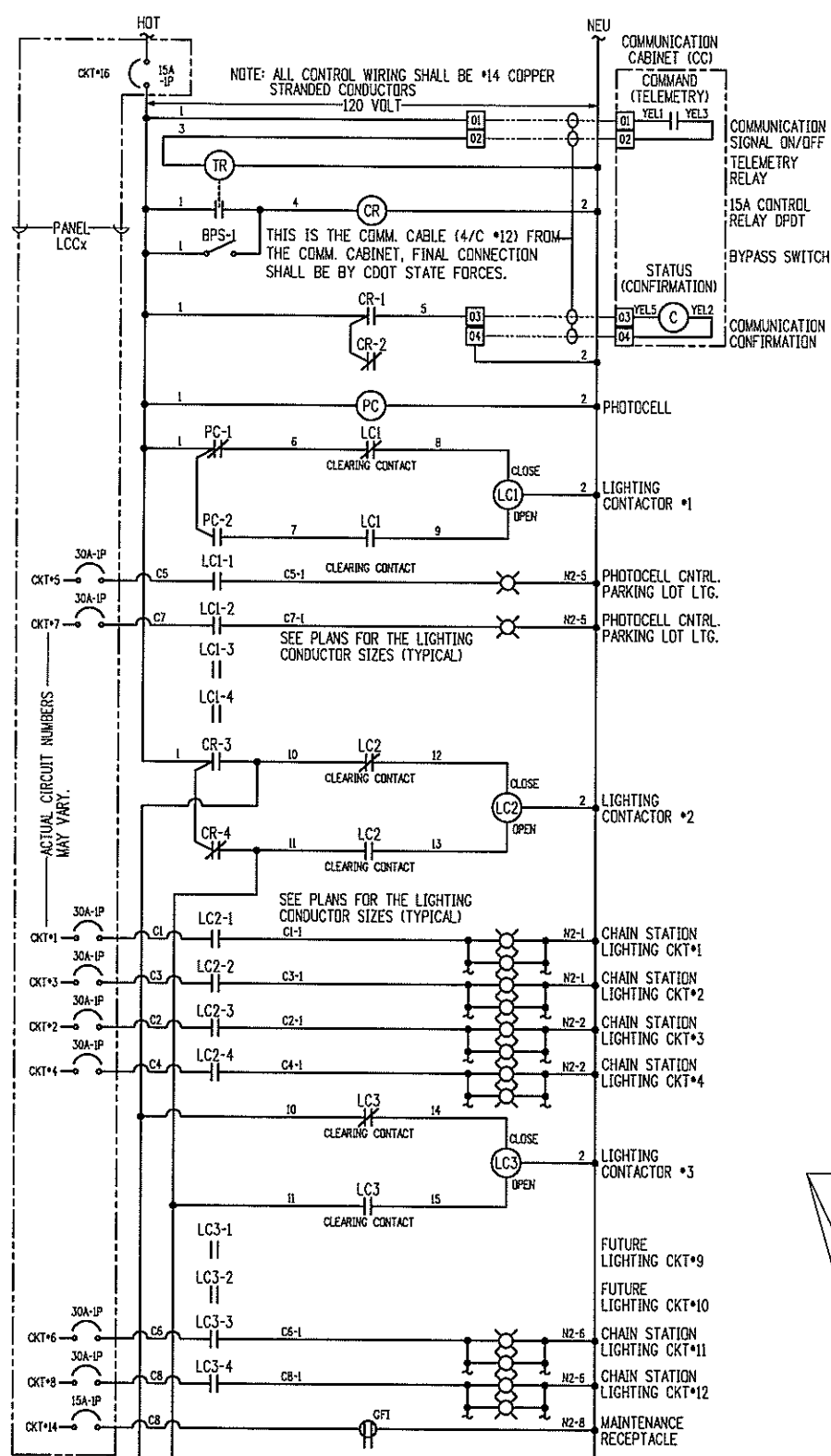
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No. Revisions:	
Revised:	
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LIGHTING PLAN & SWMP SITE MAP			
Designer:	GF	Structure	
Detailer:	JE	Numbers	
Sheet Subset:	LE	Subset Sheets:	22 OF 35

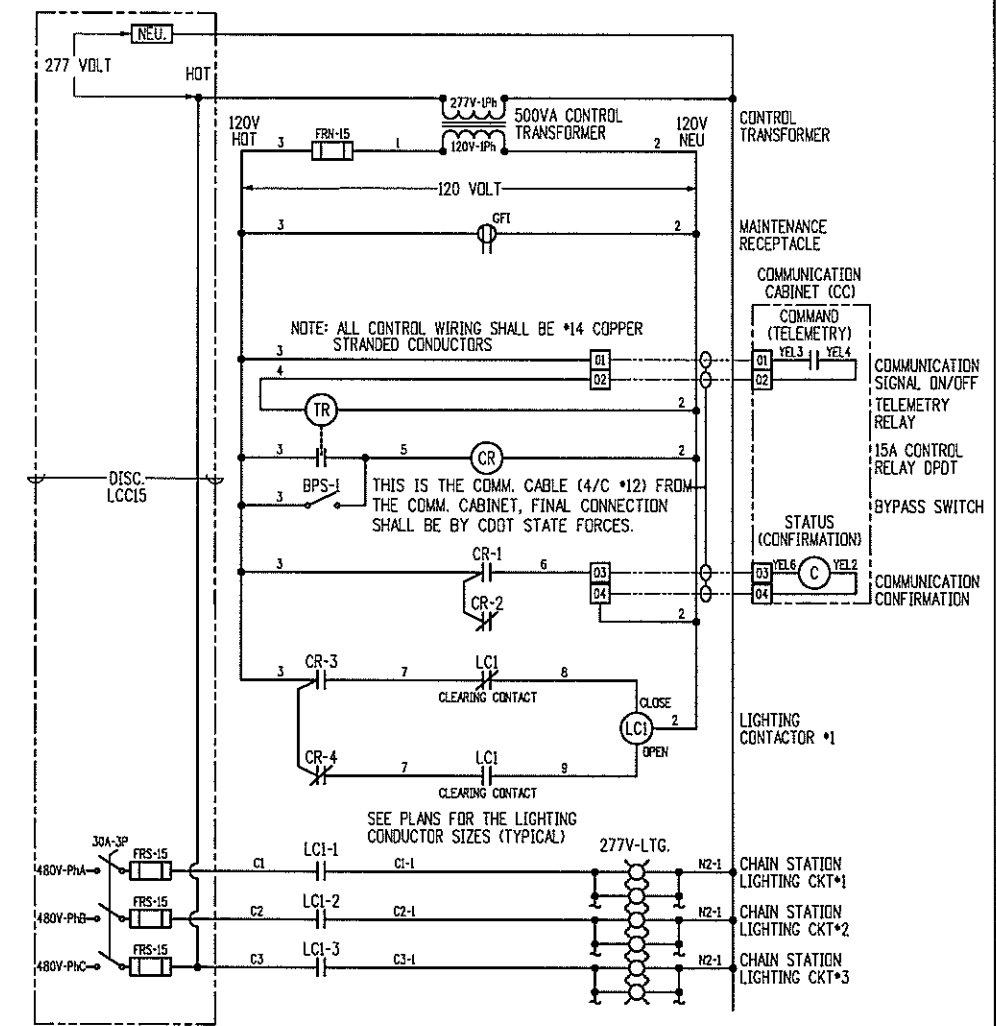
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	IM 070A-003
	16701
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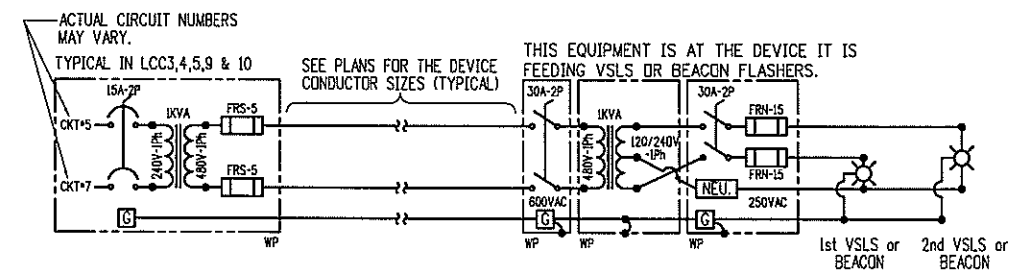
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LE23 SCALE: N.T.S.



2 TYPICAL LIGHTING CONTROL SCHEMATIC LCC5 & 6
LE23 SCALE: N.T.S.



3 LIGHTING CONTROL SCHEMATIC LCC15 (480V-3Ph)
LE23 SCALE: N.T.S.



4 TYPICAL POWER CIRCUIT FOR VSL's & BEACON's
LE23 SCALE: N.T.S.

PRELIMINARY

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
14999 NAUTICALS COURT SOUTH STE. 102
BOULDER, CO 80501
303-430-7229

Computer File Information	
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Last Modification Date: March 25, 2008	Initials: JE
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Drawing File Name: _LTDT-Detail_Sheets.dwg	
Scale: REFER TO BAR SCALE	Units: ENGLISH

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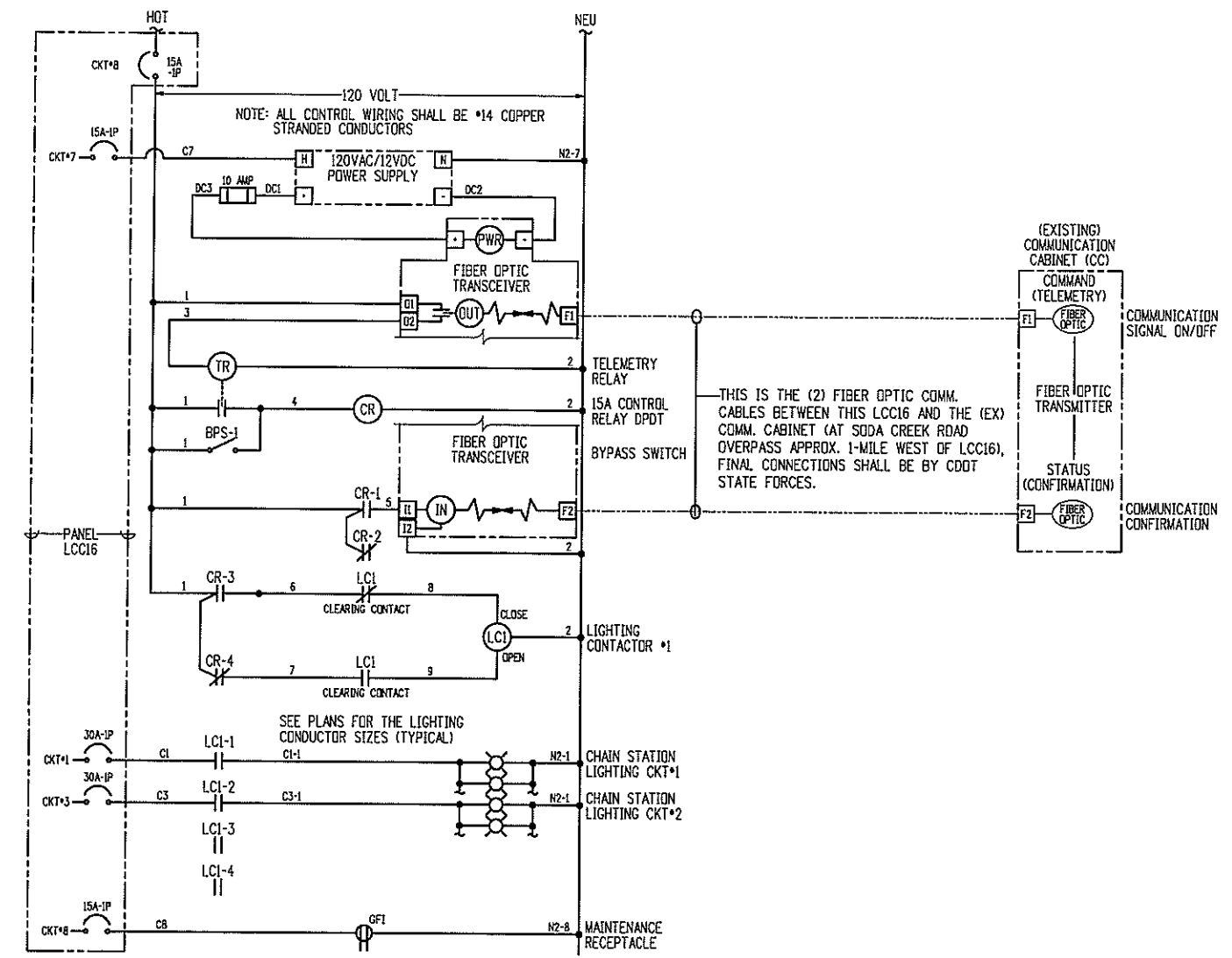
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Region 1
18500 East Colfax
Aurora, CO 80011
Phone: (303) 365-7340
FAX: (303) 365-7343

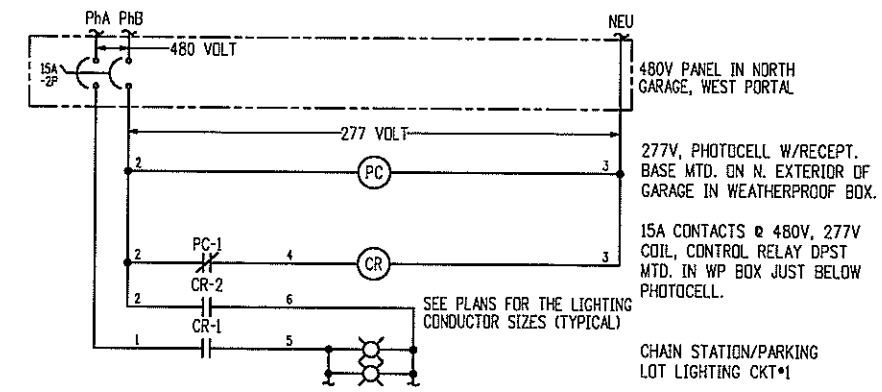
PBSJ

4601 DTC Blvd.
Suite 700
Denver, CO 80237
Phone: (303) 221-7275
Fax: (303) 221-7276

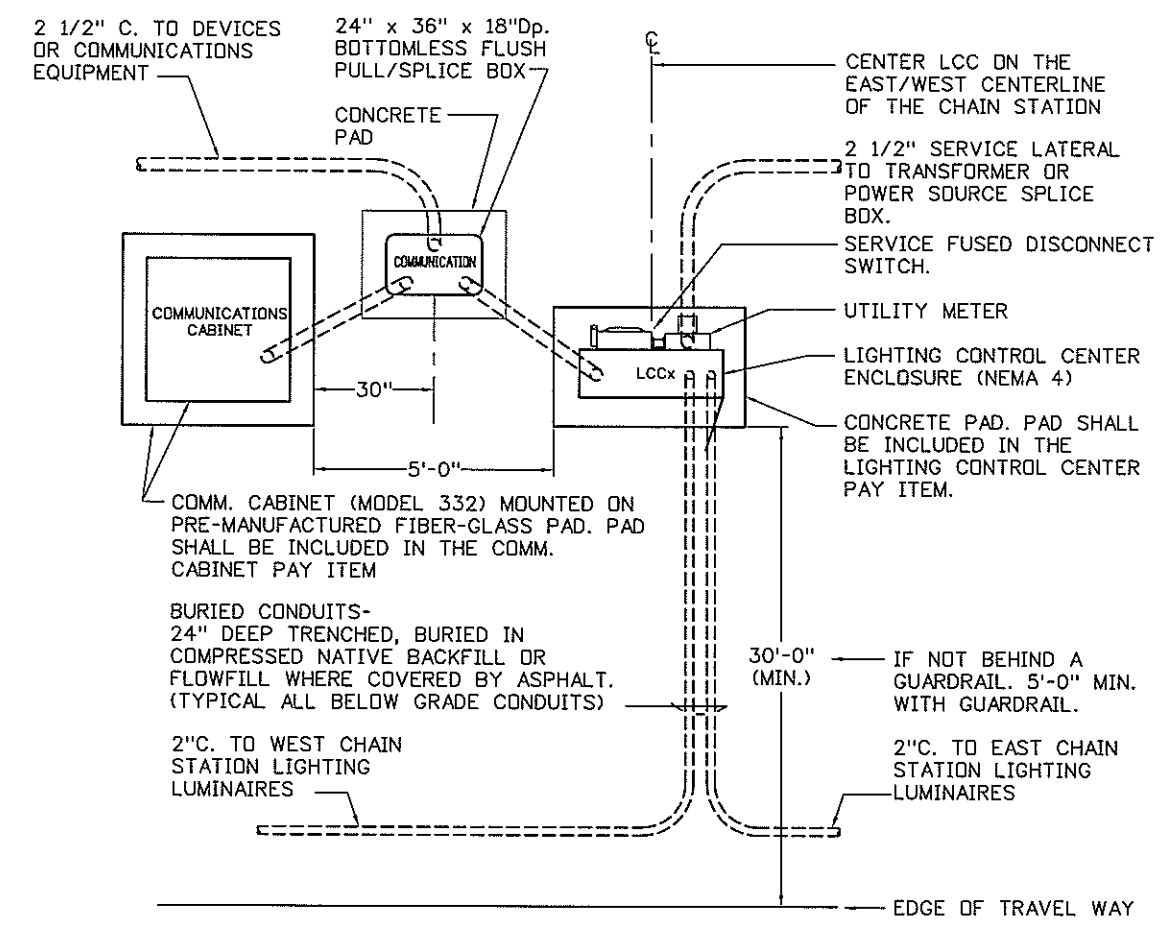
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No. Revisions:				IM 070A-003
Revised:		Designer: GF	Structure Numbers	16701
Void:		Detailer: JE		
		Sheet Subset: LE	Subset Sheets: 23 OF 35	Sheet Number: 48



1 LIGHTING CONTROL SCHEMATIC FOR LCC16
LE24 SCALE: N.T.S.



2 LIGHTING CONTROL SCHEMATIC FOR MP-213-WB CHAIN STATION/PARKING LOT LIGHTING
LE24 SCALE: N.T.S.



3 TYPICAL LAYOUT OF NEW COMM. CABINET & LCC
LE24 SCALE: N.T.S.

PRELIMINARY

CLANTON & ASSOCIATES

LIGHTING DESIGN AND ENGINEERING
4699 MAJESTIC COURT SOUTH STE. 102
BOKLEER, CO 80501
303-536-9229

Computer File Information	
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Aurora, CO 80011
Phone: (303) 365-7340
Fax: (303) 365-7343

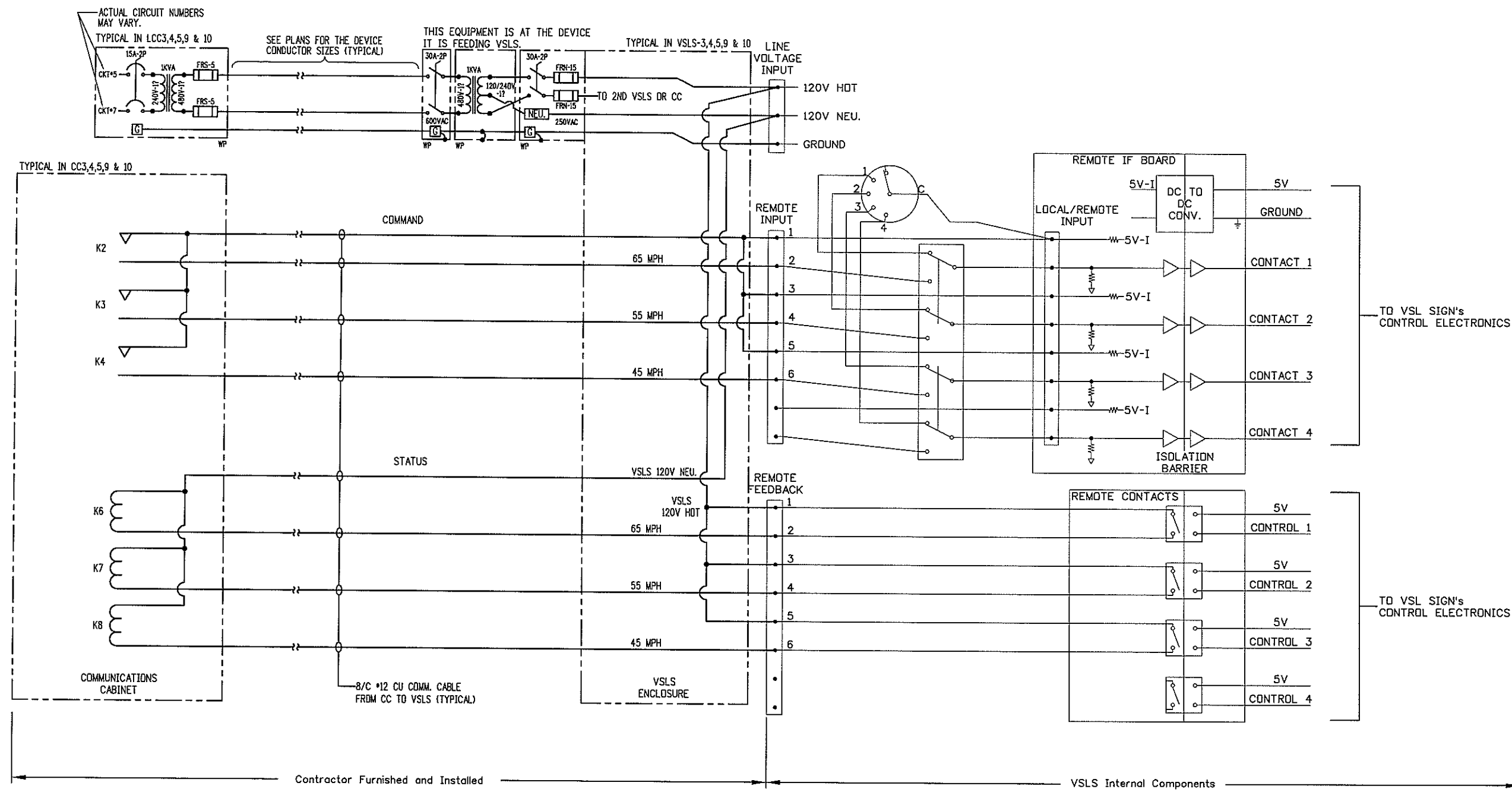
PBSJ
4601 DTC Blvd.
Suite 700
Denver, CO 80237
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Fax: (303) 221-7276

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As Constructed	
No. Revisions:	
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LIGHTING PLAN			
LCC SCHEMATIC & TYPICAL LAYOUT			
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X -> DON'T CARE

1 VARIABLE SPEED LIMIT SIGN "VSL" HARDWIRE (TYPICAL)
 LE25 SCALE: N.T.S.

PRELIMINARY

CLANTON & ASSOCIATES
 LIGHTING DESIGN AND ENGINEERING
 1699 N. 116th COURT SOUTH STE. 102
 HOUSTON, TX 77060
 281-515-7229

Computer File Information	
Creation Date: February 11, 2008	Initials: GF
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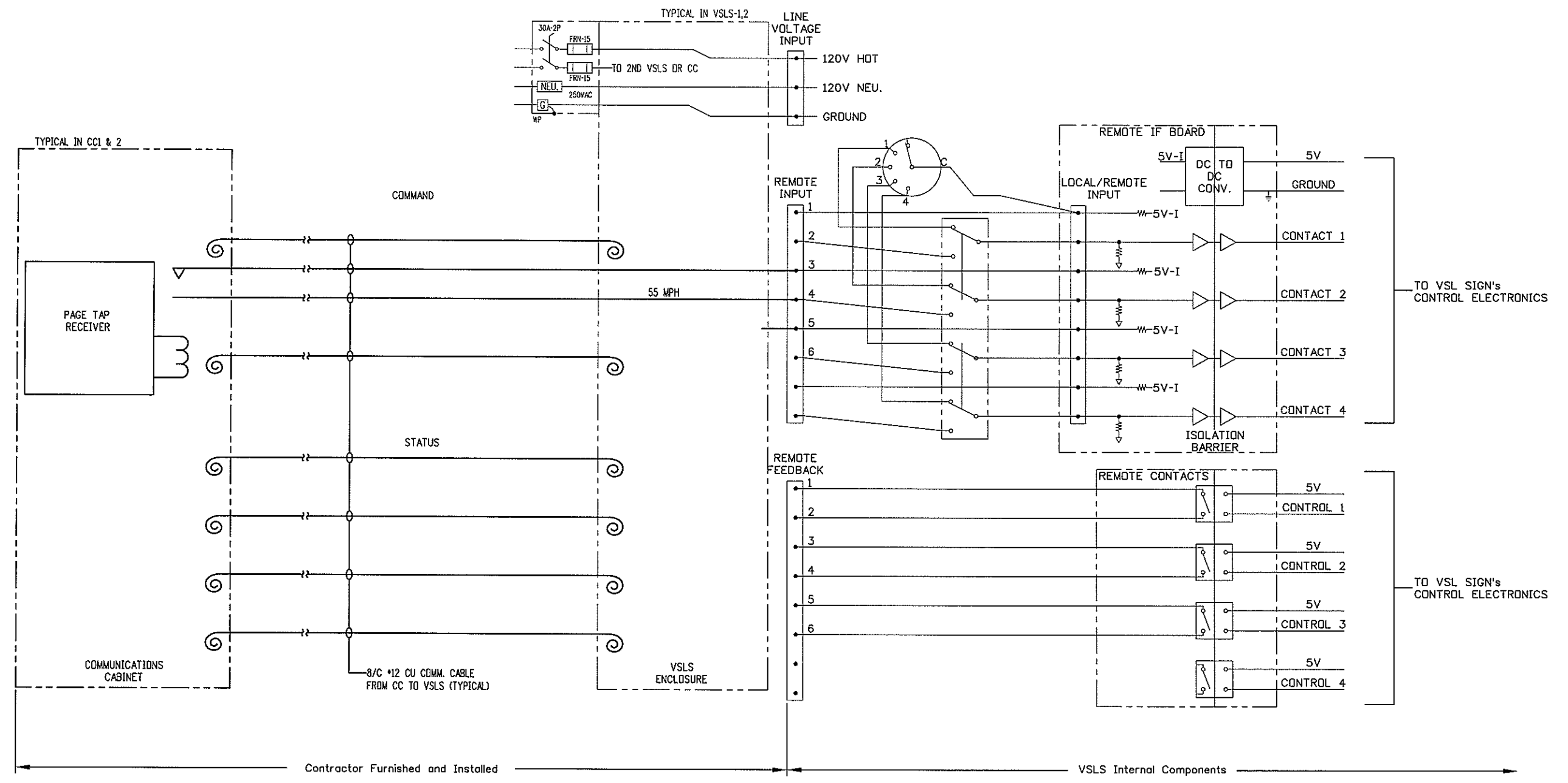
Region 1
 18500 East Colfax
 Aurora, CO 80011
 Phone: (303) 365-7340
 FAX: (303) 365-7343

PBSJ
 4601 DTC Blvd.
 Suite 700
 Denver, CO 80237
 Phone: (303) 221-7275
 Fax: (303) 221-7276

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LIGHTING PLAN LCC ELEVATIONS		
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Sheet Subset: LE		

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X -> DON'T CARE

1 VARIABLE SPEED LIMIT SIGN "VSL" PAGE TAP (TYPICAL)
LE26 SCALE: N.T.S.

PRELIMINARY

CLANTON & ASSOCIATES
LIGHTING DESIGN AND ENGINEERING
4699 HAUPTLEIGH COURT SOUTH STE 102
BOULDER, CO 80501
303-330-7229

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DOT
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Aurora, CO 80011
Phone: (303) 365-7340
FAX: (303) 365-7343

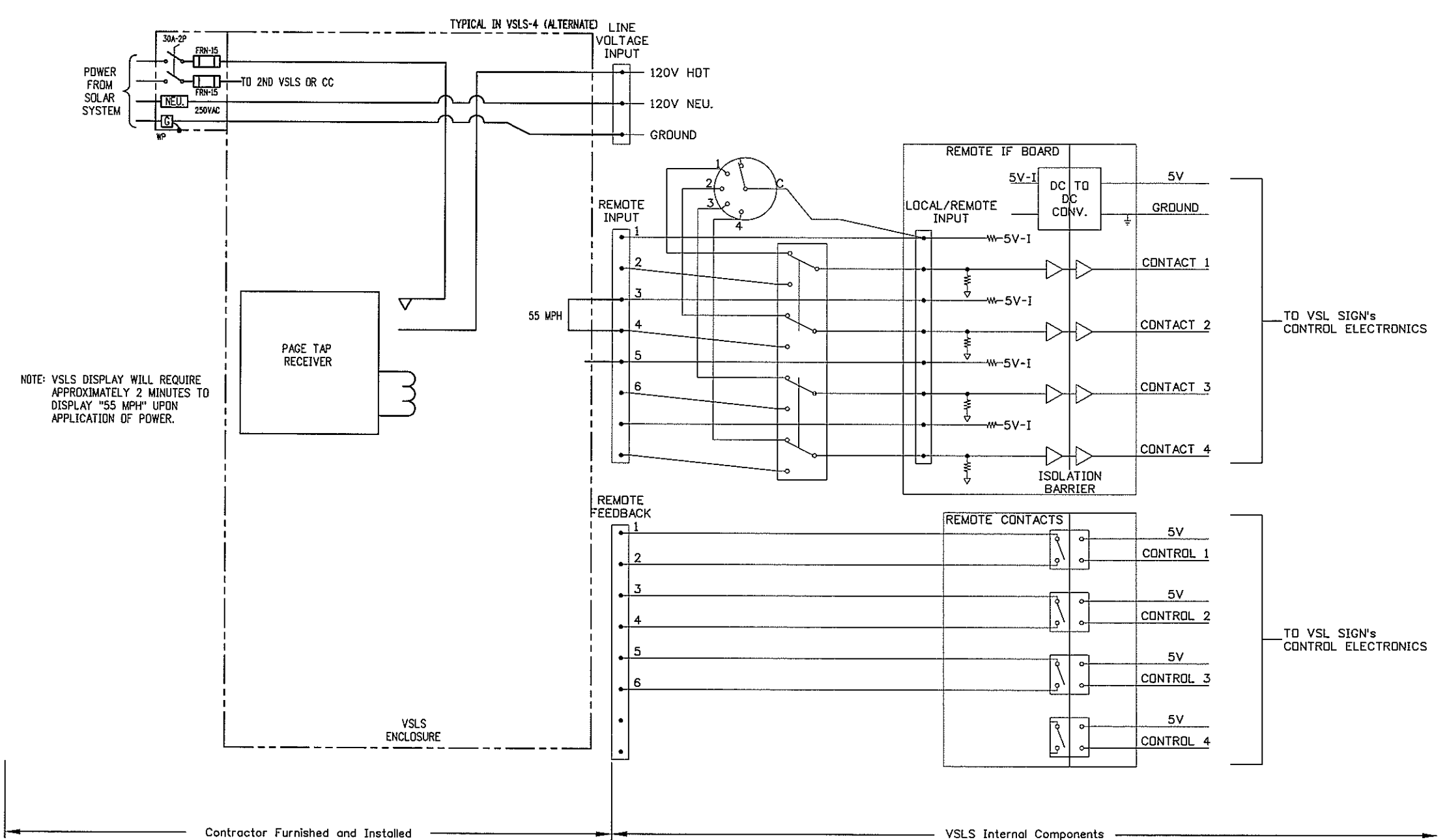
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4601 DTC Blvd.
Suite 700
Denver, CO 80237
Phone: (303) 221-7275
Fax: (303) 221-7276

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LIGHTING PLAN LCC ELEVATIONS			
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NOTE: VSLs DISPLAY WILL REQUIRE APPROXIMATELY 2 MINUTES TO DISPLAY "55 MPH" UPON APPLICATION OF POWER.

CONTACT 1	CONTACT 2	CONTACT 3	CONTACT 4	MESSAGE	FEEDBACK
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ON	X	ON	X	BLANK	*1,*2,*3
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X -> DDN'T CARE

1 VARIABLE SPEED LIMIT SIGN "VSLs" PAGE TAP W/SOLAR POWER (TYPICAL)
LE27 SCALE: N.T.S.

PRELIMINARY

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
4499 NAUTICAL COURT SOUTH STE. 102
BOULDER, CO 80502
303-440-7229

Computer File Information	
Creation Date: February 11, 2008	Initials: GF
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DOT
DEPARTMENT OF TRANSPORTATION

Region 1
18500 East Colfax
Aurora, CO 80011
Phone: (303) 365-7340
FAX: (303) 365-7343

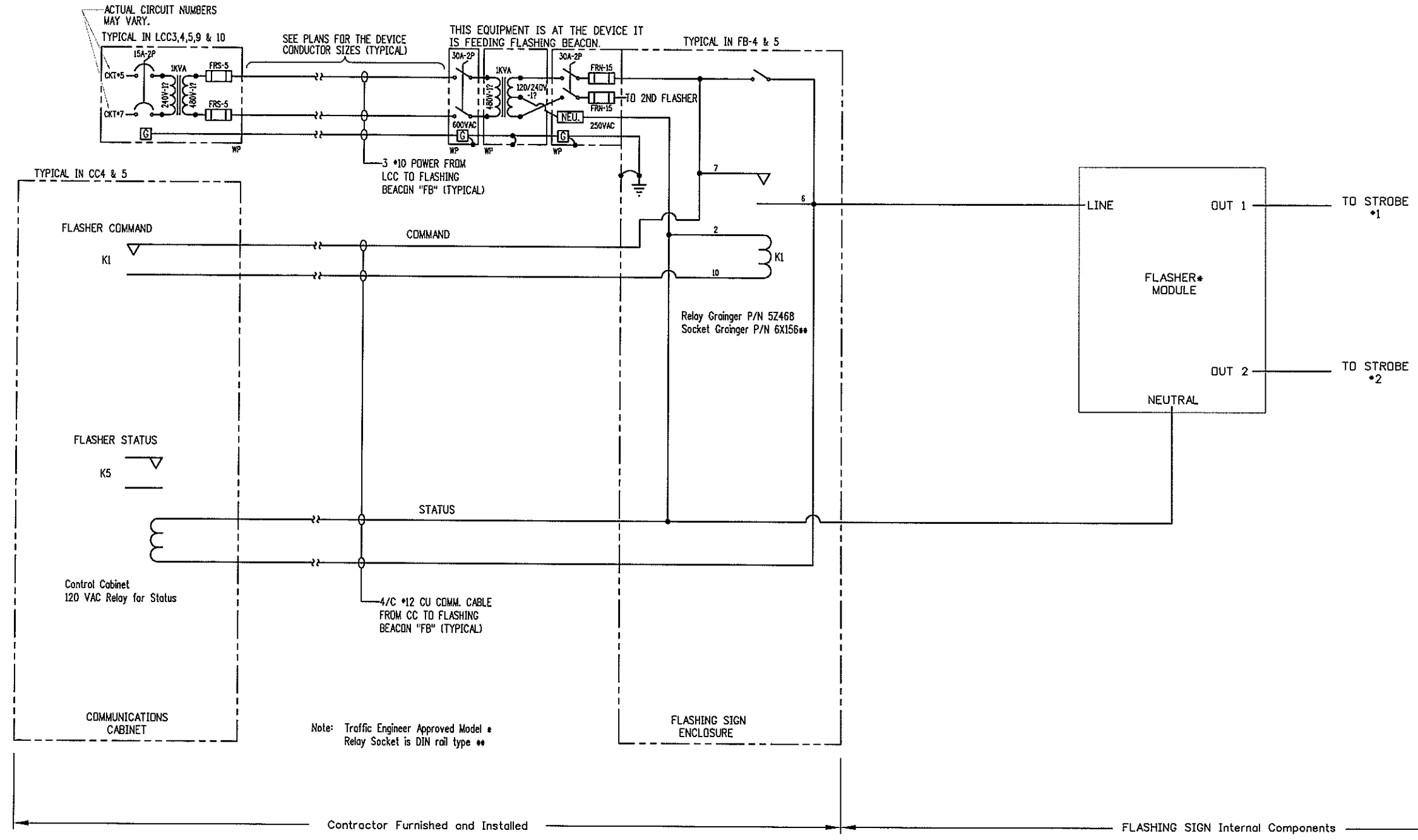
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4601 DTC Blvd.
Suite 700
Denver, CO 80237
Phone: (303) 221-7275
Fax: (303) 221-7276

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No. Revisions:
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LIGHTING PLAN LCC ELEVATIONS			
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1 FLASHING BEACON SIGN "FB" HARDWIRE (TYPICAL)
LE28 SCALE: N.T.S.

PRELIMINARY

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
4699 NAUTICAL COURT SOUTH STE. 402
BOULDER, CO 80501
303-550-7229

Computer File Information	
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Region 1
18500 East Colfax
Aurora, CO 80011
Phone: (303) 365-7340
FAX: (303) 365-7343

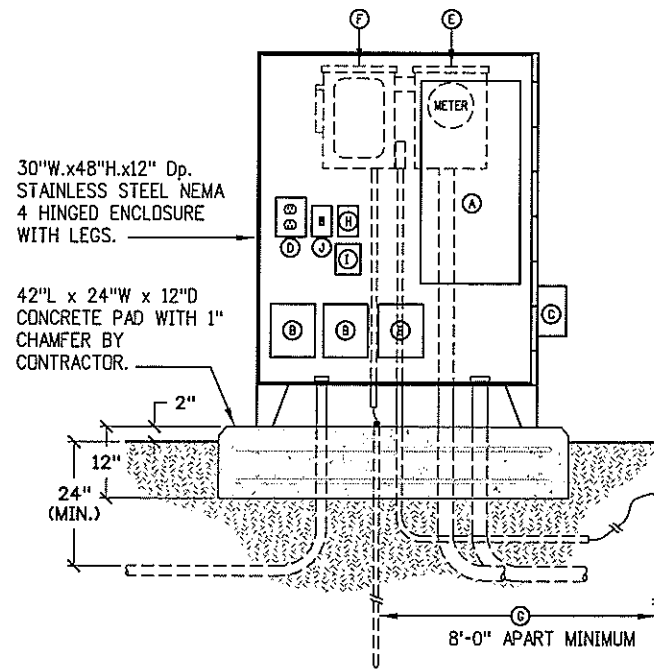
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Denver, CO 80237
Phone: (303) 221-7275
Fax: (303) 221-7276

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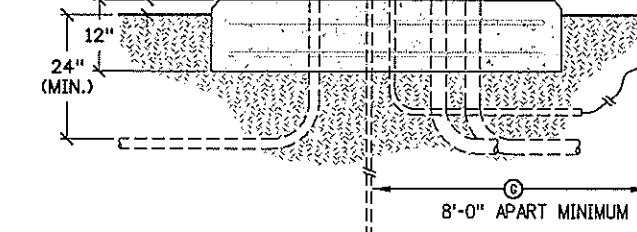
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30"W.x48"H.x12" Dp. STAINLESS STEEL NEMA 4 HINGED ENCLOSURE WITH LEGS.

42"L x 24"W x 12"D CONCRETE PAD WITH 1" CHAMFER BY CONTRACTOR.

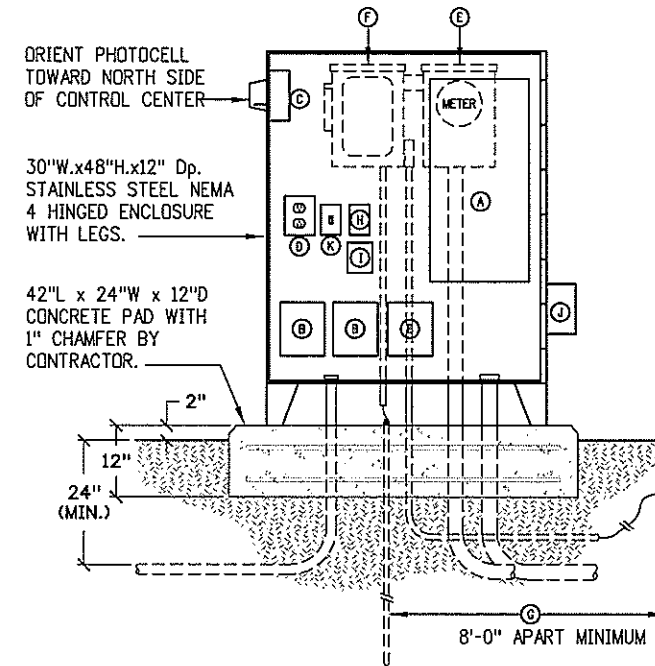


NOTE: ITEM "C" IS ONLY REQUIRED IN LCC4, LCC9 & LCC10 FOR SIGNAGE. (2) ARE REQUIRED IN LCC4.

