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CITY AND COUNTY OF DENVER

DEPARTMENT OF PUBLIC WORKS

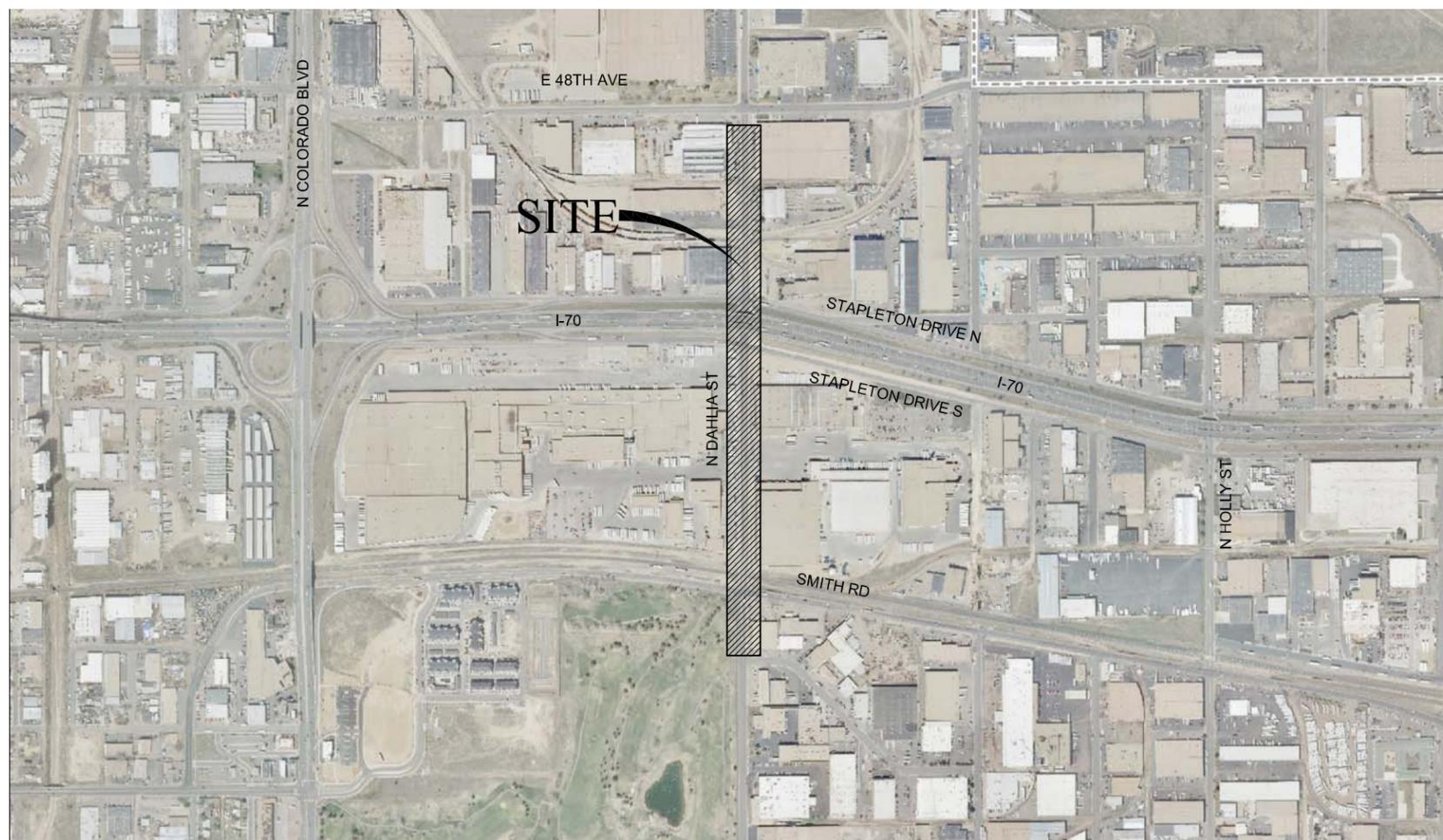
ENGINEERING DIVISION

PILAR NO. ----

PCO NO. ----

PARK HILL STORM, PHASE IV-B/51ST AND ST PAUL SANITARY

PCO #2010-0087



VICINITY MAP
NTS

PROJECT BENCH MARK
CCD BM 445 BRASS CAP IN TOP OF CURB
SOUTHEAST CORNER OF DAHLIA ST
AND STAPLETON DRIVE SOUTH
ELEVATION=5247.10
DATUM NGVD 29

PROJECT BENCH MARK (TVP-145)
N 1/4 CORNER S19, ALUMINUM CAP IN BOX
IN SOUTH BOUND LANE OF DAHLIA ST,
270 NORTH OF NW CORNER OF
48TH AVE AND DAHLIA ST.
ELEVATION=5235.49 (NGVD 29)

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NO.	DESCRIPTION OF REVISIONS	DATE	BY
1	PCO 100% SUBMITAL	8-23-13	MWG



CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
CAPITAL PROJECT MANAGEMENT
2000 W. 3RD AVE. DENVER, CO 80223
TEL.: (303) 446-3617 FAX: (303) 446-3647



PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY

COVER SHEET



SUBMITTED BY: _____ DATE: _____
PROJECT DESIGN ENGINEER

THROUGH: _____ DATE: _____
DIRECTOR OF ENGINEERING

APPROVED: _____ DATE: _____
DIVISION OF SMALL BUSINESS OPPORTUNITY

APPROVED: _____ DATE: _____
CITY ENGINEER

APPROVED: _____ DATE: _____
MANAGER OF PUBLIC WORKS

DRAWN BY: MWG

DESIGNED BY: MWG

APPROVED BY: MWG

DRAWING NAME: D-04-323-CS-PH IV-B.dwg

DATE: 08/01/2009

SHEET NO.: 1 OF 17

GENERAL NOTES:

- CONTRACTORS PERFORMING WORK ON ANY WASTEWATER FACILITY OR APPURTENANCE MUST BE PROPERLY LICENSED AND HAVE A LICENSED PLUMBER OR DRAIN LAYER ON SITE DURING THE WORK.
- THE MOST RECENT EDITION OF THE WASTEWATER MANAGEMENT DIVISION STANDARD DETAILS AND TECHNICAL SPECIFICATIONS APPLY TO ALL WORK. THE CONTRACTOR MUST BE IN POSSESSION OF THE STANDARD DETAILS AND TECHNICAL SPECIFICATIONS AT THE PRE-CONSTRUCTION CONFERENCE AND A COPY MUST REMAIN ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION. WMD STANDARD DETAILS AND TECHNICAL SPECIFICATIONS CAN BE VIEWED AT THE FOLLOWING WEBSITE ADDRESS: WWW.DENVERGOV.ORG CLICK ON PUBLIC WORKS INTO THE SEARCH BOX (TOP RIGHT OF PAGE). SELECT DIVISIONS AND AGENCIES. UNDER ENGINEERING DIVISION SELECT CAPITAL PROJECTS MANAGEMENT. ON THE RIGHT SIDE UNDER RELATED LINKS CLICK ON WASTEWATER CAPITAL PROJECTS.
- A CONSTRUCTION ACTIVITIES STORMWATER DISCHARGE PERMIT, STREET-CUT PERMIT, AND STREET OCCUPANCY PERMIT (INCLUDING THE ASSOCIATED TRAFFIC CONTROL PLANS) ARE REQUIRED AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL OF THESE PERMITS. A PARTICULAR PROJECT MAY ALSO REQUIRE A PARKS OCCUPANCY PERMIT. APPROVED COPIES OF ALL REQUIRED PERMITS MUST BE SUBMITTED TO THE PROJECT CONSTRUCTION ENGINEER PRIOR TO THE START OF CONSTRUCTION.
- ALL DESIGN DRAWINGS PROVIDED AS PART OF THIS CONTRACT ARE FORMATTED FOR PRINTING FULL SIZE, ON STANDARD 22 X 34 INCH (ANSI D) PAPER SIZE AND TO HALF-SIZE (AND SCALE WHERE APPROPRIATE) ON STANDARD 11 X 17 PAPER SIZE. IT IS THE USER'S RESPONSIBILITY TO ENSURE THAT HARD COPIES OF PLANS UTILIZED FOR BIDDING OR CONSTRUCTION ARE PRINTED ON THE PROPER MEDIA SIZE AND THAT SCALES PROVIDED WITHIN THE DRAWINGS ARE CORRECTLY INTERPRETED.
- THE CONTRACTOR SHALL NOTIFY THE PROJECT CONSTRUCTION ENGINEER IMMEDIATELY OF "ANY" DISCREPANCIES OR VARIATIONS IN DRAWINGS & SPECIFICATIONS THAT EFFECT PRICING OR THAT COULD REQUIRE MODIFICATION TO THE DESIGN.
- THE CITY AND COUNTY OF DENVER ASSUMES NO RESPONSIBILITY FOR UTILITY LOCATIONS. THE UTILITIES SHOWN ON THESE DRAWINGS HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
- CONTRACTOR SHALL LOCATE AND VERIFY ALL LIVE SANITARY SEWER SERVICES (TAPS) AND ENSURE THAT ALL ACTIVE TAPS AFFECTED BY THE CONSTRUCTION OPERATIONS ARE PROPERLY RECONNECTED. IN THE EVENT OF A SANITARY SEWER BACKUP WITHIN THE CONSTRUCTION LIMITS, THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ENSURING BUSINESSES AND RESIDENCES AFFECTED ARE IMMEDIATELY ADDRESSED AND PLACED BACK INTO SERVICE.
- ALL RANGE POINTS OR OTHER SURVEY MONUMENTS WHICH MAY BE DESTROYED DURING CONSTRUCTION SHALL BE TIED OUT AND RESET BY CITY SURVEY CREWS UNDER THE CITY ENGINEER. CONTRACTOR IS RESPONSIBLE FOR PROPER NOTIFICATION AND PROTECTION OF ALL MONUMENTS ENCOUNTERED DURING CONSTRUCTION
- ALL ELEVATIONS SHOWN ARE NGVD29 DATUM.
- ALL EXISTING GRATES, FRAMES AND PIPE WHICH ARE SALVAGEABLE SHALL BE TRANSPORTED AND STORED AT THE WASTEWATER MANAGEMENT DIVISION MAINTENANCE YARD LOCATED AT 2000 W. 3RD AVE. IN DENVER.
- INLETS AND MANHOLES ARE NOT SHOWN TO SCALE ON THE PLAN AND PROFILE SHEETS.
- LOCATION OF INLETS AND/OR INLET CONNECTORS MAY BE ADJUSTED IN THE FIELD AT THE DIRECTION OF THE PROJECT CONSTRUCTION ENGINEER IN CONJUNCTION WITH DESIGN INTENTION. ALL INLET CONNECTIONS SHOWN IN PLAN AND PROFILE ARE APPROXIMATE LOCATIONS AND DEPTHS.
- DEPTHS OR BOTTOM OF STRUCTURE ELEVATIONS WILL NOT BE PROVIDED FOR INLETS WITHIN THE PROJECT SCOPE, AS THESE ARE REQUIRED TO BE DETERMINED BASED ON FIELD CONDITIONS IN ACCORDANCE WITH APPLICABLE STANDARD DETAIL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ESTABLISH INLET DEPTHS AND COMPLETE CONSTRUCTION IN CONFORMANCE WITH APPLICABLE STANDARD DETAIL DRAWINGS BASED ON CLEARANCES OF ADJACENT UTILITIES WHILE MAINTAINING MINIMUM REQUIRED GRADES ON LATERAL CONNECTIONS.
- ALL SEWER MANHOLES MUST BE MAINTAINED AND ACCESSIBLE DURING CONSTRUCTION.
- ALL SANITARY MANHOLES ARE 4' DIAMETER WITH "A" BASE AND CONCENTRIC CONE UNLESS NOTED OTHERWISE.
- CHANGES IN THE ELEVATION OF AN EXISTING BRICK MANHOLE RING AND COVER MAY REQUIRE THE USE OF A PRE-CAST CONCRETE MANHOLE FLAT-TOP SECTION OR MANHOLE RECONSTRUCTION AT THE DISCRETION OF THE PROJECT INSPECTOR OR THE PROJECT CONSTRUCTION ENGINEER.
- ALL MANHOLES BUILT WITH THIS PROJECT SHALL INCLUDE EITHER A 4' OR 6' CAST IRON RISER.
- REINFORCING STEEL:
 - ALL REBAR SHALL BE PLACED PER SHOP DRAWINGS APPROVED BY THE PROJECT CONSTRUCTION ENGINEER
 - REINFORCING STEEL SHALL BE HOT ROLLED DEFORMED BARS, ASTM DESIGNATION A615, GRADE 60
 - LAPS SHALL BE CLASS B (SPLICE NO MORE THAN HALF OF BARS AT ANY LOCATION), EXCEPT WHERE OTHERWISE SHOWN OR NOTED. LAPS IN HORIZONTAL STEEL SHALL BE STAGGERED UNLESS OTHERWISE SHOWN
 - ALL CROSSING REINFORCING BARS SHALL BE TIED
 - FOR ALL CAST-IN-PLACE REINFORCED CONCRETE STRUCTURES THE CONTRACTOR SHALL SUPPLY ADEQUATE BAR CHAIRS AND SUPPORTS FOR REINFORCING SUBJECT TO THE APPROVAL OF THE PROJECT CONSTRUCTION ENGINEER
- EXACT LOCATION OF ALL SAW CUTS SHALL BE DETERMINED IN THE FIELD BY THE CONSTRUCTION PROJECT ENGINEER.
- DOWELS, PIPES, WATER STOPS AND OTHER INSTALLED MATERIALS AND ACCESSORIES SHALL BE HELD SECURELY IN POSITION WHILE CONCRETE IS BEING PLACED.
- CLASS B BEDDING IS REQUIRED FOR ALL STORM AND SANITARY SEWER PIPE (SEE STANDARD DETAILS S-301.1 AND S-301.2). OTHER FACILITIES MAY REQUIRE DIFFERENT BEDDING TYPES, PER SPECIFIC OWNER REQUIREMENTS.
- THIS PROJECT IS DESIGNED FOR THE MINOR STORM EVENT UNLESS NOTED OTHERWISE ON PLANS.
- THE CONTRACTOR SHALL BACKFILL AND FINE GRADE ALL CUT OR FILL SLOPES TO MATCH EXISTING CONDITIONS TO THE SATISFACTION OF THE PROJECT CONSTRUCTION ENGINEER, WHERE EXISTING LAWNS ARE DAMAGED BY THE CONTRACTOR'S OPERATIONS THE CONTRACTOR SHALL RE-SEED AND/OR SOD THE AFFECTED AREA TO A CONDITION EQUAL TO, OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION. ALL COSTS ARE INCLUDED WITHIN APPURTENANT BID ITEMS.
- "AS-BUILT" AND "RED-LINED" DRAWINGS AND PRINTS ARE TO BE MAINTAINED BY THE CONTRACTOR AND SUBMITTED TO THE PROJECT CONSTRUCTION ENGINEER AT THE COMPLETION OF THE PROJECT. ANY AND ALL FIELD CHANGES MADE DURING CONSTRUCTION MUST BE NOTED. THE DRAWINGS WILL STATE "AS-BUILT" IN LARGE BLOCK LETTERS. THE "AS-BUILT" DRAWINGS MUST BE RECEIVED AND ACCEPTED BY THE PROJECT CONSTRUCTION ENGINEER PRIOR TO FINAL ACCEPTANCE AND SETTLEMENT.
- DENVER WATER**
 - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO TAKE WHATEVER STEPS NECESSARY TO PROTECT ALL WATER FACILITIES. IF ANY WATER FACILITIES CANNOT BE ADEQUATELY PROTECTED, THEN SAID WATER FACILITIES SHALL BE RELOCATED OR REMOVED IN ACCORDANCE WITH THE DENVER WATER DEPARTMENT REQUIREMENTS, BY A DENVER WATER PREQUALIFIED CONTRACTOR.
 - CONSTRUCTION ACTIVITIES BY ANY PARTY THAT DISTURB, RELOCATE SEVER OR IN ANY OTHER WAY IMPACT A SERVICE LINE SHALL BE REQUIRED TO MEET CURRENT DENVER WATER REQUIREMENTS FOR SERVICE LINES AS SPECIFIED IN CHAPTER 9.04.3
- TREE PROTECTION**

IF EXISTING TREES ARE TO BE REMOVED THEY MUST FIRST BE EVALUATED BY THE CITY AND COUNTY OF DENVER FORESTRY (PARKS) TO OBTAIN A PERMIT. EXISTING TREES TO REMAIN MUST HAVE TREE PROTECTION SET UP AROUND THEM DURING THE CONSTRUCTION AS SHOWN IN THE "INDIVIDUAL TREE PROTECTION DETAIL" WHICH CAN BE FOUND BY GOING TO WWW.DENVERGOV.ORG, TYPE "LANDSCAPE PLANNING" INTO THE SEARCH BOX (TOP RIGHT OF PAGE). THE CONTRACTOR MUST FOLLOW ALL OF THE CITY AND COUNTY OF DENVER TREE RETENTION AND PROTECTION GUIDELINES.
- METRO WASTEWATER RECLAMATION DISTRICT**

METRO WASTEWATER RECLAMATION DISTRICT MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ON METRO FACILITIES IN ORDER FOR A DISTRICT INSPECTOR TO BE PRESENT DURING CONSTRUCTION. CONTRACTOR MUST CONTRACT METRO WASTEWATER RECLAMATION DISTRICT TO SCHEDULE THE INSPECTION 303-286-6000.

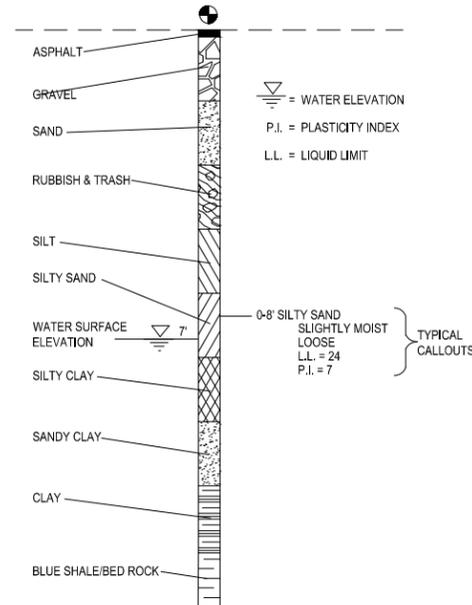
ADDITIONAL NOTES

- ALL RCP SHALL MEET THE ASTM C-76 SPECIFICATION.
- ALL RCP SHALL BE CLASS II UNLESS NOTED OTHERWISE.
- ALL SURFACE WORK SHALL BE DONE PER CCD TRANSPORTATION STANDARD DETAILS.
- CONTRACTOR IS REQUIRED TO COORDINATE BUS STOPS AND BUS ROUTES WITH CCD TES AND RTD DURING CONSTRUCTION.
- THE CONTRACTOR SHALL PROOF ROLL THE COMPLETED EMBANKMENT, SUBGRADE CONDITIONING OR ROADWAY SUBGRADE TO DETERMINE IF ANY SOFT, YIELDING OR OTHERWISE UNACCEPTABLE AREAS EXIST. THE INTENT IS TO ACHIEVE A STABLE PLATFORM FOR THE PROPER PLACEMENT OF EMBANKMENT OR PAVEMENTS. THE ENGINEER MAY REQUIRE A WITNESS BE PRESENT DURING THE PROOF ROLL TO VERIFY AREAS TO BE CORRECTED, AND REQUIRE A LOAD VERIFICATION OF THE PROOF ROLLER FROM THE CONTRACTOR. ANY AREAS WHICH SHOW DEFLECTIONS THAT ARE NON UNIFORM OR IN EXCESS OF 0.5 INCH SHALL BE REWORKED AS APPROVED, OR REMOVED AND REPLACED WITH APPROVED MATERIAL WITHOUT ADDITIONAL PAYMENT.
 - ALL REWORKED AREAS SHALL BE RETESTED FOR MOISTURE AND COMPACTION, AND PROOF ROLLED AGAIN AFTER THE SUBGRADE HAS BEEN SHAPED TO THE FINAL GRADE AND CROSS SECTION.
 - THE PROOF ROLLER SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE A PNEUMATIC TIRE VEHICLE WITH TIRE PRESSURES OF AT LEAST 100 PSI CAPABLE OF APPLYING GROUND LOADS OF AT LEAST 18,000 POUNDS PER AXLE. THE PROOF ROLLER SHALL BE OPERATED BETWEEN 2 AND 6 MILES PER HOUR, AND SHALL ACHIEVE COMPLETE COVERAGE OF THE AREA TO BE CONSTRUCTED WITH EMBANKMENT OR PAVEMENT MATERIALS.
 - UPON APPROVAL OF THE PROOF ROLLING; THE NEXT SOIL, AGGREGATE OR PAVEMENT LAYER SHALL BE PLACED PRIOR TO MOISTURE OR WEATHER OR OTHER FACTORS AFFECTING THE SURFACE CONDITIONS OF THE SUBGRADE. ANY LAPSE OF MORE THAN 24 HOURS SHALL BE APPROVED BY THE ENGINEER, OR ANOTHER PROOF ROLL WILL BE REQUIRED.
- COMPACTION OF TOP TWO FEET OF STREET PAVING SUBGRADE IN TRENCHES SHALL MEET 95% MODIFIED PROCTOR COMPACTION, WITHIN 2% OF OPTIMUM MOISTURE BY AASHTO T-180 FOR GRANULAR SUBGRADE (A-1 THROUGH A-5), OR 95% STANDARD PROCTOR COMPACTION, WITHIN 2% OF OPTIMUM MOISTURE BY AASHTO T-99 FOR COHESIVE CLAY OR SILT (A-6 OR A-7) TYPES OF SOIL SUBGRADE. THE T-99 METHOD MAY BE ALLOWED FOR NON-SWELLING MIXED SOILS (A-4 OR A-5), RECONDITION ON THE 12" OF OTHER SUBGRADE THAT MAY BE EXPOSED AFTER ROTOMILL OR OUTSIDE THE TRENCH, TO THE PROPER MOISTURE AND COMPACTION LIMITS, PRIOR TO PAVING.
- PUC DOCKET NUMBER 10A-433R: CLOSING BNSF RAILROAD CROSSING AT NORTH DAHLIA STREET BETWEEN EAST 46TH AVENUE AND EAST 48TH AVENUE AT MILE POST 7.
- CONTRACTOR SHALL REPLACE ALL EXISTING PAVEMENT STRIPING AND SHALL COORDINATE WITH TRAFFIC ENGINEERING SERVICES PRIOR TO INSTALLING STRIPING.
- CONTRACTOR SHALL COORDINATE WITH DENVER FIRE IF THEY MUST REMOVE/REPLACE FIRE SUPPRESSION LINES.