COMPONENT LIST

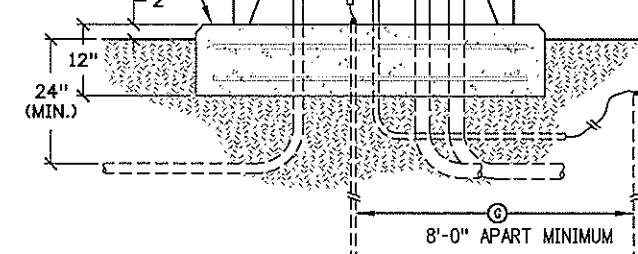
- Ⓐ NEMA 1, MLD, 120/240V-1Ph-3W LOAD CENTER (SEE PANEL SCHEDULE FOR BUS AMPERAGE, NUMBER OF POLES AND BREAKERS REQUIRED). FURNISH WITH COPPER BUS, FULL-SIZE NEUTRAL & GROUND BARS AND COVER.
- Ⓑ 30-AMP 4-POLE MECHANICALLY HELD LIGHTING CONTACTOR. FURNISH WITH 120-VOLT COIL. (3 RQR'D.)
- Ⓒ 1KVA, TRANSFORMER - NEMA 3R, 240V-1Ph (PRI), 480V-1Ph (SEC) W/FUSING INSIDE NEMA 4 ENCLOSURE. MOUNT TRANSFORMER TO SIDE OF NEMA 4.
- Ⓓ GFCI MAINT. RECEPTACLE IN A 1-GANG BACK BOX WITH COVER.
- Ⓔ NEMA 3R, 100A, 1Ph METER HOUSING TO UTILITY COMPANY SPECIFICATIONS. MOUNTED ON BACK SIDE OF ENCLOSURE.
- Ⓕ NEMA 3R, 100A, 2-POLE, HEAVY DUTY, FUSED DISCONNECT, UL LISTED FOR SERVICE EQUIPMENT AND FRN FUSES AS SHOWN ON ONE-LINE DIAGRAM
- Ⓖ w/NEUTRAL & GROUND BARS. MOUNTED ON BACK SIDE OF ENCLOSURE.
- Ⓗ 5/8"x 10'-0" Lg. COPPER-CLAD DRIVEN GROUND ROD WITH GROUND CONDUCTOR CADWELDED TO ROD. (2 REQUIRED)
- Ⓘ TELEMETRY RELAY - 120V COIL, 3-AMP CONTACTS, SPDT RELAY W/SCREW TERMINAL BASE. MAX. INRUSH 6.5VA, MAX. SEALED 1.5VA.
- Ⓚ CONTROL RELAY - 120V COIL, 15-AMP CONTACTS, DPDT RELAY W/SCREW TERMINAL BASE. MAX. INRUSH 20.5VA, MAX. SEALED 4.5VA.
- Ⓛ BY-PASS SWITCH - 120/277V RATED, SPDT, 20-AMP, TOGGLE SWITCH WITH BACK BOX AND COVER PLATE.
- Ⓜ NOTE: ALL COMPONENTS LISTED SHALL BE INCLUDED IN THE LIGHTING CONTROL CENTER PAY ITEM.

1 TYPICAL LIGHTING CONTROL CENTER ELEVATION - LCC1,2,4,7,8,9,10,11,12,13,14 & 17
LE30 SCALE: N.T.S.



30"W.x48"H.x12" Dp. STAINLESS STEEL NEMA 4 HINGED ENCLOSURE WITH LEGS.

42"L x 24"W x 12"D CONCRETE PAD WITH 1" CHAMFER BY CONTRACTOR.



NOTE: (2) ITEM "C"s ARE REQUIRED ONLY IN LCC5 FOR SIGNAGE. LCC6 DOES NOT REQUIRE AN ITEM "C".

COMPONENT LIST

- Ⓐ NEMA 1, MLD, 120/240V-1Ph-3W LOAD CENTER (SEE PANEL SCHEDULE FOR BUS AMPERAGE, NUMBER OF POLES AND BREAKERS REQUIRED). FURNISH WITH COPPER BUS, FULL-SIZE NEUTRAL & GROUND BARS AND COVER.
- Ⓑ 30-AMP 4-POLE MECHANICALLY HELD LIGHTING CONTACTOR. FURNISH WITH 120-VOLT COIL. (3 RQR'D.)
- Ⓒ NEMA 3R 120V PHOTOCELL WITH TWIST-LOCK RECEPTACLE BASE. FOR ON/OFF CONTROL OF THE PARKING LOT LIGHTING.
- Ⓓ GFCI MAINT. RECEPTACLE IN A 1-GANG BACK BOX WITH COVER.
- Ⓔ NEMA 3R, 200A, 1Ph METER HOUSING TO UTILITY COMPANY SPECIFICATIONS. MOUNTED ON BACK SIDE OF ENCLOSURE.
- Ⓕ NEMA 3R, 200A, 2-POLE, HEAVY DUTY, FUSED DISCONNECT, UL LISTED FOR SERVICE EQUIPMENT AND FRN-R FUSES AS SHOWN ON ONE-LINE DIAGRAM w/NEUTRAL & GROUND BARS. MOUNTED ON BACK SIDE OF ENCLOSURE.
- Ⓗ 5/8"x 10'-0" Lg. COPPER-CLAD DRIVEN GROUND ROD WITH GROUND CONDUCTOR CADWELDED TO ROD. (2 REQUIRED)
- Ⓘ TELEMETRY RELAY - 120V COIL, 3-AMP CONTACTS, SPDT RELAY W/SCREW TERMINAL BASE. MAX. INRUSH 6.5VA, MAX. SEALED 1.5VA.
- Ⓚ CONTROL RELAY - 120V COIL, 15-AMP CONTACTS, DPDT RELAY W/SCREW TERMINAL BASE. MAX. INRUSH 20.5VA, MAX. SEALED 4.5VA.
- Ⓛ 1KVA, TRANSFORMER - NEMA 3R, 240V-1Ph (PRI), 480V-1Ph (SEC) W/FUSING INSIDE NEMA 4 ENCLOSURE. MOUNT TRANSFORMER TO SIDE OF NEMA 4.
- Ⓜ BY-PASS SWITCH - 120/277V RATED, SPDT, 20-AMP, TOGGLE SWITCH WITH BACK BOX AND COVER PLATE.
- Ⓝ NOTE: ALL COMPONENTS LISTED SHALL BE INCLUDED IN THE LIGHTING CONTROL CENTER PAY ITEM.

2 TYPICAL LIGHTING CONTROL CENTER - LCC5 & 6
LE30 SCALE: N.T.S.

PRELIMINARY

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
4699 HAUPTLAGE COURT SOUTH STE. 102
BOULDER, CO 80504
303-440-7229

Computer File Information	
Creation Date: February 11, 2008	Initials: GF
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18500 East Colfax
Aurora, CO 80011
Phone: (303) 365-7340
Fax: (303) 365-7343

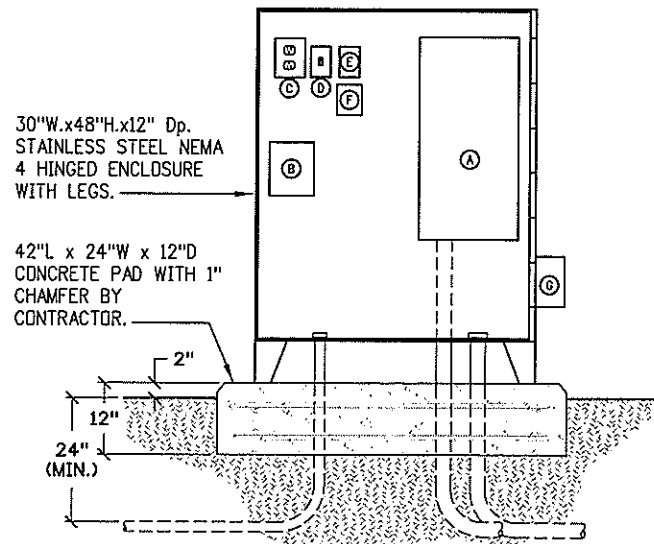
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Suite 700
Denver, CO 80237
Phone: (303) 221-7275
Fax: (303) 221-7276

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No. Revisions:
Revised:
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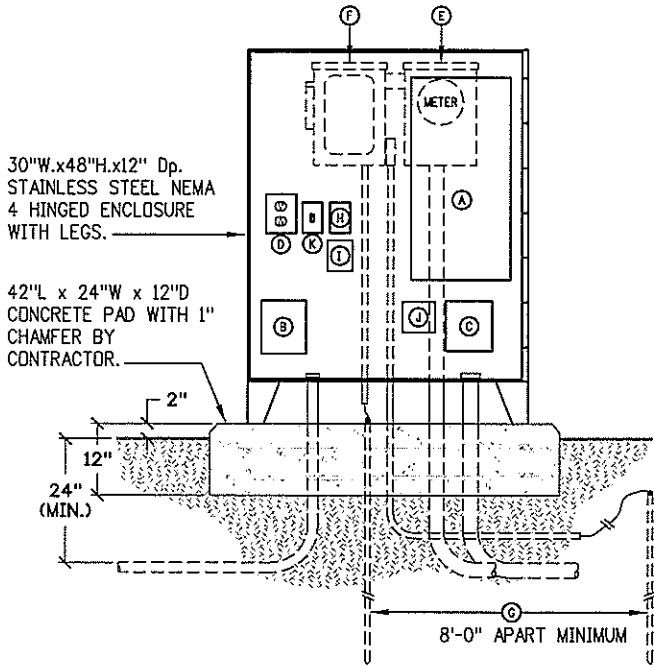
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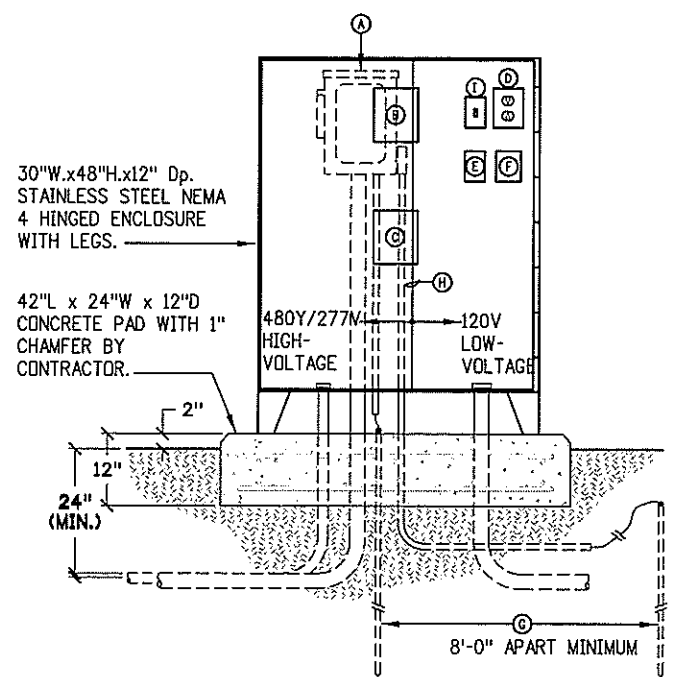
1 TYPICAL LIGHTING CONTROL CENTER - LCC3
LE31 SCALE: N.T.S.

- COMPONENT LIST**
- Ⓐ NEMA 1, MLO, 120/240V-1Ph-3W LOAD CENTER (SEE PANEL SCHEDULE FOR BUS AMPERAGE, NUMBER OF POLES AND BREAKERS REQUIRED). FURNISH WITH COPPER BUS, FULL-SIZE NEUTRAL & GROUND BARS AND COVER.
 - Ⓑ 30-AMP 4-POLE MECHANICALLY HELD LIGHTING CONTACTOR. FURNISH WITH 120-VOLT COIL.
 - Ⓒ GFCI MAINT. RECEPTACLE IN A 1-GANG BACK BOX WITH COVER.
 - Ⓓ BY-PASS SWITCH - 120/277V RATED, SPDT, 20-AMP, TOGGLE SWITCH WITH BACK BOX AND COVER PLATE.
 - Ⓔ TELEMETRY RELAY - INDICATING 120VAC SOLID STATE RELAY WITH 3-32 VDC INPUT, SPDT RELAY W/SCREW TERMINAL BASE.
 - Ⓕ CONTROL RELAY - 120V COIL, 15-AMP CONTACTS, DPDT RELAY W/SCREW TERMINAL BASE. MAX. INRUSH 30.5VA, MAX. SEALED 6.5VA.
 - Ⓖ 1KVA, TRANSFORMER - NEMA 3R, 240V-1Ph (PRI), 480V-1Ph (SEC) W/FUSING INSIDE NEMA 4 ENCLOSURE. MOUNT TRANSFORMER TO SIDE OF NEMA 4.
- NOTE: ALL COMPONENTS LISTED SHALL BE INCLUDED IN THE LIGHTING CONTROL CENTER PAY ITEM.



3 TYPICAL LIGHTING CONTROL CENTER - LCC16
LE31 SCALE: N.T.S.

- COMPONENT LIST**
- Ⓐ NEMA 1, MLO, 120/240V-1Ph-3W LOAD CENTER (SEE PANEL SCHEDULE FOR BUS AMPERAGE, NUMBER OF POLES AND BREAKERS REQUIRED). FURNISH WITH COPPER BUS, FULL-SIZE NEUTRAL & GROUND BARS AND COVER.
 - Ⓑ 30-AMP 4-POLE MECHANICALLY HELD LIGHTING CONTACTOR. FURNISH WITH 120-VOLT COIL.
 - Ⓒ FIBER OPTIC TRANSCEIVER - 12VDC, (2) FIBER TRANSCEIVER WITH MATCHING FIBER OPTIC TRANSMITTER IN THE EXISTING COMMUNICATIONS CABINET (CC).
 - Ⓓ GFCI MAINT. RECEPTACLE IN A 1-GANG BACK BOX WITH COVER.
 - Ⓔ NEMA 3R, 100A, 1Ph METER HOUSING TO UTILITY COMPANY SPECIFICATIONS. MOUNTED ON BACK SIDE OF ENCLOSURE.
 - Ⓕ NEMA 3R, 100A, 2-POLE, HEAVY DUTY, FUSED DISCONNECT, UL LISTED FOR SERVICE EQUIPMENT AND FRN-R FUSES AS SHOWN ON ONE-LINE DIAGRAM w/NEUTRAL & GROUND BARS. MOUNTED ON BACK SIDE OF ENCLOSURE.
 - Ⓖ 5/8"x 10'-0" Lg, COPPER-CLAD DRIVEN GROUND ROD WITH GROUND CONDUCTOR CADWELDED TO ROD. (2 REQUIRED)
 - Ⓒ TELEMETRY RELAY - INDICATING 120VAC SOLID STATE RELAY WITH 3-32 VDC INPUT, SPDT RELAY W/SCREW TERMINAL BASE.
 - Ⓓ CONTROL RELAY - 120V COIL, 15-AMP CONTACTS, DPDT RELAY W/SCREW TERMINAL BASE. MAX. INRUSH 30.5VA, MAX. SEALED 6.5VA.
 - Ⓔ DC POWER SUPPLY - 120VAC/12VDC POWER SUPPLY FOR THE FIBER OPTIC TRANSCEIVER ITEM "C" ABOVE.
 - Ⓕ BY-PASS SWITCH - 120/277V RATED, SPDT, 20-AMP, TOGGLE SWITCH WITH BACK BOX AND COVER PLATE.
- NOTE: ALL COMPONENTS LISTED SHALL BE INCLUDED IN THE LIGHTING CONTROL CENTER PAY ITEM.



2 TYPICAL LIGHTING CONTROL CENTER - LCC15 (480V-3Ph)
LE31 SCALE: N.T.S.

- COMPONENT LIST**
- Ⓐ FUSED DISCONNECT SWITCH - NEMA 3R, 30A, 3-POLE, 600-VOLT, HEAVY DUTY, UL LISTED FOR SERVICE EQUIPMENT AND FRN-R FUSES AS SHOWN ON ONE-LINE DIAGRAM w/NEUTRAL & GROUND BARS. MOUNTED ON BACK SIDE OF ENCLOSURE.
 - Ⓑ 500 VA, CONTROL TRANSFORMER - 277V-1Ph (PRI), 120V-1Ph (SEC) W/SECONDARY FUSING AS SHOWN ON THE SCHEMATIC DETAIL. MOUNT TRANSFORMER INSIDE THE NEMA 4 ENCLOSURE SO THAT THE 120V SIDE IS IN THE LOW-VOLTAGE SECTION ON THE PANEL AND THE 277V SIDE IS IN THE HIGH-VOLTAGE SECTION.
 - Ⓒ 30-AMP, 4-POLE, 600-VOLT CONTACTS, MECHANICALLY HELD LIGHTING CONTACTOR. FURNISH WITH 120-VOLT COIL.
 - Ⓓ GFCI MAINT. RECEPTACLE IN A 1-GANG BACK BOX WITH COVER.
 - Ⓔ TELEMETRY RELAY - 120V COIL, 3-AMP CONTACTS, SPDT RELAY W/SCREW TERMINAL BASE. MAX. INRUSH 6.5VA, MAX. SEALED 1.5VA.
 - Ⓕ CONTROL RELAY - 120V COIL, 15-AMP CONTACTS, DPDT RELAY W/SCREW TERMINAL BASE. MAX. INRUSH 20.5VA, MAX. SEALED 4.5VA.
 - Ⓖ 5/8"x 10'-0" Lg, COPPER-CLAD DRIVEN GROUND ROD WITH GROUND CONDUCTOR CADWELDED TO ROD. (2 REQUIRED)
 - Ⓒ PROVIDE METAL PARTITION DIVIDER INSIDE NEMA 4 ENCLOSURE WITH LOW-VOLTAGE (120V) ON ONE SIDE AND HIGH VOLTAGE (480V) ON THE OTHER.
 - Ⓓ BY-PASS SWITCH - 120/277V RATED, SPDT, 20-AMP, TOGGLE SWITCH WITH BACK BOX AND COVER PLATE.
- NOTE: ALL COMPONENTS LISTED SHALL BE INCLUDED IN THE LIGHTING CONTROL CENTER PAY ITEM.

PRELIMINARY

CLANTON & ASSOCIATES
LIGHTING DESIGN AND ENGINEERING
4609 HAWTHORNE COURT SOUTH STE. 102
BOULDER, CO 80509
303-440-7229

Computer File Information	
Creation Date: February 11, 2008	Initials: GF
Last Modification Date: March 25, 2008	Initials: JE
Full Path: Z:\VAIL CHAIN STATIONS\CURRENT\	
Drawing File Name: _LTD-Detail_Sheets.dwg	
Scale: REFER TO BAR SCALE	Units: ENGLISH

Index of Revisions	

DOT
REGION I
18500 East Colfax
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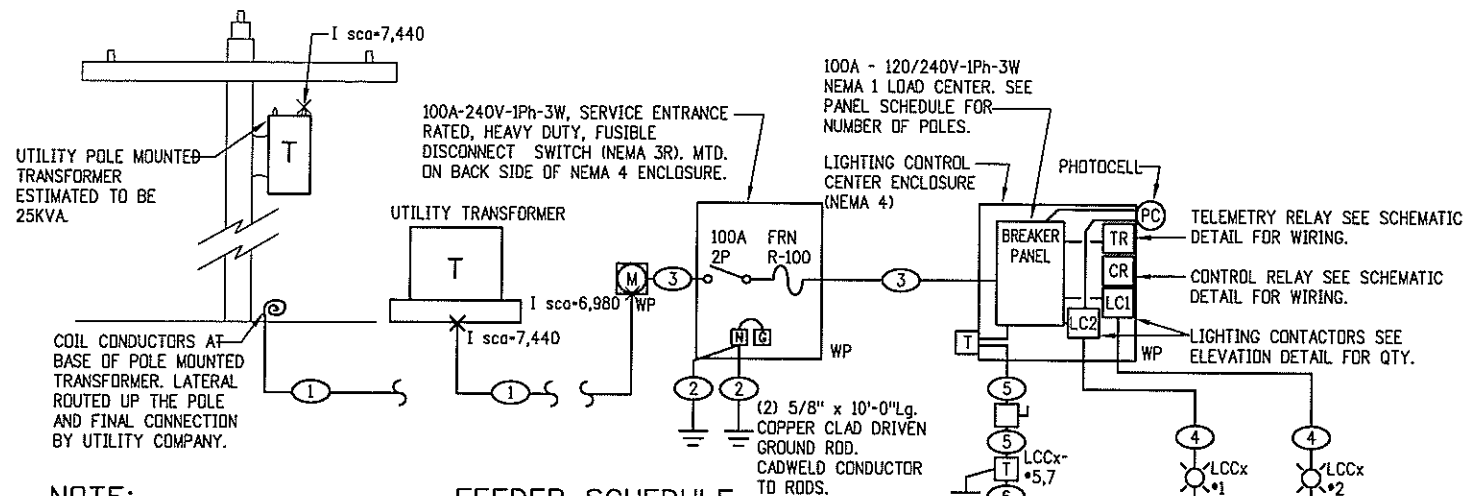
PBSJ
4601 DTC Blvd.
Suite 700
Denver, CO 80237
Phone: (303) 221-7275
Fax: (303) 221-7276

REGION I DW

As Constructed	
No. Revisions:	
Revised:	
Void:	

LIGHTING PLAN LCC ELEVATIONS			
Designer:	GF	Structure:	
Detailer:	JE	Numbers:	
Sheet Subset:	LE	Subset Sheets:	31 OF 35

Project No./Code	
IM 070A-003	
16701	
Sheet Number:	56



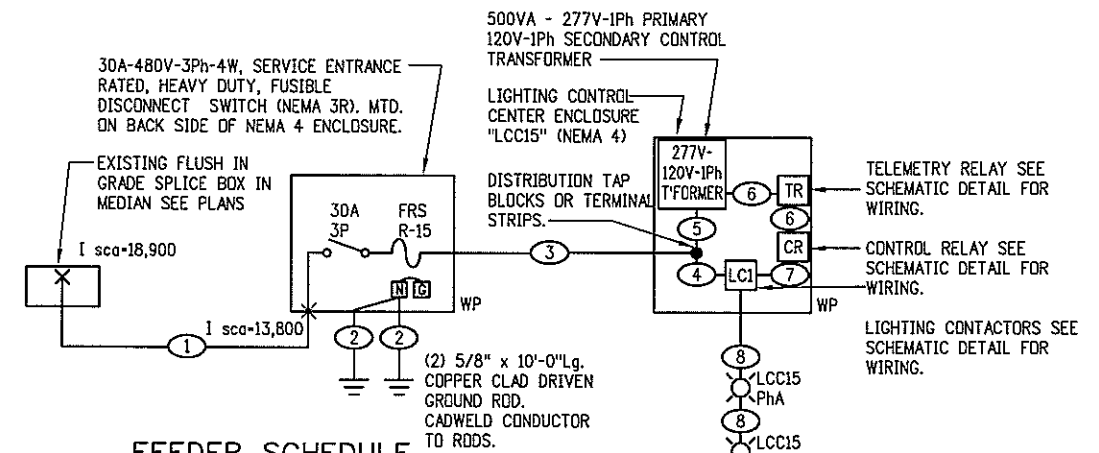
NOTE:

NOT EVERY COMPONENT SHOWN ON THIS ONE-LINE IS USED IN EVERY LCC. SEE ELEVATION DETAIL AND PLANS FOR ALL REQUIRED COMPONENTS.

FEEDER SCHEDULE

- 1 (SERVICE LATERAL AS LISTED ON PLANS) IN 3" PVC
- 2 (1 #6 S.D.B.C.) 1/2"C
- 3 (3 #1/0 THWN & 1 #6 GND) 2" GRC
- 4 (3 #4 THWN & 1 #4 GND.) IN 2" PVC
- 5 (2 #10 THWN & 1 #10GND) IN 2" PVC or GRC
- 6 (3 #10 THWN & 1 #10GND) IN 3/4" GRC
- 7 (3 #12 THWN & 1 #12GND) IN 3/4" GRC

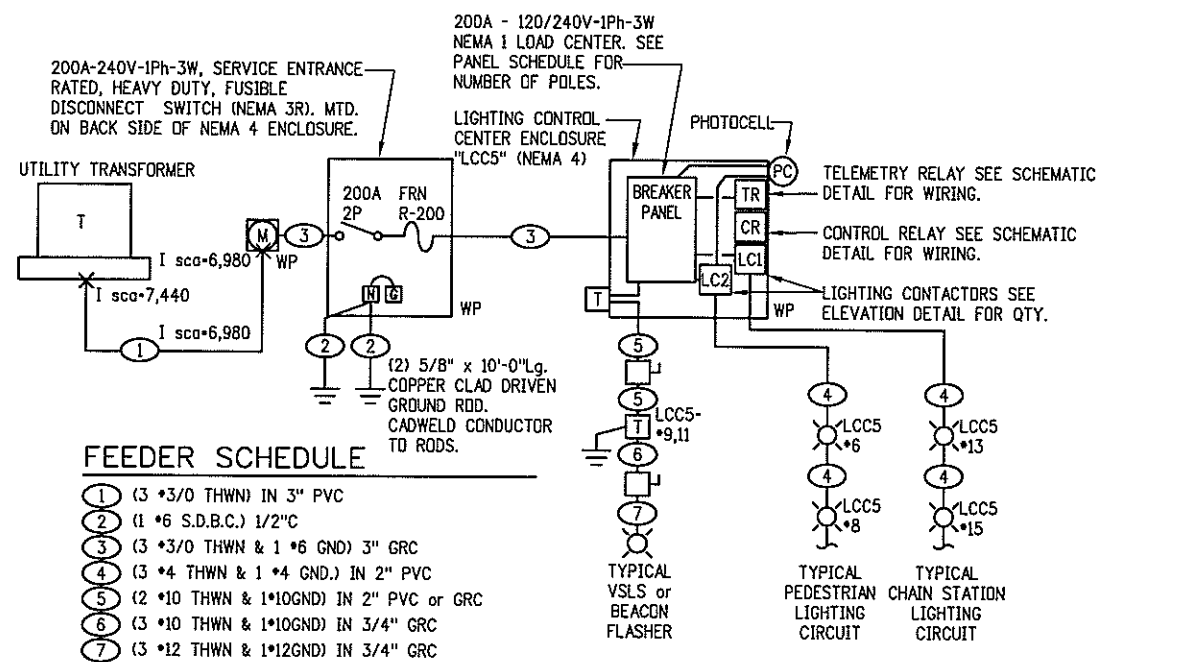
1 TYPICAL ONE-LINE DIAGRAM FOR - LCC1,2,4,6,7,8,9,10,11,12,13,14,16 & 17
LE32 SCALE: N.T.S.



FEEDER SCHEDULE

- 1 (4 #6 THWN & 1 #6GND) IN 2" PVC
- 2 (1 #6 S.D.B.C.) 1/2"C
- 3 (4 #8 THWN & 1 #8 GND) 1" GRC
- 4 (4 #8 THWN & 1 #8 GND.) IN WIREWAY
- 5 (2 #10 THWN & 1 #10GND) IN WIREWAY
- 6 (2 #14 THWN & 1 #14GND) IN WIREWAY
- 7 (3 #14 THWN & 1 #14 GND.) IN WIREWAY
- 8 (4 #8 THWN & 1 #8 GND.) IN 2" PVC

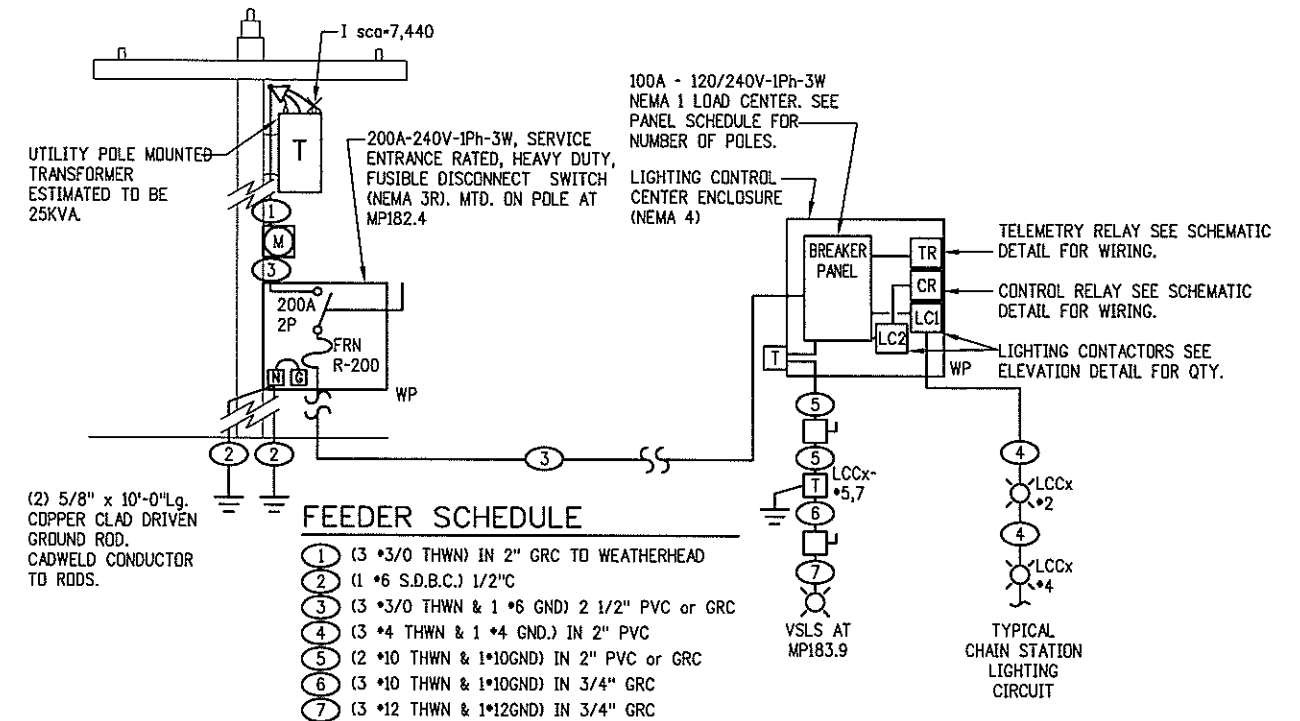
3 ONE-LINE DIAGRAM FOR - LCC15 (480V-3Ph)
LE32 SCALE: N.T.S.



FEEDER SCHEDULE

- 1 (3 #3/0 THWN) IN 3" PVC
- 2 (1 #6 S.D.B.C.) 1/2"C
- 3 (3 #3/0 THWN & 1 #6 GND) 3" GRC
- 4 (3 #4 THWN & 1 #4 GND.) IN 2" PVC
- 5 (2 #10 THWN & 1 #10GND) IN 2" PVC or GRC
- 6 (3 #10 THWN & 1 #10GND) IN 3/4" GRC
- 7 (3 #12 THWN & 1 #12GND) IN 3/4" GRC

2 ONE-LINE DIAGRAM FOR - LCC5
LE32 SCALE: N.T.S.



FEEDER SCHEDULE

- 1 (3 #3/0 THWN) IN 2" GRC TO WEATHERHEAD
- 2 (1 #6 S.D.B.C.) 1/2"C
- 3 (3 #3/0 THWN & 1 #6 GND) 2 1/2" PVC or GRC
- 4 (3 #4 THWN & 1 #4 GND.) IN 2" PVC
- 5 (2 #10 THWN & 1 #10GND) IN 2" PVC or GRC
- 6 (3 #10 THWN & 1 #10GND) IN 3/4" GRC
- 7 (3 #12 THWN & 1 #12GND) IN 3/4" GRC

4 ONE-LINE DIAGRAM FOR - LCC3
LE32 SCALE: N.T.S.

PRELIMINARY

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
1699 NAUTICAL COURT SOUTH STE. 102
BOULDER, CO 80501
303-440-7229

Computer File Information	
Creation Date: February 11, 2008	Initials: GF
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Index of Revisions	

REGION I DW

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As Constructed
No. Revisions:
Revised:
Void:

LIGHTING PLAN ONE-LINE DIAGRAMS			
Designer:	GF	Structure	
Detailer:	JE	Numbers	
Sheet Subset:	LE	Subset Sheets:	32 OF 35

Project No./Code
IM 070A-003
16701
Sheet Number: 57

MOUNTING:		SURFACE		PANEL "LCC1"		120/240V-1PH-3W	
FEEDER:		TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP178.15EB		Minimum A.I.C. = 10,000 AMPS	
				100 AMP'S MAIN LUGS ONLY			
				BRANCH BREAKER			
		LEFT PHASE LOAD		RIGHT PHASE LOAD			
CD	DESCRIPTION	P	Size	Qty	L1	L2	CD
L	Chain Station MP177EB	1	30	1	720	1260	L
L	Chain Station MP177EB	1	30	3	720	1260	L
L	Chain Station MP177EB	1	30	5	1260	720	L
L	Chain Station MP177EB	1	30	7	1260	720	L
M	Comm. Cabinet MP177EB	1	30	9	240	10	M
	Space Only			11		12	
	Space Only			13		14	
	Space Only			15		16	
				2220	1980	2160	
				4380	4160	2160	
				Total Connected VA			
				8540			
				*Total Connected VA all (3) Phases			
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS	
LIGHTING	L	7920 VA	1.25	9.90			
RECEPTACLES (1ST 10000)	R	180 VA	1.00	0.18			180 VA=Total Receptacle Load
RECEPTACLES (REMAINING)	R	VA	0.50	0.00			
MOTOR (LARGEST)	ML	0 VA	1.25	0.00			
MOTORS (REMAINING)	MR	0 VA	1.00	0.00			
ELECTRIC HEAT	H	0 VA	1.25	0.00			
ELECTRICAL MISC.	M	440 VA	1.00	0.44			
TOTAL ESTIMATED LOAD		8540 VA		10.52		44	

MOUNTING:		SURFACE		PANEL "LCC2"		120/240V-1PH-3W	
FEEDER:		TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP178.37WB		Minimum A.I.C. = 10,000 AMPS	
				100 AMP'S MAIN LUGS ONLY			
				BRANCH BREAKER			
		LEFT PHASE LOAD		RIGHT PHASE LOAD			
CD	DESCRIPTION	P	Size	Qty	L1	L2	CD
L	Chain Station MP177WB	1	30	1	540	900	L
L	Chain Station MP177WB	1	30	3	540	900	L
L	Chain Station MP177WB	1	30	5	900	720	L
L	Chain Station MP177WB	1	30	7	900	720	L
M	Comm. Cabinet MP177EB	1	30	9	240	10	M
	Space Only			11		12	
	Space Only			13		14	
	Space Only			15		16	
				1680	1440	1800	
				3480	3260	1820	
				Total Connected VA			
				6740			
				*Total Connected VA all (3) Phases			
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS	
LIGHTING	L	6120 VA	1.25	7.65			
RECEPTACLES (1ST 10000)	R	180 VA	1.00	0.18			180 VA=Total Receptacle Load
RECEPTACLES (REMAINING)	R	VA	0.50	0.00			
MOTOR (LARGEST)	ML	0 VA	1.25	0.00			
MOTORS (REMAINING)	MR	0 VA	1.00	0.00			
ELECTRIC HEAT	H	0 VA	1.25	0.00			
ELECTRICAL MISC.	M	440 VA	1.00	0.44			
TOTAL ESTIMATED LOAD		6740 VA		8.27		34	

MOUNTING:		SURFACE		PANEL "LCC3"		120/240V-1PH-3W	
FEEDER:		TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP182.8EB		Minimum A.I.C. = 10,000 AMPS	
				100 AMP'S MAIN LUGS ONLY			
				BRANCH BREAKER			
		LEFT PHASE LOAD		RIGHT PHASE LOAD			
CD	DESCRIPTION	P	Size	Qty	L1	L2	CD
L	Chain Station MP183EB	1	30	1	720	720	L
L	Chain Station MP183EB	1	30	3	720	720	L
	SPARE	1	30	5		500	
	SPARE	1	30	7		500	
M	Comm. Cabinet MP183EB	1	30	9	240	10	M
	Space Only			11		12	
	Space Only			13		14	
	Space Only			15		16	
				860	720	1400	
				2360	2140	1420	
				Total Connected VA			
				4500			
				*Total Connected VA all (3) Phases			
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS	
LIGHTING	L	2880 VA	1.25	3.60			
RECEPTACLES (1ST 10000)	R	180 VA	1.00	0.18			180 VA=Total Receptacle Load
RECEPTACLES (REMAINING)	R	VA	0.50	0.00			
MOTOR (LARGEST)	ML	0 VA	1.25	0.00			
MOTORS (REMAINING)	MR	0 VA	1.00	0.00			
ELECTRIC HEAT	H	0 VA	1.25	0.00			
ELECTRICAL MISC.	M	1440 VA	1.00	1.44			
TOTAL ESTIMATED LOAD		4500 VA		5.22		22	

MOUNTING:		SURFACE		PANEL "LCC4"		120/240V-1PH-3W	
FEEDER:		TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP195.6EB		Minimum A.I.C. = 10,000 AMPS	
				100 AMP'S MAIN LUGS ONLY			
				BRANCH BREAKER			
		LEFT PHASE LOAD		RIGHT PHASE LOAD			
CD	DESCRIPTION	P	Size	Qty	L1	L2	CD
L	Chain Station MP195EB	1	30	1	720	720	L
L	Chain Station MP195EB	1	30	3	720	720	L
M	240V Pri-480V Sec Transformer	15	6	500	500	6	M
M	to Beacon @ MP194.5EB	2	7	500	500	2	M
	Space Only			9		10	
	Space Only			11		12	
	Space Only			13		14	
	Space Only			15		16	
				1220	1220	680	
				1900	1920	700	
				Total Connected VA			
				3820			
				*Total Connected VA all (3) Phases			
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS	
LIGHTING	L	1440 VA	1.25	1.80			
RECEPTACLES (1ST 10000)	R	180 VA	1.00	0.18			180 VA=Total Receptacle Load
RECEPTACLES (REMAINING)	R	VA	0.50	0.00			
MOTOR (LARGEST)	ML	0 VA	1.25	0.00			
MOTORS (REMAINING)	MR	0 VA	1.00	0.00			
ELECTRIC HEAT	H	0 VA	1.25	0.00			
ELECTRICAL MISC.	M	2200 VA	1.00	2.20			
TOTAL ESTIMATED LOAD		3820 VA		4.18		17	

MOUNTING:		SURFACE		PANEL "LCC5"		120/240V-1PH-3W	
FEEDER:		BOTTOM		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP195.1		Minimum A.I.C. = 10,000 AMPS	
				200 AMP'S MAIN LUGS ONLY			
				BRANCH BREAKER			
		LEFT PHASE LOAD		RIGHT PHASE LOAD			
CD	DESCRIPTION	P	Size	Qty	L1	L2	CD
M	VMS Sign @ 195.9	2	50	1	3840	480	M
M	---	2	3	3840	240	4	M
M	VMS Sign @ 195.9	2	50	5	3840	180	M
M	---	2	7	3840	180	8	M
M	240V Pri-480V Sec Transformer	15	9	500	500	10	M
M	to VSL @ MP187.15WB	2	11	500	500	12	M
L	Chain Station MP196WB	1	30	13	720	14	L
L	Chain Station MP196WB	1	30	15	720	16	L
	Space Only			17		18	
	Space Only			19		20	
	Space Only			21		22	
	Space Only			23		24	
				8900	8000	1340	
				10240	10020	1120	
				Total Connected VA			
				20260			
				*Total Connected VA all (3) Phases			
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS	
LIGHTING	L	1800 VA	1.25	2.25			
RECEPTACLES (1ST 10000)	R	180 VA	1.00	0.18			180 VA=Total Receptacle Load
RECEPTACLES (REMAINING)	R	VA	0.50	0.00			
MOTOR (LARGEST)	ML	0 VA	1.25	0.00			
MOTORS (REMAINING)	MR	0 VA	1.00	0.00			
ELECTRIC HEAT	H	0 VA	1.25	0.00			
ELECTRICAL MISC.	M	18280 VA	1.00	18.28			
TOTAL ESTIMATED LOAD		20260 VA		20.71		86	

MOUNTING:		SURFACE		PANEL "LCC6"		120/240V-1PH-3W	
FEEDER:		TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP203.27EB		Minimum A.I.C. = 10,000 AMPS	
				100 AMP'S MAIN LUGS ONLY			
				BRANCH BREAKER			
		LEFT PHASE LOAD		RIGHT PHASE LOAD			
CD	DESCRIPTION	P	Size	Qty	L1	L2	CD
L	Chain Station MP203EB	1	30	1	540	900	L
L	Chain Station MP203EB	1	30	3	540	900	L
L	Parking Lot Ltg.	1	30	5	180	540	L
L	Parking Lot Ltg.	1	30	7	180	540	L
	Space Only			9		10	
	Space Only			11		12	
	Space Only			13		14	
	Space Only			15		16	
				720	720	1820	
				2340	2360	1640	
				Total Connected VA			
				4700			
				*Total Connected VA all (3) Phases			
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS	
LIGHTING	L	4320 VA	1.25	5.40			
RECEPTACLES (1ST 10000)	R	180 VA	1.00	0.18			180 VA=Total Receptacle Load
RECEPTACLES (REMAINING)	R	VA	0.50	0.00			
MOTOR (LARGEST)	ML	0 VA	1.25	0.00			
MOTORS (REMAINING)	MR	0 VA	1.00	0.00			
ELECTRIC HEAT	H	0 VA	1.25	0.00			
ELECTRICAL MISC.	M	200 VA	1.00	0.20			
TOTAL ESTIMATED LOAD		4700 VA		5.78		24	