ABBREVIATIONS

APPROX - APPROXIMATELY	MIH - MANHOLE
CL - CENTER LINE	MJ-MECHANICAL JOINT
CCD - CITY AND COUNTY OF DENVER	N - NORTH
CFS - CUBIC FEET PER SECOND	NTS - NOT TO SCALE
C & G - CURB AND GUTTER	OHE - OVERHEAD ELECTRIC LINE
C G & SW - CURB, GUTTER, & SIDEWALK	PL - PROPERTY LINE
CH - CURB HEAD	PVC - PLY VINYL CHLORIDE
CIP- CORRUGATED IRON PIPE (WATER)	q - DESIGN FLOW
CPM - CAPITAL PROJECTS MANAGEMENT	Qfull - FULL FLOW CAPACITY
DIP - DUCTILE IRON PIPE (WATER)	RCBC - REINFORCED CONCRETE BOX CULVERT
DT-DECIDUOUS TREE	RCP - REINFORCED CONCRETE PIPE
DW - DENVER WATER BOARD	RL, - RANGE LINE
E - EAST	S - SOUTH
EF - EACH FACE	STM - STORM SEWER
E.G.L. - ENERGY GRADE LINE	SS - SANITARY SEWER
EOA - EDGE OF ASPHALT	SW - SIDEWALK
ES - EACH SIDE	TELE- TELEPHONE LINE
EX - EXISTING	T.O.P. - TOP OF PIPE
EW - EACH WAY	T.O.W. - TOP OF WALL
FG - FINAL GRADE	TYP. - TYPICAL
FL - FLOW LINE	UE - UNDERGROUND ELECTRIC LINE
FO - FIBER OPTIC LINE	U.N.O. - UNLESS NOTED OTHERWISE
G - GAS	VCP - VITRIFIED CLAY PIPE
H.G.L. - HYDRAULIC GRADE LINE	W - WEST
I - INLET	WAT - WATER
INV. - INVERT	WMD - WASTEWATER MANAGEMENT DIVISION
LF-LINEAR FEET	

TEST HOLE LEGEND

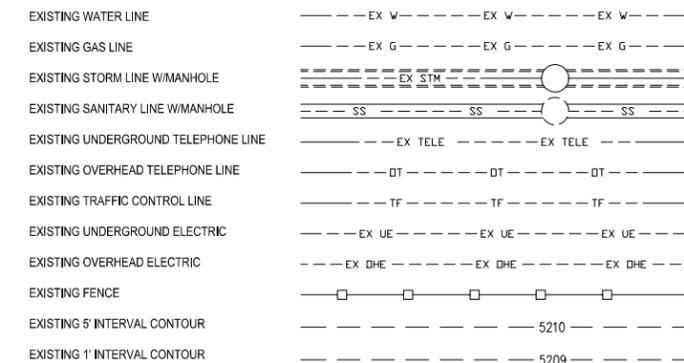


SURVEY FEATURES LEGEND

- BENCHMARK
- CHISELED "X"
- TRAVERSE POINT
- RANGE POINT
- LAND CORNER
- PIN & CAP
- REBAR
- EASEMENT LINE
- SECTION LINE
- PROPERTY LINE (NOT R.O.W.)
- RANGELINE
- R.O.W. LINE

EXISTING FEATURES LEGEND

- EXISTING STREET LIGHT
- EXISTING UTILITY/POWER POLE
- EXISTING GUY WIRE
- EXISTING TRAFFIC POLE
- EXISTING TRAFFIC CONTROL BOX
- EXISTING TRAFFIC CONTROL SWITCH BOX
- EXISTING ELECTRIC METER
- EXISTING ELECTRIC BOX
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER MH
- EXISTING WATER METER
- EXISTING GAS MANHOLE
- EXISTING STORM INLETS
- EXISTING STREET SIGN
- EXISTING POST
- EXISTING TRASH RECEPTACLE
- EXISTING TRASH DUMPSTER
- EXISTING BUS BENCH
- EXISTING MAIL BOX
- EXISTING NEWSPAPER BOX
- EXISTING TELEPHONE MH
- EXISTING TELEPHONE BOX
- EXISTING TELEPHONE BOOTH
- EXISTING TREE
- EXISTING SHRUB



PROPOSED FEATURES LEGEND

- PROPOSED NO. 16 STORM INLET
- PROPOSED NO. 14 STORM INLET
- PROPOSED STORM SEWER W/MANHOLE
- PROPOSED 5' INTERVAL CONTOUR (5210)
- PROPOSED 1' INTERVAL CONTOUR (5209)
- PROPOSED CURB & GUTTER
- PROPOSED GUTTER
- PROPOSED WATER
- PROPOSED WATER VALVE
- PROPOSED WATER REDUCER
- PROPOSED WATER BENDS AND/OR TEES
- PROPOSED GRASS AND/OR MULCH- REPLACE EXISTING LANDSCAPING MATERIAL
- PROPOSED CONCRETE UNLESS SPECIFIED OTHERWISE
- PROPOSED CURB RAMP
- PROPOSED DRAINAGE FLOW ARROW

NO.	DESCRIPTION OF REVISIONS	DATE	BY
1	PCD 100% SUBMITTAL	8-22-13	MWG

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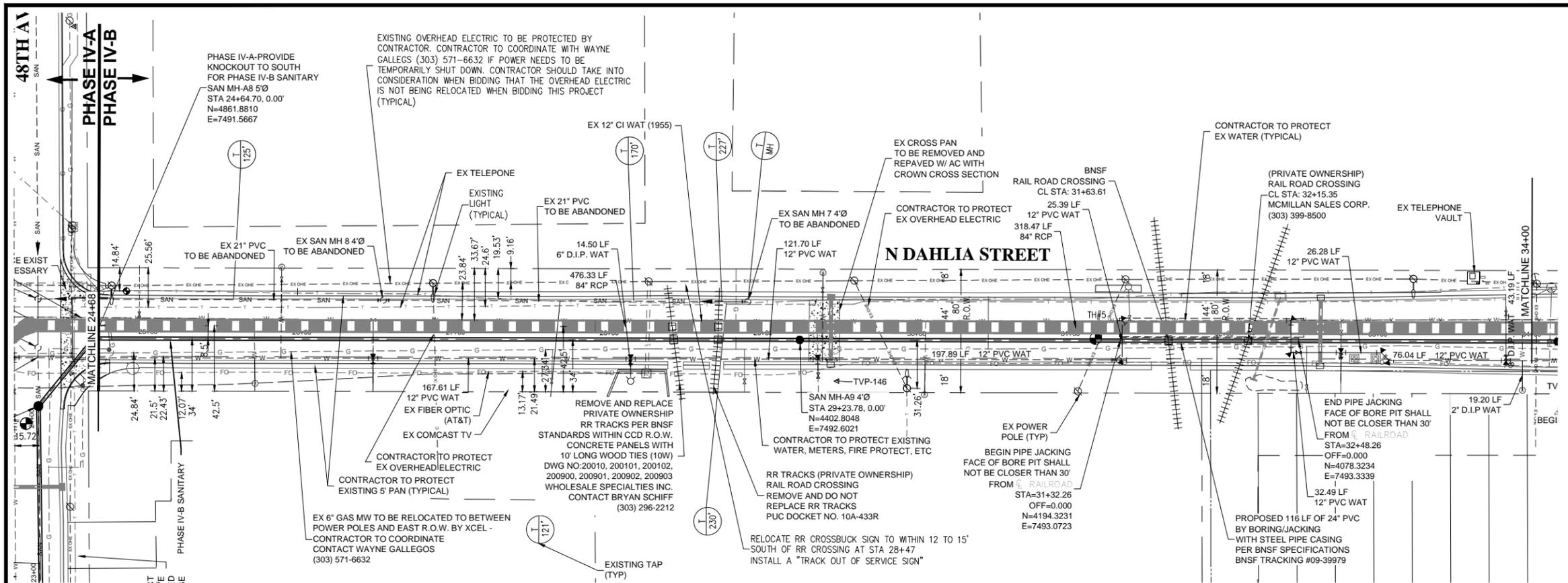
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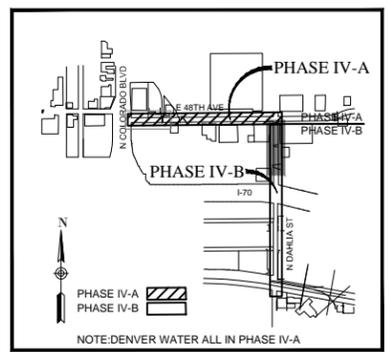
**PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY**

GENERAL NOTES

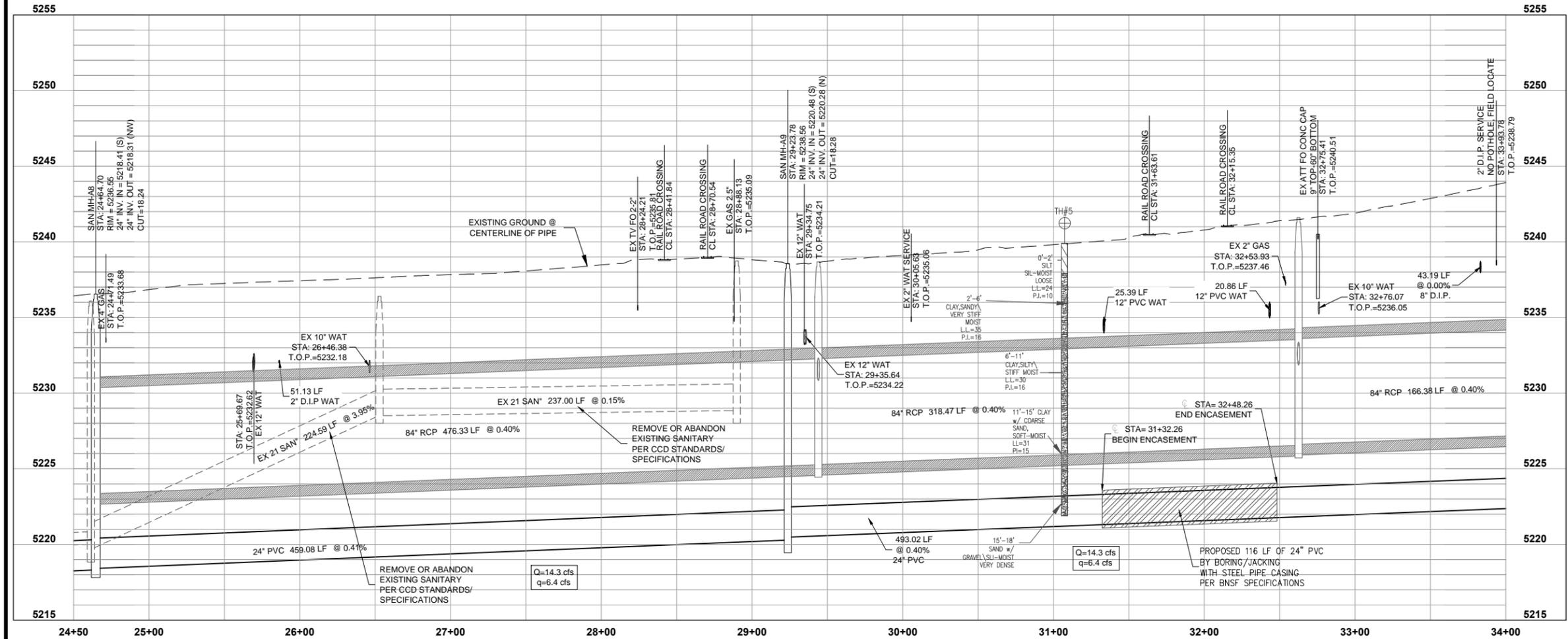
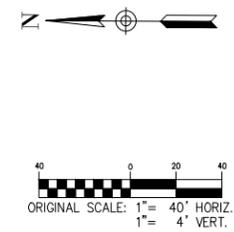
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SANITARY PLAN & PROFILE 25+50 TO 34+00



KEY MAP
N.T.S.



- NOTES**
1. THE CITY OF DENVER ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
 2. SANITARY SEWER PIPE LENGTHS ARE FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
 3. SANITARY SEWER MAIN SHALL BE PVC PIPE PER CITY AND COUNTY OF DENVER TECHNICAL SPECIFICATIONS.
 4. CONTRACTOR TO LOCATE AND VERIFY ALL EXISTING LIVE TAPS AND CONNECT TO PROPOSED SANITARY SEWER.

DATE	8-23-13
BY	MWG
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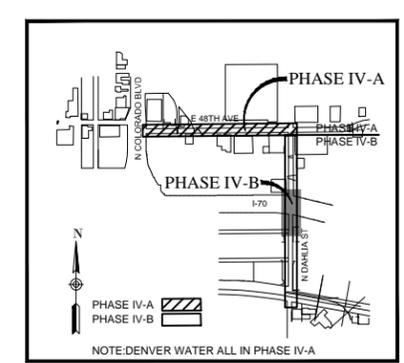
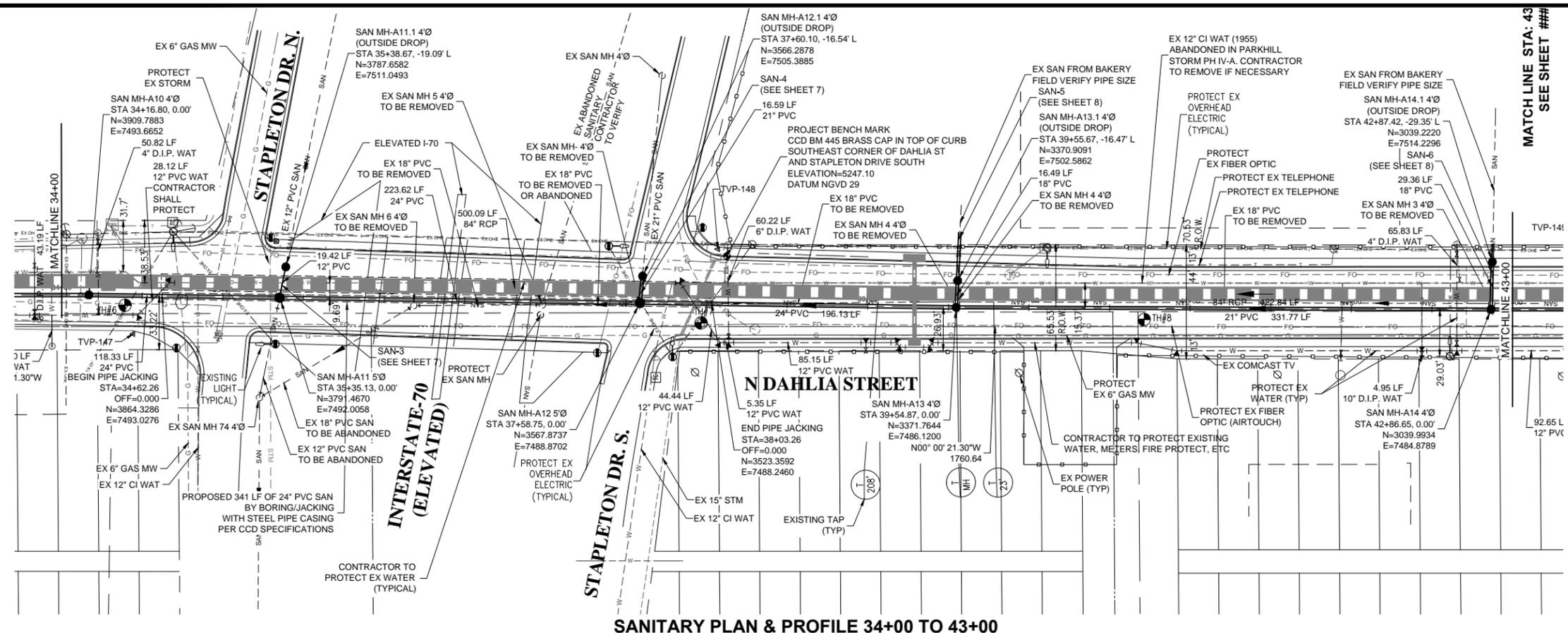
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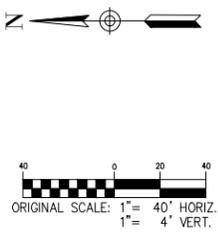
DENVER
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**PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY**

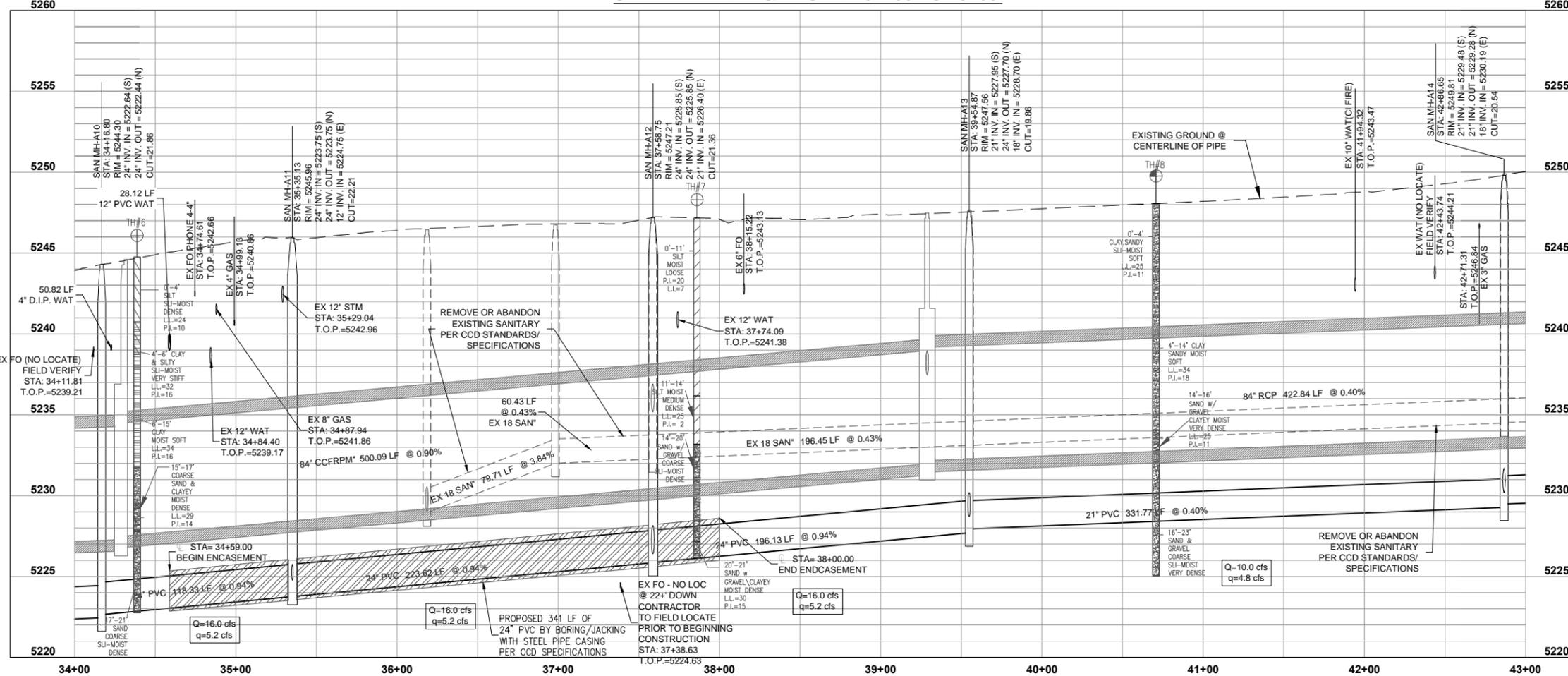
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KEY MAP
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SANITARY PLAN & PROFILE 34+00 TO 43+00



- NOTES
1. THE CITY OF DENVER ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
 2. SANITARY SEWER PIPE LENGTHS ARE FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
 3. SANITARY SEWER MAIN SHALL BE PVC PIPE PER CITY AND COUNTY OF DENVER TECHNICAL SPECIFICATIONS.
 4. CONTRACTOR TO LOCATE AND VERIFY ALL EXISTING LIVE TAPS AND CONNECT TO PROPOSED SANITARY SEWER.