PRELIMINARY

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
4699 NANTUELL COURT SOUTH SITE 107
BOULDER, CO 80501
303-430-7229

Computer File Information	
Creation Date: February 11, 2008	Initials: GF
Last Modification Date: March 25, 2008	Initials: JE
Full Path: Z:\VAIL CHAIN STATIONS\CURRENT\	
Drawing File Name: _LTD-Detail_Sheets.dwg	
Scale: REFER TO BAR SCALE	Units: ENGLISH

Index of Revisions	

Region 1
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REGION I DW

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As Constructed		LIGHTING PLAN		Project No./Code	
No. Revisions:		PANEL SCHEDULES (1 of 3)		IM 070A-003	
Revised:		Designer:	GF	Structure	

MOUNTING SURFACE		PANEL "LCC7"		120/240V-1PH-3W								
FEEDER: TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP205EB		Minimum A.I.C. = 10,000 AMPS								
		BRANCH BREAKER		100 AMP MAIN LUGS ONLY								
		LEFT PHASE LOAD		RIGHT PHASE LOAD								
CD	DESCRIPTION	P	Size	Ckt#	L1	L2	Ckt#	Size	P	DESCRIPTION	CD	
L	Chain Station MP205EB	1	30	1	720			2	30	Chain Station MP205EB	L	
L	Chain Station MP205EB	1	30	3	720			4	30	Chain Station MP205EB	L	
L	Chain Station MP205EB	1	30	5	720			6	30	Chain Station MP205EB	L	
L	Chain Station MP205EB	1	30	7	720			8	30	Chain Station MP205EB	L	
L	Chain Station MP205EB	1	30	9	720			10	30	Chain Station MP205EB	L	
L	Chain Station MP205EB	1	30	11	720			12	30	Chain Station MP205EB	L	
	Space Only			13				14	15	LCC7 Maint. Rec.	R	
	Space Only			15				16	15	LCC7 Ltg. Control Circuit	M	
		2160	2160			2340	2360					
		4500	4520			Total Connected V.A.						
						9020				=Total Connected VA all (3) Phases		
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS						
LIGHTING	L	8840 VA	1.25	10.80								
RECEPTACLES (1ST 10000)	R	180 VA	1.00	0.18			180 VA=Total Receptacle Load					
RECEPTACLES (REMAINING)	R	VA	0.50	0.00								
MOTOR (LARGEST)	ML	0 VA	1.25	0.00								
MOTORS (REMAINING)	MR	0 VA	1.00	0.00								
ELECTRIC HEAT	H	0 VA	1.25	0.00								
ELECTRICAL MISC.	M	200 VA	1.00	0.20								
TOTAL ESTIMATED LOAD		9020 VA		11.18		47						

MOUNTING SURFACE		PANEL "LCC8"		120/240V-1PH-3W								
FEEDER: TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP219.35EB		Minimum A.I.C. = 10,000 AMPS								
		BRANCH BREAKER		100 AMP MAIN LUGS ONLY								
		LEFT PHASE LOAD		RIGHT PHASE LOAD								
CD	DESCRIPTION	P	Size	Ckt#	L1	L2	Ckt#	Size	P	DESCRIPTION	CD	
L	Chain Station MP219EB	1	30	1	720			2	30	Chain Station MP219EB	L	
L	Chain Station MP219EB	1	30	3	720			4	30	Chain Station MP219EB	L	
	SPARE			5				6	30	Chain Station MP219EB	L	
	Space Only			7				8	30	Chain Station MP219EB	L	
	Space Only			9				10		Space Only		
	Space Only			11				12		Space Only		
	Space Only			13				14	15	LCC8 Maint. Rec.	R	
	Space Only			15				16	15	LCC8 Ltg. Control Circuit	M	
		720	720			1440	1460					
		2160	2160			Total Connected V.A.						
						4340				=Total Connected VA all (3) Phases		
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS						
LIGHTING	L	3950 VA	1.25	4.95								
RECEPTACLES (1ST 10000)	R	180 VA	1.00	0.18			180 VA=Total Receptacle Load					
RECEPTACLES (REMAINING)	R	VA	0.50	0.00								
MOTOR (LARGEST)	ML	0 VA	1.25	0.00								
MOTORS (REMAINING)	MR	0 VA	1.00	0.00								
ELECTRIC HEAT	H	0 VA	1.25	0.00								
ELECTRICAL MISC.	M	200 VA	1.00	0.20								
TOTAL ESTIMATED LOAD		4340 VA		5.33		22						

MOUNTING SURFACE		PANEL "LCC9"		120/240V-1PH-3W								
FEEDER: TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP219.35WB		Minimum A.I.C. = 10,000 AMPS								
		BRANCH BREAKER		100 AMP MAIN LUGS ONLY								
		LEFT PHASE LOAD		RIGHT PHASE LOAD								
CD	DESCRIPTION	P	Size	Ckt#	L1	L2	Ckt#	Size	P	DESCRIPTION	CD	
L	Chain Station MP219WB	1	30	1	540			2	30	Chain Station MP219WB	L	
L	Chain Station MP219WB	1	30	3	540			4	30	Chain Station MP219WB	L	
L	Chain Station MP219WB	1	30	5	720			6	30	Chain Station MP219WB	L	
L	Chain Station MP219WB	1	30	7	720			8	30	Chain Station MP219WB	L	
	SPARE			9				10	15	240VPI-480VSec Transformer	M	
	Space Only			11				12	2	to VLS @ MP219.35WB	M	
	Space Only			13				14	15	LCC9 Maint. Rec.	R	
	Space Only			15				16	15	LCC9 Ltg. Control Circuit	M	
		1290	1290			1940	1960					
		3200	3220			Total Connected V.A.						
						6420				=Total Connected VA all (3) Phases		
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS						
LIGHTING	L	5040 VA	1.25	6.30								
RECEPTACLES (1ST 10000)	R	180 VA	1.00	0.18			180 VA=Total Receptacle Load					
RECEPTACLES (REMAINING)	R	VA	0.50	0.00								
MOTOR (LARGEST)	ML	0 VA	1.25	0.00								
MOTORS (REMAINING)	MR	0 VA	1.00	0.00								
ELECTRIC HEAT	H	0 VA	1.25	0.00								
ELECTRICAL MISC.	M	1200 VA	1.00	1.20								
TOTAL ESTIMATED LOAD		6420 VA		7.68		32						

MOUNTING SURFACE		PANEL "LCC10"		120/240V-1PH-3W								
FEEDER: TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP220.57WB		Minimum A.I.C. = 10,000 AMPS								
		BRANCH BREAKER		100 AMP MAIN LUGS ONLY								
		LEFT PHASE LOAD		RIGHT PHASE LOAD								
CD	DESCRIPTION	P	Size	Ckt#	L1	L2	Ckt#	Size	P	DESCRIPTION	CD	
L	Chain Station MP221WB	1	30	1	720			2	30	Chain Station MP221WB	L	
L	Chain Station MP221WB	1	30	3	720			4	30	Chain Station MP221WB	L	
L	Chain Station MP221WB	1	30	5	1240			6	30	Chain Station MP221WB	L	
L	Chain Station MP221WB	1	30	7	1240			8	30	Chain Station MP221WB	L	
	SPARE			9				10	15	240VPI-480VSec Transformer	M	
	Space Only			11				12	2	to VLS @ MP221.1WB	M	
	Space Only			13				14	15	LCC10 Maint. Rec.	R	
	Space Only			15				16	15	LCC10 Ltg. Control Circuit	M	
		1960	1960			2480	2500					
		4440	4460			Total Connected V.A.						
						8900				=Total Connected VA all (3) Phases		
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS						
LIGHTING	L	7620 VA	1.25	9.40								
RECEPTACLES (1ST 10000)	R	180 VA	1.00	0.18			180 VA=Total Receptacle Load					
RECEPTACLES (REMAINING)	R	VA	0.50	0.00								
MOTOR (LARGEST)	ML	0 VA	1.25	0.00								
MOTORS (REMAINING)	MR	0 VA	1.00	0.00								
ELECTRIC HEAT	H	0 VA	1.25	0.00								
ELECTRICAL MISC.	M	1200 VA	1.00	1.20								
TOTAL ESTIMATED LOAD		8900 VA		10.78		45						

MOUNTING SURFACE		PANEL "LCC11"		120/240V-1PH-3W								
FEEDER: TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP223.27WB		Minimum A.I.C. = 10,000 AMPS								
		BRANCH BREAKER		100 AMP MAIN LUGS ONLY								
		LEFT PHASE LOAD		RIGHT PHASE LOAD								
CD	DESCRIPTION	P	Size	Ckt#	L1	L2	Ckt#	Size	P	DESCRIPTION	CD	
L	Chain Station MP223WB	1	30	1	900			2	30	SPARE	L	
L	Chain Station MP223WB	1	30	3	900			4	30	SPARE	L	
	Space Only			5				6	15	LCC11 Maint. Rec.	R	
	Space Only			7				8	15	LCC11 Ltg. Control Circuit	M	
		900	900			0	0					
		900	900			Total Connected V.A.						
						1800				=Total Connected VA all (3) Phases		
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS						
LIGHTING	L	1800 VA	1.25	2.25								
RECEPTACLES (1ST 10000)	R	0 VA	1.00	0.00			0 VA=Total Receptacle Load					
RECEPTACLES (REMAINING)	R	VA	0.50	0.00								
MOTOR (LARGEST)	ML	0 VA	1.25	0.00								
MOTORS (REMAINING)	MR	0 VA	1.00	0.00								
ELECTRIC HEAT	H	0 VA	1.25	0.00								
ELECTRICAL MISC.	M	0 VA	1.00	0.00								
TOTAL ESTIMATED LOAD		1800 VA		2.25		9						

MOUNTING SURFACE		PANEL "LCC12"		120/240V-1PH-3W								
FEEDER: TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP228.43EB		Minimum A.I.C. = 10,000 AMPS								
		BRANCH BREAKER		100 AMP MAIN LUGS ONLY								
		LEFT PHASE LOAD		RIGHT PHASE LOAD								
CD	DESCRIPTION	P	Size	Ckt#	L1	L2	Ckt#	Size	P	DESCRIPTION	CD	
L	Chain Station MP228EB	1	30	1	540			2	30	Chain Station MP228EB	L	
L	Chain Station MP228EB	1	30	3	540			4	30	Chain Station MP228EB	L	
L	Chain Station MP228EB	1	30	5	1050			6	30	Chain Station MP228EB	L	
L	Chain Station MP228EB	1	30	7	1050			8	30	Chain Station MP228EB	L	
	SPARE			9				10		Space Only		
	Space Only			11				12		Space Only		
	Space Only			13				14	15	LCC12 Maint. Rec.	R	
	Space Only			15				16	15	LCC12 Ltg. Control Circuit	M	
		1620	1620			1800	1820					
		3420	3440			Total Connected V.A.						
						6860				=Total Connected VA all (3) Phases		
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS						
LIGHTING	L	6480 VA	1.25	8.10								
RECEPTACLES (1ST 10000)	R	180 VA	1.00	0.18			180 VA=Total Receptacle Load					
RECEPTACLES (REMAINING)	R	VA	0.50	0.00								
MOTOR (LARGEST)	ML	0 VA	1.25	0.00								
MOTORS (REMAINING)	MR	0 VA	1.00	0.00								
ELECTRIC HEAT	H	0 VA	1.25	0.00								
ELECTRICAL MISC.	M	200 VA	1.00	0.20								
TOTAL ESTIMATED LOAD		6860 VA		8.48		35						

MOUNTING:		SURFACE		PANEL "LCC13"		120/240V-1PH-3W			
FEEDER:		TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP228.57WB		Minimum A.I.C. = 10,000 AMPS			
				BRANCH BREAKER		100 AMPS MAIN LUGS ONLY			
CD DESCRIPTION		P	Size	Ckt#	LEFT PHASE LOAD		RIGHT PHASE LOAD		CD
L Chain Station MP228WB	1	30	1	540			900		L
L Chain Station MP228WB	1	30	3		540		900		L
L Chain Station MP228WB	1	30	5	900			180		L
L Chain Station MP228WB	1	30	7		1080		180		L
SPARE	1	30	9						L
Space Only									
Space Only							200		M
Space Only							180		R
					1440	1620	1280	1260	
					2720	2880	Total Connected VA		
					5600		Total Connected VA all (3) Phases		
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS			
LIGHTING	L		5220 VA	1.25	6.53				
RECEPTACLES (1ST 10000)	R		180 VA	1.00	0.18		180 VA=Total Receptacle Load		
RECEPTACLES (REMAINING)	R		VA	0.50	0.00				
MOTOR (LARGEST)	ML		0 VA	1.25	0.00				
MOTORS (REMAINING)	MR		0 VA	1.00	0.00				
ELECTRIC HEAT	H		0 VA	1.25	0.00				
ELECTRICAL MSC.	M		200 VA	1.00	0.20				
TOTAL ESTIMATED LOAD			5600 VA		6.91	29			

MOUNTING:		SURFACE		PANEL "LCC14"		120/240V-1PH-3W			
FEEDER:		TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP228.85WB		Minimum A.I.C. = 10,000 AMPS			
				BRANCH BREAKER		100 AMPS MAIN LUGS ONLY			
CD DESCRIPTION		P	Size	Ckt#	LEFT PHASE LOAD		RIGHT PHASE LOAD		CD
L Chain Station MP228WB	1	30	1	900			540		L
L Chain Station MP228WB	1	30	3		900		540		L
L Chain Station MP228WB	1	30	5	900			540		L
SPARE	1	30	7				540		L
Space Only									
Space Only									
Space Only							200		M
Space Only							180		R
					900	900	1280	1260	
					2160	2160	Total Connected VA		
					4340		Total Connected VA all (3) Phases		
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS			
LIGHTING	L		3960 VA	1.25	4.95				
RECEPTACLES (1ST 10000)	R		180 VA	1.00	0.18		180 VA=Total Receptacle Load		
RECEPTACLES (REMAINING)	R		VA	0.50	0.00				
MOTOR (LARGEST)	ML		0 VA	1.25	0.00				
MOTORS (REMAINING)	MR		0 VA	1.00	0.00				
ELECTRIC HEAT	H		0 VA	1.25	0.00				
ELECTRICAL MSC.	M		200 VA	1.00	0.20				
TOTAL ESTIMATED LOAD			4340 VA		5.33	22			

MOUNTING:		SURFACE		PANEL "LCC15"		120/240V-1PH-3W			
FEEDER:		TOP		NEMA 3R DISCONNECT ON BACK OF NEMA 4 ENCLOSURE @ MP241.77EB		Minimum A.I.C. = 14,000 AMPS			
				BRANCH FUSES		30 AMPS MAIN BREAKER			
CD DESCRIPTION		P	Size	Ckt#	Main PHASE LOAD		Additional PHASE LOAD		CD
L Chain Station MP241EB	1	FRS15	1	1080					
L Chain Station MP241EB	1	FRS15	3		1080				
L Chain Station MP241EB	1	FRS15	5			1080		280	M/R
					1080	1080	1080	0	280
					1080	1080	1350	Total Connected VA	
					3520		Total Connected VA all (3) Phases		
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS			
LIGHTING	L		3240 VA	1.25	4.05				
RECEPTACLES (1ST 10000)	R		180 VA	1.00	0.18		180 VA=Total Receptacle Load		
RECEPTACLES (REMAINING)	R		VA	0.50	0.00				
MOTOR (LARGEST)	ML		0 VA	1.25	0.00				
MOTORS (REMAINING)	MR		0 VA	1.00	0.00				
ELECTRIC HEAT	H		0 VA	1.25	0.00				
ELECTRICAL MSC.	M		100 VA	1.00	0.10				
TOTAL ESTIMATED LOAD			3520 VA		4.33	5			

MOUNTING:		SURFACE		PANEL "LCC16"		120/240V-1PH-3W			
FEEDER:		TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP250.28EB		Minimum A.I.C. = 10,000 AMPS			
				BRANCH BREAKER		100 AMPS MAIN LUGS ONLY			
CD DESCRIPTION		P	Size	Ckt#	LEFT PHASE LOAD		RIGHT PHASE LOAD		CD
L Chain Station MP251EB	1	30	1	900					
L Chain Station MP251EB	1	30	3		900				
Space Only							200		M
M Fiber Optic Transceiver	1	15	7		100		180		R
					900	1000	200	180	
					1100	1180	Total Connected VA		
					2280		Total Connected VA all (3) Phases		
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS			
LIGHTING	L		1800 VA	1.25	2.25				
RECEPTACLES (1ST 10000)	R		180 VA	1.00	0.18		180 VA=Total Receptacle Load		
RECEPTACLES (REMAINING)	R		VA	0.50	0.00				
MOTOR (LARGEST)	ML		0 VA	1.25	0.00				
MOTORS (REMAINING)	MR		0 VA	1.00	0.00				
ELECTRIC HEAT	H		0 VA	1.25	0.00				
ELECTRICAL MSC.	M		300 VA	1.00	0.30				
TOTAL ESTIMATED LOAD			2280 VA		2.73	11			

MOUNTING:		SURFACE		PANEL "LCC17"		120/240V-1PH-3W			
FEEDER:		TOP		NEMA 1 PANEL INSIDE NEMA 4 ENCLOSURE @ MP253.3WB		Minimum A.I.C. = 10,000 AMPS			
				BRANCH BREAKER		100 AMPS MAIN LUGS ONLY			
CD DESCRIPTION		P	Size	Ckt#	LEFT PHASE LOAD		RIGHT PHASE LOAD		CD
L Chain Station MP254WB	1	30	1	900			1080		L
L Chain Station MP254WB	1	30	3		900		1080		L
SPARE	1	30	5						L
Space Only									
Space Only							200		M
Space Only							180		R
					900	900	1280	1280	
					2160	2160	Total Connected VA		
					4340		Total Connected VA all (3) Phases		
LOAD		CD	CONNECTED	D.FACT.	Est. KVA	AMPS			
LIGHTING	L		3960 VA	1.25	4.95				
RECEPTACLES (1ST 10000)	R		180 VA	1.00	0.18		180 VA=Total Receptacle Load		
RECEPTACLES (REMAINING)	R		VA	0.50	0.00				
MOTOR (LARGEST)	ML		0 VA	1.25	0.00				
MOTORS (REMAINING)	MR		0 VA	1.00	0.00				
ELECTRIC HEAT	H		0 VA	1.25	0.00				
ELECTRICAL MSC.	M		200 VA	1.00	0.20				
TOTAL ESTIMATED LOAD			4340 VA		5.33	22			

PRELIMINARY

CLANTON & ASSOCIATES LIGHTING DESIGN AND ENGINEERING
 4599 BAULTZ AVENUE COURT SOUTH STE. 102
 BOULDER, CO 80501
 303-535-1229

Computer File Information	
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Last Modification Date: March 25, 2008	Initials: JE
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Scale: REFER TO BAR SCALE	Units: ENGLISH

Index of Revisions	

Region 1
 18500 East Colfax
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DOT
 DEPARTMENT OF TRANSPORTATION

REGION I DW

PBSJ
 4601 DTC Blvd.
 Suite 700
 Denver, CO 80237
 Phone: (303) 221-7275
 Fax: (303) 221-7276

As Constructed	
No. Revisions:	
Revised:	
Void:	

LIGHTING PLAN PANEL SCHEDULES (3 of 3)			
Designer:	GF	Structure	
Detailer:	JE	Numbers	
Sheet Subset:	LE	Subset Sheets:	35 OF 35

Project No./Code	
IM 070A-003	
16701	
Sheet Number:	60

1. STORMWATER MANAGEMENT CONTROLS FIRST CONSTRUCTION ACTIVITIES:

THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

A. POTENTIAL POLLUTANT SOURCES

Evaluate, identify and describe all potential sources of pollutants at the site in accordance with subsection 107.25 and place any BMP's required to contain potential pollutants.

B. BEST MANAGEMENT PRACTICES (BMPs) FOR STORMWATER POLLUTION PREVENTION

EROSION LOGS

Erosion logs are used to capture and filter sediment laden run-off from disturbed areas during construction. Place in areas directed by the engineer.

Place logs at existing inlets adjacent to where trenching or boring operations may be occurring.

Place in ditches to prevent excavated materials from entering culverts or wetlands. Also place to prevent bore water running down slopes or ditches and causing erosion.

C. OFFSITE DRAINAGE (RUN ON WATER)

1. Place BMP's to address run-on water in accordance with subsection 208.03

D. PERIMETER CONTROL

1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters.
2. Perimeter control may consist of vegetative buffers, berms, silt fence, erosion logs, existing landforms, or other BMPs as approved.
3. Perimeter control shall be in accordance with subsection 208.04.

2. DURING CONSTRUCTION

RESPONSIBILITIES OF THE SWMP ADMINISTRATOR/EROSION CONTROL SUPERVISOR DURING CONSTRUCTION

The SWMP should be considered a "living document" that is continuously reviewed and modified. During construction, the following items should be added, updated, or amended as needed by the Contractor in accordance with Section 208.

A. MATERIALS HANDLING AND SPILL PREVENTION

B. STOCKPILE MANAGEMENT

C. GRADING AND SLOPE STABILIZATION

D. SURFACE ROUGHENING

E. VEHICLE TRACKING

F. TEMPORARY STABILIZATION

G. CONCRETE WASHOUT

1. Concrete wash out shall not be allowed in the project site.

H. SAW CUTTING

1. Shall be in accordance with subsection 208.04 (g), particles shall be picked up with broom or vacuum as soon as possible, immediately in most cases, after operations.

I. STREET CLEANING

1. Shall be in accordance with subsection 208.04(f)

3. INTERIM AND FINAL STABILIZATION

A. SEEDING PLAN

Soil preparation, soil conditioning or topsoil, seeding (native), mulching (weed free) and mulch tackifier will be required for an estimated 1 acre(s) of disturbed area within the right-of-way limits which are not surfaced. The following types and rates shall be used:

COMMON NAME	BOTANICAL NAME	POUNDS PLS/ACRE
Western Wheatgrass	Pascopyrum smithii "Rosanna"	8.0
Slender Wheatgrass	Elymus trachycaulus ssp. Trachycaulus "Pryor"	8.0
Mountain brome	Bromus marginatus "Bromar"	5.0
Idaho fescue	Festuca idahoensis	2.0
Prairie junegrass	Koeleria macrantha	0.2
Sandberg bluegrass	Poa sandbergii	2.0
Blue grama	Bouteloua gracilis "Hachita"	1.0
Sheep fescue	Festuca ovina "Covar"	2.0
Blue flax	Linum lewisii	0.5
Sulfur flower	Eriogonum umbellatum	0.3
Rocky Mtn Penstemon	Penstemon Strictus	1.0
Golden banner	Thermopsis montanus	0.3
TOTAL		30.3

B. SEEDING APPLICATION:

Drill seed 0.25 inch to 0.5 inch into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25 inch to 0.5 inch into the soil.

C. MULCHING APPLICATION:

Apply 1 #tons of certified weed free hay per acre mechanically crimped into the soil in combination with an organic mulch tackifier.

D. SPECIAL REQUIREMENTS:

Due to high failure rates, hydromulching and/or hydroseeding will not be allowed.

E. SOIL CONDITIONING AND FERTILIZER REQUIREMENTS:

1. Fertilizer will not be required on the project.

4. PRIOR TO FINAL ACCEPTANCE

A. Final Acceptance shall be in accordance with subsection 208.061.

5. TABULATION OF STORMWATER QUANTITIES

Pay Item	Description	Unit	Quantity
208	Erosion Log (12 Inch)	LF	3320
208	Concrete Washout Structure	EA	3
212	Seeding (Native)	Acre	1.65
212	Soil Conditioning	Acre	1.65
213	Mulching (Weed Free Hay)	Acre	1.65
213	Mulch Tackifier	LB	330
700	Erosion Control	FA	1

1. All other items described as part of the SWMP and special provision 101, 107.25, 208 shall be paid for by force account.

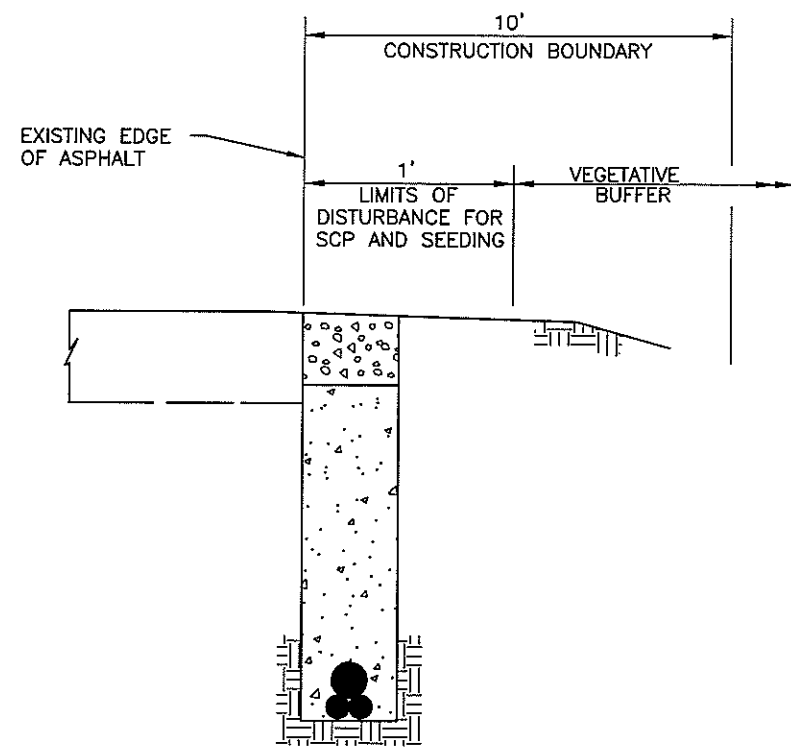
2. It is estimated the 1 "urban" concrete washout structures will be required on the project. Concrete washout shall not be paid for separately.

Computer File Information		Index of Revisions		As Constructed		STORMWATER MANAGEMENT PLAN		Project No./Code	
Creation Date: 02/18/08	Initials: SRB			No. Revisions:		IM 070A-003		16701	
Last Modification Date: 03/25/08	Initials: SRB			Revised:		Designer: SRB	Structure Numbers	16701	
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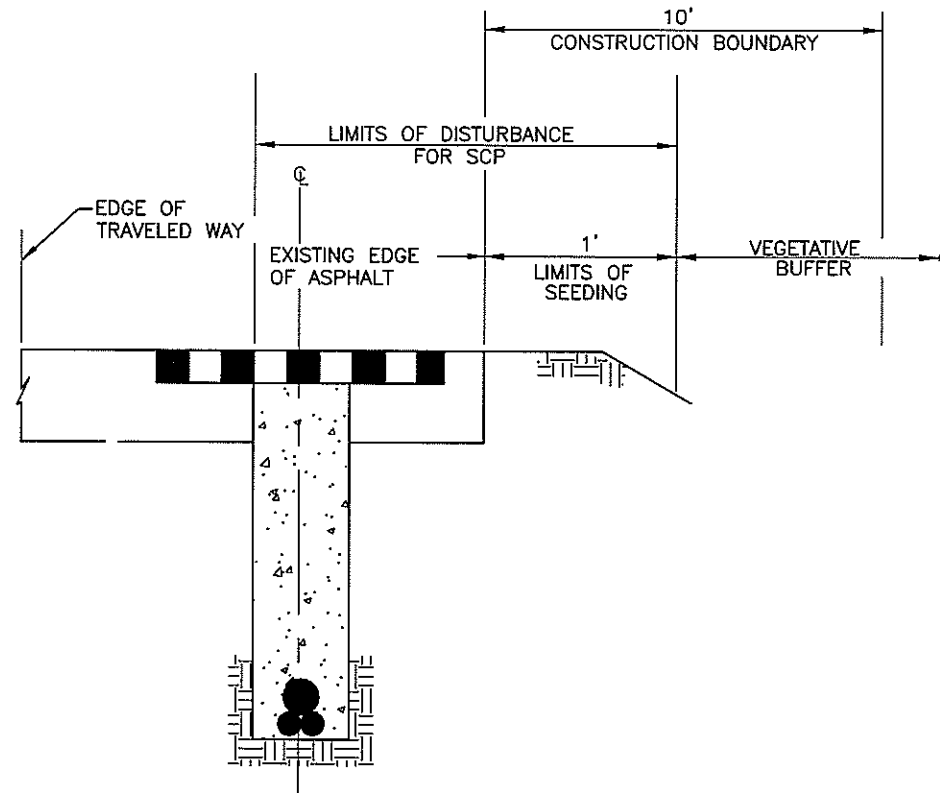


REGION I DW

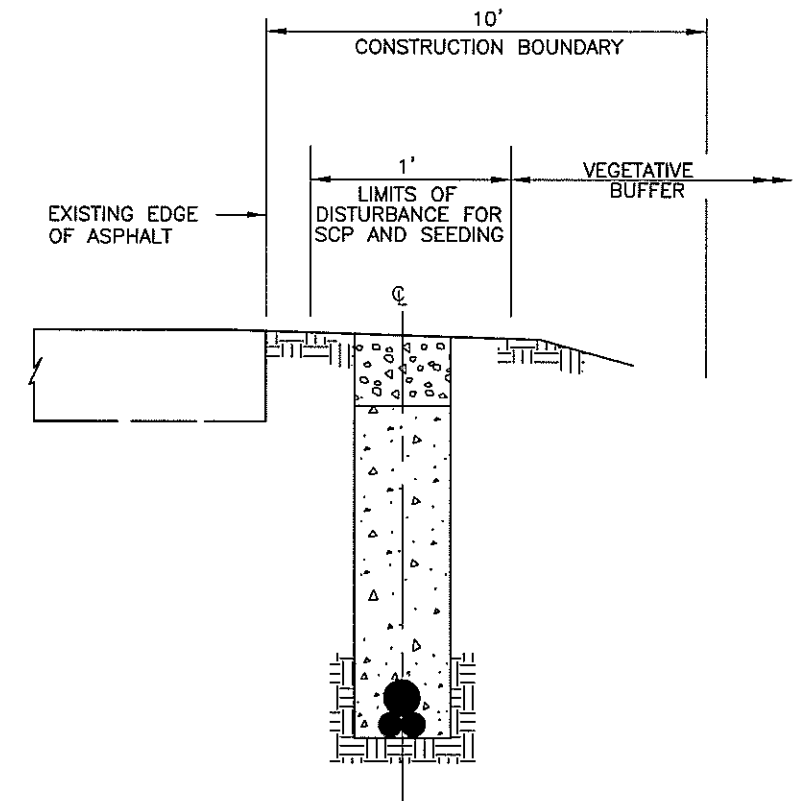
4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276



TRENCH ADJACENT TO SHOULDER





TRENCH INSIDE SHOULDER

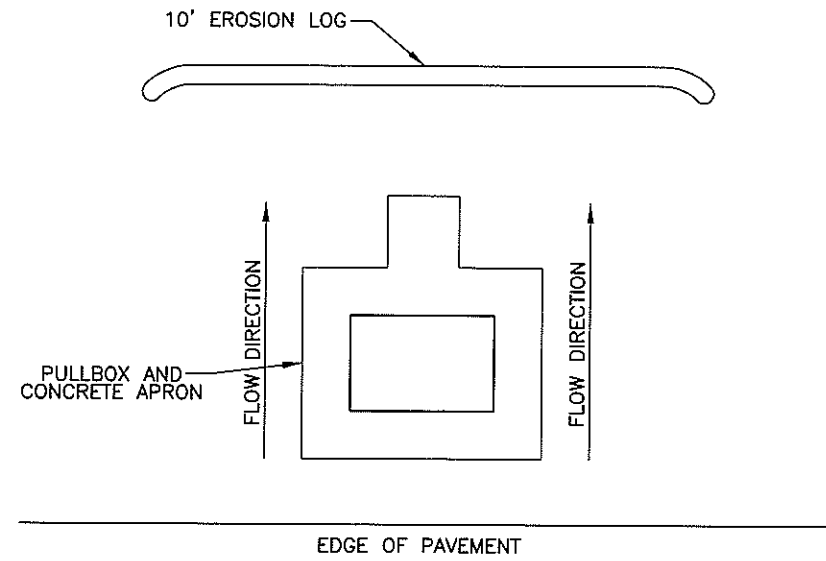


TRENCH OUTSIDE SHOULDER

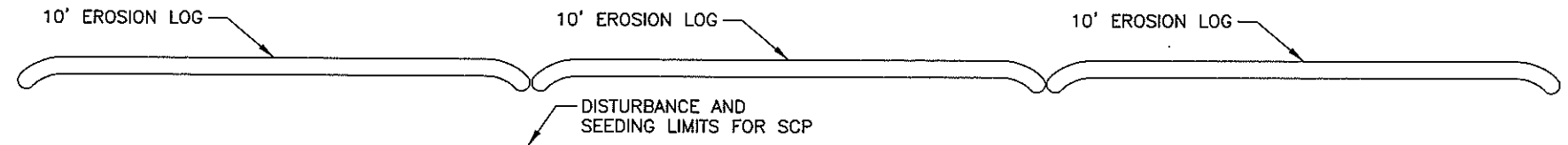
TYPICAL SECTIONS

NOTE:
SCP = STORMWATER CONSTRUCTION PERMIT

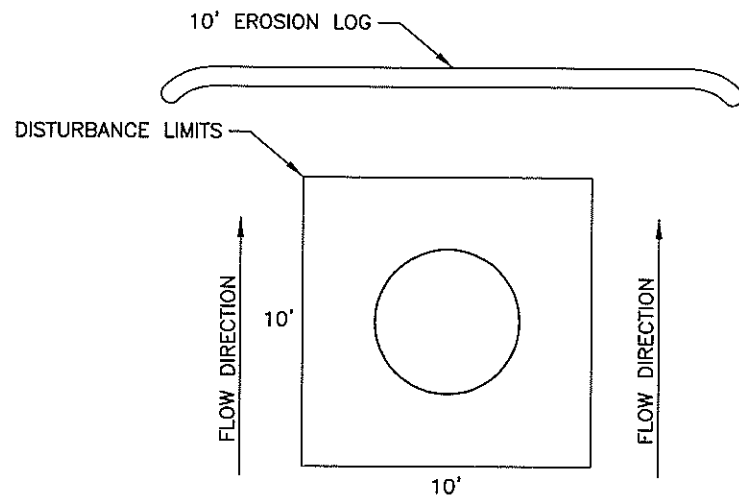
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PULLBOX





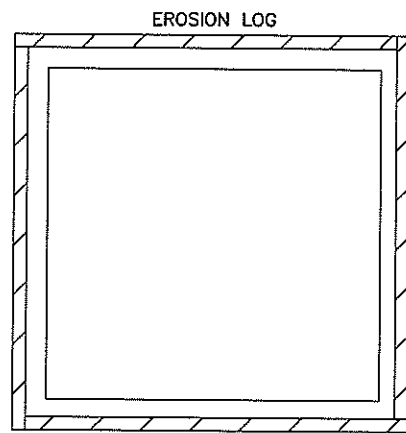
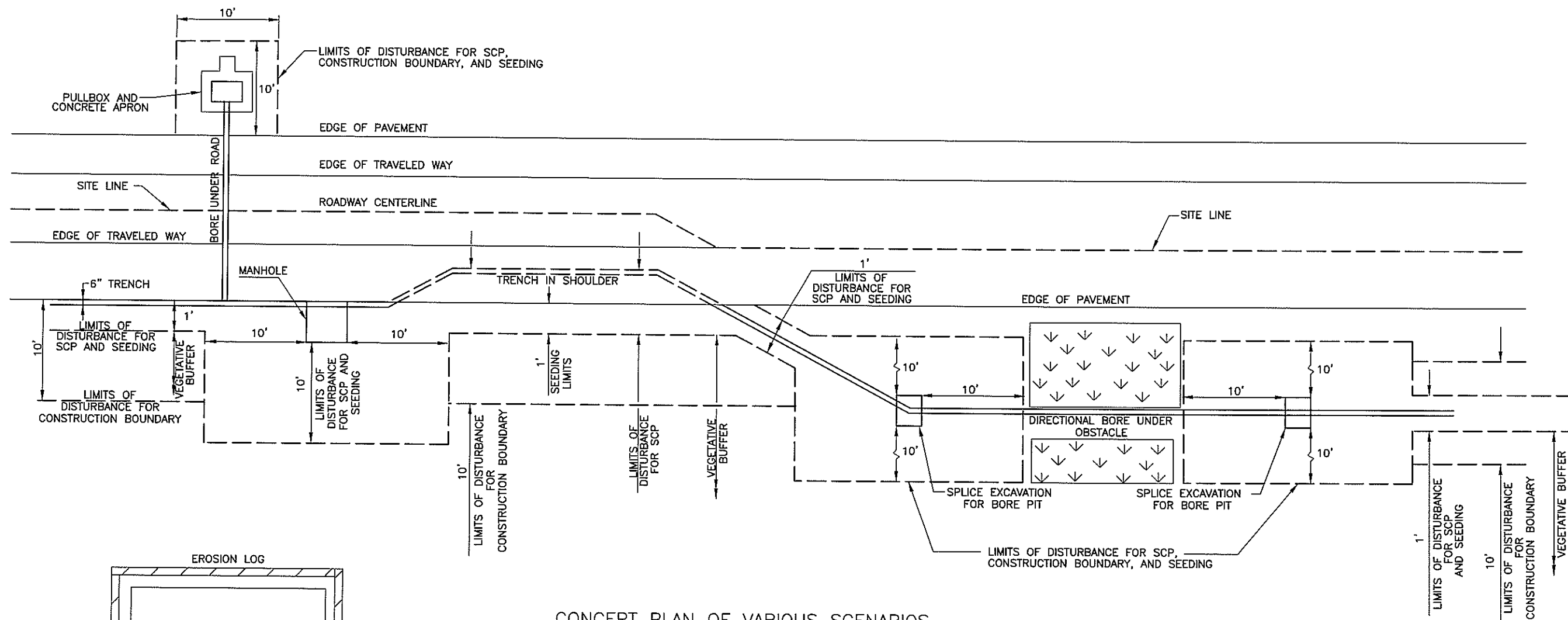
BORING SPLICE EXCAVATION



LIGHT FOUNDATION

NOTE: EROSION LOGS SHALL BE PLACED DOWNSTREAM OF DISTURBED AREAS TO CAPTURE ANY SEDIMENT IN RUNOFF.



Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		STORMWATER MANAGEMENT PLAN EROSION LOG DETAIL		Project No./Code	
Creation Date: 02/18/08	Initials: SRB							No. Revisions:		Designer: SRB	
Last Modification Date: 03/25/08	Initials: SRB					Revised:		Detailer: SRB		16701	
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Drawing File Name: swmp03.dgn	Units: ENGLISH									Sheet Number: 63	
Scale:					REGION I DW						



CONCEPT PLAN OF VARIOUS SCENARIOS

NOTE:
SCP = STORMWATER CONSTRUCTION PERMIT

BORE PIT CONTAINMENT POND

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Culvert Size, Location, and Type

Culvert Size	Culvert Type	M.P. Reference	Sheet Number	Water of the U.S.
10'	Box Culvert	200		North Tenmile Creek
24"	CMP	200		
18"	CMP	199		Tenmile Creek
18"	CMP	199		Tenmile Creek
18"	CMP	199		Tenmile Creek
24"	Concrete	199		Tenmile Creek
(2) 18"	Plastic	199		
36"	CMP	196		
24"	Concrete	196		
24"	CMP	195		
18"	CMP	194		
18"	CMP	194		
18"	CMP	194		
12"	CMP	193		West Tenmile Creek
12"	CMP	193		West Tenmile Creek
18"	CMP	193		West Tenmile Creek / Guller Gulch
24"	CMP	193		West Tenmile Creek / Guller Gulch
12"	Concrete	193		West Tenmile Creek / Guller Gulch
12"	CMP	193		West Tenmile Creek
36"	CMP	193		West Tenmile Creek
36"	CMP	192		West Tenmile Creek
24"	CMP	192		West Tenmile Creek
24"	CMP	192		
24"	CMP	192		
12"	CMP	192		West Tenmile Creek / Stafford Creek
12"	Concrete	192		West Tenmile Creek
36"	Concrete	192		
36"	CMP	191		West Tenmile Creek
36"	CMP	191		West Tenmile Creek
36"	Concrete	191		West Tenmile Creek
18"	Concrete	191		
12"	Concrete	191		West Tenmile Creek / Wilder Gulch
12"	Concrete	190		West Tenmile Creek / Wilder Gulch
12"	CMP	190		West Tenmile Creek
12"	Concrete	190		
12"	Concrete	190		
24"	CMP	190		
36"	Plastic	188		
12"	Concrete	188		
12"	Concrete	188		

Culvert Size	Culvert Type	M.P. Reference	Sheet Number	Water of the U.S.
24"	CMP	188		
24"	Concrete	188		
24"	CMP	187		
24"	CMP	187		
24"	Concrete	186		
12"	Concrete	186		
12"	Plastic	185		
24"	CMP	185		
12"	Concrete	182		Gore Creek
12"	Concrete	181		
24"	Concrete	181		
24"	Concrete	181		
12"	Concrete	181		
12"	Concrete	181		
10'	Box Culvert	180		Bighorn Creek
24"	Concrete	180		Pitkin Creek
24"	Concrete	179		
24"	Concrete	179		
18"	Concrete	179		Unnamed (M.P. 183)
36"	Concrete	178		
24"	Concrete	178		
24"	Concrete	177		
18"	Concrete	177		
18"	CMP	177		
24"	Concrete	177		
24"	Concrete	177		

NOTE:

THIS TABLE SHOWS CULVERT SIZE, TYPE, SHEET REFERENCE AND MILEPOST LOCATIONS. INFORMATION SHOWN IN THE TABLE ABOVE IS APPROXIMATE ONLY.

Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		STORMWATER MANAGEMENT PLAN		Project No./Code			
Creation Date: 02/18/08		Initials: SRB				No. Revisions: Revised: Void:		CULVERT TABLE		Designer: SRB Detailer: SRB Sheet Subset: swmp04		IM 070A-003	
Last Modification Date: 03/25/08		Initials: SRB						Structure Numbers				16701	
Full Path: S:\Tranproj\100000508\16701\Consultants\Plot_Sets\FOR		Initials: SRB						Subset Sheets: 5 of 5				Sheet Number: 65	
Drawing File Name: swmp05.dgn		Units: ENGLISH		REGION I DW									

TABULATION OF TRAFFIC ENGINEERING ITEMS

SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES

ITEM NO.	ITEM	UNIT	PROJECT TOTALS
202	REMOVAL OF GROUND SIGN	EACH	2
202	REMOVAL OF SIGN PANEL	EACH	1
614	SIGN PANEL (CLASS II)	SQ FT	225.5
614	SIGN PANEL (CLASS III)	SQ FT	60
614	STEEL SIGN POST (W6x12)	LIN FT	57
614	STEEL SIGN POST (W8x21)	LIN FT	65
614	STEEL SIGN SUPPORT (2-1/2 INCH ROUND SCH 80)(POST)	LIN FT	233
614	STEEL SIGN SUPPORT (2-1/2 INCH ROUND SCH 80)(SLIPBASE)	EACD	19
614	CONCRETE FOOTING (TY 1)	EACH	4
614	CONCRETE FOOTING (TY 4)	EACH	5
614	BLANKOUT SIGN (FIBER OPTIC)	EACH	5
614	FLASHING BEACON	EACH	4
630	FLAGGING	HOUR	756
630	TRAFFIC CONTROL INSPECTION	DAY	42
630	TRAFFIC CONTROL MANAGEMENT	DAY	105
630	CONST TRAF SIGN (A)	EACH	6
630	CONST TRAF SIGN (B)	EACH	33
630	CONST TRAF SIGN (C)	EACH	26
630	CONST TRAF SIGN (SPECIAL)	SQ FT	94
630	FLASH ARROW PANEL (C TY)	EACH	1
630	PORTABLE MESSAGE SIGN PANEL	EACH	1
630	DRUM CHANNELIZING DEVICE	EACH	50
630	TRAFFIC CONE	EACH	400
630	IMPACT ATTENUATOR (T-M-A)(TEMP)	EACH	1

SIGNS						
SIGN CODE	LEGEND	DIMENSIONS	PANEL SIZE			
			A	B	C	
48W20-1	ROAD/WORK/(DIST)	48"x48"		6		
48W20-7a	FLAGGER SYMBOL	48"x48"		6		
48W20-5()	(_) LANE/CLOSED/(DIST)	48"x48"		2		
48W4-2()	(_)LANE TRANSITION SYMBOL	48"x48"		2		
48W21-5	SHOULDER/WORK	48"x48"		4		
48W21-5b	___/SHOULDER/CLOSED/(DIST)	48"x48"		4		
48R4-1	DO/NOT/PASS	48"x60"				2
48R4-2	PASS/WITH/CARE	48"x60"				2
48R2-1(45)	SPEED/LIMIT/45	48"x60"				4
48R2-1(55)	SPEED/LIMIT/55	48"x60"				4
48R2-1(65)	SPEED/LIMIT/65	48"x60"				2
48R52-6a	BEGIN/FINES/DOUBLE/IN WORK/ZONE	48"x60"				6
48R52-6b	END/FINES/DOUBLE/IN WORK/ZONE	48"x60"				6
48G20-10	(Company Name)/THANKS YOU/(Tel #)	48"x48"		3		
48G20-5	WORK ZONE	48"x12"	6			
48R2-6	FINES/DOUBLE	48"x48"		6		
SIGN TOTALS			6	33	26	
OTHER DEVICES						
ITEM / UNIT						QUANTITY
DRUM CHANNELIZING DEVICE / EA						50
TRAFFIC CONE 36" / EA						400
FLASHING ARROW PANEL (C TY) / EA						1
PORTABLE MESSAGE SIGN PANEL / EA						1
IMPACT ATTENUATOR (T-M-A)(TEMP) / EA						1

CONSTRUCTION TRAFFIC SIGN (SPECIAL)		
LEGEND	DIMENSIONS	SQ. FT.
USE BOTH/LANES DURING/CONGESTIONS	1 - 7'x4'	28.00
USE BOTH/LANES TO/MERGE POINT	4 - 3'x3.5'	42.00
TAKE/TURNS/MERGE/HERE	2 - 3'x4'	24.00
SIGN TOTALS		94.00


NOTES:

- SEE S-630-1 OF THE COLORADO STANDARD PLANS FOR BASIC PLACEMENT DETAILS OF CONSTRUCTION TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR WILL BE REQUIRED TO COVER EXISTING SIGNS WHICH CONFLICT WITH CONSTRUCTION SIGNS AS REQUIRED IN SECTION 630.11 OF THE STANDARD SPECIFICATIONS.
- QUANTITIES SHOWN ON THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES WERE BASED ON (1) SET-UP OF LANE CLOSURE ON A FOUR LANE DIVIDED HIGHWAY & (2) SET-UP OF SHOULDER CLOSURE.

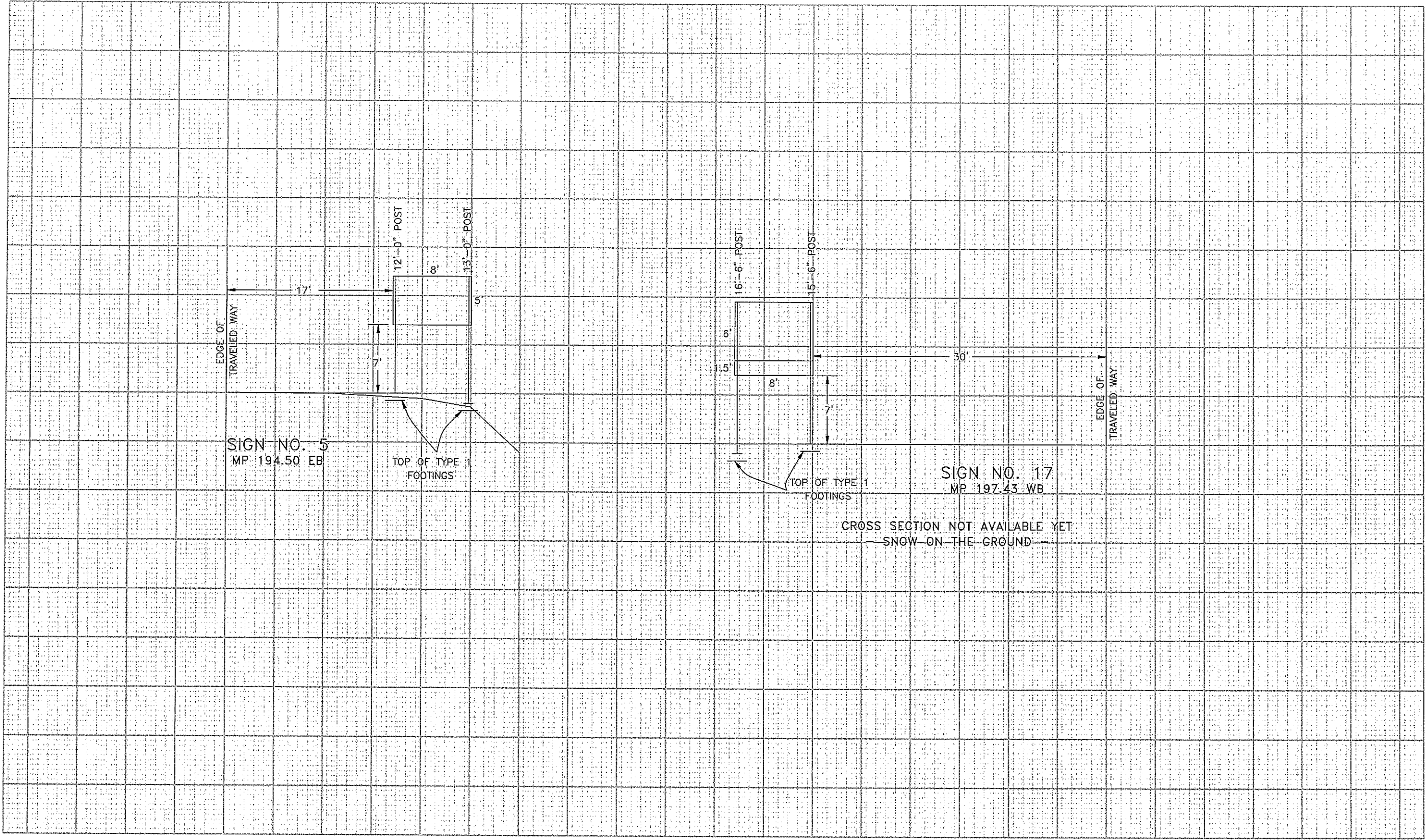
Print Date: 3/20/2008		Sheet Revisions			Colorado Department of Transportation 18500 East Colfax Avenue Aurora, CO 80011 Phone: 303-365-7330 FAX: 303-365-7350 Region 1 CBR	As Constructed		Tabulation of Traffic Engineering Items		Project No./Code	
File Name: 01_16701_Tab of Engineering Items.dgn		Date:	Comments	Init.		No Revisions:	IM 070A-003				
Horiz. Scale: 1:200 Vert. Scale: As Noted						Revised:	Designer: WCD	Structure: -	16701		
Unit Information Unit Leader Initials						Void:	Detailer: WCD	Numbers: -	Sheet Subset: Traffic	Subset Sheets: 1 of 11	Sheet Number: 66 -

SIGN NO.	SIGN CODE	LOCATION	SIGN PANEL SIZE	BACK-GROUND COLOR	REMOVE SIGN PANEL (EACH)	REMOVE GROUND SIGN (EACH)	RESET GROUND SIGN (EACH)	NO. OF POSTS	LENGTH OF POST	STEEL POST (P2) (2.5 IN RD SCH 80)		STEEL POST (W SHAPE) (LIN FT)				CONC FOOTING TYPE (EACH)				SIGN PANEL (SQ FT)			VAR. SP. LIMIT SIGN (EACH)	FLASHING BEACON (EACH)	COMMENTS							
										POST (LIN FT)	SLIPBASE (EACH)	W6x12	W6x15	W8x18	W8x21	1	2	3	4	CLASS I	CLASS II	CLASS III										
MP 184 EB CHAIN STATION																																
1	SPECIAL	MP 183.85 EB	4'x5'	WHITE				1	13'														1		SEE NOTE 1							
2	SPECIAL	MP 184.10 EB	4'x3'	YELLOW				2	11'	22.0	2														12.00							
3	SPECIAL	MP 184.28 MED	5'x5'	WHITE				2	13'	26.0	2															25.00						
MP 195 EB CHAIN STATION																																
4	INTENTIONALLY LEFT BLANK																															
5	SPECIAL	MP 194.50 EB	8'x5'	YELLOW				2	12'/13'			25.0														40.00						
6	SPECIAL	MP 195.50 EB	4'x5'	WHITE				1	13'																							
7	SPECIAL	MP 195.56 EB	4'x3'	YELLOW	1			2	11'	11.0	1															12.00						
8		MP 195.85 EB				1																										
9	48R2-1(65)	MP 196.18 MED	4'x5'	WHITE				2	13'	26.0	2															20.00						
10	48R2-1(65)	MP 196.20 EB	4'x5'	WHITE				2	13'	26.0	2															20.00						
MP 197 WB CHAIN STATION																																
11	INTENTIONALLY LEFT BLANK																															
12	SPECIAL	MP 195.88 WB	5'x5'	WHITE				2	13'	26.0	2															25.00						
13	SPECIAL	MP 196.45 WB	4'x3'	YELLOW				2	11'	22.0	2															12.00						
14	SPECIAL	MP 197.00 WB	5'x4.5'	YELLOW				2	13'	26.0	2															22.50						
15		MP 197.14 WB				1																										
16	SPECIAL	MP 197.15 WB	4'x5'	WHITE				1	13'																							
17a	SPECIAL	MP 197.43 WB	8'x6'	WHITE/YEL	}			2	16'-6"/15'-6"			32.0														48.00						
17b	SPECIAL		8'x1.5'	WHITE																								12.00				
MP 219 & 221 WB CHAIN STATIONS																																
18	INTENTIONALLY LEFT BLANK																															
19	SPECIAL	MP 219.15 WB	5'x5'	WHITE				2	13'	26.0	2															25.00						
20	SPECIAL	MP 219.52 WB	4'x3'	YELLOW				2	11'	22.0	2															12.00						
21	SPECIAL	MP 219.90 WB	4'x5'	WHITE				1	13'																	13.00						
22	SPECIAL	MP 221.10 WB	4'x5'	WHITE				1	13'																	13.00						
PROJECT TOTAL:					1	2				233	19	57														65	4	5	225.5	60.00	5	4

NOTE:
1. ALL BLANKOUT SIGN (FIBER OPTIC) ARE TO BE INSTALLED WITH A MULTI-DIRECTIONAL ASSEMBLY.
SEE PROJECT PLAN SHEETS FOR DETAIL.


Computer File Information		Index of Revisions		Colorado Department of Transportation		As Constructed		Tabulation of Signs		Project No./Code					
Creation Date:	3/30/07	Initials:	WCD												
Last Modification Date:	4/12/07	Initials:	WCD												
Full Path:	\PROJECTS\I-70 Chain Up														
Drawing File Name:	ChainUp_Tabulation of Signs.dwg														
Acad Ver:	2004	Scale:	1 IN = 100 FT	Units:	English										
				 DOT DEPARTMENT OF TRANSPORTATION		18500 E. Colfax Avenue Aurora, CO 80011 Phone: (303) 365-7333 FAX: (303) 365-7350		No Revisions: Revised: Void:		Designer: WCD Detailer: WCD Sheet Subset: Traffic		Structure Numbers Subset Sheet Number: 2 of 11		IM 070A-003 16701 Sheet Number 69	
				Region 1 - Traffic		CBR									

04_16701_Cross Sections at Class III Sign Locations.dgn 3/18/2008 4:17:33 PM



Print Date: 3/18/2008
 File Name: 04_16701_Cross Sections at Class III Signs.dgn
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 Unit Information Unit Leader Initials

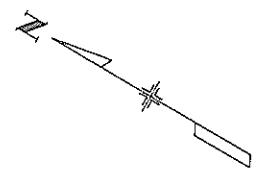
Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

 18500 East Colfax Avenue
 Aurora, CO 80011
 Phone: 303-365-7330 FAX: 303-365-7350
Region 1 **CBR**

As Constructed
 No Revisions:
 Revised:
 Void:

Cross Sections at Class III Sign Locations			
Designer:	WCD	Structure	-
Detailer:	WCD	Numbers	-
Sheet Subset:	Traffic	Subset Sheets:	3 of 11

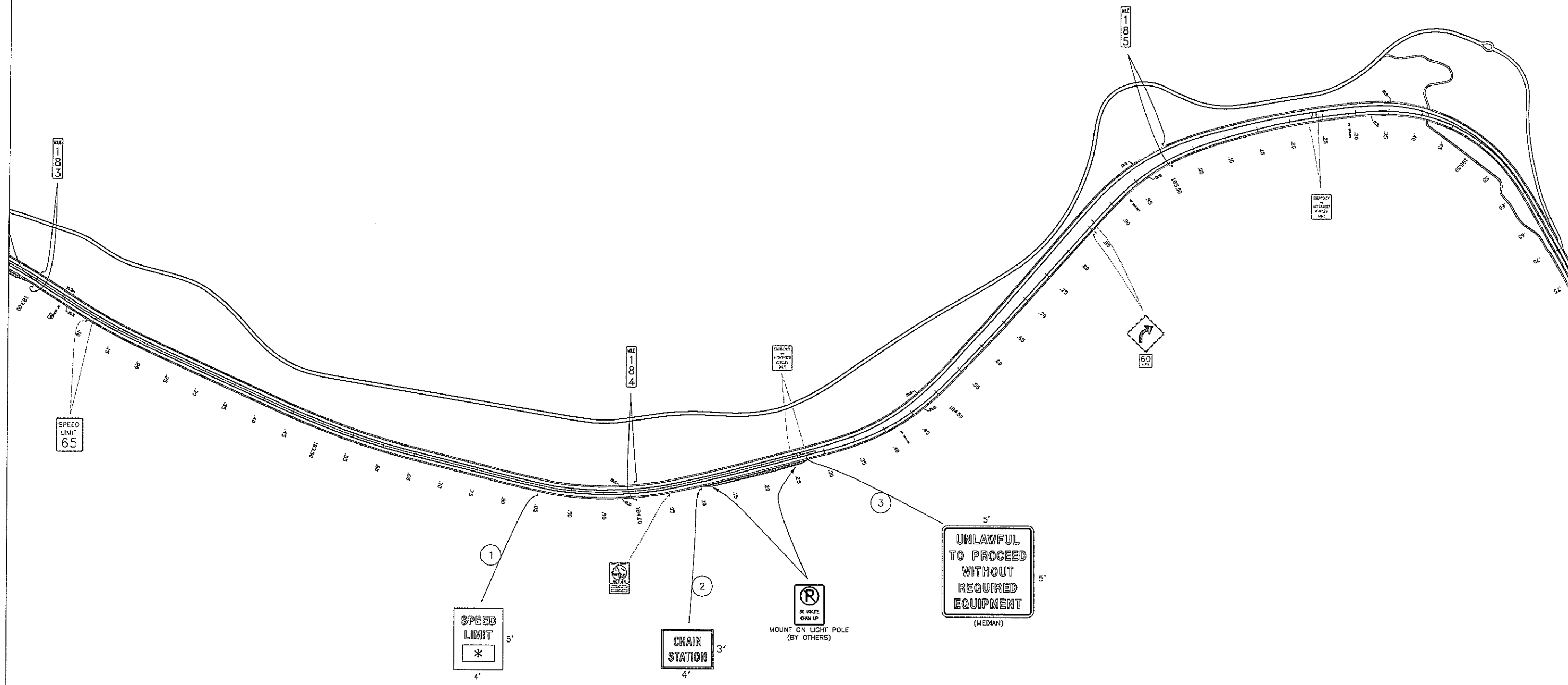
Project No./Code
 IM 070A-003
 16701
 Sheet Number **68**



CHAIN STATION

ALL SIGNS NOT SHOWN ARE TO REMAIN IN PLACE


ALL SIGNS SHOWN WITHOUT ITEM NUMBER ARE FOR INFORMATION ONLY



Computer File Information	
Creation Date:	2/22/07 Initials: WCD
Last Modification Date:	3/18/08 Initials: WCD
Full Path:	PROJECTS\I-70 ChainUp_Phase 2
Drawing File Name:	05-09_I-70Plan180-248_ChainUp.dwg
Acad Ver:	2004
Scale:	1 IN = 100 FT Units: English

Index of Revisions	

Colorado Department of Transportation



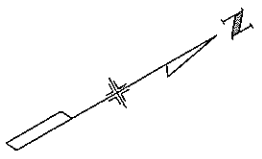
18500 E. Colfax Avenue
Aurora, CO 80011
Phone: (303) 365-7330 FAX: (303) 365-7350

Region 1 - Traffic CBR

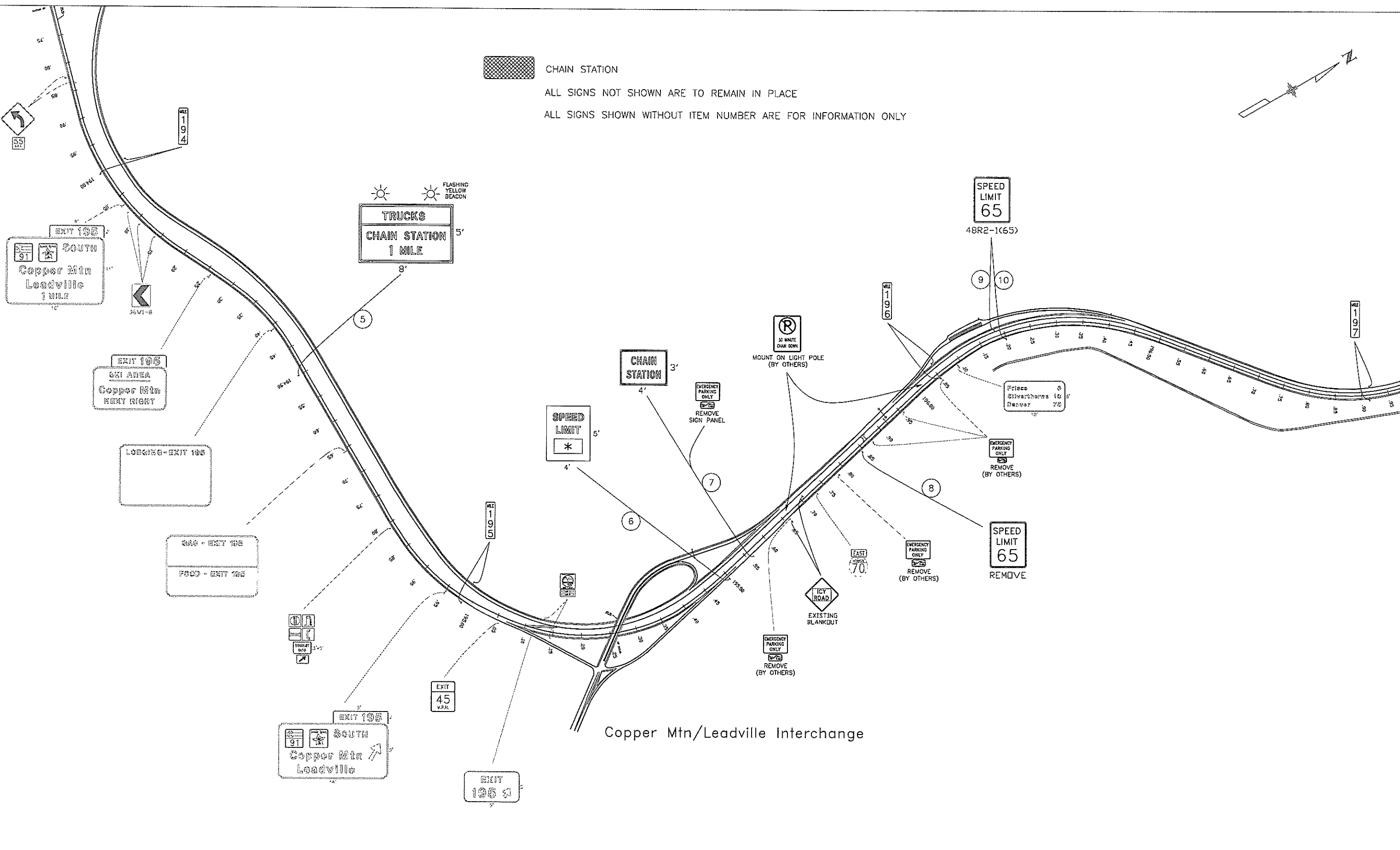
As Constructed
No Revisions:
Revised:
Void:

MP 184 EB Chain Station		
Designer:	WCD	Structure Numbers
Detailer:	WCD	
Sheet Subset:	Traffic	Subset Sheet Number: 4 of 11

Project No./Code
IM 070A-003
16701
Sheet Number : 69




CHAIN STATION
 ALL SIGNS NOT SHOWN ARE TO REMAIN IN PLACE
 ALL SIGNS SHOWN WITHOUT ITEM NUMBER ARE FOR INFORMATION ONLY



Computer File Information	
Creation Date:	2/22/07 Initials: WCD
Last Modification Date:	3/18/08 Initials: WCD
Full Path:	\PROJECTS\I-70 ChainUp_Phase 2
Drawing File Name:	05-09_I-70Plan180-248_ChainUp.dwg
Acad Ver:	2004
Scale:	1 IN = 100 FT Units: English

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Colorado Department of Transportation



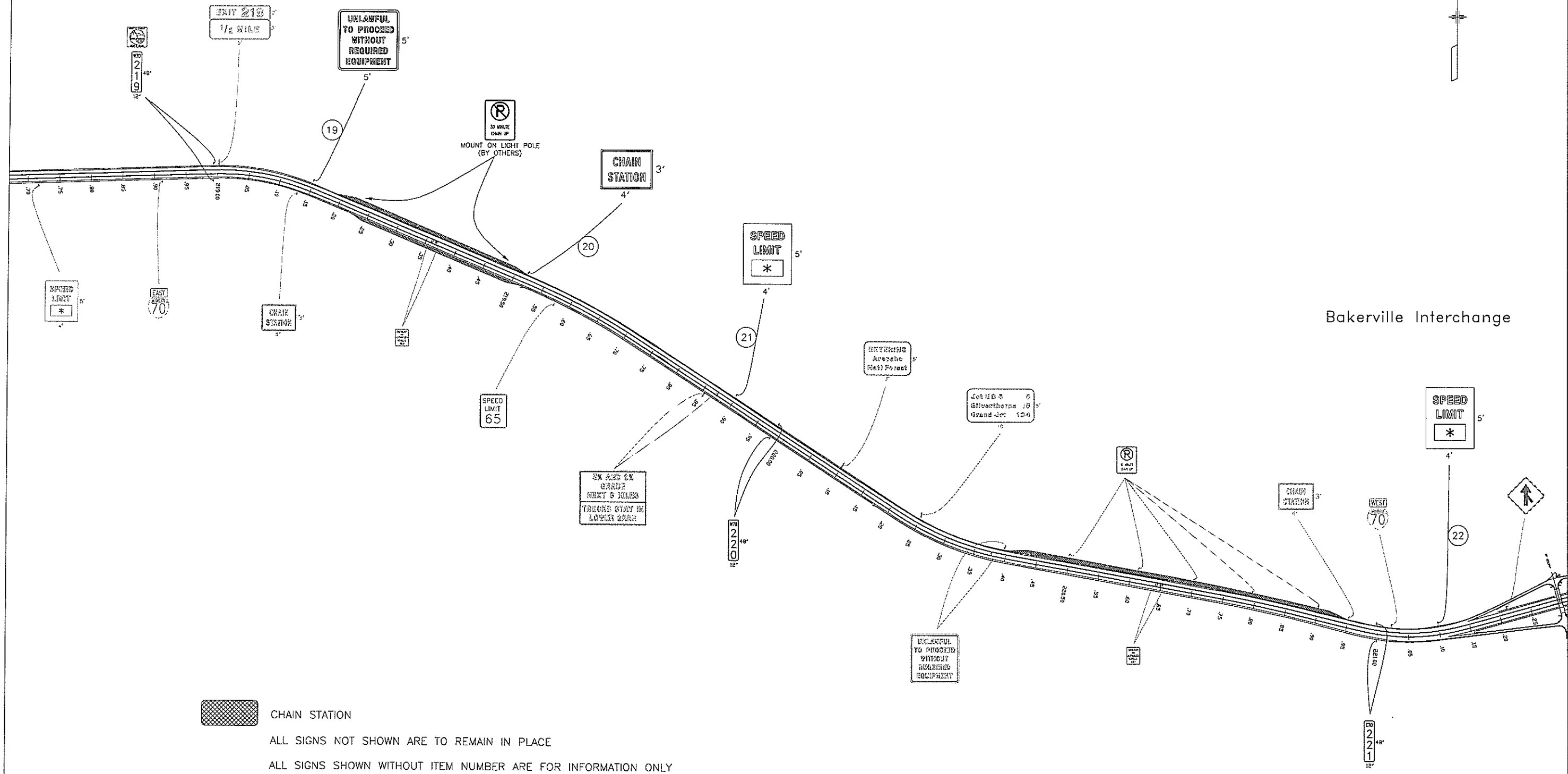
18500 E. Colfax Avenue
 Aurora, CO 80011
 Phone: (303) 365-7330 FAX: (303) 365-7350


Region 1 - Traffic CBR

As Constructed	
No Revisions:	
Revised:	
Void:	

MP 195 EB Chain Station		
Designer:	WCD	Structure Numbers
Detailer:	WCD	
Sheet Subset:	Traffic	Subset Sheet Number: 5 of 11


Project No./Code	
IM 070A-003	
16701	
Sheet Number :	70



 CHAIN STATION
 ALL SIGNS NOT SHOWN ARE TO REMAIN IN PLACE
 ALL SIGNS SHOWN WITHOUT ITEM NUMBER ARE FOR INFORMATION ONLY

Computer File Information	
Creation Date:	2/22/07 Initials: WCD
Last Modification Date:	3/18/08 Initials: WCD
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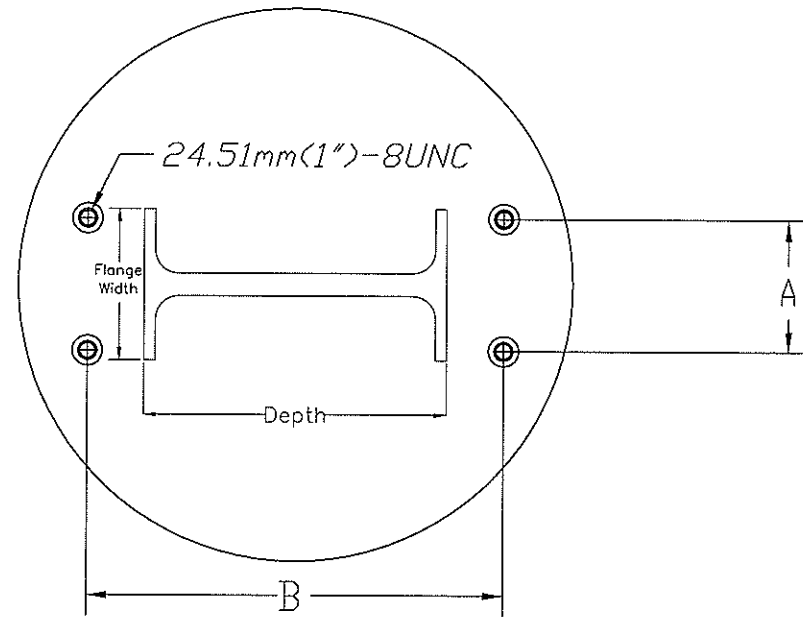
Colorado Department of Transportation
 18500 E. Colfax Avenue
 Aurora, CO 80011
 Phone: (303) 365-7330 FAX: (303) 365-7350
 Region 1 - Traffic CBR

As Constructed
No Revisions:
Revised:
Void:

MP 219 & 221 WB Chain Stations	
Designer:	WCD
Detailer:	WCD
Sheet Subset:	Traffic
Structure Numbers	
Subset Sheet Number:	7 of 11

Project No./Code
IM 070A-003
16701
Sheet Number : 72

PLAN VIEW OF FOOTING



METRIC STEEL SHAPES

SIZE	Depth (mm)	Flange Width (mm)
W310 x 39	310	165
W250 x 39	262	147
W250 x 33	258	146
W200 x 31	210	134
W200 x 27	207	133
W150 x 22	152	152
W150 x 18	153	102

ENGLISH STEEL SHAPES

SIZE	Depth (in)	Flange Width (in)
W12 x 26	12	6 1/2
W10 x 26	10	5 3/4
W10 x 22	10	5 3/4
W8 x 21	8	5 1/4
W8 x 18	8	5 1/4
W6 x 15	6	6
W6 x 12	6	4

A (lateral spacing of anchors)

76.2mm(3") for B-525 used on 152mm(6") & 203mm(8") wide flange posts

101.6mm(4") for B-525 used on 254mm(10"), 305mm(12"), 356mm(14"), 406mm(16"), 457mm(18") & 533mm(21") wide flange posts.

B (longitudinal spacing of anchors)

bracket #1 - depth of post section plus 201.6mm(7 15/16")

bracket #2 - depth of post section plus 204.8mm(8 1/16")


bracket #3 - depth of post section plus 206.8mm(8 1/8")

NOTES:

1. Footing Size:

Type 1 to Type 6 footings shown on S-614-6 require a 150mm(6") increase in in diameter ("D") to accommodate anchors shown on this detail. Horizontal reinforcing hoops will be increased to provide a 50mm(2") clearance from outside the footing. Reinforcing and other structural data remain the same. Type 7 requires no change.

2. A rigid steel template is recommended for anchor installation. The anchor spacing for template is dependent on the size of the required posts and brackets. See "Plan View of Footing" for details.

Computer File Information		Index of Revisions		Colorado Department of Transportation		As Constructed		Multi-Directional Break-Away Detail		Project No./Code	
Creation Date:	1/28/97	Initials:	SJH					For Anchor Installations		IM 070A-003	
Last Modification Date:	1/29/97	Initials:	SJH				No Revisions:				
Full Path:	\STANDARD\						Revised:	Designer:	SJH	Structure Numbers	
Drawing File Name:	MULTI-1.dwg						Void:	Detailer:	SJH		
				 4201 E. Arkansas Denver, CO 80222 Phone: 757-9355 FAX: 757-9219				Sheet Subset: Traffic		Subset Sheet Number: 8 of 11	Sheet Number - 73

BILL OF MATERIALS

ITEM	DESCRIPTION	QTY	POST	PART NO.
1	Bracket	2		SBKS25-1A,-2A,-3A
2	Bracket Hardware Assembly, B525-LP	1		SB-8525LPH
2a	Bolt 12.7mm(1/2")-13UNF-6.35mm(2-1/2"), Hex Head, ASTM A325, Galv. ASTM A153	4		S325R635250
2b	Bolt 12.7mm(1/2")-13UNF-6.85mm(2-3/4"), Hex Head, ASTM A325, Galv. ASTM A153	4		S325R635275
2c	Bolt 12.7mm(1/2")-13UNF-7.62mm(3"), Hex Head, ASTM A325, Galv. ASTM A153	4		S325R635300
2d	Cap Screw 12.7mm(1/2")-13UNF-3.175mm(1-1/4"), Hex Head, ASTM A307, Galv. ASTM A153	4		S3075G5125
2e	Lock Washer 12.7mm(1/2") ANS1 B18-21-1, Galv. ASTM A153	16		S100WGSLS0
2f	Nut 12.7mm(1/2")-13UNC, Heavy Hex, ASTM A563 Gr. DH, Galv. ASTM A153	12		S563NGH500
2g	Shim 24.51mm(1") Horsehoe, 18 Gauge, Galv. Steel Sheet	2		S100WGS118
2h	Shim 24.51mm(1") Horsehoe, 14 Gauge, Galv. Steel Sheet	2		S100WGS114
3	Coupling & Bolt Assembly, LP, Type B	1		SB-CBLP
3a	Special Bolt 24.51mm(1")-BUNC, ASTM A449, Galv. ASTM A153/BB95	4		SBCSBB
3b	Coupling 24.51mm(1")-BUNC, LP, AMS 6378B*, Galv. ASTM A153, Polyester Coat**	4		SBCB1B
4	Hinge Assembly, Type B525	1		SB-HB1
4a	Hinge Plate Type B525, AISI 4130 Steel, Galv. ASTM A123	4		SBHB1B
5	Hinge Hardware Assembly, Type B	1		SB-HHB
5a	Bolt 19.05mm(3/4")-10UNC-57.15mm(2-1/4"), Hex Head, ASTM A325, Galv. ASTM A153	8		S325HG7225
5b	Lock Washer 19.05mm(3/4"), ANS1 B18-21-1, Galv. ASTM A153	8		S100WGS170
5c	Nut 19.05mm(3/4")-10UNC, Heavy Hex, ASTM A563 Gr. DH, Galv. ASTM A153	8		S563NGH700
6	Anchor Assembly, Type B	1		SBABPK
6a	Anchor 24.51mm(1")-BUNC, 304 S.S.Ferrule, AISI 1038 Rod, AISI 1008 Coil	4		SBABP

** 2-4 Mil. Thick Merton Powder Coatings' 20-7037 polyester powder coat.

GENERAL NOTES:

- Meets all requirements of "AASHTO standard specifications for structural supports for highway signs, luminaires and traffic signals".
- All hardware (American Standard) supplied is hot dip galvanized per ASTM A153 or mechanically galvanized per ASTM B695.
- Fasteners, except for special bolt and coupling, are installed with lockwashers or locknuts and do not have specific torque requirements. Fasteners should be made as tight as possible with conventional wrenches unless noted otherwise.
- Square and level individual components to minimize need for shimming.
- Structural steel to be hot dip galvanized per ASTM A123 after fabrication
- No more than two shims underneath any one coupling and no more than three shims underneath any two couplings.
- Select proper post size by referring to post selection tables for medium and large signs
- Refer below for complete installation instructions.

Select correct bracket number from bracket selection table using the proper "L" value as shown in the attached figure.

$$L = L_T - H/2$$

POST WIDTH	BRACKET SELECTION TABLE			
	BRACKET #1	BRACKET #2	BRACKET #3	
	MIN. 'L'	MAX. 'L'	MIN. 'L'	MAX. 'L'
152MM(6")	3.6m(12')	8.8m(29')	2.7m(9')	3.6m(12')
203MM(8")	4.3m(14')	8.8m(29')	3.0m(10')	4.3m(14')
				3.0m(10')

INSTALLATION NOTES

Wrench sizes required: 9/16", 7/8", 1-1/16", 1-1/4", 1-7/16", 1-5/8"

BRACKET ASSEMBLY:

- Assemble bracket to post with bolts provided.
- Square and tighten (Item 1, 2a, 2b, 2c, 2d, 2e & 2f)

ANCHOR ASSEMBLY:

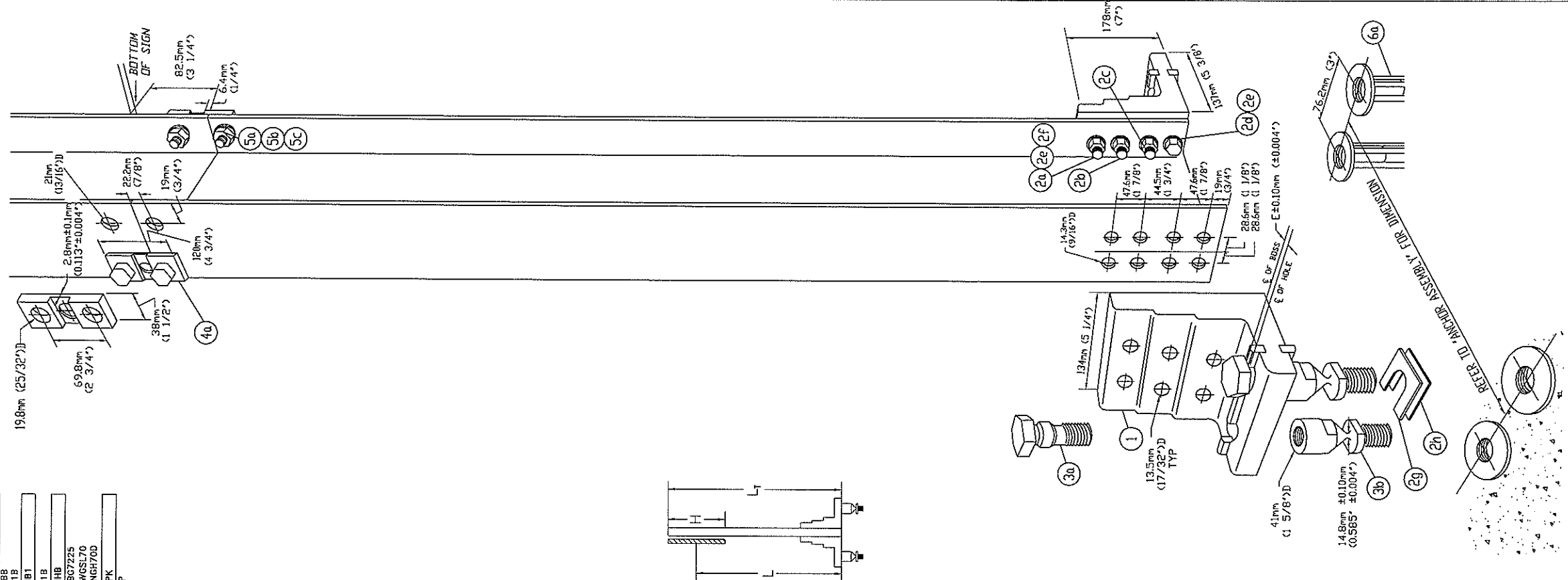
- Assemble coupling anchors 6a to installation template (not shown). Rigid steel template is recommended
- Lower entire anchor assembly into fresh concrete and vibrate into position so that the tops of the individual anchors 6a are flush with the finished top surface of the toolings.