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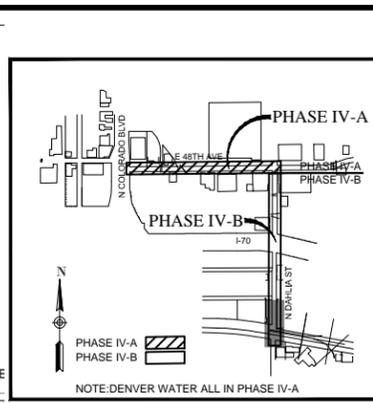
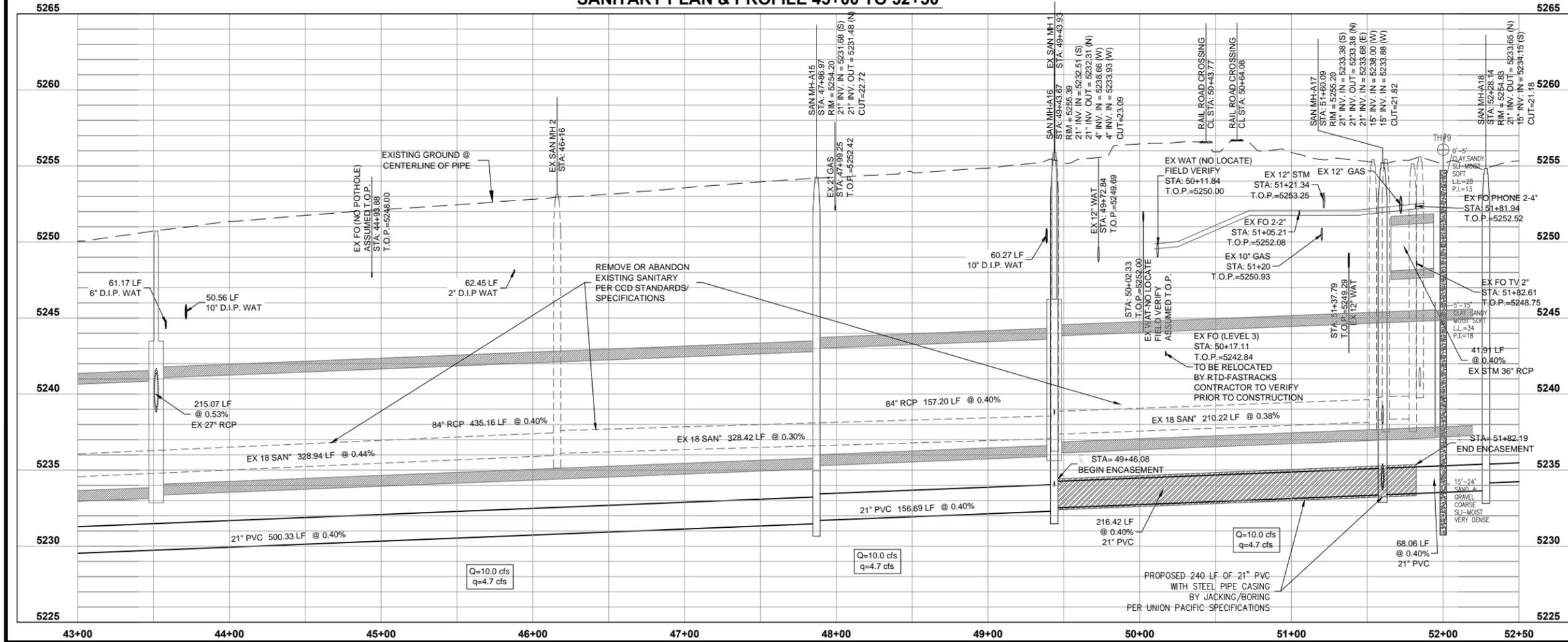
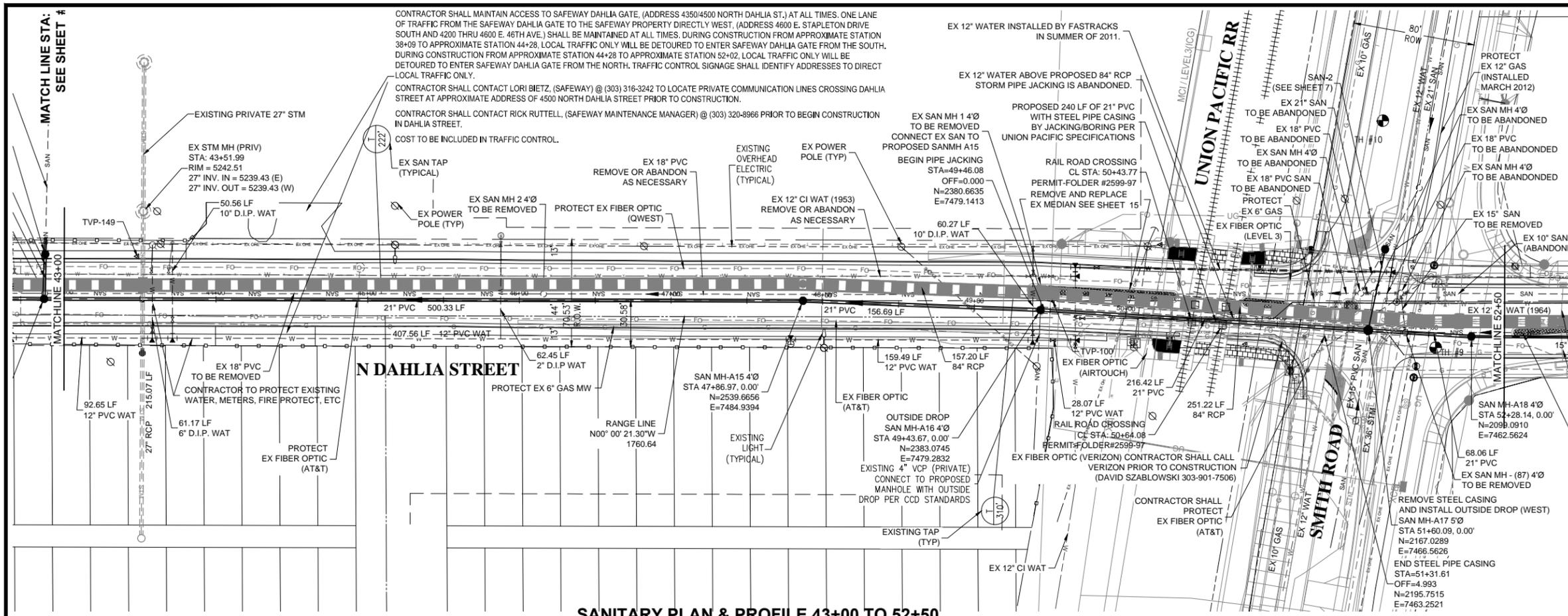
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DENVER
THE MILE HIGH CITY

**PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY**

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APPROVED BY: MWG
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DATE: 08/01/2009
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KEY MAP
N.T.S.

CONTRACTOR SHALL COORDINATE WITH RTD-FASTRACKS AT SMITH ROAD AND DAHLIA STREET FOR ALL CONSTRUCTION ON DAHLIA STREET. DAHLIA STREET SOUTH OF I-70 CANNOT BE CLOSED AT THE SAME TIME DAHLIA STREET NORTH OF I-70 IS CLOSED OR AT THE SAME TIME AS HOLLY STREET IS CLOSED. CONTACT JESSE GROSS FASTRACKS (303) 837-2603 WORK (720) 334-3583 CELL Jesse.gross@dtjv.com

ORIGINAL SCALE: 1" = 40' HORIZ.
1" = 4' VERT.

NO.	DESCRIPTION OF REVISIONS	DATE	BY
1	FOR 100% SUBMITTAL	8-23-13	MWG

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UTILITY INFORMATION CENTER OF COLORADO

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TEL.: (303) 446-3617 FAX: (303) 446-3647