COUPLING ASSEMBLY:

- Suspend post over footing and insert special bolts 3a through bracket 1.
- Below bracket, thread couplings 3b into anchors 6a but leave loose.
- Lower post with special bolts 3a onto loose couplings 3b and thread bolts into couplings.
- Thread couplings all the way in to anchors 6a.
- Tighten special bolts 3a.
- NOTE: do not place torque across necked down portion of coupling-- wrench flats are provided on either side for proper tightening.
- If post is not plumb, insert shims 2g and 2h between couplings 3b and anchor 6a.

HINGE ASSEMBLY:

- Butt upper and lower posts together on flat surface.
- Place hinge plates 4a on outer flanges and secure with bolts 5a, 5b and 5c--snug but do not tighten.
- Make sure upper and lower posts are in alignment; then tighten all nuts 5c to proof load -- 1/2 a turn beyond snug



Computer File Information

Creation Date:	1/28/97	Initials:	SJH
Last Modification Date:	1/28/97	Initials:	SJH
Full Path:	\\STANDARD\		
Drawing File Name:	MULTI-2.dwg		

Index of Revisions

Colorado Department of Transportation

4201 E. Arkansas
Denver, CO 80222
Phone: 757-9355 FAX: 757-9219

Staff Traffic

As Constructed

No Revisions:	
Revised:	
Void:	

Multi-Directional Break-Away Detail

for 152mm(6") and 203mm(8") WF Sign Post

Designer:	SJH	Structure Numbers:	
Detailer:	SJH	Subset Sheet Number:	9 of 11

Project No./Code

IM 070A-003
16701
Sheet Number - 74

BILL OF MATERIALS

ITEM	DESCRIPTION	QTY	PART NO.
1	Bracket	2	SBK650-1A, -2A, -3A
2	Bracket Hardware Assembly, B650-LP	1	SB-B650LPH
2a	Bolt	4	S325B06275
2b	Bolt	4	S325B06300
2c	Bolt	4	S325B06325
2d	Cap Screw	4	S307S05125
2e	Nut	16	S100W0SL60
2f	Shim	2	S565NGRH00
2g	Shim	2	S100W0SH18
2h	Shim	2	S100W0SH14
3	Coupling & Bolt Assembly, LP, Type B	1	SB-CBLP
3a	Special Bolt	4	S6C5BB
3b	Coupling	4	S6C5B1B
4	Hinge Assembly, Type B650	4	SB-HBZ
4a	Hinge Plate	1	SB-HBZ
5	Hinge Hardware Assembly, Type B	4	SB-HHB
5a	Bolt	8	S325B07225
5b	LockWasher	8	S100W0SL70
5c	Nut	8	S565NGH70D
6	Anchor Assembly, Type B	1	SBABPK
6a	Anchor	4	SBABP

* With exception to decarburization and macrostructure clauses.

** 2-4 Mil. Thick Moflon Powder Coatings* 20-7037 polyester powder coat.

GENERAL NOTES:

- 1 Meets all requirements of "AASHTO standard specifications for structural supports for highway signs, luminaires and traffic signals."
- 2 All hardware (American Standard) supplied is hot dip galvanized per ASTM A153 or mechanically galvanized per ASTM B695.
- 3 Fasteners, except for special bolt and coupling, are installed with lockwashers or locknuts and do not have specific torque requirements. Fasteners should be made as tight as possible with conventional wrenches unless noted otherwise.
- 4 Square and level individual components to minimize need for shimming.
- 5 Structural steel to be hot dip galvanized per ASTM A123 after fabrication
- 6 No more than two shims underneath any one coupling and no more than three shims underneath any two couplings.
- 7 Select proper post size by referring to post selection tables for medium and large signs
- 8 Refer below for complete installation instructions.

Select correct bracket number from bracket selection table using the proper "L" value as shown in the attached figure.

$$L = L_T - H/2$$

POST WIDTH	BRACKET SELECTION TABLE					
	BRACKET #1	BRACKET #2	BRACKET #3	BRACKET #4	BRACKET #5	BRACKET #6
	MIN. 'L'	MAX. 'L'	MIN. 'L'	MAX. 'L'	MIN. 'L'	MAX. 'L'
254MM(10")	4.9M(16')	8.8M(29')	3.3M(11')	4.9M(16')	-	3.3M(11')
305MM(12")	5.5M(18')	8.8M(29')	4.0M(13')	5.5M(18')	-	4.0M(13')
356MM(14")	5.8M(19')	8.8M(29')	4.3M(14')	5.8M(19')	-	4.3M(14')
406MM(16")	6.4M(21')	8.8M(29')	4.6M(16')	6.4M(21')	-	4.6M(15')
457MM(18")	7.0M(23')	8.8M(29')	4.9M(16')	7.0M(23')	-	4.9M(16')
533MM(21")	7.6M(25')	8.8M(29')	5.5M(18')	7.6M(26')	-	5.5M(18')

INSTALLATION NOTES

Wrench sizes required: 9/16", 7/8", 1-1/16", 1-1/4", 1-7/16", 1-5/8"

BRACKET ASSEMBLY:

- * Assemble bracket to post with bolts provided.
- * Square and tighten (Item 1, 2a, 2b, 2c, 2d, 2e & 2f)

ANCHOR ASSEMBLY:

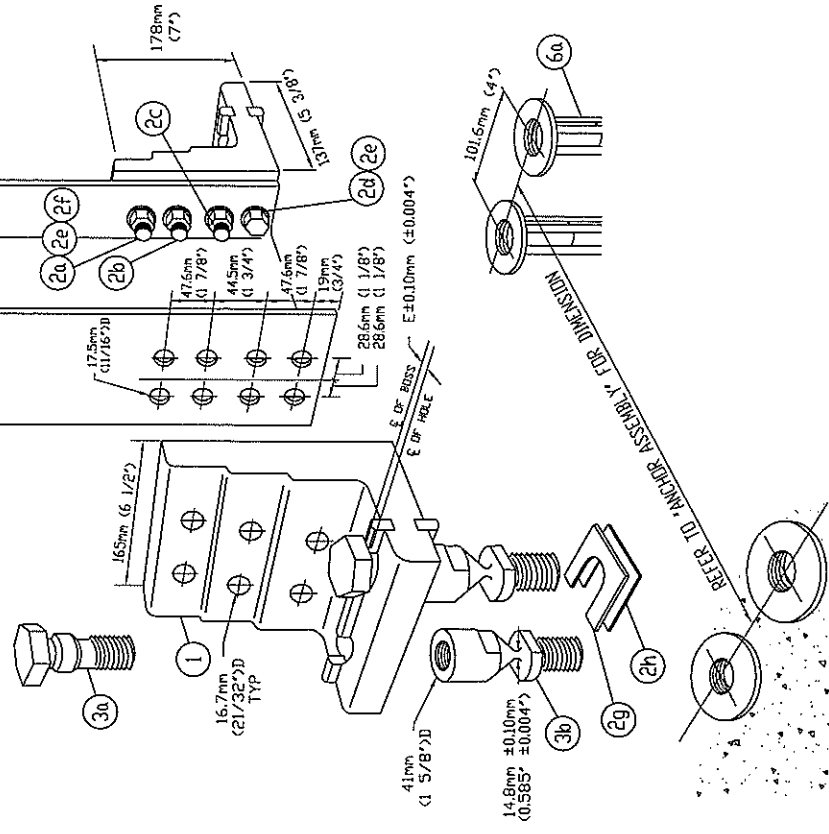
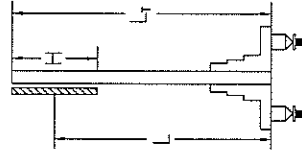
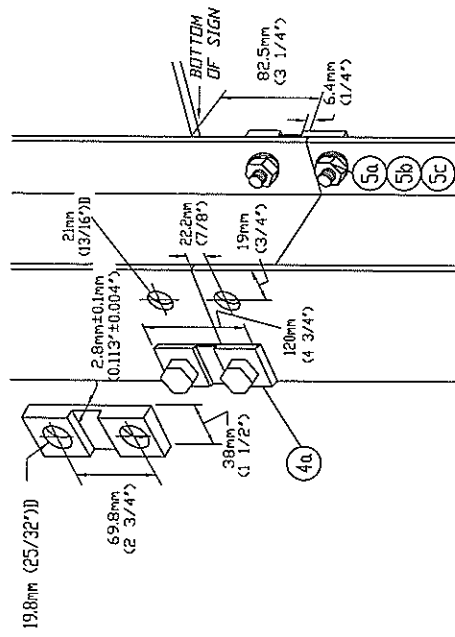
- * Assemble coupling anchors 6a to installation template (not shown). Rigid steel template is recommended
- * Lower entire anchor assembly into fresh concrete and vibrate into position so that the tops of the individual anchors 6a are flush with the finished top surface of the toolings.

COUPLING ASSEMBLY:

- * Suspend post over footing and insert special bolts 3a through bracket 1.
- * Below bracket, thread couplings 3b into anchors 6a but leave loose.
- * Lower post with special bolts 3a onto loose couplings 3b and thread bolts into couplings.
- * Thread couplings all the way in to anchors 6a.
- * Tighten special bolts 3a.
- * NOTE: do not place torque across necked down portion of coupling-- wrench flats are provided on either side for proper tightening.
- * If post is not plumb, insert shims 2g and 2h between couplings 3b and anchor 6a.

HINGE ASSEMBLY:


- * Butt upper and lower posts together on flat surface.
- * Place hinge plates 4a on outer flanges and secure with bolts 5a, 5b and 5c--snug but do not tighten.
- * Make sure upper and lower posts are in alignment; then tighten all nuts 5c to proof load --- 1/2 a turn beyond snug



Computer File Information	
Creation Date:	1/28/97 Initials: SJH
Last Modification Date:	1/28/97 Initials: SJH
Full Path:	\\STANDARD\
Drawing File Name:	MULTI-3.dwg

Index of Revisions	

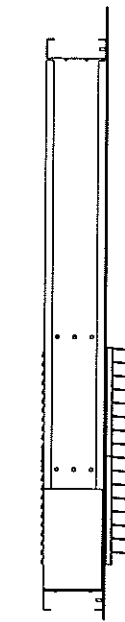
Colorado Department of Transportation



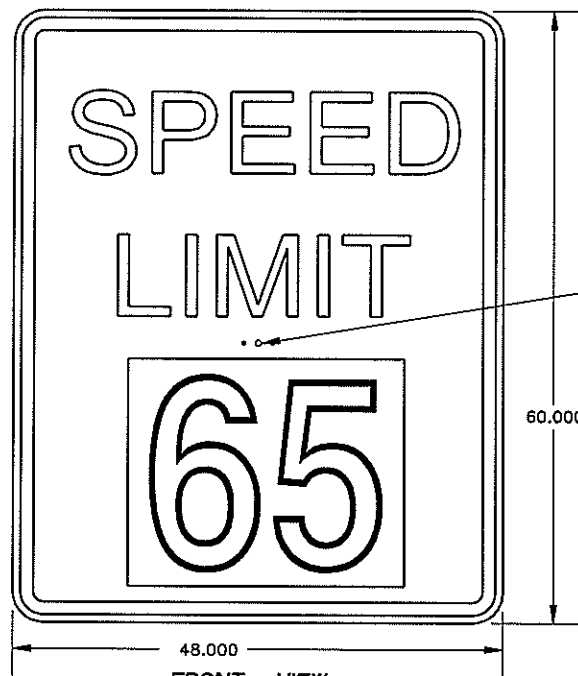
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Denver, CO 80222
Phone: 757-9355 FAX: 757-9219

Staff Traffic

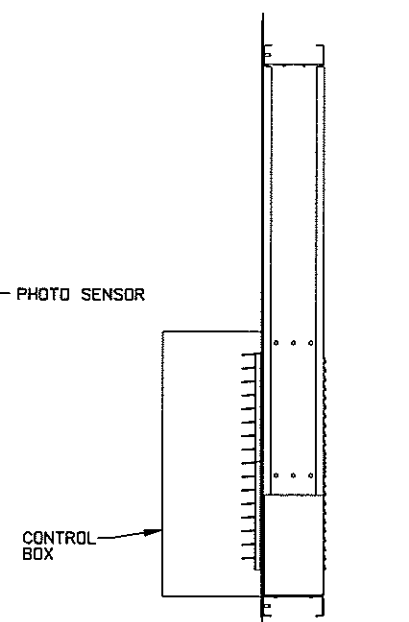
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Revised:		Designer: SJH	Structure Numbers	16701	
Void:		Detailer: SJH			
		Sheet Subset: Traffic	Subset Sheet Number: 10 of 11	Sheet Number - 75	



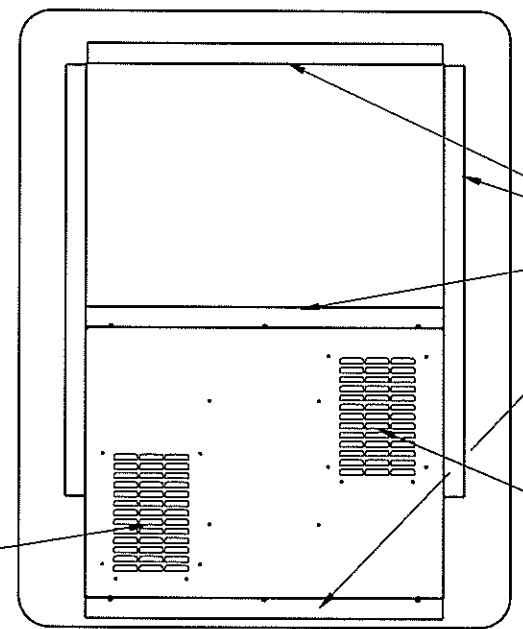
SIDE VIEW



FRONT VIEW



SIDE VIEW



REAR VIEW

NOTES:

- 1) REVERSE FONT USED FOR BLACK LETTERING ON WHITE BACKGROUND.
- 2) REFLECTIVE FACE.
- 3) DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
- 4) ALL ALUMINUM CONSTRUCTION WITH STAINLESS STEEL HARDWARE.
- 5) POWER CALCS: 450 MAX WATTS 375 TYP WATTS
- 6) DISPLAY SHALL BE EITHER: 65, 55, 45 OR 60, 50, 40.

PHOTO SENSOR

CONTROL BOX

CHANNEL USED FOR BOLTING TO STRUCTURE


AIR EXHAUST (TYPICAL)

AIR INTAKE

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File Name: 12_16701VarSpdLimitSign-Detail.dgn	
Horiz. Scale: N.T.S. Vert. Scale: As Noted	
Unit Information CBR	

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation



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Aurora, CO 80011
Phone: 303-365-7330 FAX: 303-365-7350

Region 1 CBR

As Constructed
No Revisions:
Revised:
Void:

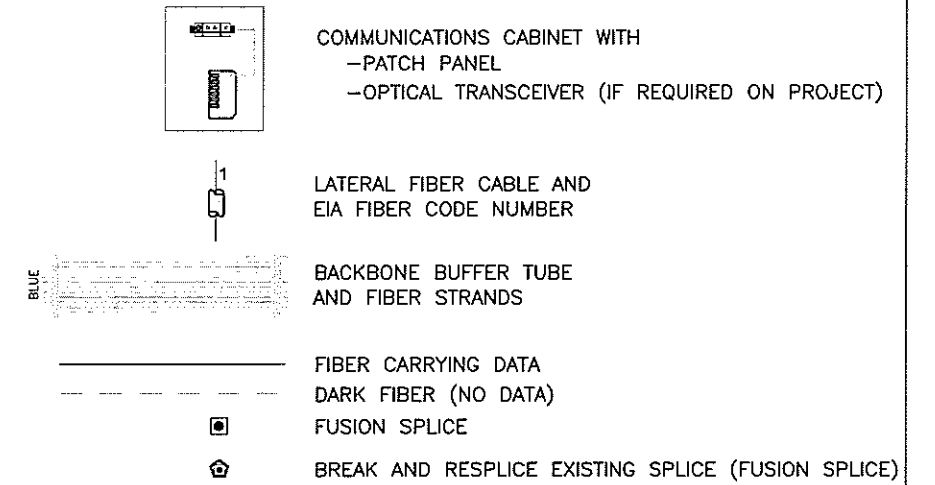
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Designer:	WCD	Structure	
Detailer:	WCD	Numbers	
Sheet Subset:	Traffic	Subset Sheets:	11 of 11

Project No./Code
IM 070A-003
16701
Sheet Number 76 -

FIBER OPTIC GENERAL NOTES:

- Abbreviations used to describe the regeneration node location on the fiber optic splice sheets is as follows;
EJT - EISENHOWER JOHNSON MEMORIAL TUNNEL
- Existing fiber usage exists on fiber optic backbone cable. When splices exist in pull boxes and manholes, they will be shown on splice sheets for current devices transmitting data to and from the respective regeneration nodes.
- The Contractor MUST submit to the Project Engineer, cut sheets and/or material descriptions for all fiber optic materials prior to purchase for approval by CDOT. In addition, copies of all manufacturer's recommended installation instructions and procedures for materials shall be provided to CDOT prior to the start of any fiber or electronic installation work.
- All fiber optic work shall be per the manufacturer's instructions and recommendations. This shall include all splicing, termination, fiber optic closure management and all other materials provided.
- Work in existing backbone fiber pull boxes and manholes;
 - Coil 25 feet of lateral fiber cable in pull boxes and 100 feet in manholes
 - Attach cable label for lateral fiber cable per Project Special Detail, ITS Pull Box Sheet.
 - Install cable management hardware in pull box per Project Special Detail, ITS Pull Box Sheet. (both proposed and existing pull boxes).
- Interior of communications cabinets
 - Secure patch panel, all associated device equipment and all associated electrical equipment to complete the work.
 - Install lateral fiber cable in a location which will not damage cable or patch cords and not be disturbed by future routine maintenance, install strain relief and cable label.
 - Fiber strands shall be labeled with corresponding transmit (Tx), receive (Rx) and data direction from device location as part of required cable labeling.
- The Contractor's responsibility will be to furnish and install materials as part of this project and provide a "path of light" and data communications from the various field cabinets to the regeneration nodes. The Contractor shall not be responsible for the integrity of the existing fiber backbone cable that this work is connecting to, outside of individual project splice locations and work conducted by the Contractor. If existing cable is damaged do to the Contractor's work, it shall be replaced by the Contractor at no additional cost to the project per the project specification.
- Prior to installing the splice closure and fiber cable, the Contractor shall clean the interior of the existing pull box or manhole and along the rim where the respective lid rests to remove any dirt, sand or debris. After cleaning, the pea gravel shall be raked level in the bottom of the box.
- Prior to attaching and bolting the pull box and manhole lids, the Contractor shall install conduit plugs in all conduit openings. Material shall be approved by CDOT per note 3 above prior to installation. This work shall not be paid for separately, but included in the conduit items.
- It is estimated that 637 fiber splices and 28 terminations shall be required on this project. This work shall be paid for as part of fiber optic cable item.
- The Contractor shall notify the Project Engineer 1 working day prior to work at each splicing location to have a CDOT representative on site while splicing is performed. In the event that the representative cannot be on site, 8 digital pictures, (taken at varying angles showing all completed work) shall be taken of the interior of the splice closure prior to reassembling and sealing, and all materials installed in the pull box in the final condition.
- The Contractor shall schedule a pre fiber installation and a pre splicing meeting to ensure that all work will be conducted according to the plans and manufacturer's recommendations.
- Testing of fiber optic cable shall be bi-directional and shall be conducted from the respective regeneration node. Testing shall be paid for as part of fiber optic cable item.

LEGEND FOR FIBER OPTIC CABLE AND SPLICE DIAGRAM SHEETS



Fiber General Notes Rev 1.dwg

5/14/2007 11:27 AM

William Koscek, Self

Computer File Information Creation Date: 4/16/2007 Initials: WJKjr Last Modification Date: See Side Panel Initials: WJKjr Full Path: Drawing File Name: See Side Panel ACAD Ver. ACAD 200LT Scale: NTS Units: English		Sheet Revisions (Empty table for revisions)		Colorado Department of Transportation ITS - Colorado Traffic Management Center 425C Corporate Circle Golden, Colorado 80401 Phone: 303-512-5834 FAX: 303-512-5878 ITS - CTMC With Region 1 Traffic CRB		As Constructed No Revisions: Revised: Void:		PLAN SHEET Fiber General Notes Designer: WJKjr Structure Numbers Detailer: WJKjr Sheet Subset: Fiber Gen Notes Subset Sheets: 1 of 1		Project No./Code I R100-128 16221 Sheet Number 198/77	
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Regeneration Node Splice Table

Interstate 70 – 144 Strand Fiber Cable
144 Strand Lateral Fiber Cable

DEVICE	144 Strand Lateral Fiber Cable				Spliced To	144 Strand Backbone Cable				SPLICE LOCATION	NODE LOCATION
	CABLE NUMBER	FIBER No.	FIBER COLOR	BUFFER COLOR		FIBER No.	FIBER COLOR	BUFFER COLOR	FIBER DIRECTION		
FROM CHAIN STATION WEST OF EJT	1	1	BLUE	BROWN		7	RED	SLATE	FROM EAST	EJT VENT BUILDING SPLICE CABINET	EJT TUNNEL
FROM CHAIN STATION WEST OF EJT	1	2	ORANGE	BROWN		8	BLACK	SLATE	FROM EAST	EJT VENT BUILDING SPLICE CABINET	EJT TUNNEL
FROM CHAIN STATION WEST OF EJT	1	3	GREEN	BROWN		8	BLACK	SLATE	FROM WEST	EJT VENT BUILDING SPLICE CABINET	EJT TUNNEL
FROM CHAIN STATION WEST OF EJT	1	4	BROWN	BROWN		7	RED	SLATE	FROM WEST	EJT VENT BUILDING SPLICE CABINET	EJT TUNNEL


Field Device Splice Table

Interstate 70 – 144 Strand Fiber Cable
12 Strand Lateral Fiber Cable

DEVICE LOCATION	12 Strand Lateral Fiber Cable				Spliced To	144 Strand Backbone Cable				SPLICE LOCATION	NODE LOCATION
	CABLE NUMBER	FIBER No.	FIBER COLOR	BUFFER COLOR		FIBER No.	FIBER COLOR	FIBER * DIRECTION	BUFFER COLOR		
EXISTING EB CHAIN STATION – MP 203 WEST OF SILVERTHORNE	1	1	BLUE	BLUE		7	RED	EAST	SLATE	EXISTING ITS PULL BOX	EJT CONTROL ROOM
	1	2	ORANGE	BLUE		8	BLACK	EAST	SLATE		
	1	3	GREEN	BLUE		9	YELLOW	EAST	SLATE		
	1	4	BROWN	BLUE		10	VIOLET	EAST	SLATE		
EXISTING EB CHAIN STATION – MP 205 EAST OF SILVERTHORNE	1	1	BLUE	BLUE		9	YELLOW	EAST	SLATE	EXISTING ITS PULL BOX	EJT CONTROL ROOM
	1	2	ORANGE	BLUE		10	VIOLET	EAST	SLATE		
	1	3	GREEN	BLUE		10	VIOLET	WEST	SLATE		
	1	4	BROWN	BLUE		9	YELLOW	WEST	SLATE		
WB CHAIN STATION – MP 223 EAST OF BAKERVILLE INTERCHANGE AT VMS SIGN	1	1	BLUE	BLUE		9	YELLOW	EAST	SLATE	EXISTING ITS MANHOLE	EJT CONTROL ROOM
	1	2	ORANGE	BLUE		10	VIOLET	EAST	SLATE		
	1	3	GREEN	BLUE		10	VIOLET	WEST	SLATE		
	1	4	BROWN	BLUE		9	YELLOW	WEST	SLATE		
EB CHAIN STATION – MP 228 EAST OF GEORGETOWN	1	1	BLUE	BLUE		7	RED	EAST	SLATE	EXISTING ITS MANHOLE	EJT CONTROL ROOM
	1	2	ORANGE	BLUE		8	BLACK	EAST	SLATE		
	1	3	GREEN	BLUE		8	BLACK	WEST	SLATE		
	1	4	BROWN	BLUE		7	RED	WEST	SLATE		
WB CHAIN STATION – MP 228 EAST OF GEORGETOWN	1	1	BLUE	BLUE		9	YELLOW	EAST	SLATE	EXISTING ITS MANHOLE	EJT CONTROL ROOM
	1	2	ORANGE	BLUE		10	VIOLET	EAST	SLATE		
	1	3	GREEN	BLUE		10	VIOLET	WEST	SLATE		
	1	4	BROWN	BLUE		9	YELLOW	WEST	SLATE		
EB CHAIN STATION – MP241 WEST SIDE OF TWIN TUNNELS	1	1	BLUE	BLUE		7	RED	EAST	SLATE	EXISTING ITS MANHOLE	EJT CONTROL ROOM
	1	2	ORANGE	BLUE		8	BLACK	EAST	SLATE		
	1	3	GREEN	BLUE		8	BLACK	WEST	SLATE		
	1	4	BROWN	BLUE		7	RED	WEST	SLATE		
EB CHAIN STATION – MP251 EL RANCHO	1	1	BLUE	BLUE		10	VIOLET	WEST	SLATE	EXISTING ITS MANHOLE	EJT CONTROL ROOM
	1	2	ORANGE	BLUE		9	YELLOW	WEST	SLATE		
	1	3	GREEN	BLUE		8	BLACK	WEST	SLATE		
	1	4	BROWN	BLUE		7	RED	WEST	SLATE		

* Indicates Direction of Backbone Fiber Strand From Lateral Splice, (Towards Associated Regeneration Node For Data Flow).

William Koscek, Self5/14/2007 11:29 AM Splice Table 01 Rev 3.dwg


Computer File Information		Sheet Revisions		 Colorado Department of Transportation ITS – Colorado Traffic Management Center 425C Corporate Circle Golden, Colorado 80401 Phone: 303-512-5834 FAX: 303-512-5878 Colo Traf. Management Cntr for Region 1 – Traffic		As Constructed		Chain Up Stations Interstate 70 West Corridor Fiber Allocation Tables		Project No./Code	
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Last Modification Date: See Side Panel	Initials: WJKjr			Revised:		Detailer: WJKjr		16221			
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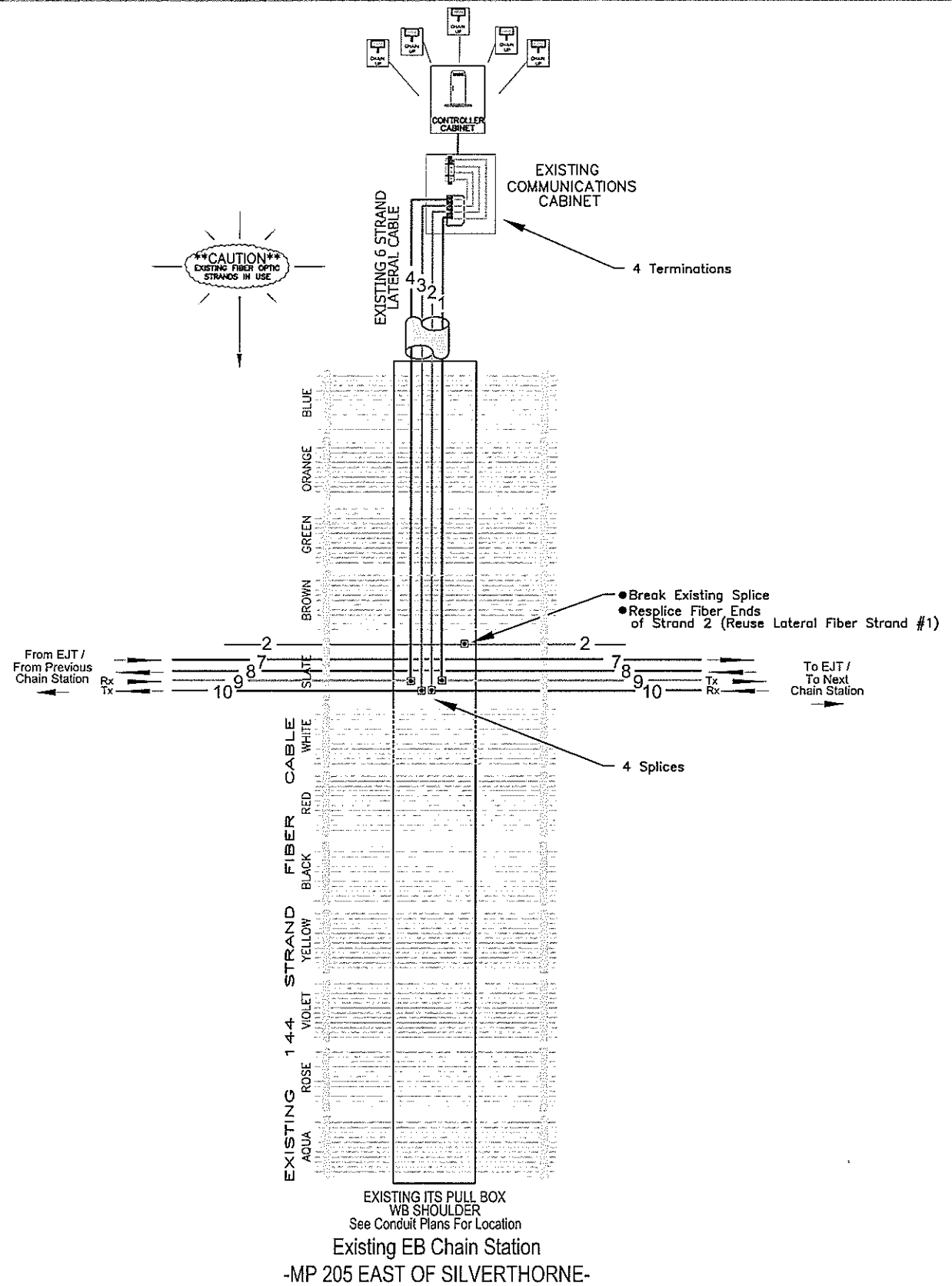
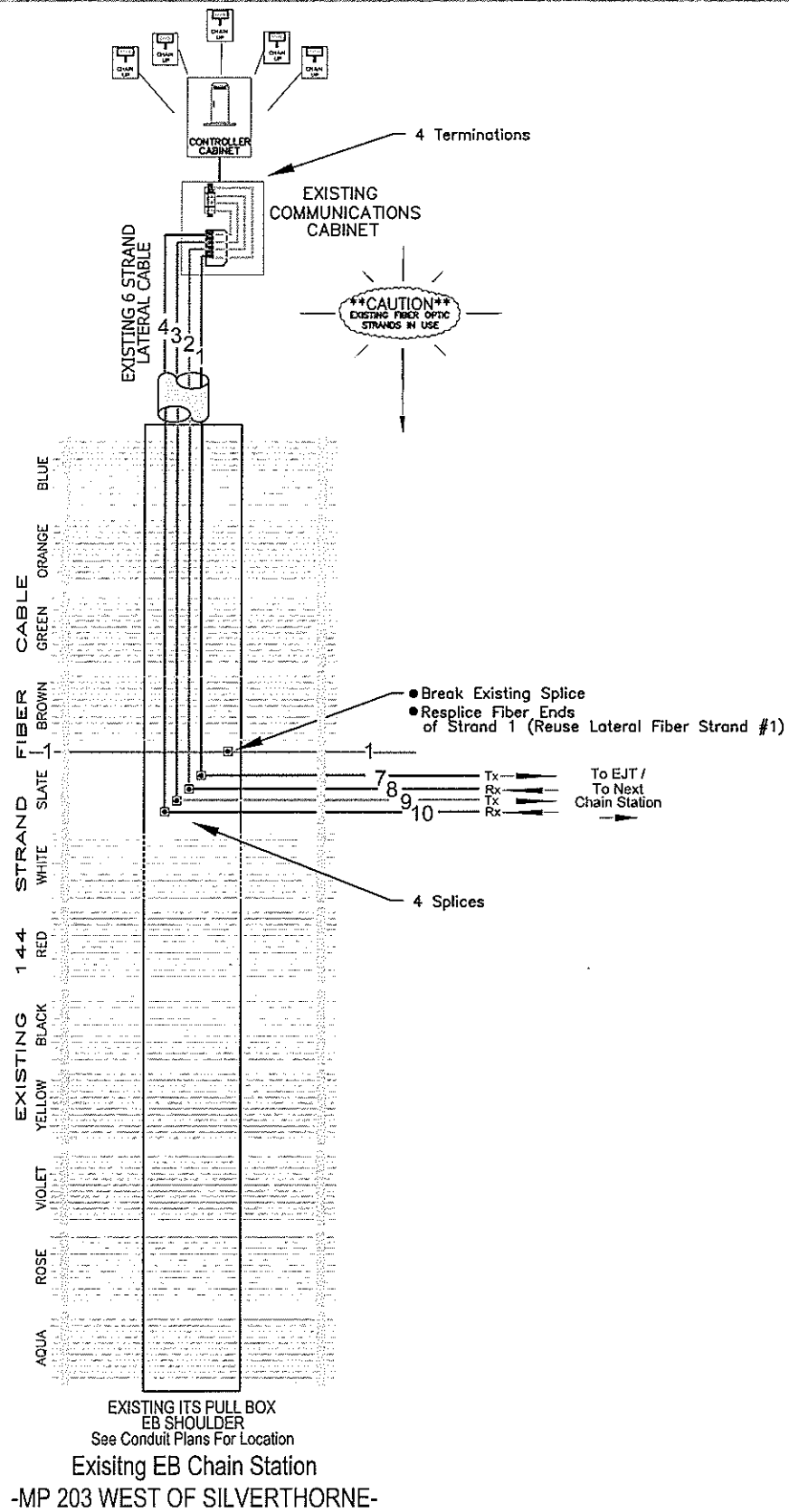
Fiber Resplice Splice Table

Interstate 70 - 144 Strand Backbone Fiber Cable

DEVICE	144 Strand Backbone Cable				SPlice LOCATION	NODE LOCATION
	FIBER No.	FIBER COLOR	BUFFER COLOR	FIBER DIRECTION		
EXISTING CHAIN STATION - MP 203 WEST OF SILVERTHORNE	1	BLUE	SLATE	EAST and WEST	EXISTING ITS PULL BOX	EJT TUNNEL
EXISTING CHAIN STATION - MP 205 EAST OF SILVERTHORNE	2	ORANGE	SLATE	EAST and WEST	EXISTING ITS PULL BOX	EJT TUNNEL
EXISTING CHAIN STATION - MP 203 WEST OF SILVERTHORNE	1	BLUE	SLATE	EAST and WEST	EJT VENT BUILDING SPlice CABINET	EJT TUNNEL
EXISTING CHAIN STATION - MP 205 EAST OF SILVERTHORNE	2	ORANGE	SLATE	EAST and WEST	EJT VENT BUILDING SPlice CABINET	EJT TUNNEL