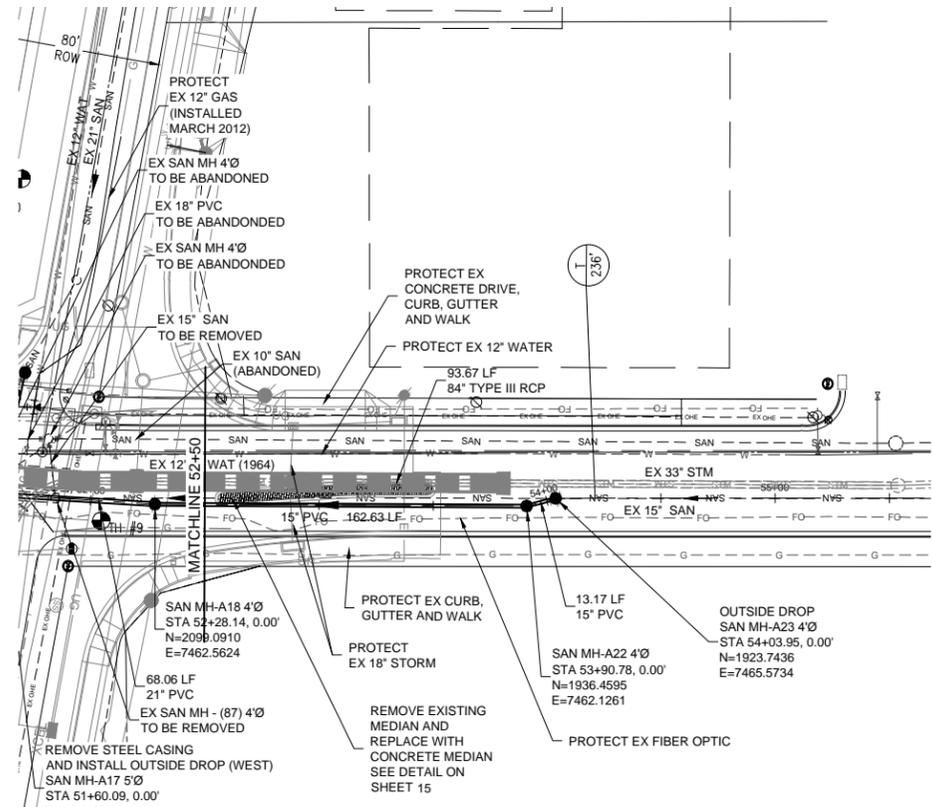
DENVER
THE MILE HIGH CITY

**PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY**

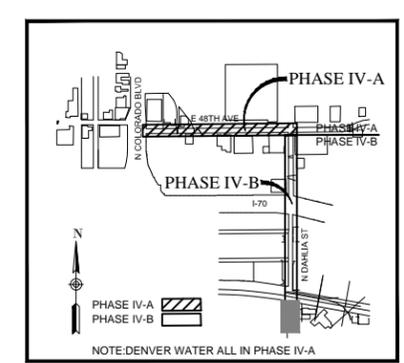
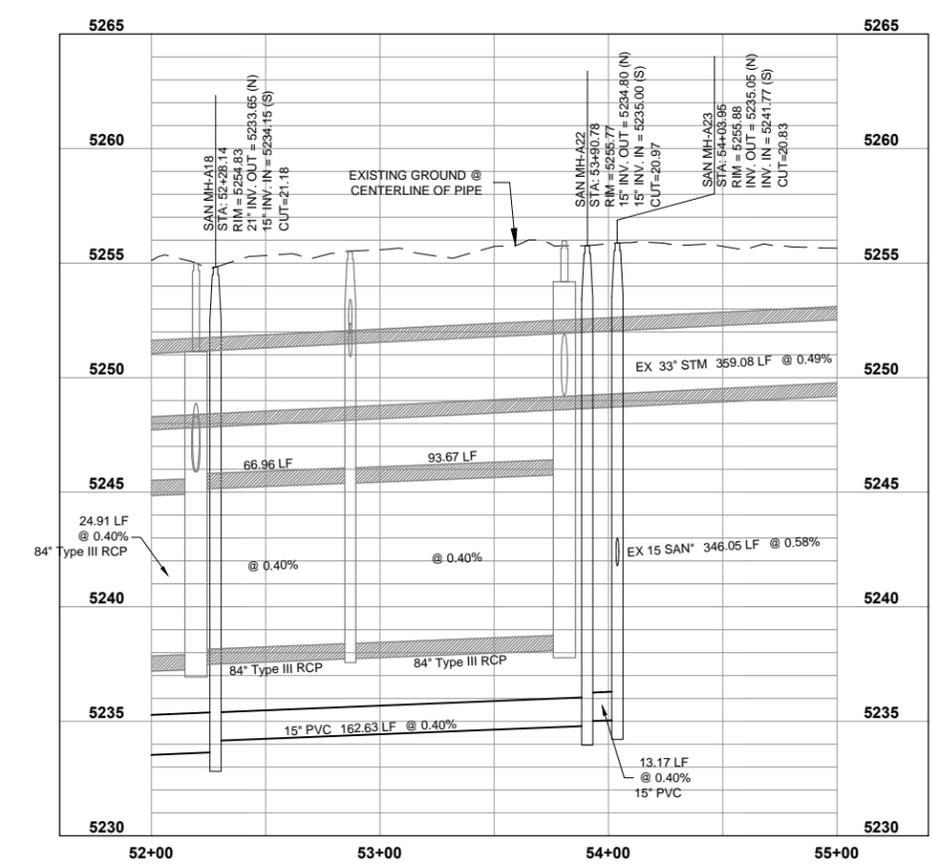
NOTES

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4. CONTRACTOR TO LOCATE AND VERIFY ALL EXISTING LIVE TAPS AND CONNECT TO PROPOSED SANITARY SEWER.

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DESIGNED BY: MWG
APPROVED BY: MWG
DRAWING NAME: D04-323-SAN01.dwg
DATE: 08/01/2009
SHEET NO.: 5 OF 17

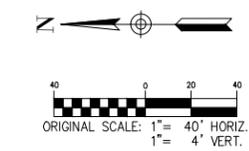


SANITARY PLAN & PROFILE 52+50 TO 55+00



KEY MAP
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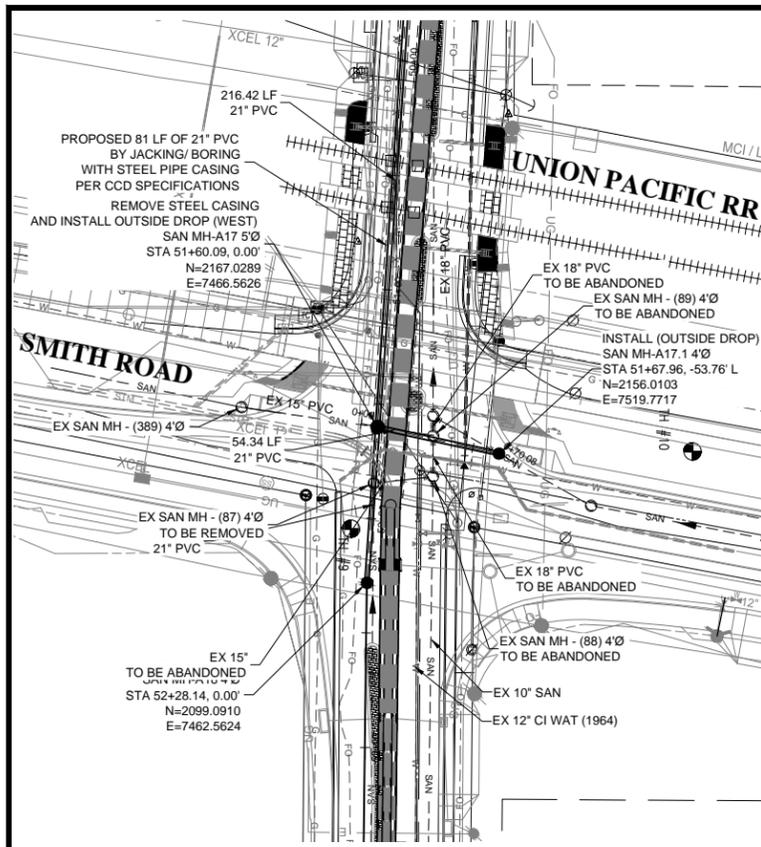
CITY AND COUNTY OF DENVER
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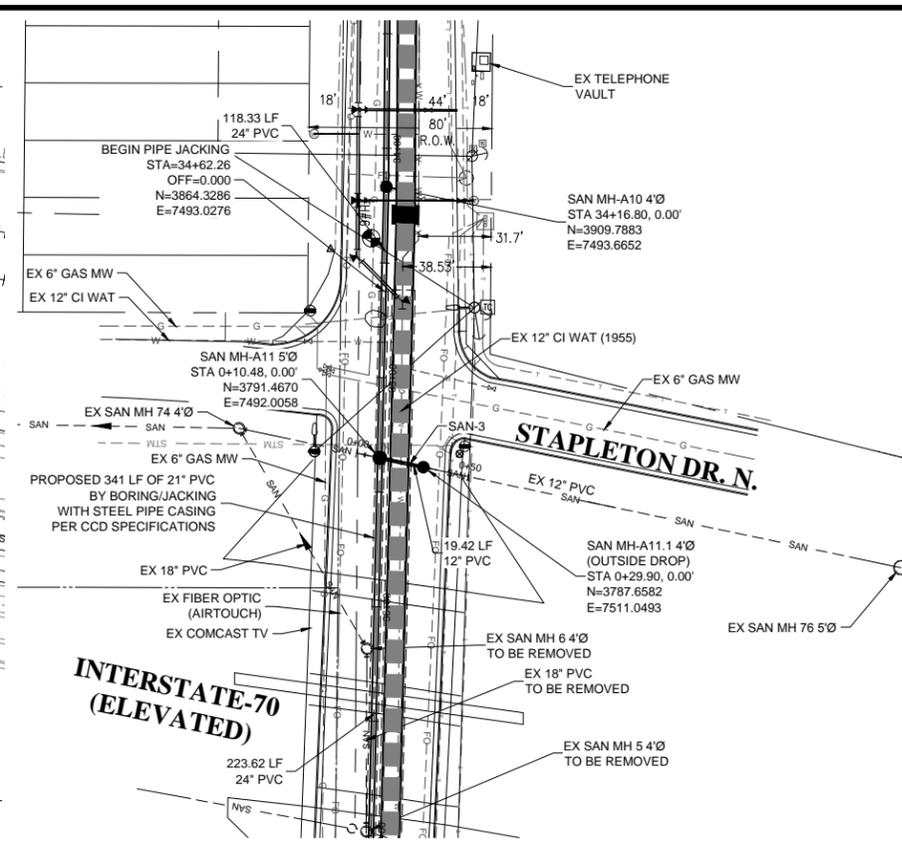
**PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY**

SANITARY PLAN & PROFILE 52+50 TO 55+00

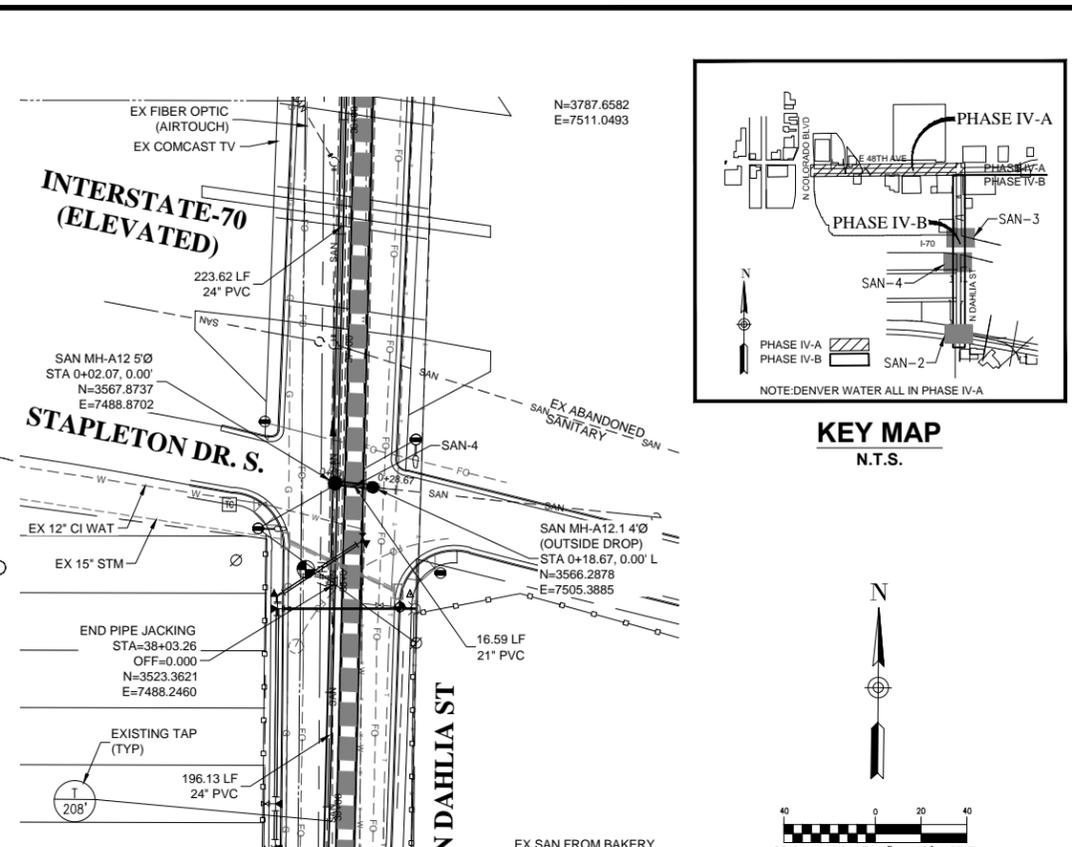
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DESIGNED BY:	MWG
APPROVED BY:	MWG
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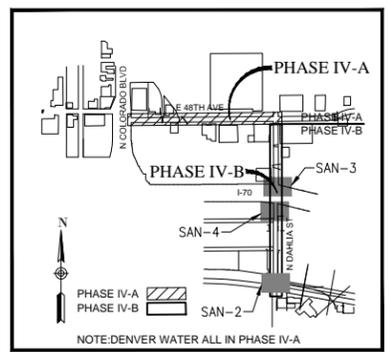
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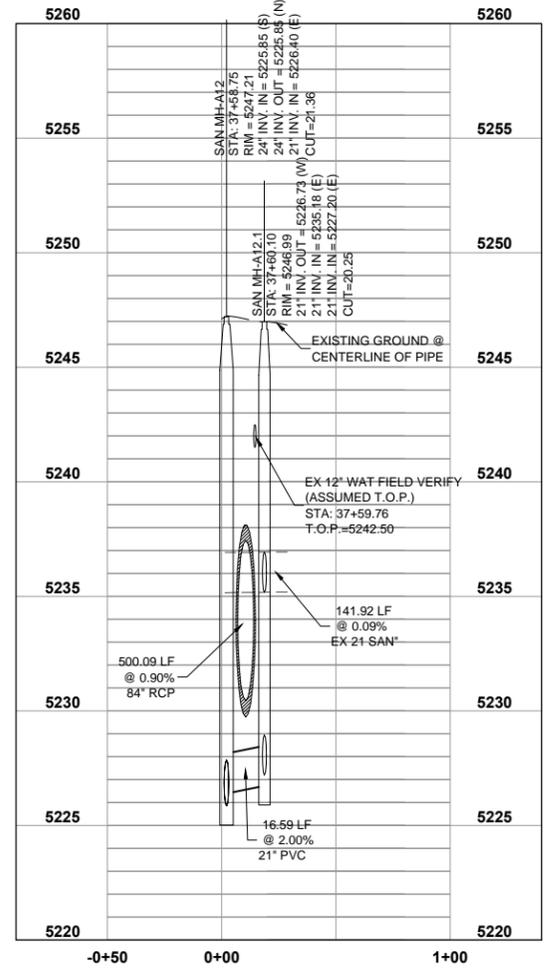
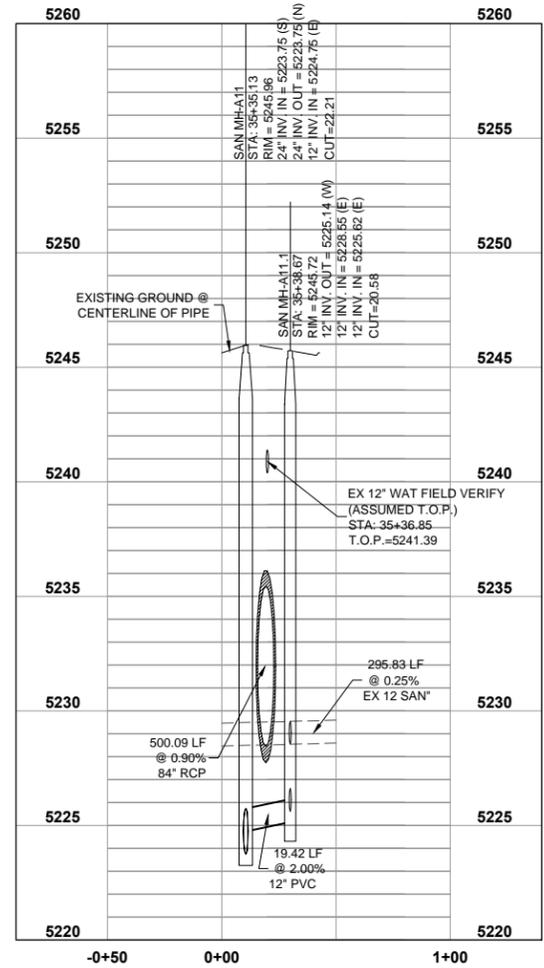
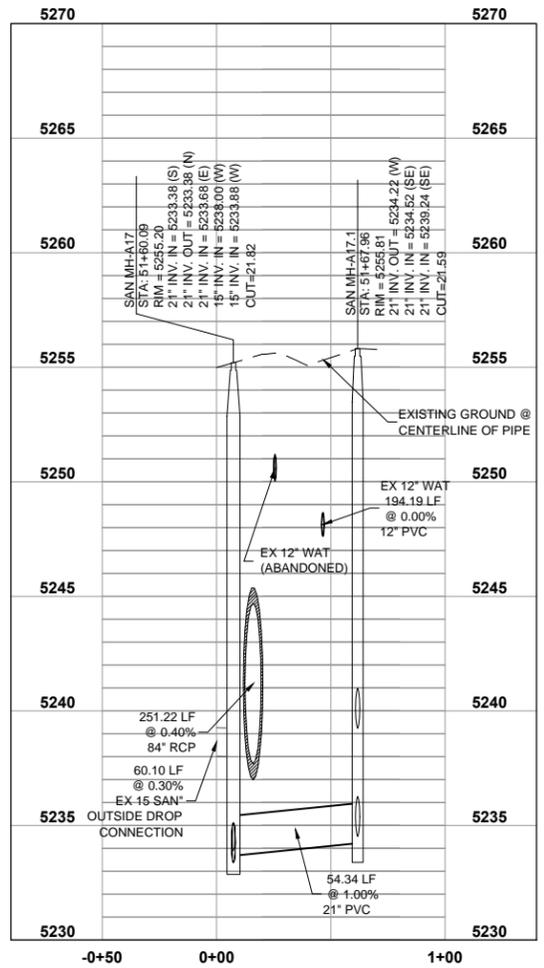
SAN-3 PLAN & PROFILE



SAN-4 PLAN & PROFILE



KEY MAP
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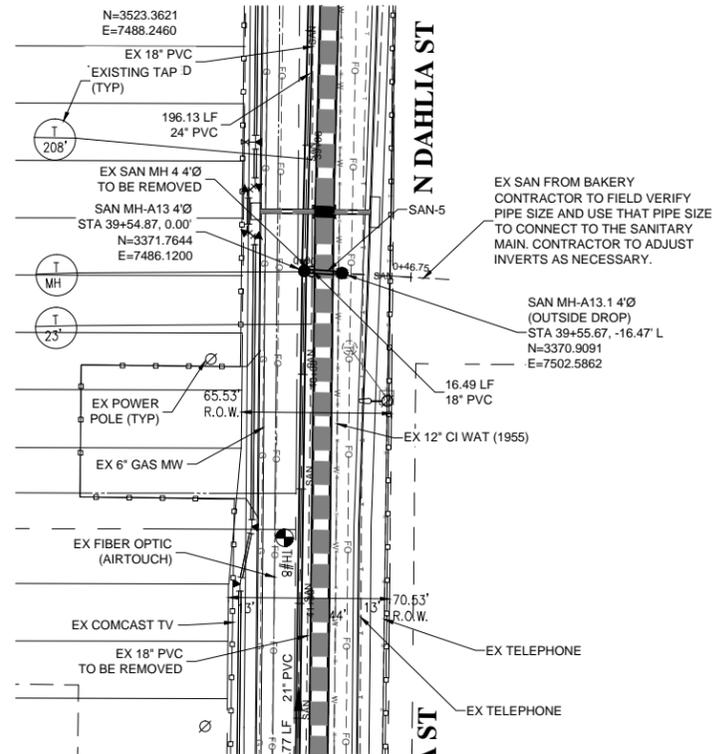
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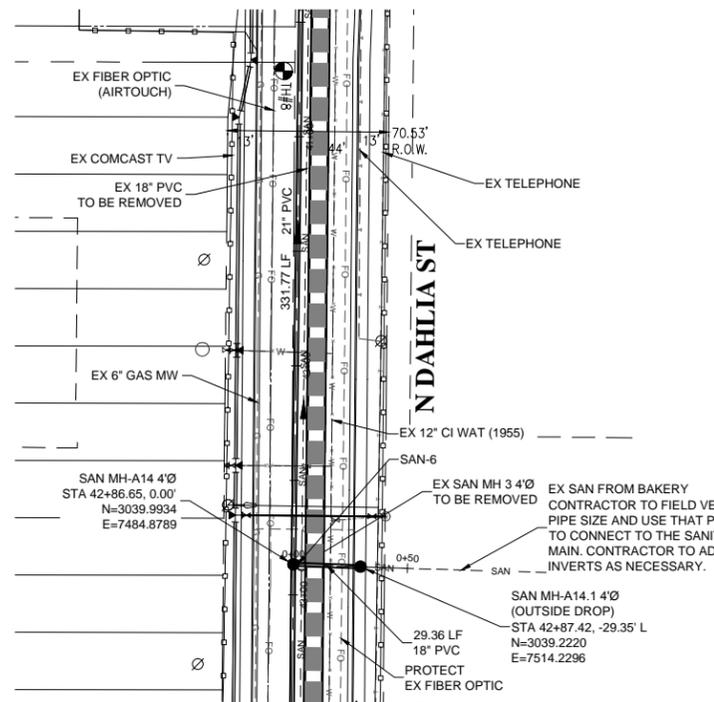
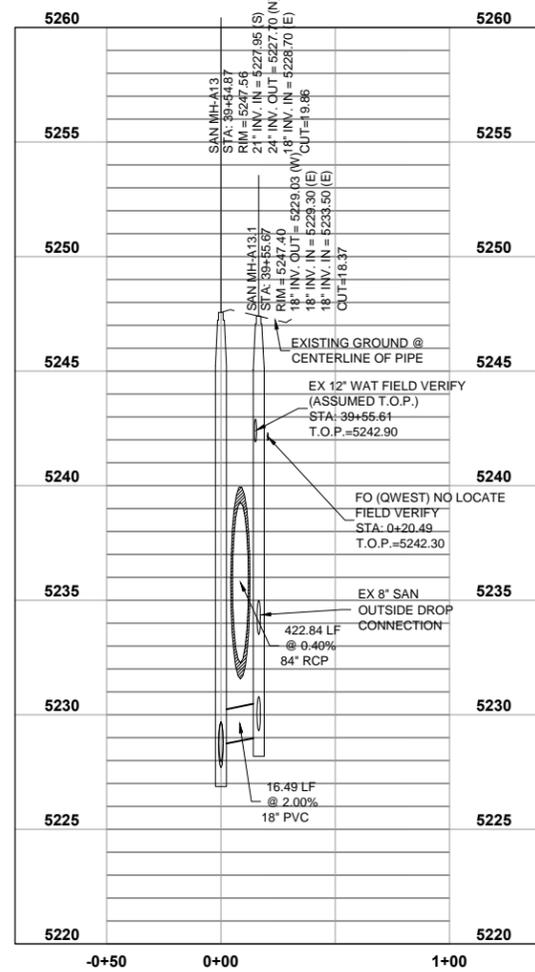
**PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY**