William Kaseck, Self5/13/2007 7:15 PM Splice Table 02 Rev 3.dwg

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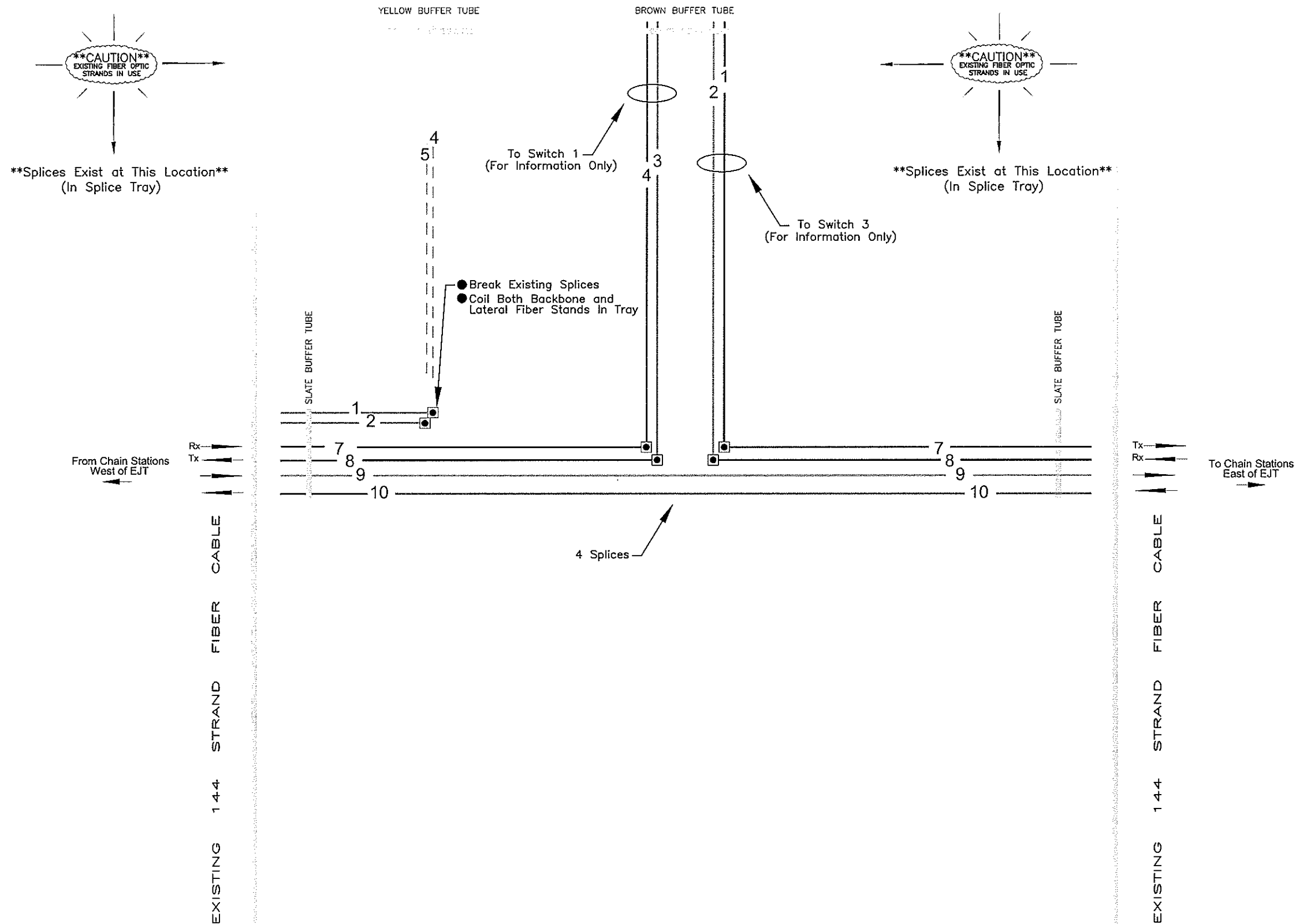
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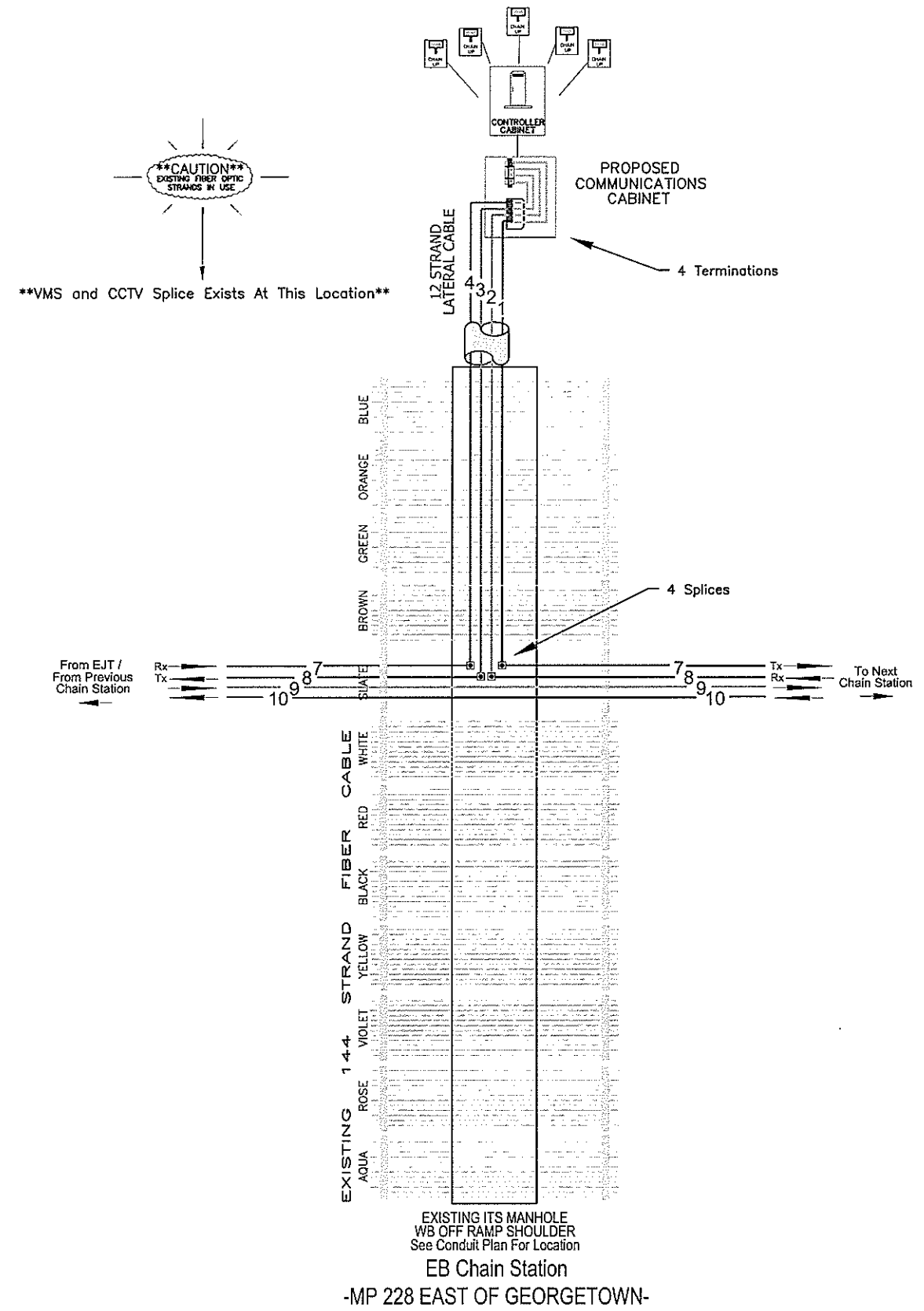
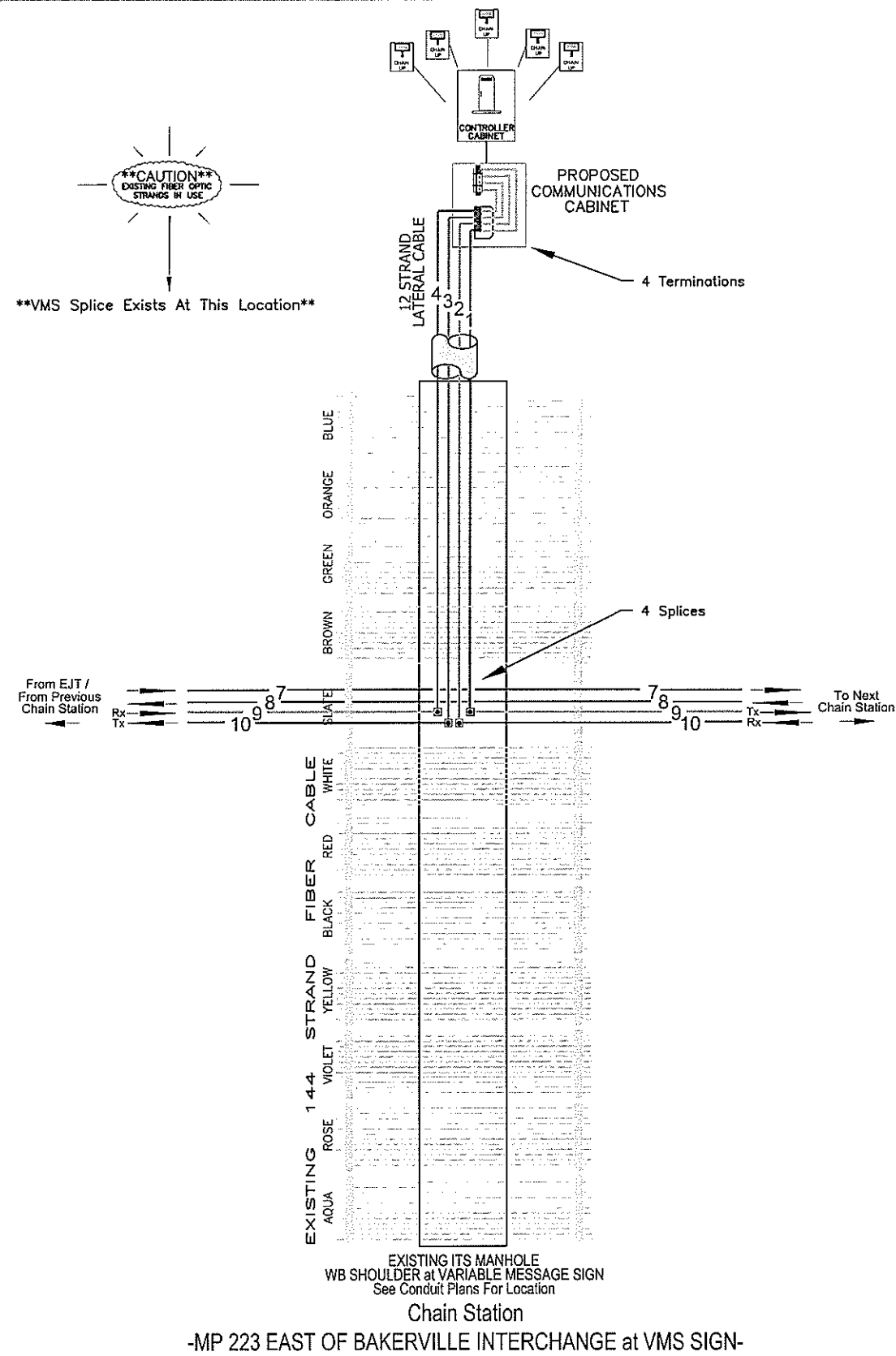
Colorado Department of Transportation
 ITS - Colorado Traffic Management Center
 425C Corporate Circle
 Golden, Colorado 80401
 Phone: 303-512-5834 FAX: 303-512-5878
 ITS - CTMC With Region 1 Traffic CBR

As Constructed	Interstate 70 West Corridor		Project No./Code
No Revisions:	Chain Stations		I R100-128
Revised:	Fiber Splice Diagrams		16221
Void:	Designer: WJKjr	Structure Numbers	Sheet Number 196 80
	Detailer: WJKjr	Sheet Subset: Fiber Allocation	Subset Sheets: 1 of 5

EXISTING 144 STRAND LATERAL FIBER CABLE



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Sheet Revisions	

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 ITS - CTMC With Region 1 Traffic CBR

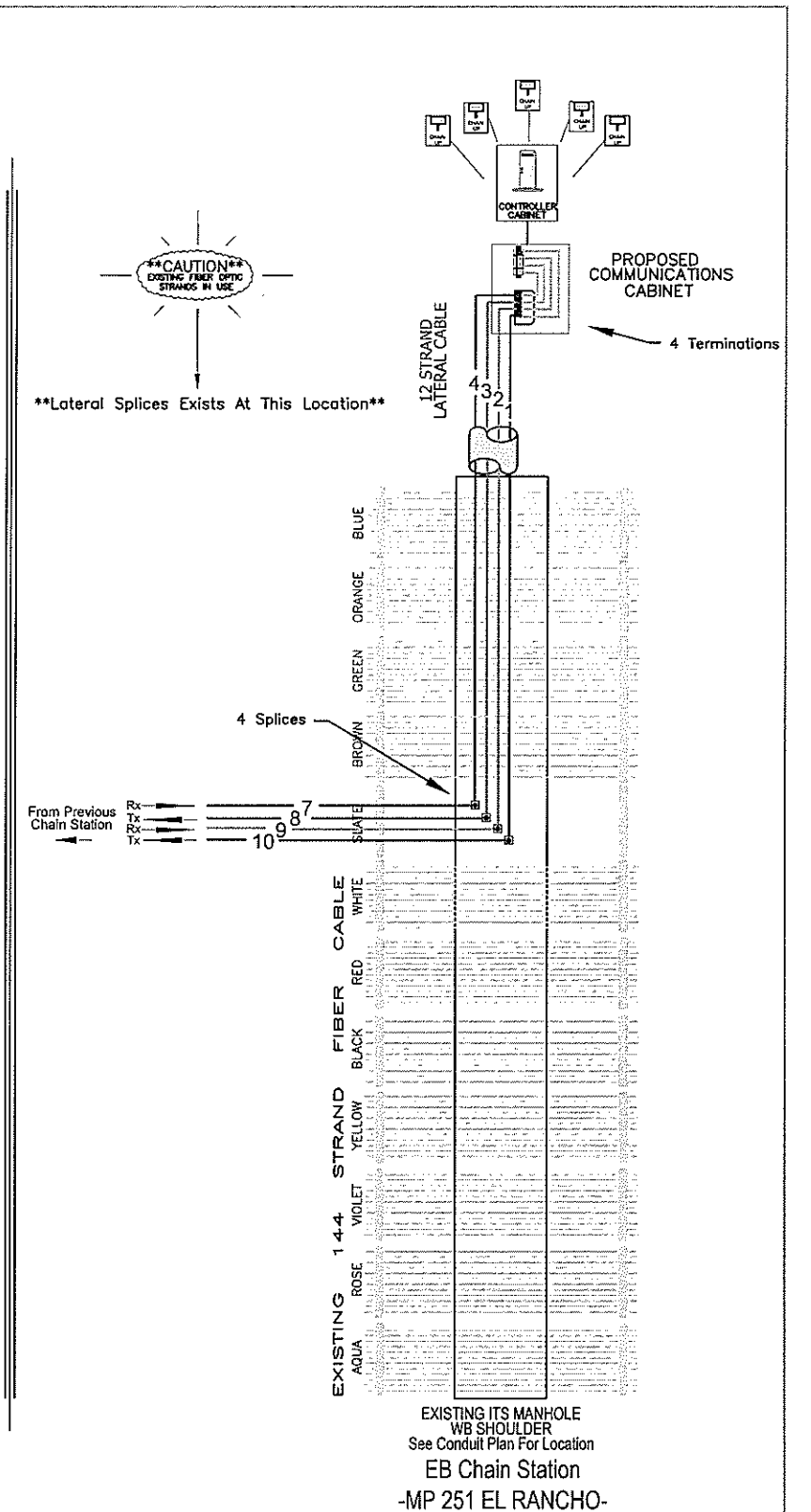
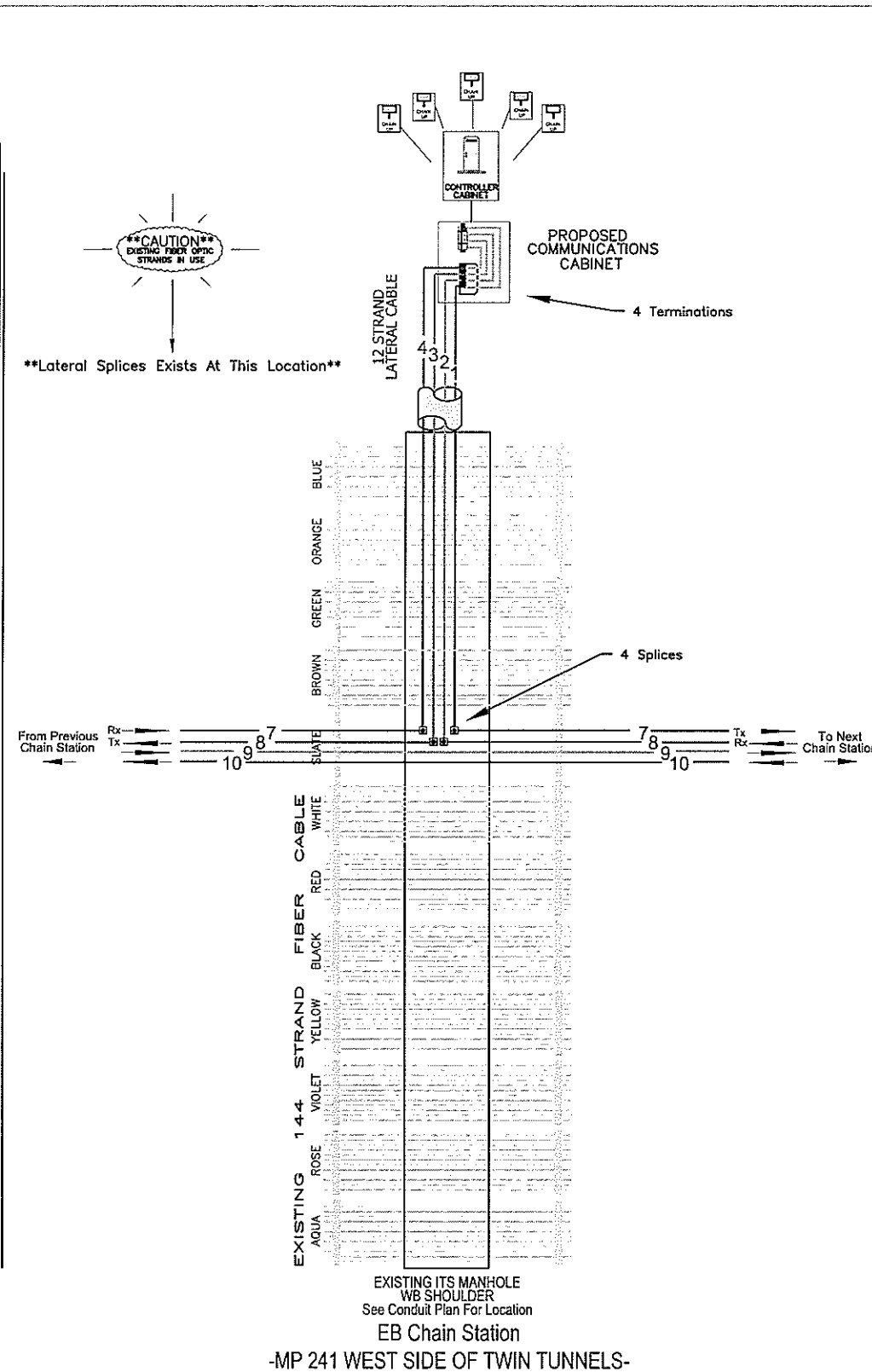
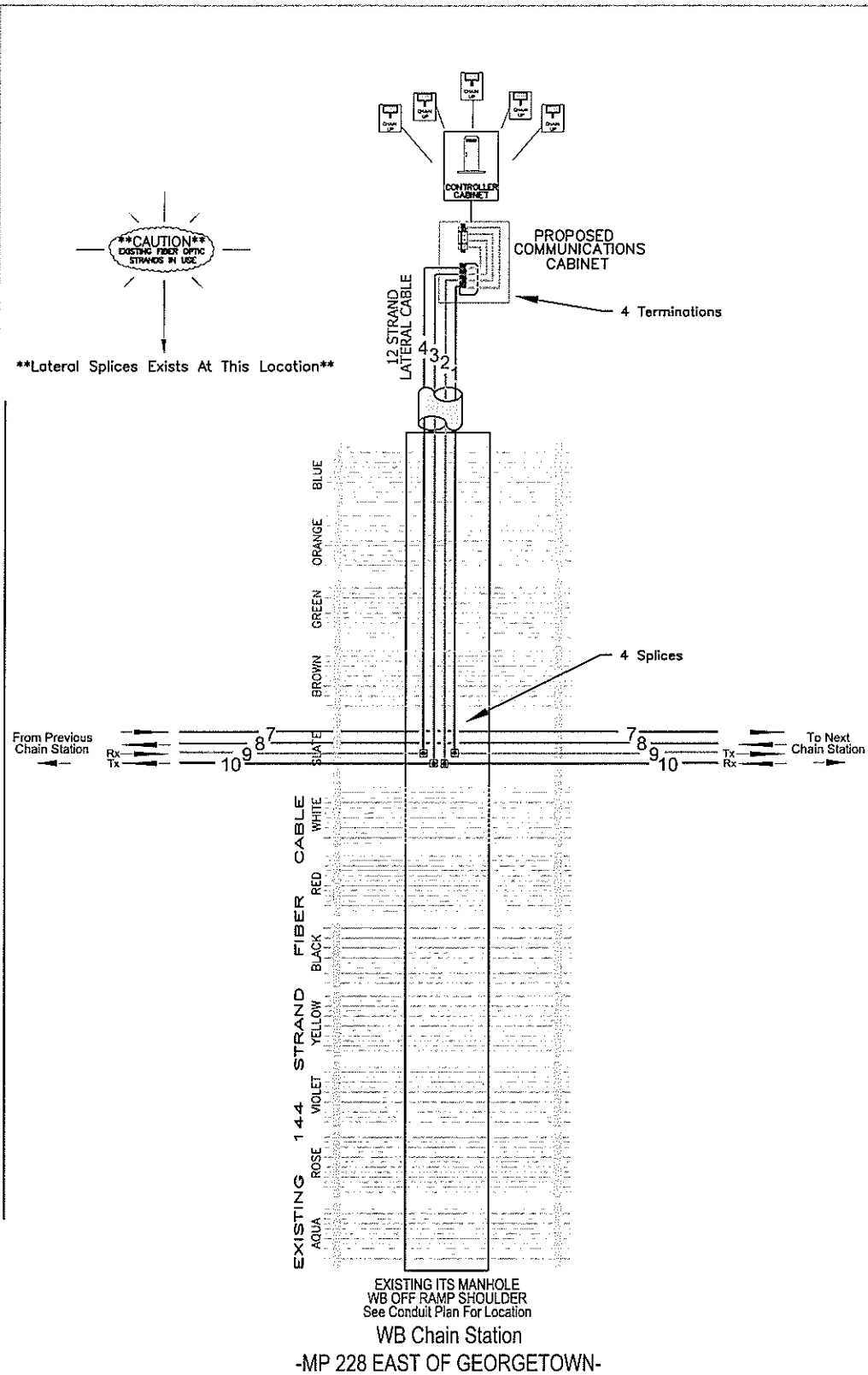
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Interstate 70 West Corridor
 Chain Stations
 Fiber Splice Diagrams

Designer: Wjkjr
 Detailer: Wjkjr

Structure Numbers
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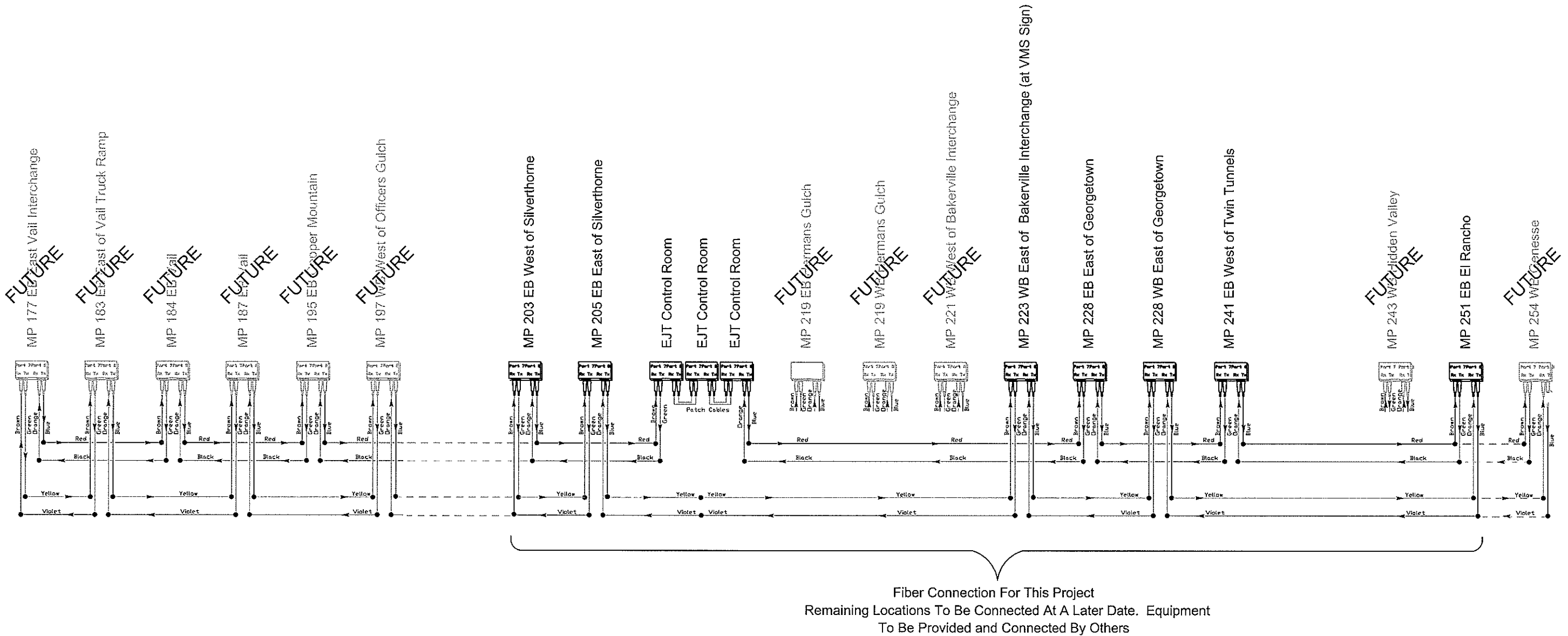
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NOTE:

ALL EQUIPMENT SHOWN ON THIS PLAN SHEET IS SHOWN FOR INFORMATION ONLY.
 PROPOSED WORK ON THIS PROJECT IS FIBER INSTALLATION, SPLICING,
 TERMINATION AND ALL ASSOCIATED MATERIALS AND LABOR.



Fiber Connection For This Project
 Remaining Locations To Be Connected At A Later Date. Equipment
 To Be Provided and Connected By Others

Computer File Information Creation Date: 4/13/2007 Initials: WJKjr Last Modification Date: See Side Panel Initials: WJKjr Full Path: Drawing File Name: See Side Panel ACAD Ver. ACAD 200LT Scale: NTS Units: English		Sheet Revisions <table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>										 Colorado Department of Transportation ITS - Colorado Traffic Management Center 425C Corporate Circle Golden, Colorado 80401 Phone: 303-512-5834 FAX: 303-512-5878 ITS - CTMC With Region 1 Traffic CBR		As Constructed No Revisions: Revised: Void:		Intrastate 70 West Corridor Chain Stations Proposed Project Logic Data Flow Designer: WJKjr Structure Numbers Detailer: WJKjr Sheet Subset: Fiber Allocation Subset Sheets: 5 of 5		Project No./Code I R100-128 16211 Sheet Number 2084	

Pull Box (Special) Standard Revised Rev 1.dwg

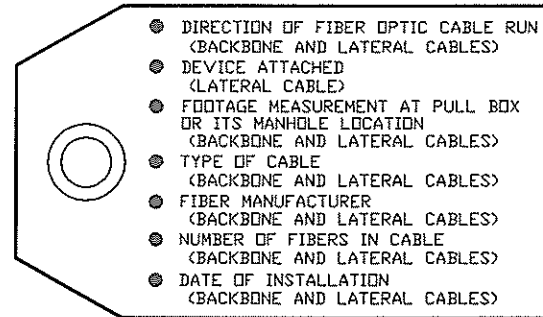
5/13/2007 7:38 PM

William Kascek, Self

PULL BOX (SPECIAL) NOTES:

- CONDUITS DEPICTED ON THIS SHEET ARE REPRESENTATIVE ONLY. EXACT NUMBER OF CONDUITS INSTALLED AND CONDUIT SIZE SHALL BE AS TABULATED AND SHOWN ON THE PLANS.
- CONDUIT CENTERLINE SHALL BE ALIGNED WITHIN THE PULL BOX TO FACILITATE FIBER OPTIC CABLE PULLING.
- CONDUIT PLUGS SHALL BE INSTALLED IN ALL CONDUITS, BOTH WITH AND WITHOUT WIRE OR CABLE AND SHALL BE INCLUDED IN THE COST OF ELECTRICAL CONDUIT ITEM.
- TRACER WIRE AND PULL ROPE SHALL BE INCLUDED IN THE COST OF ELECTRICAL CONDUIT ITEM.
 - MAIN BACKBONE AND LATERAL FIBER CABLE CONDUIT -
 - IF INSTALLATION INCLUDES MULTIPLE RUNS OF CONDUIT, PULL ROPE SHALL BE INSTALLED IN EACH INDIVIDUAL CONDUIT. TRACER WIRE SHALL BE INSTALLED IN ONLY ONE CONDUIT. ANY CONDUIT CONTAINING FIBER OPTIC CABLE SHALL NOT HAVE TRACER WIRE INSTALLED.
 - IF INSTALLATION INCLUDES ONLY ONE RUN OF CONDUIT, PULL ROPE AND TRACER WIRE SHALL BE INSTALLED IN SAME CONDUIT AS FIBER CABLE.

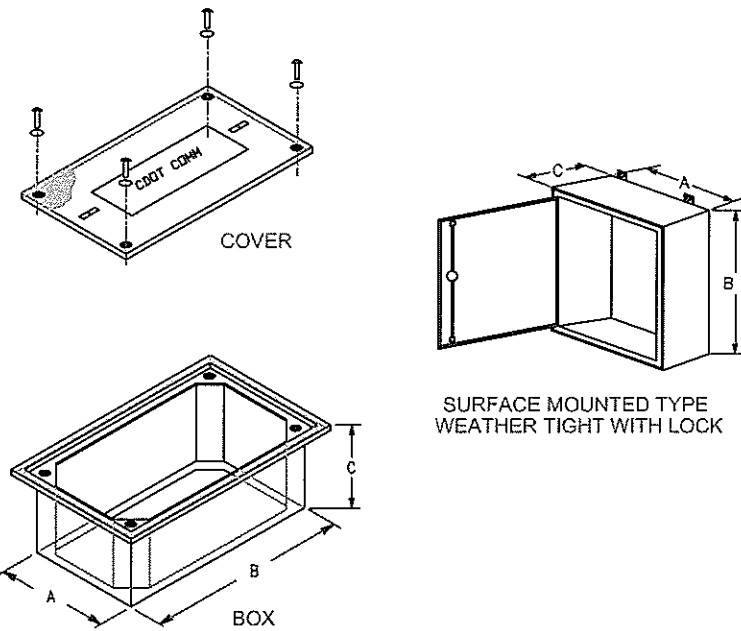
- ALL PULL BOX TYPES SHALL BE PAID FOR UNDER THE ITEM 614 PULL BOX, AND SHALL BE SIZED AS TABULATED AND SHOWN IN THE PLANS.
- PULL BOXES SHALL HAVE 12" WIDE X 6" DEEP CONCRETE APRONS SLOPED AWAY FROM PULL BOX OPENING. THE COST OF THE CONCRETE APRON SHALL BE PAID FOR AS PART OF PULL BOX ITEM.
- CONCRETE FOOTING SUPPORT FOR LOCATION MARKERS AT PULL BOX LOCATIONS ARE PAID FOR AS PART OF PULL BOX AND SHALL BE POURED MONOLITHICALLY WITH CONCRETE APRON.
- FIBER OPTIC CABLE COILS WITHIN PULL BOXES SHALL BE TIED TO EACH CABLE RACK WITH PLASTIC CABLE TIES. CAUTION SHALL BE TAKEN TO COIL THE FIBER CABLE PER MANUFACTURER'S RECOMMENDATIONS.
- ALL WORK TO INSTALL PULL BOX SHALL INCLUDE BUT NOT BE LIMITED TO SAW CUTTING OF PAVEMENT, REMOVAL OF PAVEMENT, CONCRETE, EARTHWORK. ALL LANDSCAPE RESTORATION AND SHALL BE PAID FOR AS PART OF PULL BOX.



FIBER CABLE LABEL

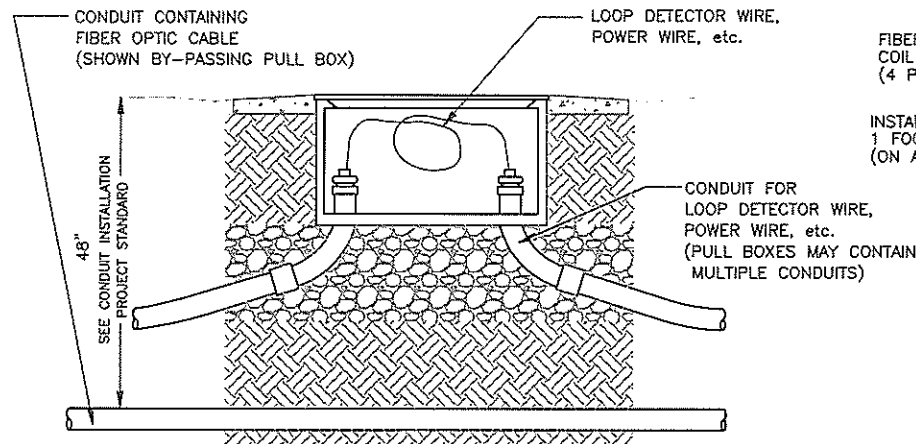
TO BE ATTACHED TO EACH FIBER OPTIC CABLE LOCATED IN ALL PULL BOX AND ITS MANHOLES

- DIRECTION OF FIBER OPTIC CABLE RUN (BACKBONE AND LATERAL CABLES)
- DEVICE ATTACHED (LATERAL CABLE)
- FOOTAGE MEASUREMENT AT PULL BOX OR ITS MANHOLE LOCATION (BACKBONE AND LATERAL CABLES)
- TYPE OF CABLE (BACKBONE AND LATERAL CABLES)
- FIBER MANUFACTURER (BACKBONE AND LATERAL CABLES)
- NUMBER OF FIBERS IN CABLE (BACKBONE AND LATERAL CABLES)
- DATE OF INSTALLATION (BACKBONE AND LATERAL CABLES)

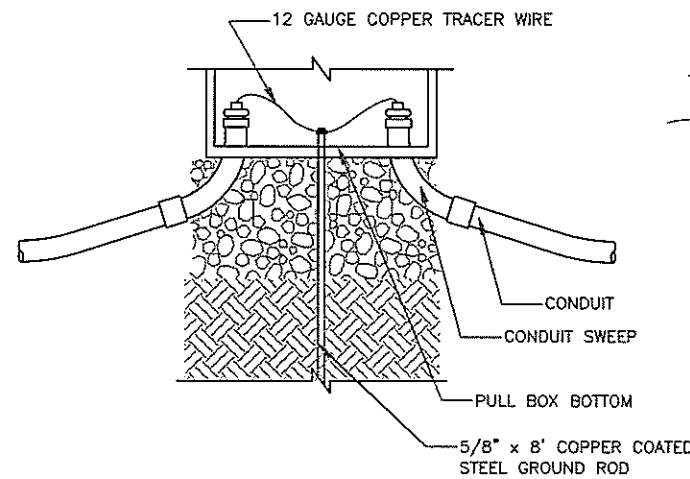


ITS PULL BOX TYPE	MINIMUM DIMENSIONS (Inches)		
	A	B	C
PULL BOX (SPECIAL) - (Small Size)	13	24	18
PULL BOX (SPECIAL) - (Large Size)	24	36	18
PULL BOX (SPECIAL) - (Surface Mounted)	24	24	8

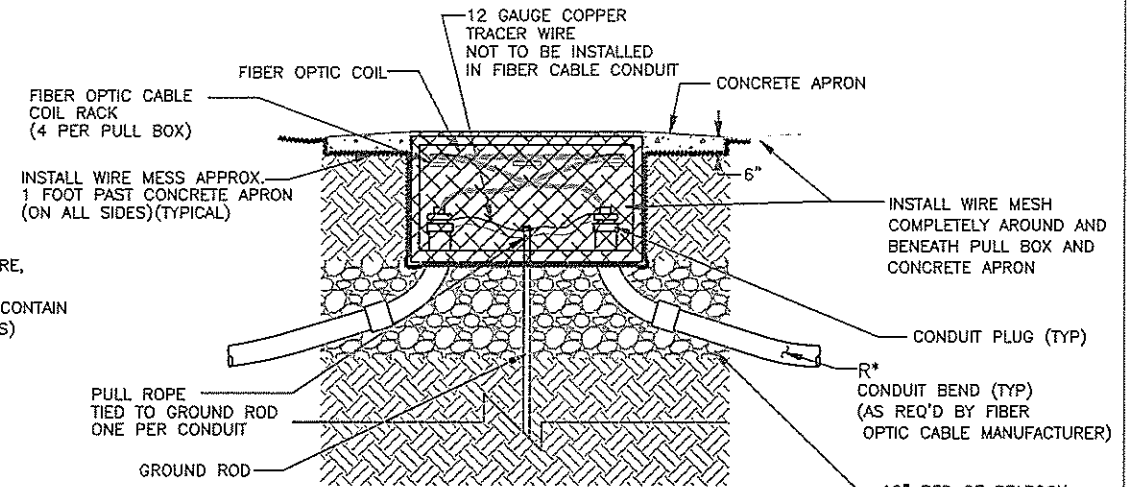
PULL BOX DIMENSIONS



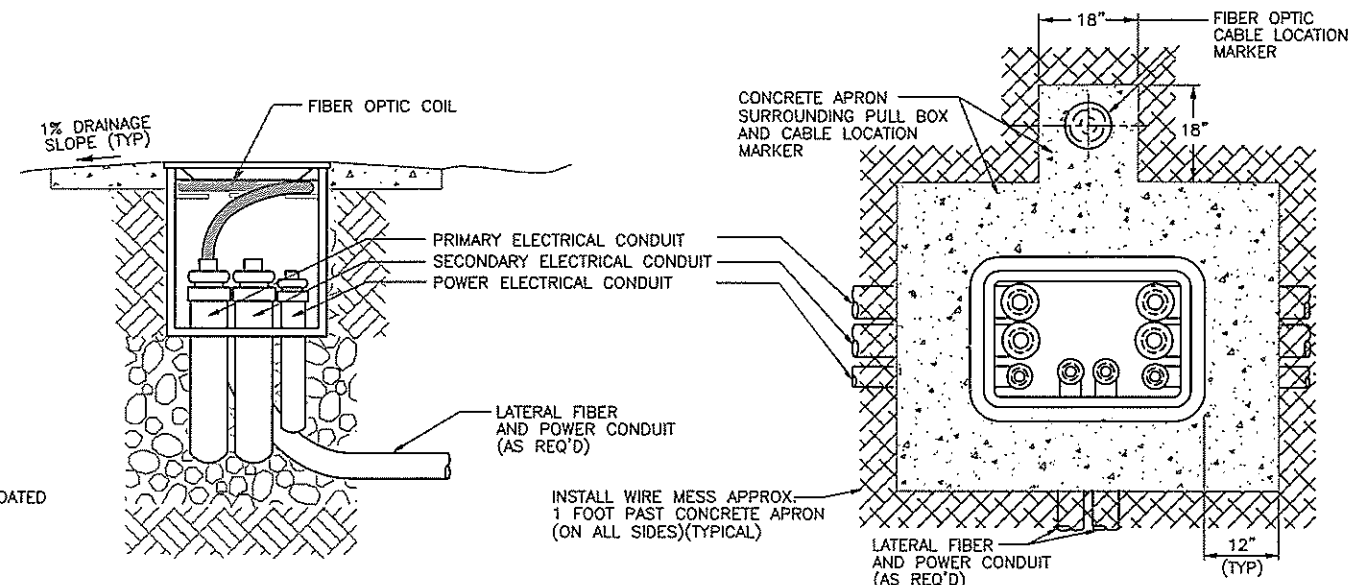
CONDUIT BYPASS DETAIL



GROUNDING DETAIL



- * CONDUIT BEND NOTES:
- MINIMUM RADIUS "R" MUST NOT BE LESS THAN 32"
 - MINIMUM SWEEP MUST NOT BE GREATER THAN 90 DEGREES



ITS PULL BOX INSTALLATION

Computer File Information		Index of Revisions		Colorado Department of Transportation		As Constructed		PLAN SHEET Project Detail ITS Pull Box		Project No./Code		
Creation Date:	5/12/2003	Initials:	WJKjr	XX	xx/xx/xxxx	XXXXXXXXXXXX	XXX			I R100-128		
Last Modification Date:	11/13/2006	Initials:	WJKjr	XX	xx/xx/xxxx	XXXXXXXXXXXX	XXX			16221		
Full Path:	Pull Box (Special) Standard.DWG			XX	xx/xx/xxxx	XXXXXXXXXXXX	XXX	Revised:	Designer:	WJKjr	Structure Numbers:	
Drawing File Name:	Pull Box (Special) Standard.DWG			XX	xx/xx/xxxx	XXXXXXXXXXXX	XXX	Void:	Detailer:	WJKjr	Sheet Subset:	Subset Sheet Number:
Scale:	NA	Units:	English	XX	xx/xx/xxxx	XXXXXXXXXXXX	XXX			Sheet Number 20185		

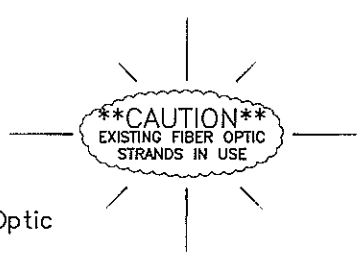
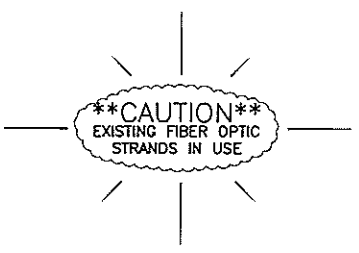


ITS - Colorado Traffic Management Center
 425C Corporate Circle
 Golden, Colorado 80401
 Phone: 303-512-5834 FAX: 303-512-5878
 ITS - CTMC With Region 1 Traffic CBR

Bakerville VMS Fiber Replacement.dwg

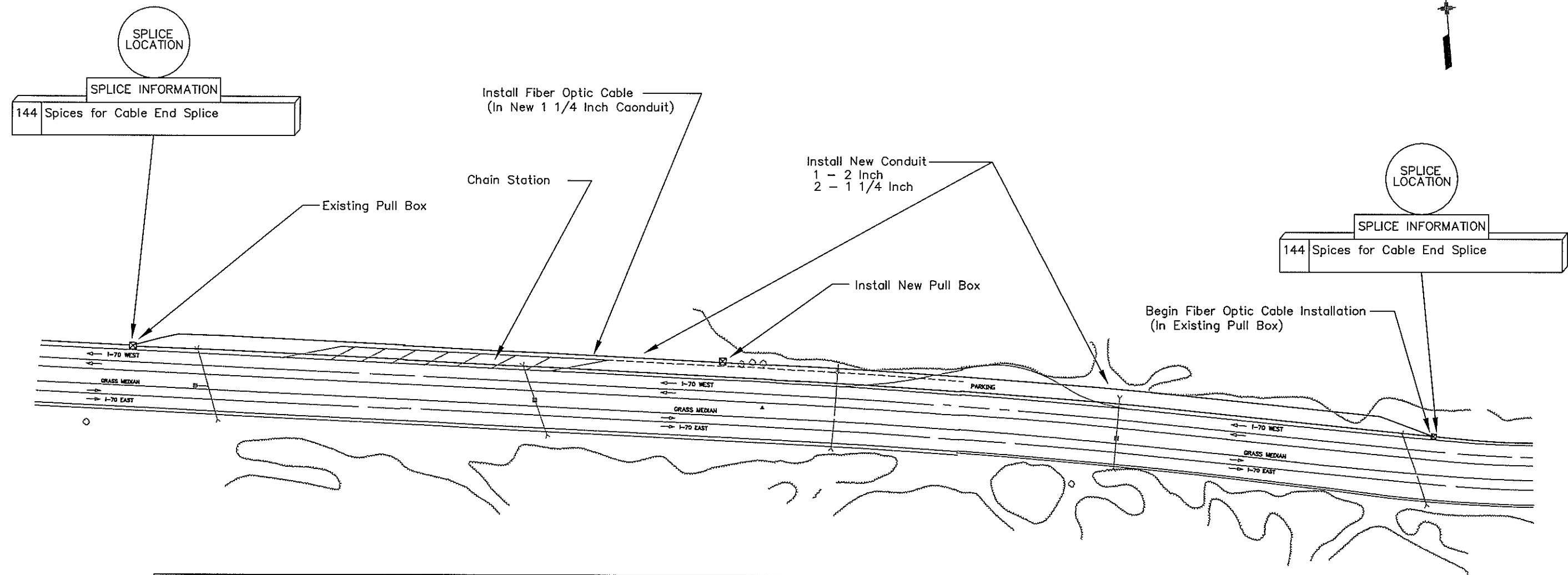
5/14/2007 10:44 AM

William Kascek, Self



NOTES:

1. The Contractor Shall Not Start Construction Work Shown On This Plan Sheet Until A Fiber Optic Meeting Is Conducted To Schedule Device and Network Outages. This Work Shall Be Conducted Prior To Any Work On Chain Station To Protect The Integrity Of The Fiber Optic Data Network.
2. Plan Sheet Is Based On Best Known Design And Field Information Available At Time Of Design. The Contractor Shall Stake New Fiber Optic With Project Engineer To Insure Alignment.



ELECTRICAL CONDUIT (PLASTIC)(1-1/2 INCH) (LIN. FT.)	ELECTRICAL CONDUIT (PLASTIC)(2 INCH) (LIN. FT.)	PULL BOX (24 X 36 X 18) (EACH)	FIBER OPTIC CABLE (SINGEL MODE)(144 STRAND) (LIN. FT.)
2400	1200	1	1500

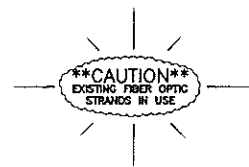
IT IS ESTIMATED THAT 288 FIBER OPTIC SPLICES WILL BE REQUIRED AT THIS LOCATION. TO BE PAID FOR WITH FIBER OPTIC CABLE ITEM.

Computer File Information Creation Date: 4/13/2007 Initials: WJKjr Last Modification Date: See Side Panel Initials: WJKjr Full Path: Drawing File Name: See Side Panel ACAD Ver. ACAD 200LT Scale: NTS Units: English		Sheet Revisions <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>											Colorado Department of Transportation ITS - Colorado Traffic Management Center 425C Corporate Circle Golden, Colorado 80401 Phone: 303-512-5834 FAX: 303-512-5878 ITS - CTMC With Region 1 Traffic CBR		As Constructed No Revisions: Revised: Void:		Interstate 70 West Corridor Chain Stations (Location "F") Bakerville VMS Conduit/Fiber Replacement Designer: WJKjr Structure: Detailer: WJKjr Numbers: Sheet Subset: Fiber Plan Subset Sheets: 1 of 2		Project No./Code: I R100-128 16221 Sheet Number 202/66	

Georgetown WB Fiber Replacement.dwg

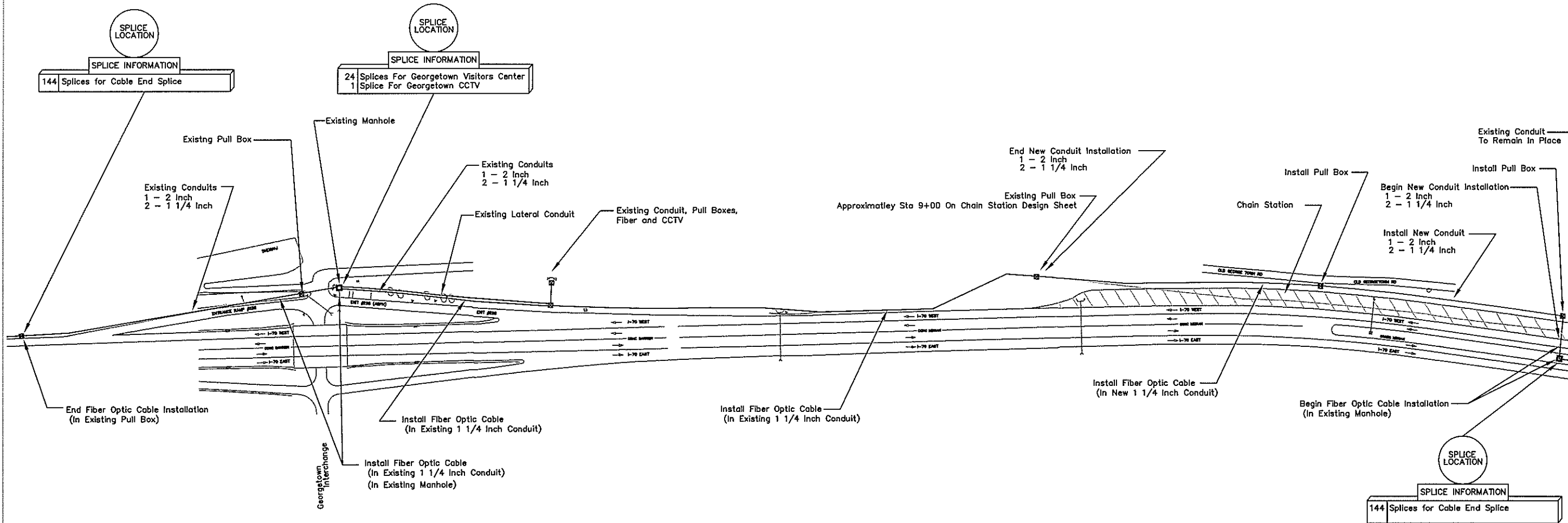
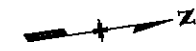
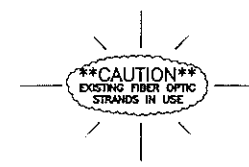
5/14/2007 9:55 AM

William Kascek, Self



NOTES:

1. The Contractor Shall Not Start Construction Work Shown On This Plan Sheet Until A Fiber Optic Meeting Is Conducted To Schedule Device and Network Outages. This Work Shall Be Conducted Prior To Any Work On Chain Station Which Would Interfere And To Protect The Integrity Of The Existing Fiber Optic Data Network.
2. Plan Sheet Is Based On Best Known Design And Field Information Available At Time Of Design. The Contractor Shall Stake New Fiber Optic Line With Project Engineer To Insure Alignment.



SHEET QUANTITIES

ELECTRICAL CONDUIT (PLASTIC)(1-1/4 INCH) (LIN. FT.)	ELECTRICAL CONDUIT (PLASTIC)(2 INCH) (LIN. FT.)	PULL BOX (24 X 36 X 18) (EACH)	FIBER OPTIC CABLE (SINGLE MODE)(144 STRAND) (LIN. FT.)
5000	2500	2	4400

IT IS ESTIMATED THAT 313 FIBER OPTIC SPLICES WILL BE REQUIRED AT THIS LOCATION. TO BE PAID FOR WITH FIBER OPTIC CABLE ITEM.

Computer File Information	
Creation Date: 4/13/2007	Initials: Wjkjr
Last Modification Date: See Side Panel	Initials: Wjkjr
Full Path:	
Drawing File Name: See Side Panel	
ACAD Ver. ACAD 2001T	Scale: NTS Units: English

Sheet Revisions	

Colorado Department of Transportation

 ITS - Colorado Traffic Management Center

 425C Corporate Circle

 Golden, Colorado 80401

 Phone: 303-512-5834 FAX: 303-512-5878

 ITS - CTMC With Region 1 Traffic CBR

As Constructed
No Revisions:
Revised:
Void:

Interstate 70 West Corridor

 Chain Stations (Location "I")

Georgetown Conduit/Fiber Replacement

Designer: Wjkjr	Structure Numbers
Detailer: Wjkjr	
Sheet Subset: Fiber Plan	Subset Sheets: 2 of 2

Project No./Code
I R100-128
16221
Sheet Number <i>285/29</i>

LEGEND

	FIBER OPTIC CABLE MARKER WITH INFORMATION LABEL
	PULL BOX
	MANHOLE (TMS)
	CONDUIT - (NUMBER AND SIZE AS SHOWN IN PLANS)
	CDOT ELECTRICAL UTILITY LOCATION MARKER
	CDOT TELEPHONE UTILITY LOCATION MARKER

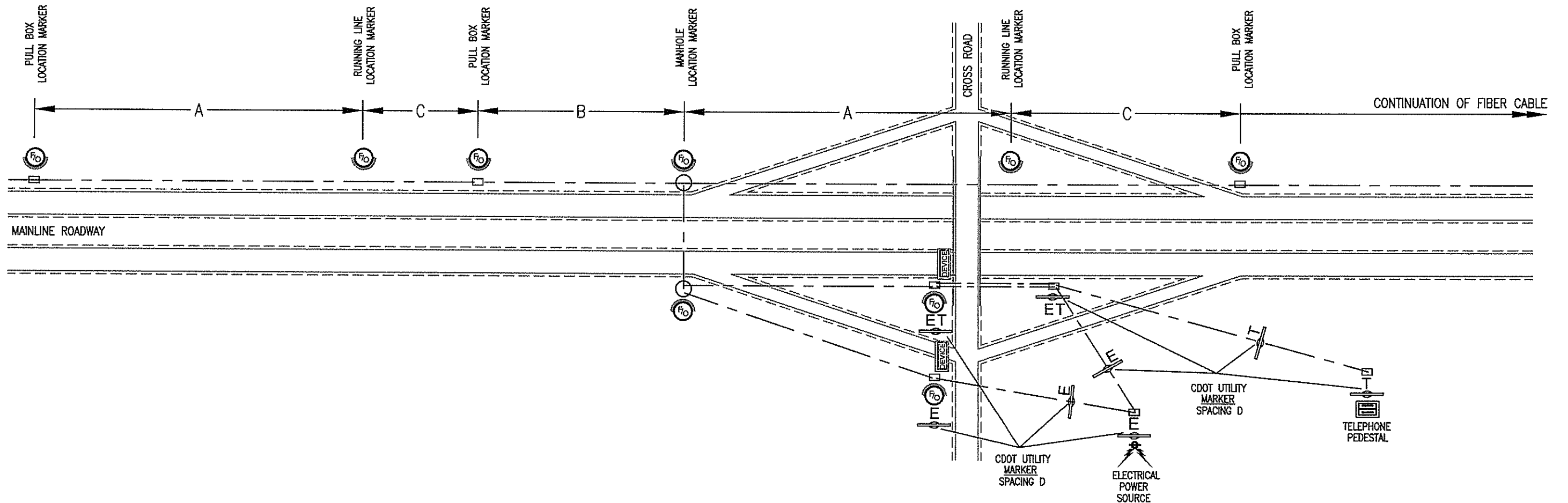
LOCATION MARKER SPACING

MEASUREMENT	DESCRIPTION	DISTANCE (FEET)
A	FIBER OPTIC RUNNING LINE MARKER SPACING	1000
B	HANDHOLE MARKER SPACING	< 1000
C	ADDITIONAL FIBER OPTIC RUNNING LINE MARKER SPACING	C=A-B (WHERE REQUIRED) < 1000
D	UTILITY MARKER SPACING	* ■

- * UTILITY LOCATION MARKERS FOR DEVICE POWER SOURCE ELECTRIC RUNS TO BE INSTALLED AT BEGINNING AND END OF UTILITY CONDUIT. IF RUNNING LINE IS LONGER THAN 500 FEET ONE ADDITIONAL MARKER SHALL BE INSTALLED AT THE MIDPOINT OF CONDUIT RUN.
- UTILITY LOCATION MARKERS FOR RUNNING LINE ELECTRICAL CONDUIT TO BE INSTALLED AT BEGINNING AND END OF UTILITY CONDUIT, AT ALL MANHOLES AND AT A MAXIMUM SPACING OF 1000' ALONG LINE BETWEEN MANHOLES.

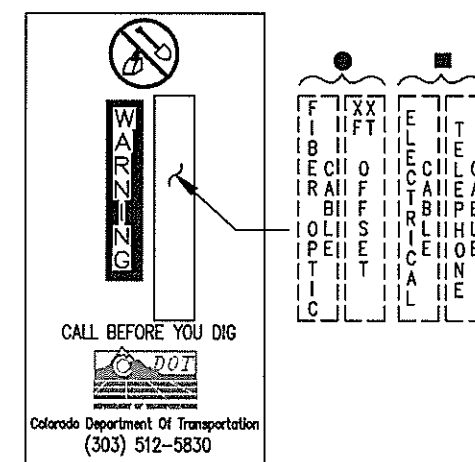
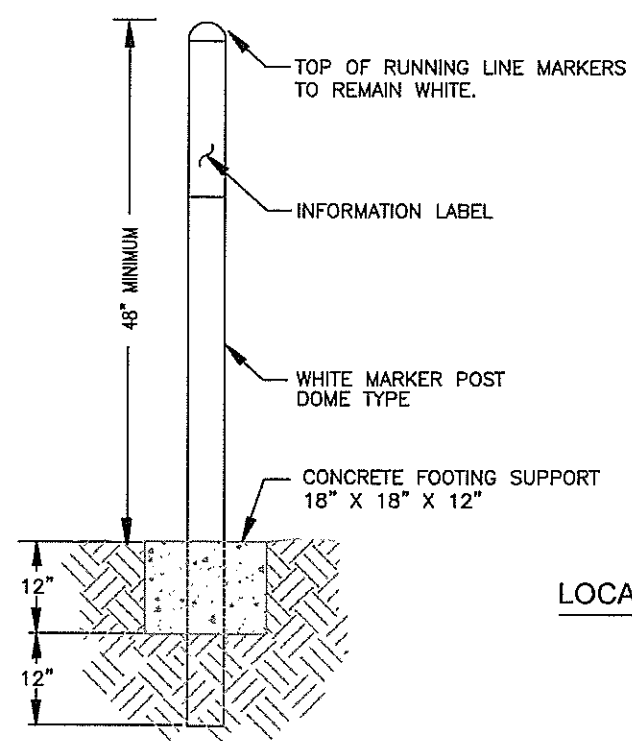
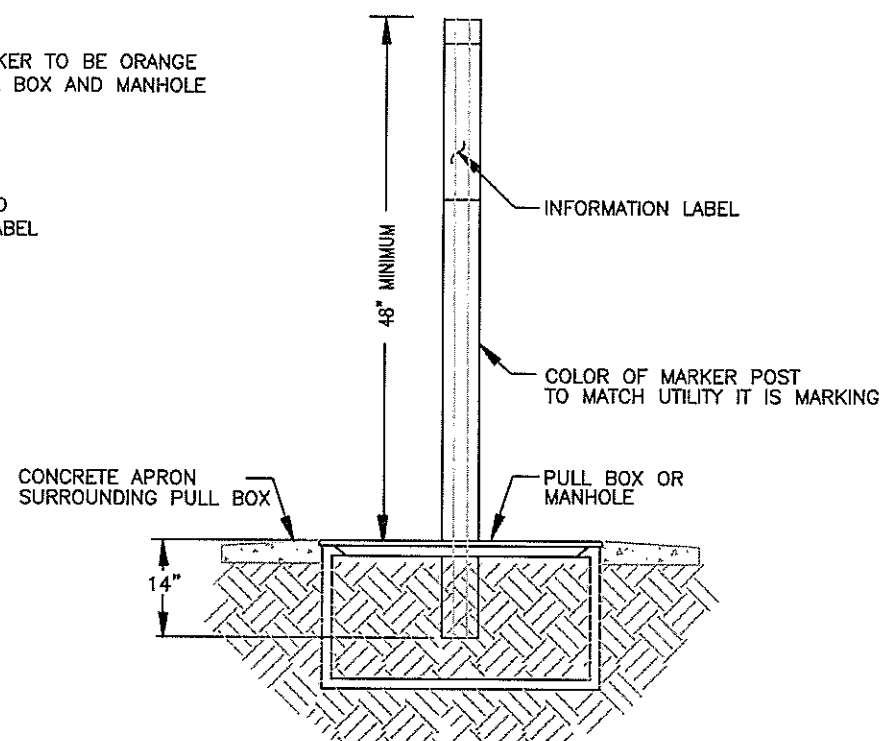
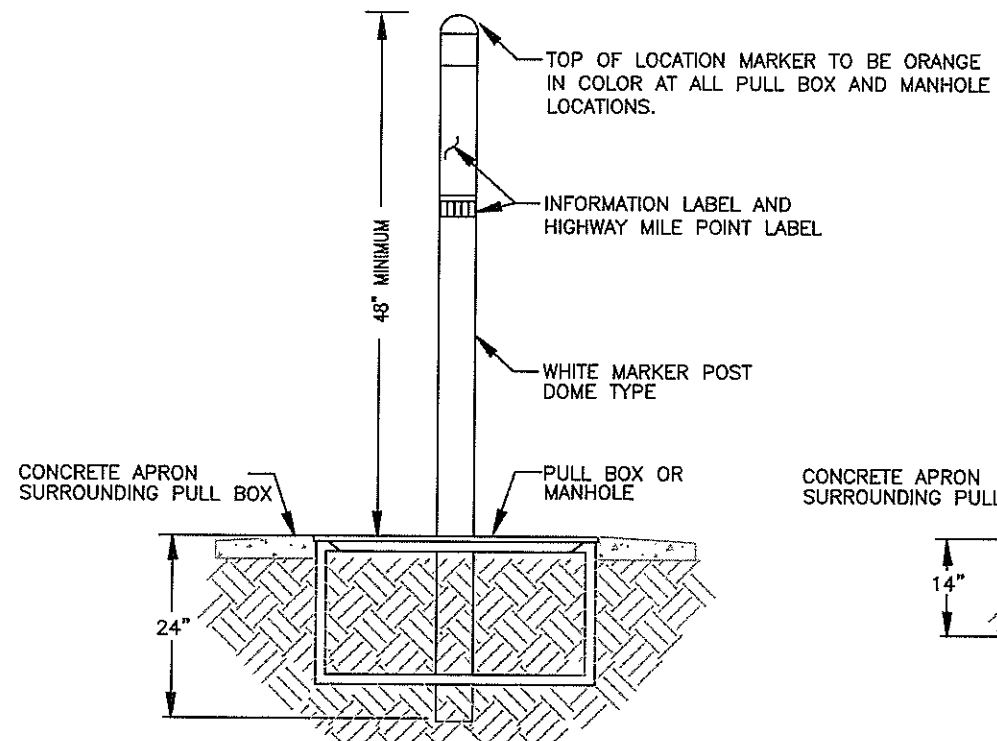
FIBER OPTIC AND CDOT UTILITY LOCATION MARKER INSTALLATION NOTES:

1. AREA AROUND LOCATION MARKER INSTALLATION SHALL BE RETURNED TO EXISTING GRADE AND CONDITION. THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT BE INCLUDED IN THE COST OF LOCATION MARKER ITEM.
2. LOCATION MARKERS SHALL BE INSTALLED AT EACH PULL BOX AND MANHOLE ALONG BOTH THE BACKBONE AND LATERAL FIBER OPTIC CABLE RUNS THROUGHOUT THE PROJECT. ADDITIONAL MARKERS SHALL BE INSTALLED ALONG THE RUNNING LINE.
3. UTILITY LOCATION MARKERS SHALL BE INSTALLED AT BOTH THE UTILITY CONNECTION HOOKUP PULL BOX AND THE EQUIPMENT PULL BOX OR MANHOLE AT PROJECT DEVICE. ADDITIONAL MARKERS, IF REQUIRED, SHALL BE INSTALLED AT MID LOCATIONS ALONG THE UTILITY LINE AS SHOWN ON THE PLANS.
4. CONCRETE FOOTING SUPPORT FOR FIBER OPTIC CABLE LOCATION MARKERS AT PULL BOX LOCATIONS SHALL BE INCLUDED IN THE COST OF EACH PULL BOX SHOWN IN THE PROJECT. CONCRETE LOCATION MARKER SUPPORT FOUNDATION AND CONCRETE PULL BOX APRON SHALL BE POURED MONOLITHICALLY.
5. CONCRETE FOOTING SUPPORTS FOR FIBER OPTIC CABLE RUNNING LINE MARKERS ARE TO BE INCLUDED IN LOCATION MARKER ITEM.
6. UTILITY LOCATION MARKERS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. CONCRETE SUPPORT FOUNDATIONS SHALL NOT BE REQUIRED FOR UTILITY LOCATION MARKERS.
7. LANDSCAPE LOCATION MARKERS SHALL BE INSTALLED IN LANDSCAPE AREAS AND AREAS SUCH AS PARKING LOTS WHICH COULD HAVE VEHICULAR TRAFFIC.
8. THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER AN AS-BUILT DRAWING SHOWING THE INSTALLED LOCATIONS OF ALL MARKER TYPES.
9. LOCATION MARKERS SHALL HAVE INFORMATION LABELS ATTACHED WITH ADHESIVE TO WITHSTAND HEAT AND COLD. INFORMATION ON LABELS SHALL INCLUDE CDOT CONTACT INFORMATION. NUMBERS INDICATING THE HIGHWAY MILE POINT OF THE PULL BOX OR MANHOLE SHALL BE INSTALLED BENEATH THE INFORMATION LABELS AS SHOWN SHOWN ON SHEET TWO OF THIS PROJECT DETAIL.



William Kascek, Set(9/17/2007 4:39 PM)Fiber Marker Sheet 1.dwg

Computer File Information			Index of Revisions			Colorado Department of Transportation			As Constructed			Project Detail			Project No./Code	
Creation Date:	5/12/2003	Initials: WjKjr				 ITS - Colorado Traffic Management Center 425C Corporate Circle Golden, Colorado 80401 Phone: 303-512-5834 FAX: 303-512-5878 ITS - CTMC With Region 1 Traffic SS	No Revisions:		Fiber Optic / Utility Location Marker			Project No./Code				
Last Modification Date:	11/13/2006	Initials: WjKjr					Revised:		Sheet 1			IM 070A-003				
Full Path:							Void:		Designer: WjKjr	Structure Numbers	16701					
Drawing File Name:	See Side Panel								Detailer: WjKjr		Sheet Number 88					
Acad Ver. ACAD 2002 Lt	Scale: NA	Units: English						Sheet Subset: Project Detail	Subset Sheet Number: 1/2							



LOCATION MARKER INFORMATION LABELING

LABEL WITH CDOT CONTACT INFORMATION
BLACK LETTERING ON ORANGE BACKGROUND

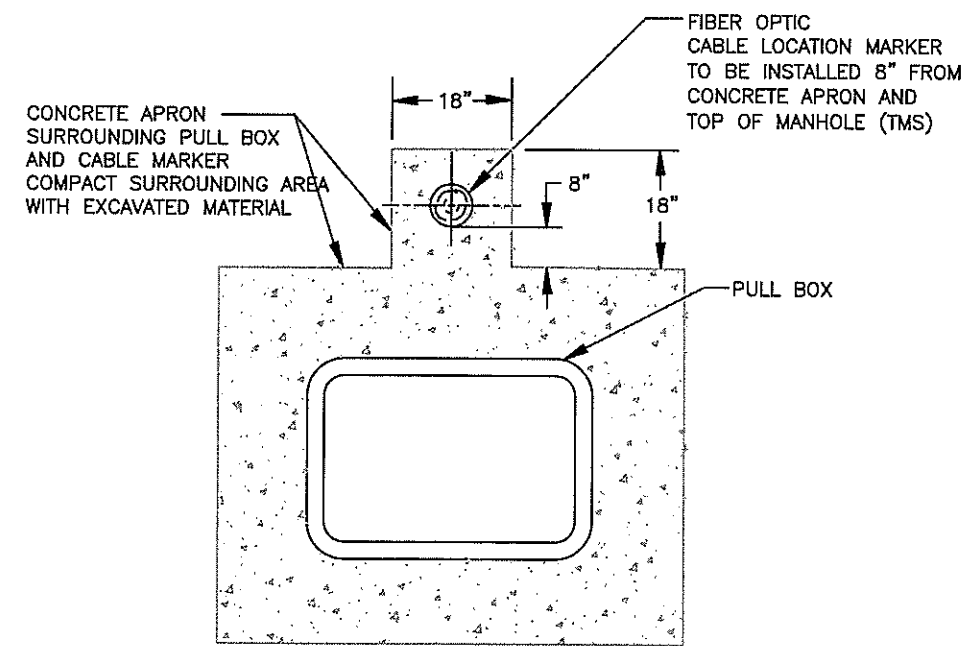
● FOR FIBER OPTIC DOME MARKERS
■ FOR CDOT UTILITY FLAT MARKERS

MILE POINT REFERENCE LABEL (5 NUMBERS)
BLACK NUMBERS WITH WHITE BACKGROUND

FIBER OPTIC RUNNING LINE LOCATION MARKER

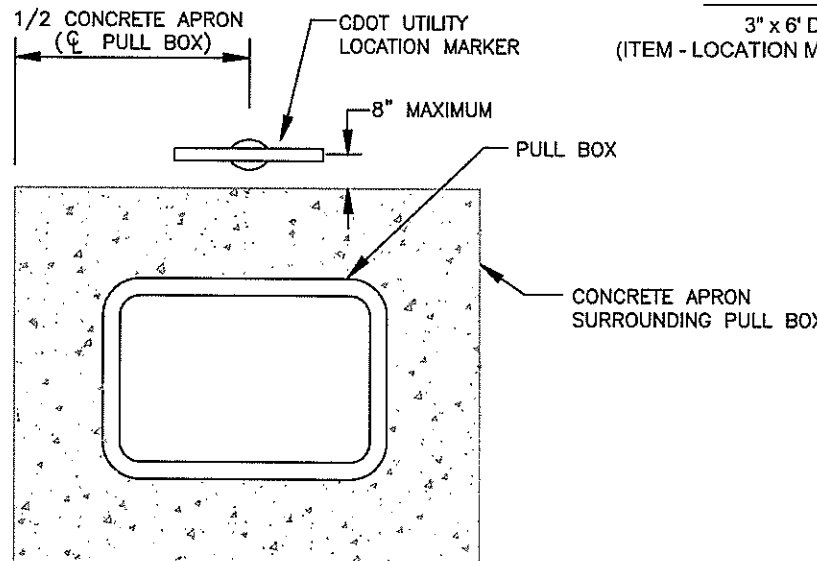
3" x 6" DOME TYPE POST
(ITEM - LOCATION MARKER (FIBER OPTIC)(DOME))

REFERENCE MARKS TO RUN PARALLEL WITH FIBER OPTIC CABLE LINE



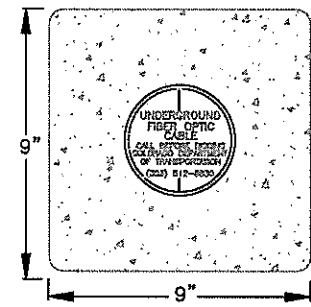
PULL BOX AND MANHOLE FIBER OPTIC LOCATION MARKER

3" x 6" DOME TYPE POST
(ITEM - LOCATION MARKER (FIBER OPTIC)(DOME))

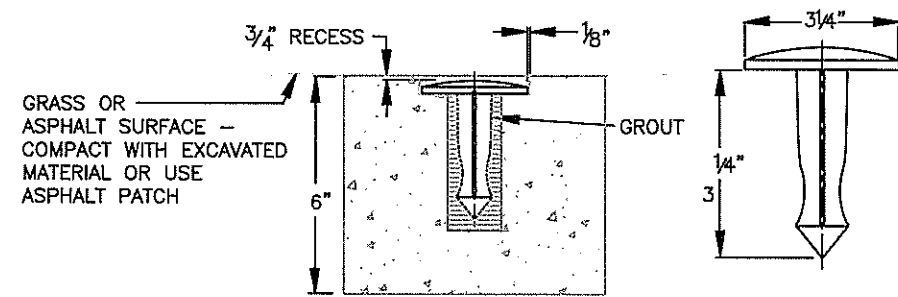


CDOT UTILITY LOCATION MARKER

3 1/2" X 62" FLAT TYPE POST
ELECTRICAL POWER RUNNING LINES AND TELEPHONE RUNNING LINES
ITEM - LOCATION MARKER (UTILITY)(FLAT SLAT)



FIBER OPTIC CABLE BRASS CAP LOCATION MARKER INFORMATION

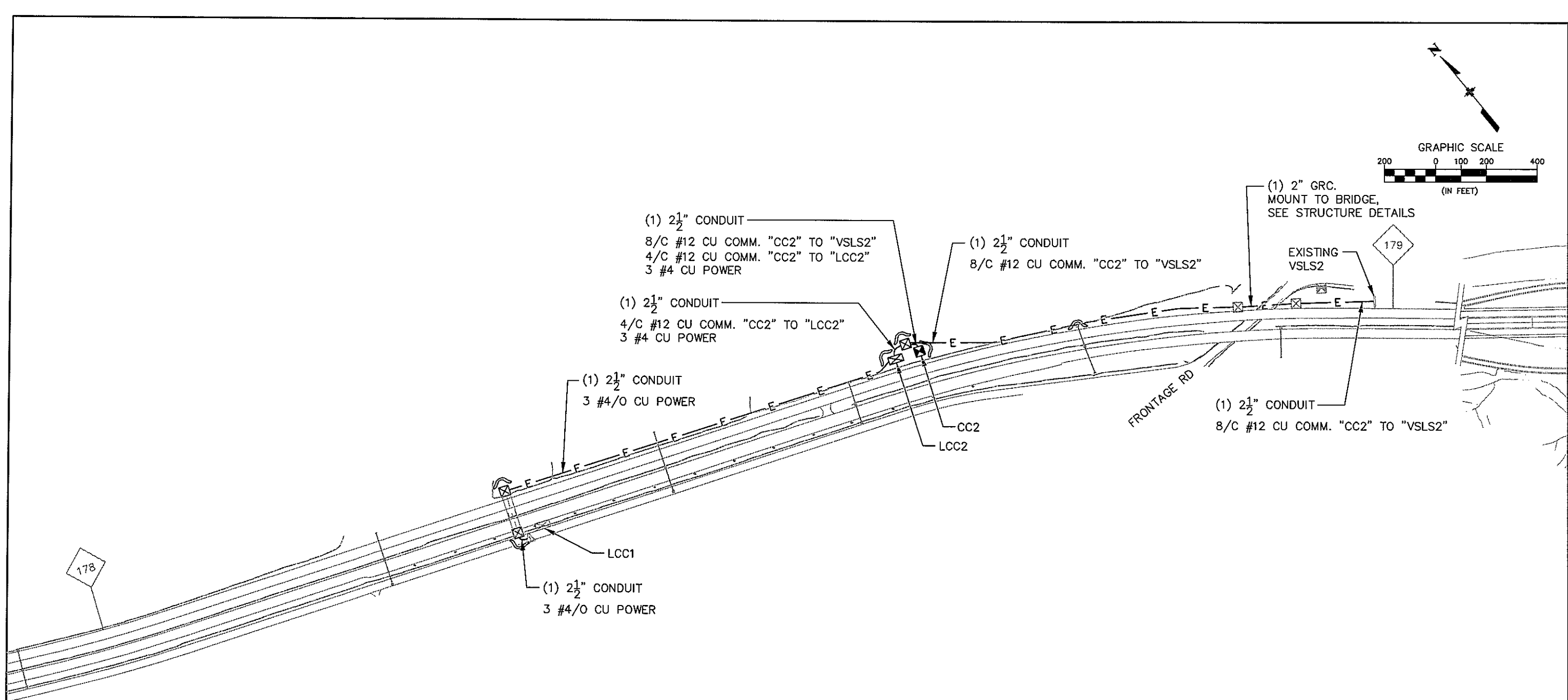
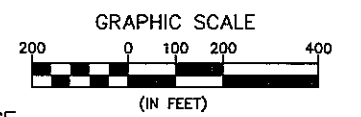


LANDSCAPE LOCATION MARKER

BRASS CAP SURVEY MONUMENT USED AS FIBER OPTIC CABLE MARKER WITH CONCRETE FOOTING SUPPORT
(ITEM - LOCATION MARKER (FIBER OPTIC)(BRASS CAP))

William Kascek, Set(9/17/2007 4:39 PM)Fiber Marker Sheet 2.dwg

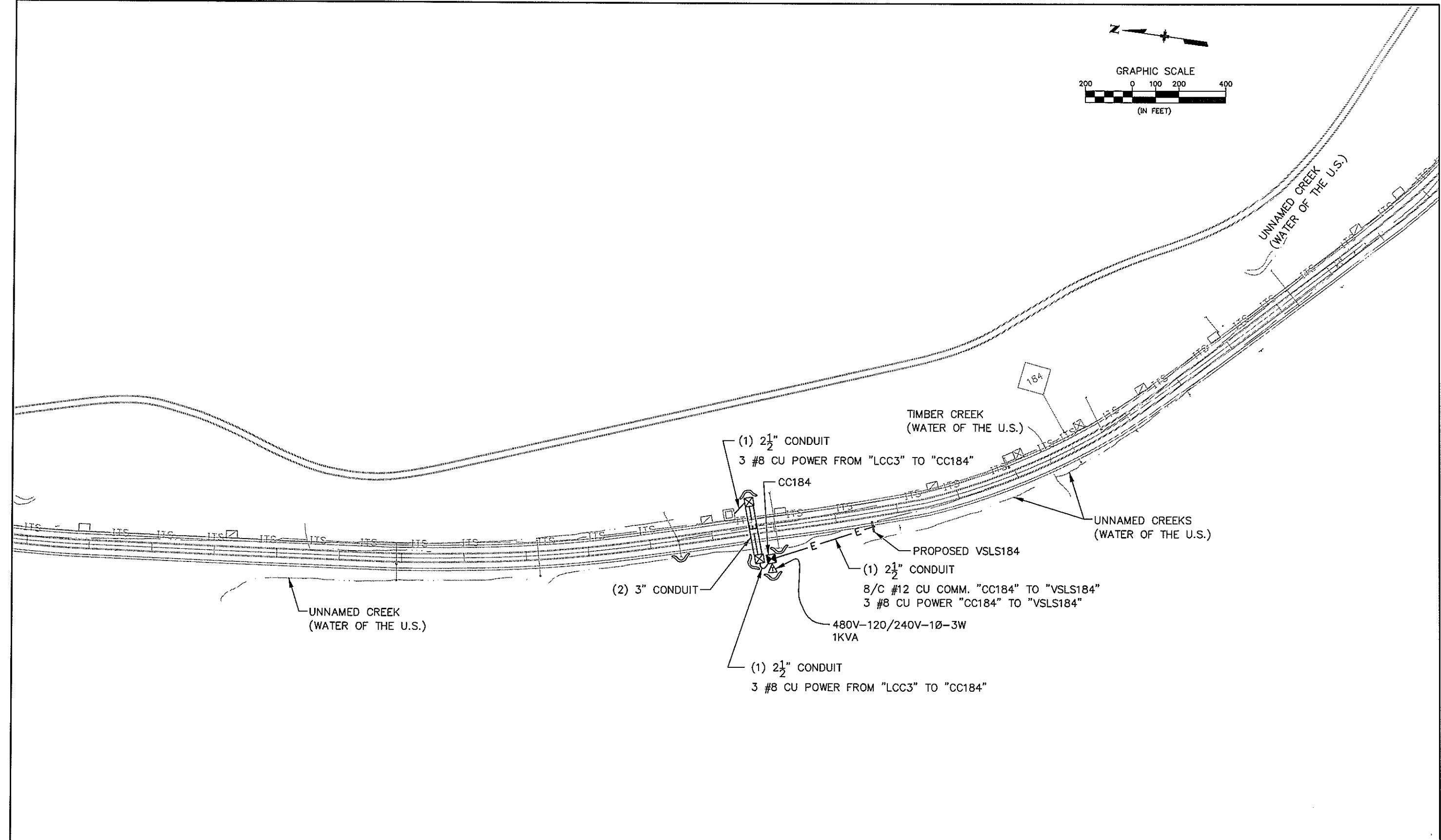
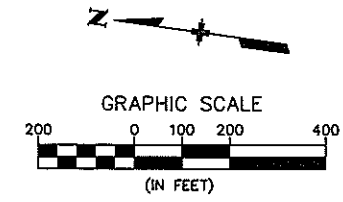
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Creation Date:	5/12/2003	Initials: WJKjr				ITS - Colorado Traffic Management Center 425C Corporate Circle Golden, Colorado 80401 Phone: 303-512-5834 FAX: 303-512-5878 ITS - CTMC With Region 1 Traffic SS			No Revisions:			Fiber Optic / Utility Location Marker			IM 070A-003					
Last Modification Date:	11/13/2006	Initials: WJKjr							Revised:						Sheet 2					
Full Path:									Void:			Designer: WJKjr			16701					
Drawing File Name:		See Side Panel										Detailer: WJKjr			Structure Numbers					
Acad Ver. ACAD 2002 Lt	Scale: NA	Units: English										Sheet Subst: Project Detail			Subst Sheet Number: 2/2			Sheet Number 89		





LEGEND			
	PROPOSED FLASHING BEACON (FB)		EXISTING ELECTRICAL
	EXISTING MANHOLE		EXISTING ELECTRICAL (BORED)
	PROPOSED MANHOLE		PROPOSED ELECTRICAL
	EXISTING COMMUNICATIONS CABINET (CC)		PROPOSED ELECTRICAL (BORED)
	PROPOSED COMMUNICATIONS CABINET (CC)		EXISTING ITS
	EXISTING PULLBOX		EXISTING ITS (BORED)
	PROPOSED PULLBOX		PROPOSED ITS
	EROSION LOG		PROPOSED ITS (BORED)
	EXISTING VARIABLE SPEED LIMIT SIGN (VLS)		WETLANDS
	PROPOSED VARIABLE SPEED LIMIT SIGN (VLS)		
	EXISTING LIGHTING CONTROL CENTER (LCC)		
	PROPOSED LIGHTING CONTROL CENTER (LCC)		
	EXISTING TRANSFORMER		
	PROPOSED TRANSFORMER		

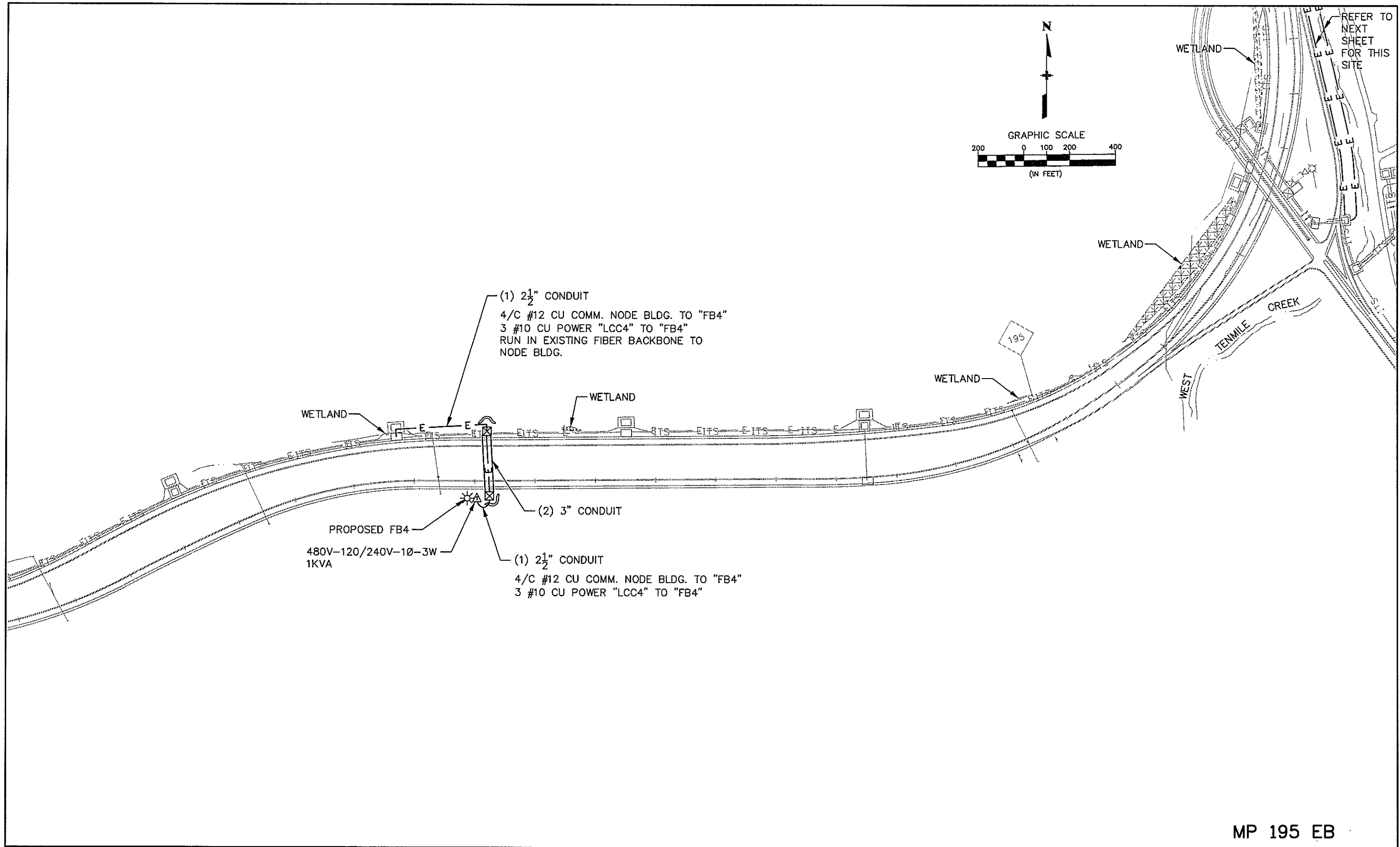
MP 177 WB

Computer File Information Creation Date: 02/18/08 Initials: SRB Last Modification Date: 03/25/08 Initials: BEG Full Path: S:\Tranpro\100000508\16701\Consultants\Plot_Sets\FOR Drawing File Name: conduit001-mp177wb.dgn Scale: Units: ENGLISH		Index of Revisions <table border="1"> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>																		Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343 REGION I		4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276 DW		As Constructed No. Revisions: Revised: Void:		CONDUIT PLAN and SWMP SITE MAP Designer: SRB Detailer: BEG Sheet Subset: Conduit Structure Numbers: Subset Sheets: 1 of 17			Project No./Code IM 070A-003 16701 Sheet Number: 90	





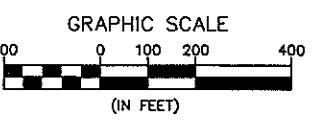
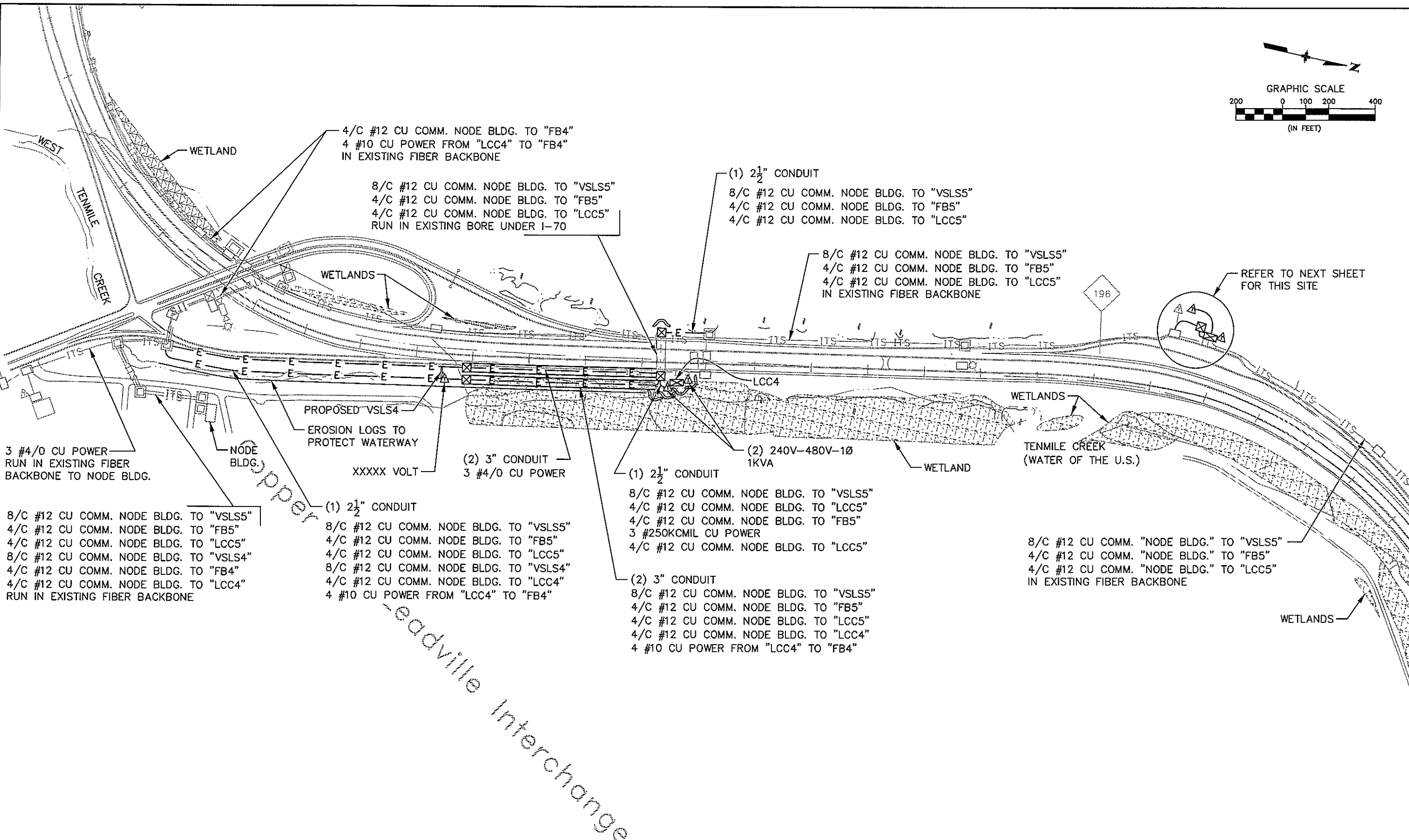
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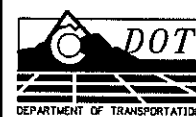



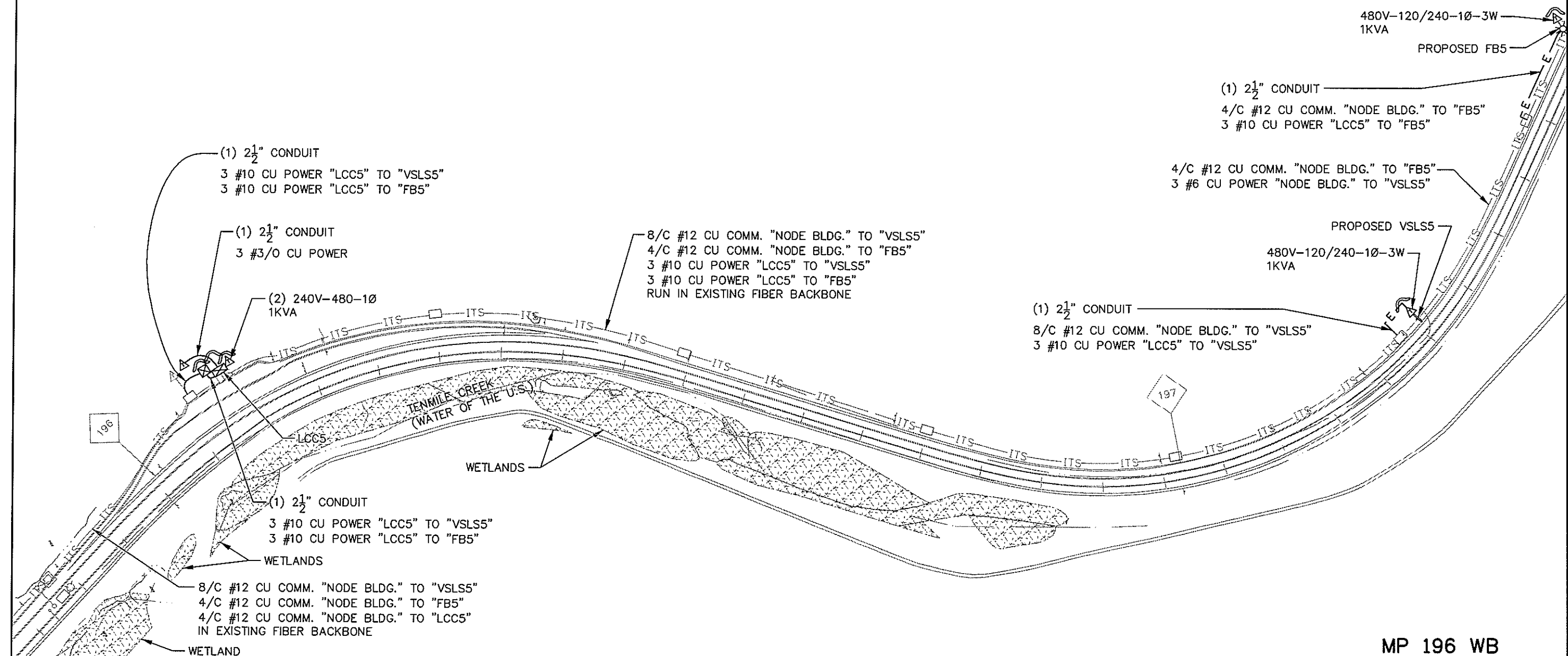
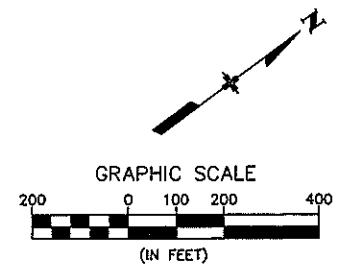
MP 195 EB

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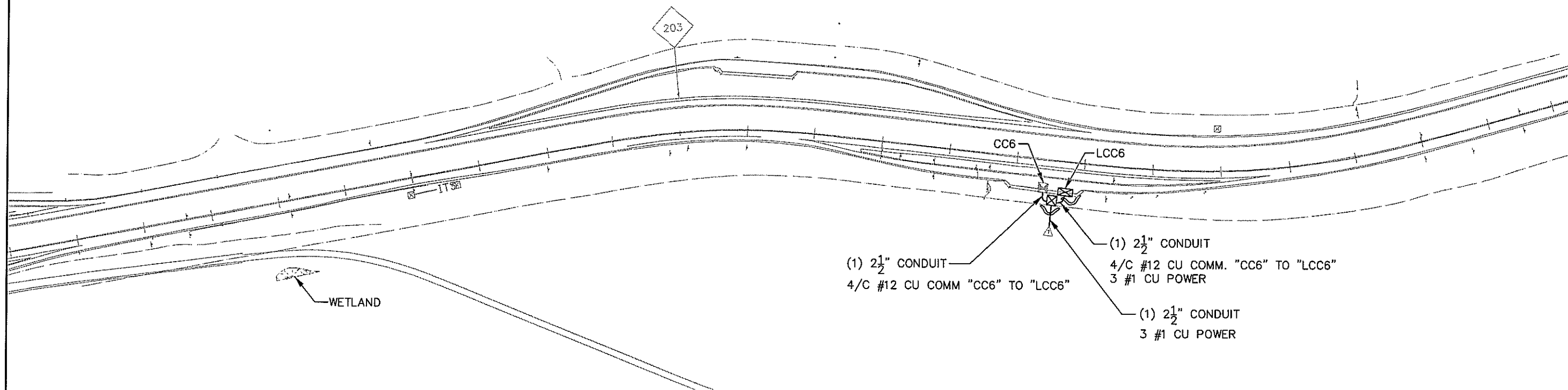
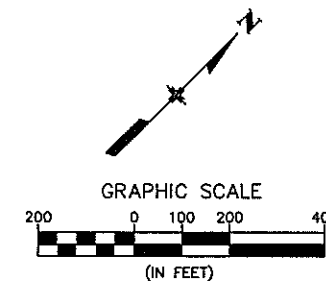
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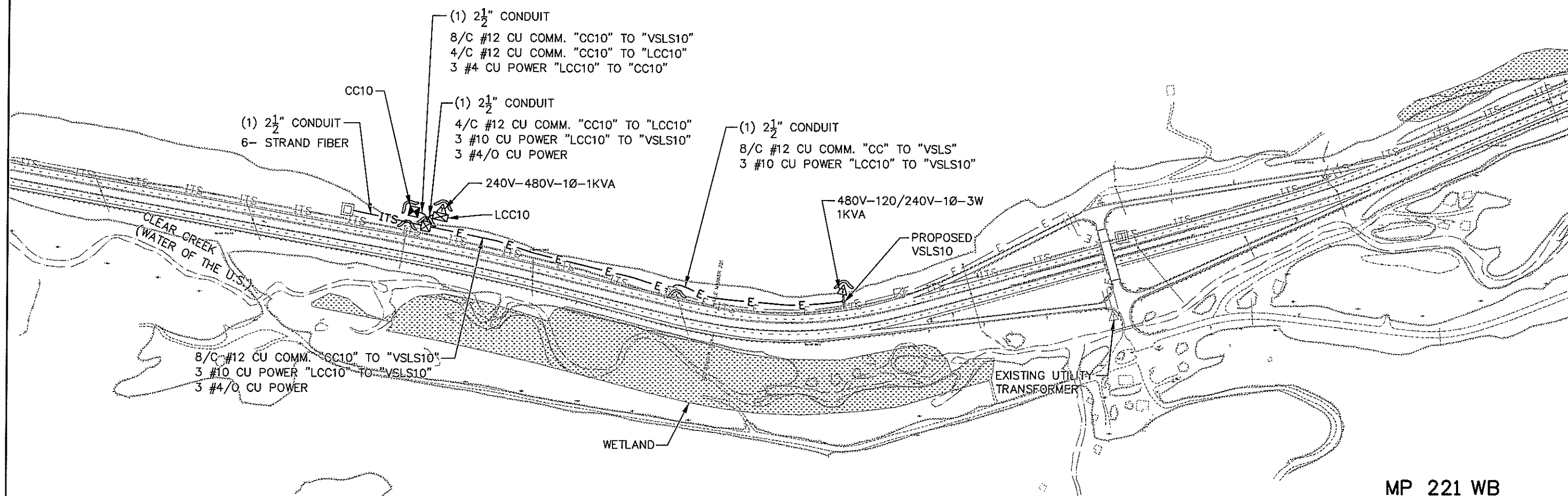
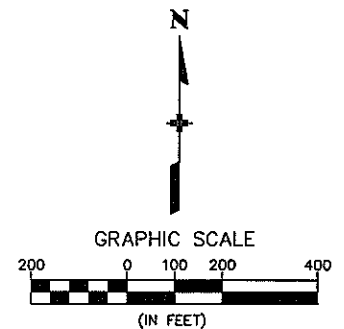
MP 196 WB

Computer File Information		Index of Revisions		<p>Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 Fax: (303) 365-7343</p> <p>PBSJ 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276</p>	<p>As Constructed</p> <p>No. Revisions:</p> <p>Revised:</p> <p>Void:</p>	<p>CONDUIT PLAN and SWMP SITE MAP</p> <p>Designer: SRB Detailer: BEG Sheet Subset: Conduit Subset Sheets: 6 of 17</p>		<p>Project No./Code</p> <p>IM 070A-003</p> <p>16701</p> <p>Sheet Number: 95</p>
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MP 203 EB

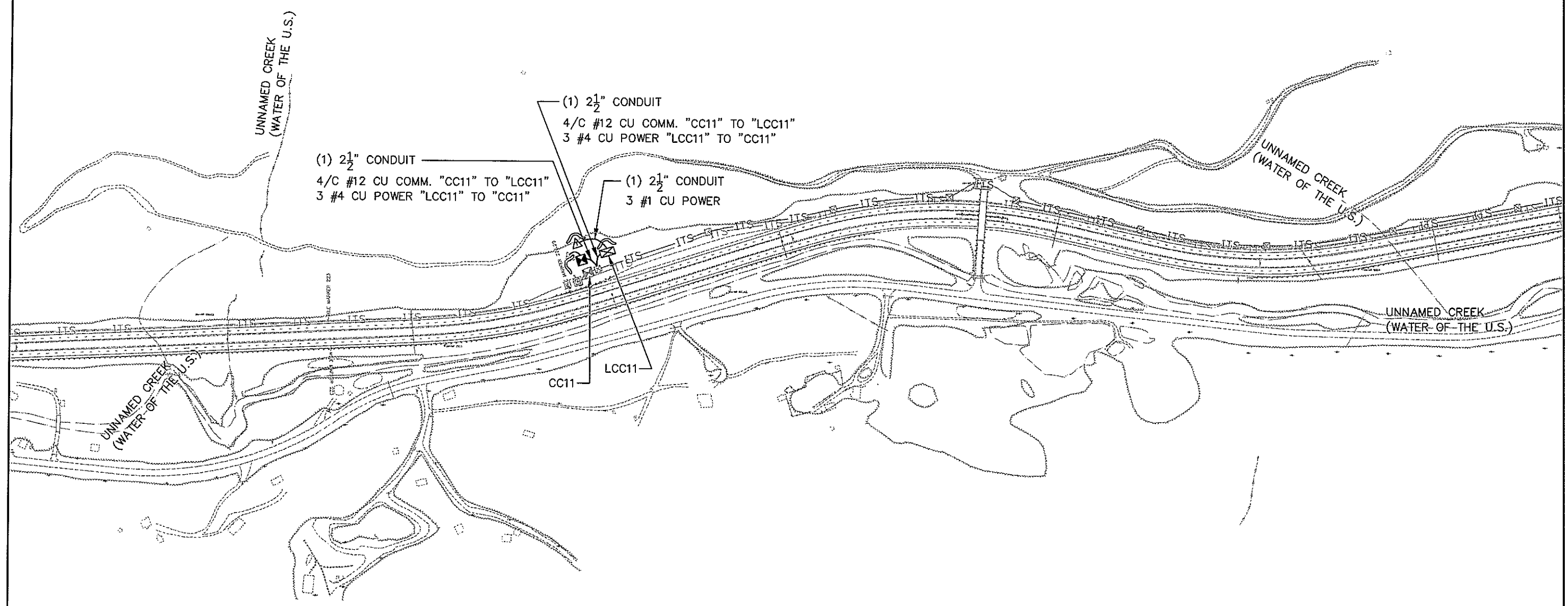
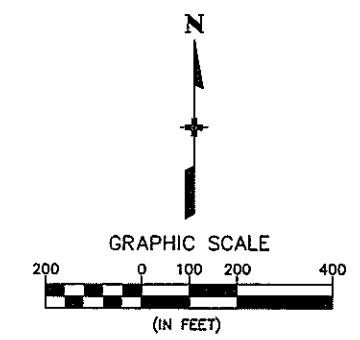
Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		CONDUIT PLAN and SWMP SITE MAP		Project No./Code	
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MP 221 WB

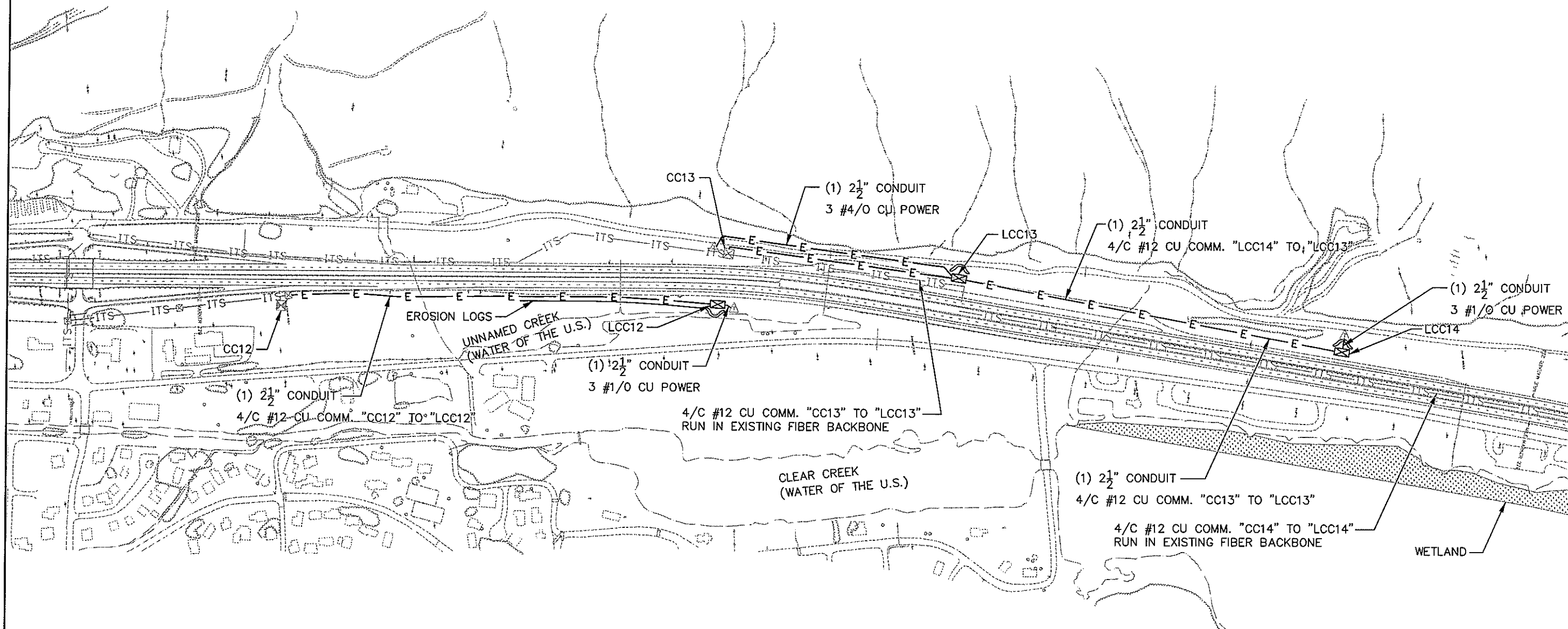
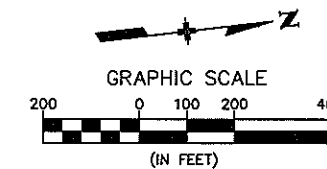
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Last Modification Date: 03/25/08	Initials: BEG	<input type="checkbox"/>			Revised:	Designer: SRB	Structure Numbers	16701		
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REGION I DW





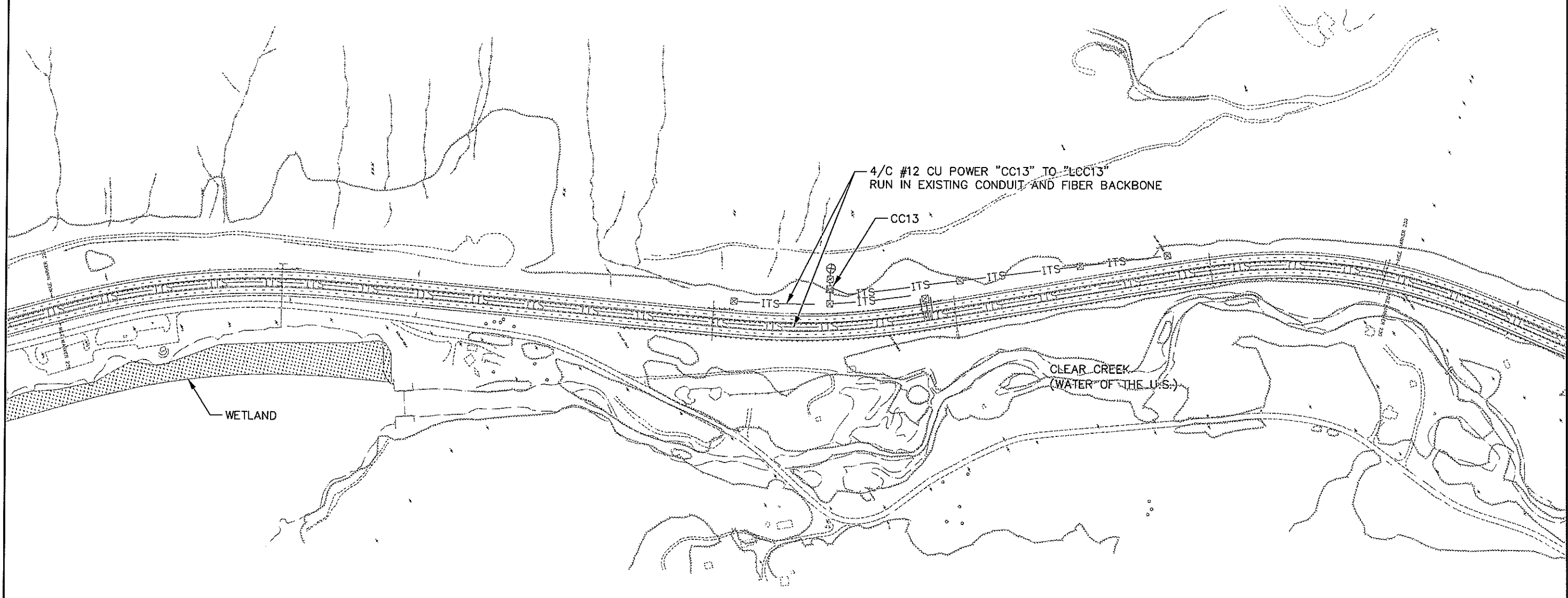
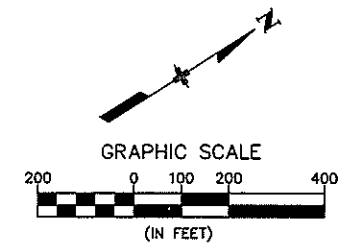
MP 223 WB

Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		CONDUIT PLAN and SWMP SITE MAP		Project No./Code	
Creation Date: 02/18/08	Initials: SRB					No. Revisions:				IM 070A-003	
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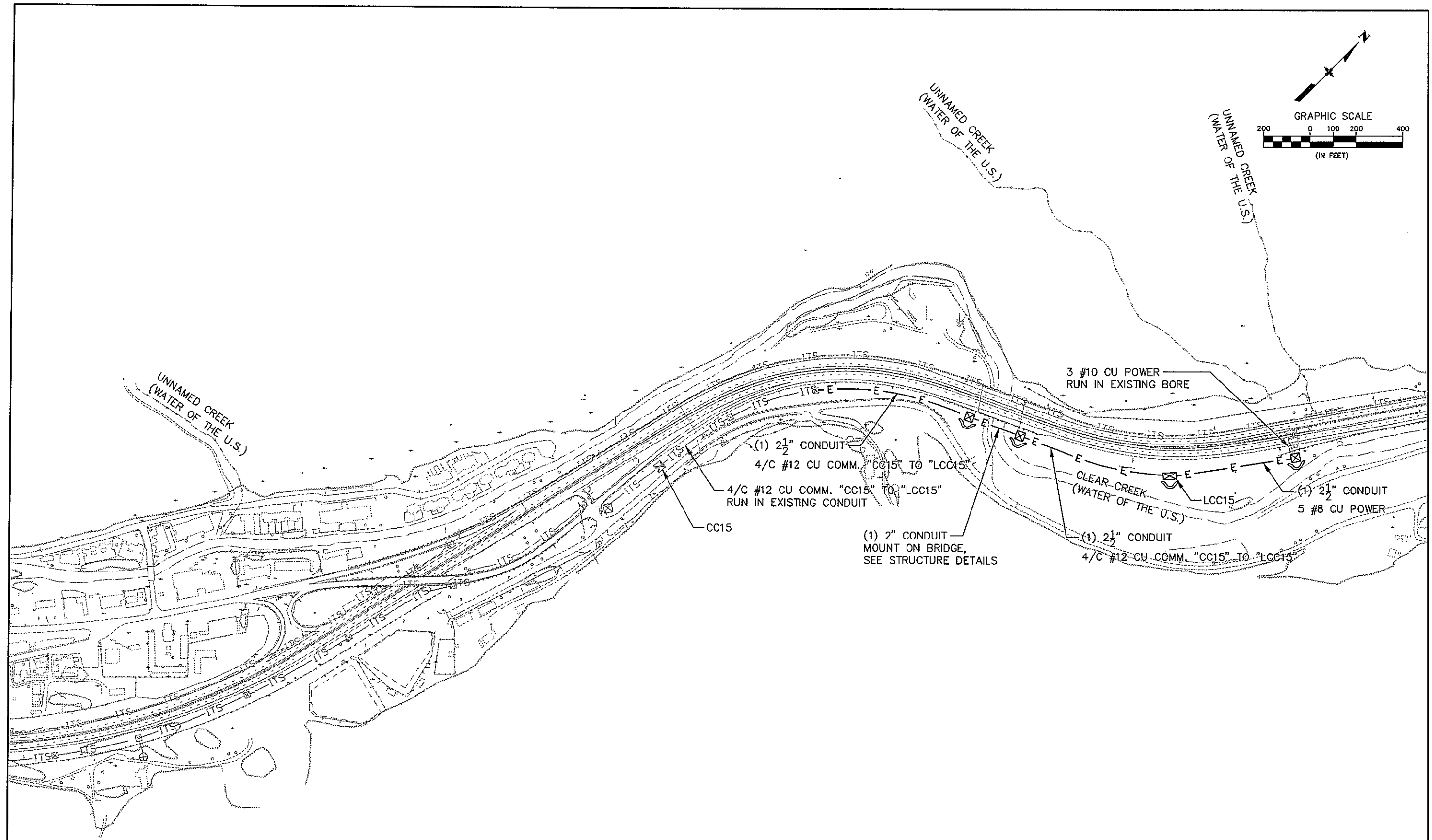
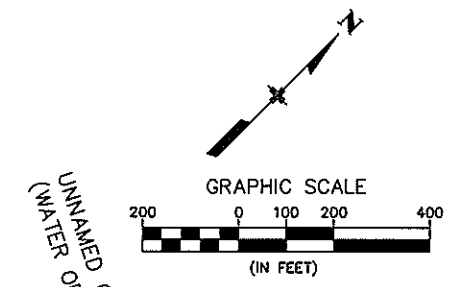
MP 228 EB & WB

Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		CONDUIT PLAN and SWMP SITE MAP		Project No./Code	
Creation Date: 02/18/08	Initials: SRB					No. Revisions:				IM 070A-003	
Last Modification Date: 03/25/08	Initials: BEG					Revised:	Designer: SRB	Structure Numbers	16701		
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Scale:	Units: ENGLISH			REGION I	DW						



MP 228 EB & WB

Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343 REGION I DW	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		CONDUIT PLAN and SWMP SITE MAP		Project No./Code	
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Last Modification Date: 03/25/08	Initials: BEG					Revised:	Designer: SRB	Structure Numbers	16701		
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MP 241 EB

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Last Modification Date: 03/25/08	Initials: BEG
Full Path: S:\Tranproj\100000508\16701\Consultants\Plot_Sets\FOR	
Drawing File Name:	conduit014-mp241eb.dgn
Scale:	Units: ENGLISH

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Region 1
18500 East Colfax
Aurora, CO 80011
Phone: (303) 365-7340
FAX: (303) 365-7343

DEPARTMENT OF TRANSPORTATION

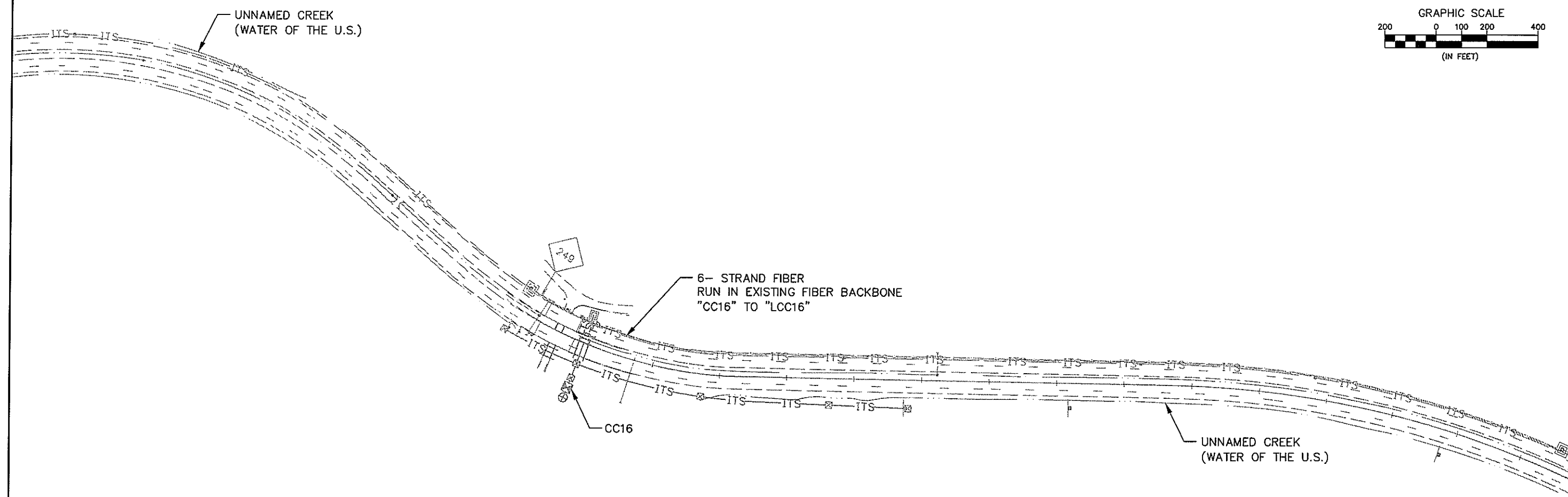
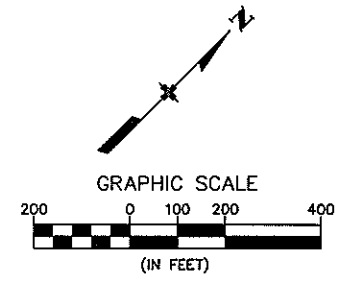
REGION I DW

4601 DTC Blvd.
Suite 700
Denver, CO 80237
Phone: (303) 221-7275
Fax: (303) 221-7276

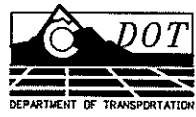

As Constructed
No. Revisions:
Revised:
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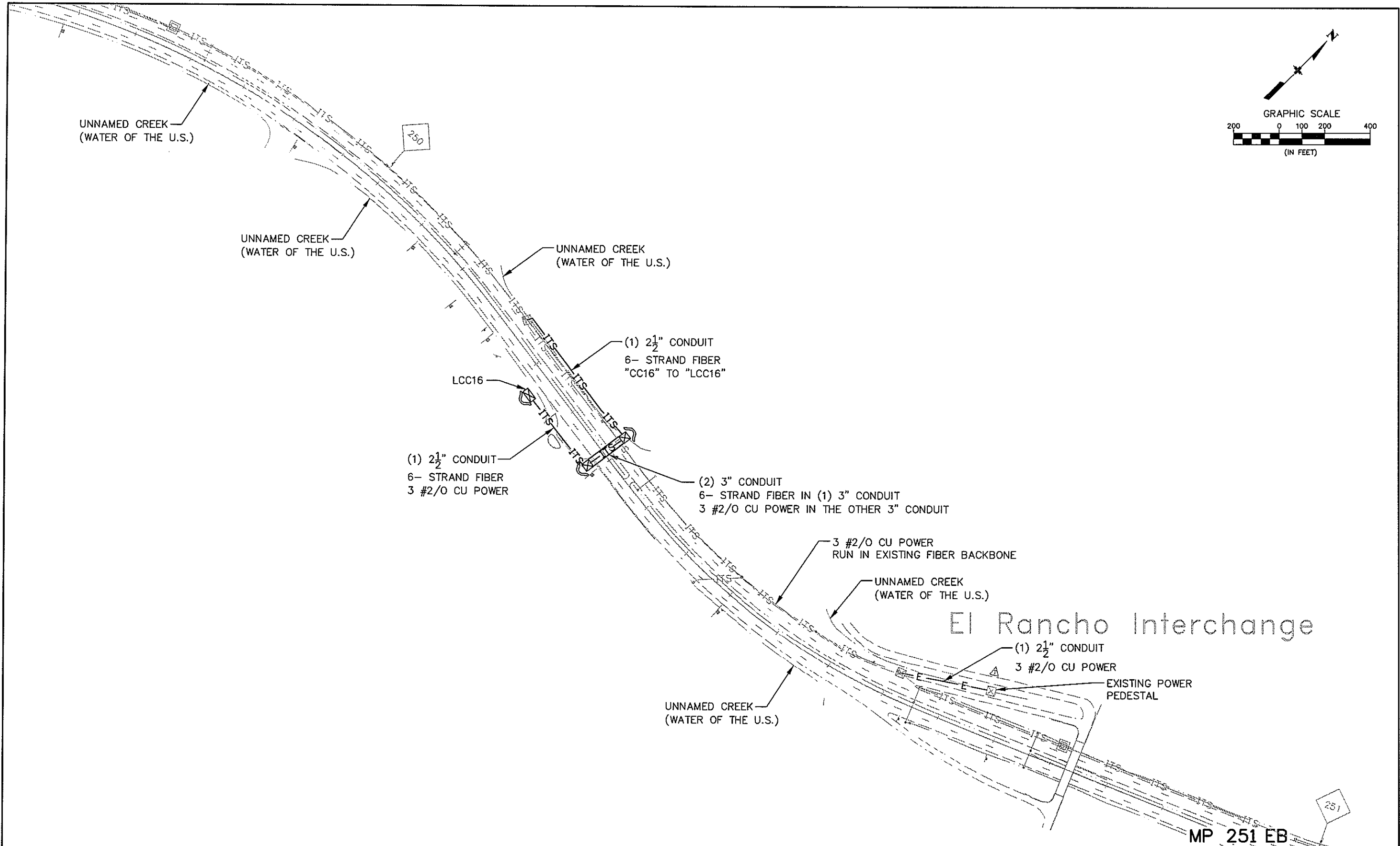
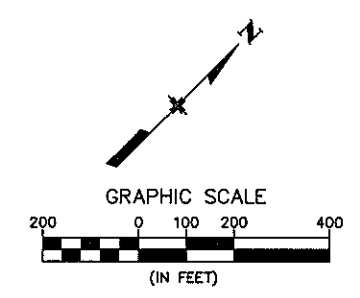
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Designer:	SRB	Structure Numbers	
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MP 251 EB

Computer File Information Creation Date: 02/18/08 Initials: SRB Last Modification Date: 03/25/08 Initials: BEG Full Path: S:\Tranproj\100000508\16701\Consultants\Plot_Sets\FOR Drawing File Name: conduit015-mp251eb.dgn Scale: Units: ENGLISH		Index of Revisions <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>																	 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343 REGION I DW		 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276		As Constructed No. Revisions: Revised: Void:			CONDUIT PLAN and SWMP SITE MAP Designer: SRB Detailer: BEG Sheet Subset: Conduit Subset Sheets: 15 of 17			Project No./Code IM 070A-003 16701 Sheet Number: 104	




Computer File Information	
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Last Modification Date: 03/25/08	Initials: BEG
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Region 1
18500 East Colfax
Aurora, CO 80011
Phone: (303) 365-7340
FAX: (303) 365-7343

REGION I DW

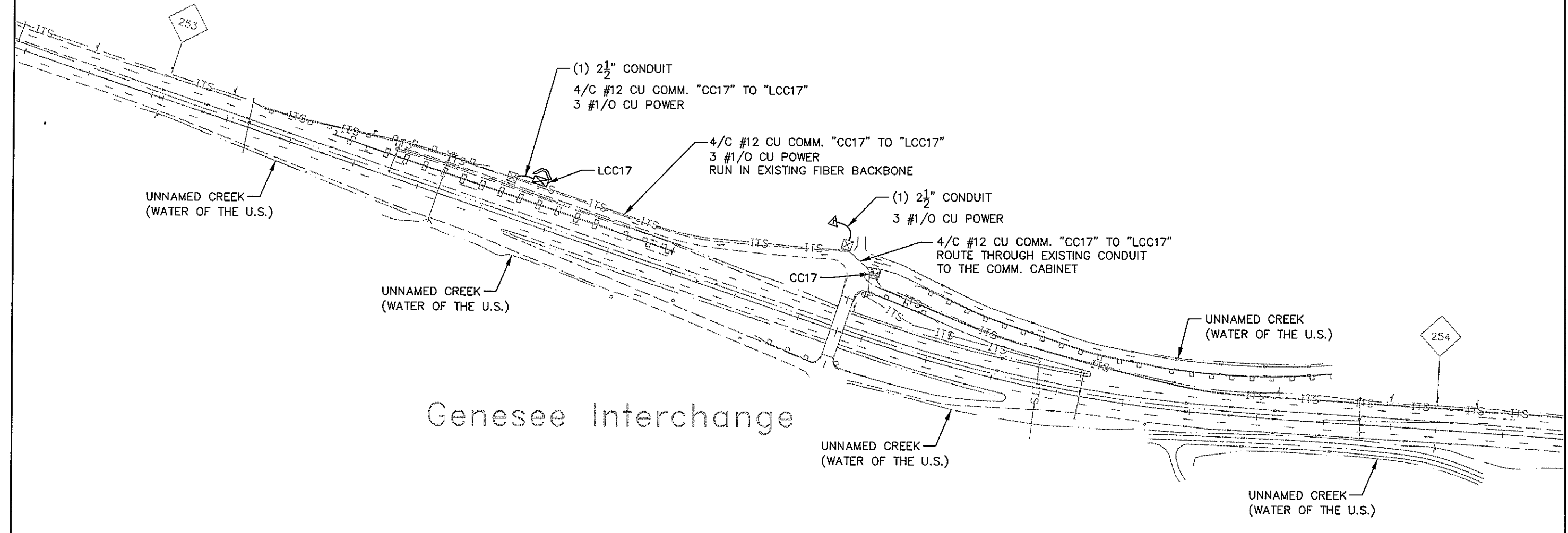
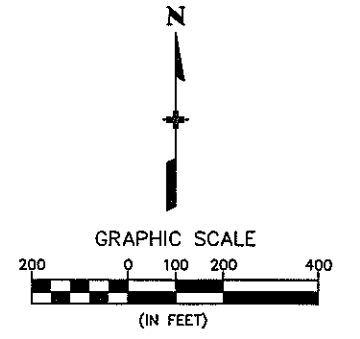


4601 DTC Blvd.
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No. Revisions:
Revised:
Void:



CONDUIT PLAN and SWMP SITE MAP			
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Detailer:	BEG	Subset Sheets:	16 of 17
Sheet Subset:	Conduit		

Project No./Code	IM 070A-003
	16701
Sheet Number:	105



Genesee Interchange

MP 254 WB

Computer File Information		Index of Revisions		 Region 1 18500 East Colfax Aurora, CO 80011 Phone: (303) 365-7340 FAX: (303) 365-7343	 4601 DTC Blvd. Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	As Constructed		CONDUIT PLAN and SWMP SITE MAP		Project No./Code	
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