SAN-2 SAN-3 & SAN-4 PLAN & PROFILE

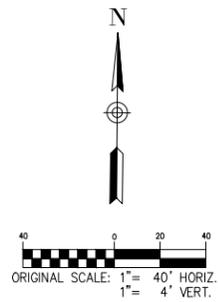
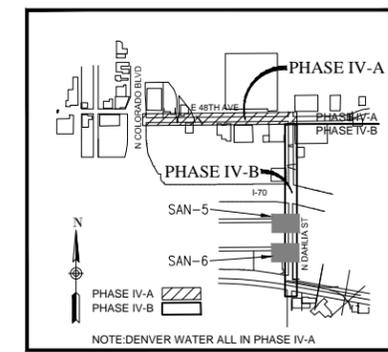
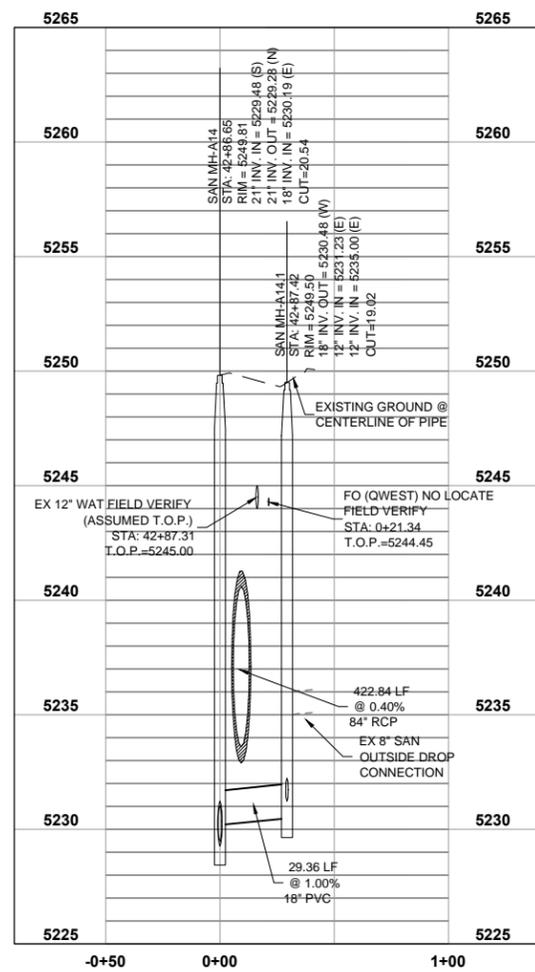
DRAWN BY: MWG
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APPROVED BY: MWG
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SAN-5 PLAN & PROFILE



SAN-6 PLAN & PROFILE



- NOTES**
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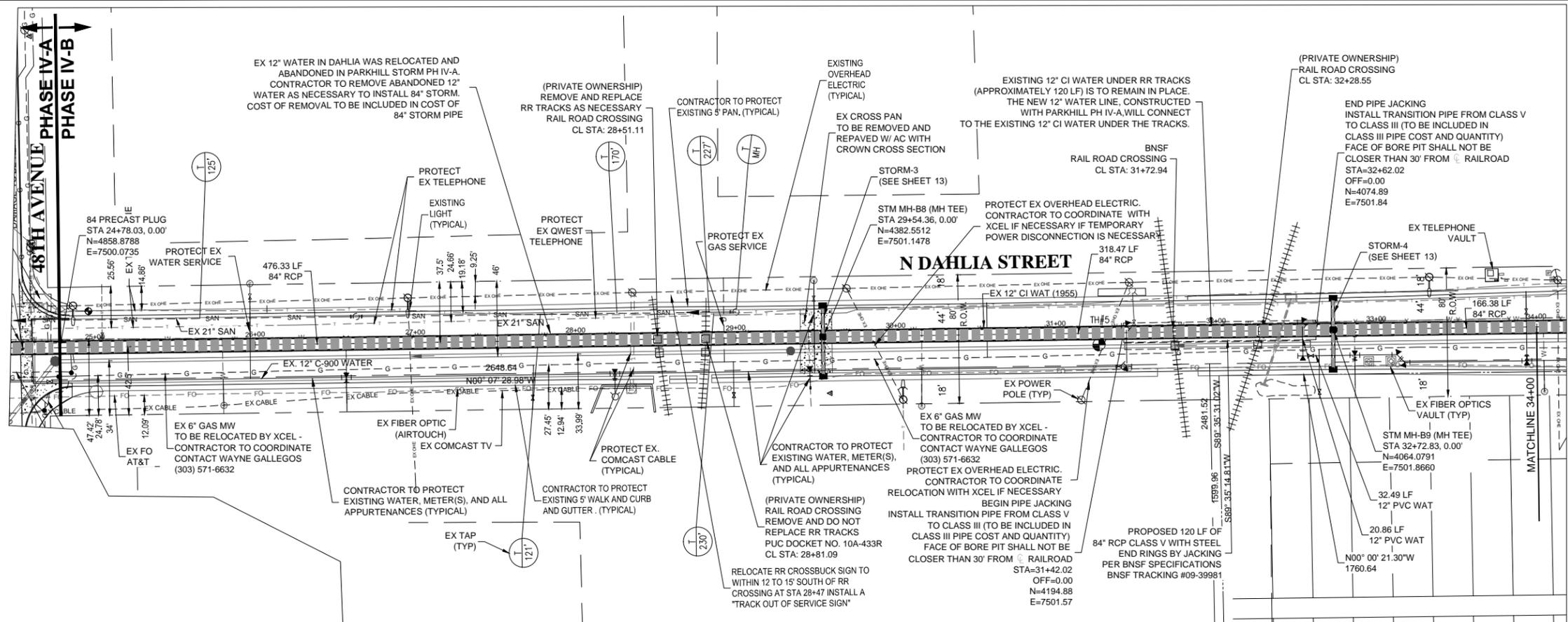
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2000 W. 3RD AVE. DENVER, CO 80223
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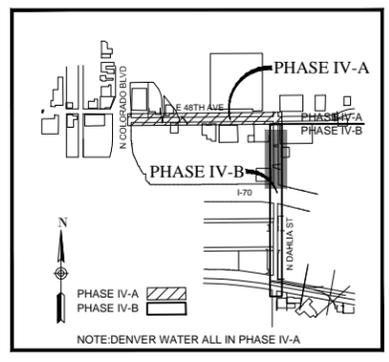
**PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY**

SAN-5 & SAN-6 PLAN & PROFILE

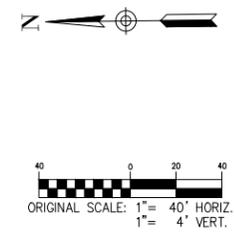
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DESIGNED BY:	MWG
APPROVED BY:	MWG
DRAWING NAME:	D04-323-SAN-02.dwg
DATE:	08/01/2009
SHEET NO.:	8 OF 17



STORM PLAN & PROFILE 25+50.00 TO 34+00.00



KEY MAP
N.T.S.

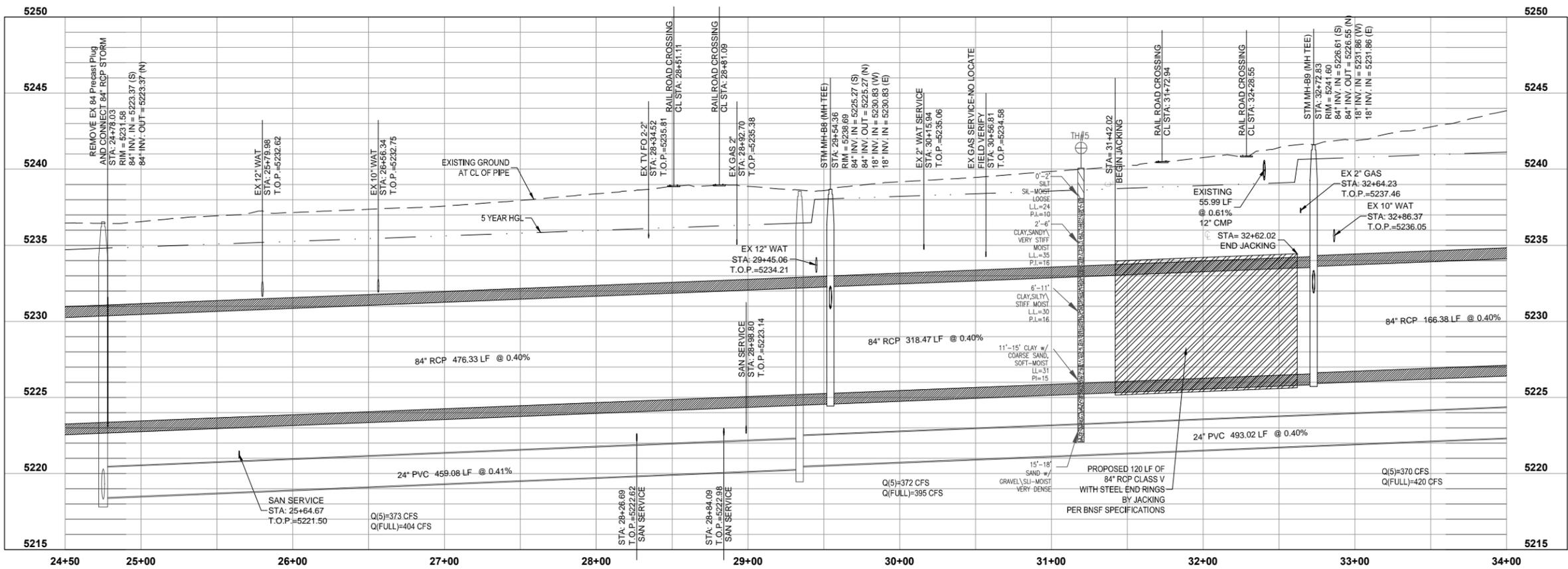


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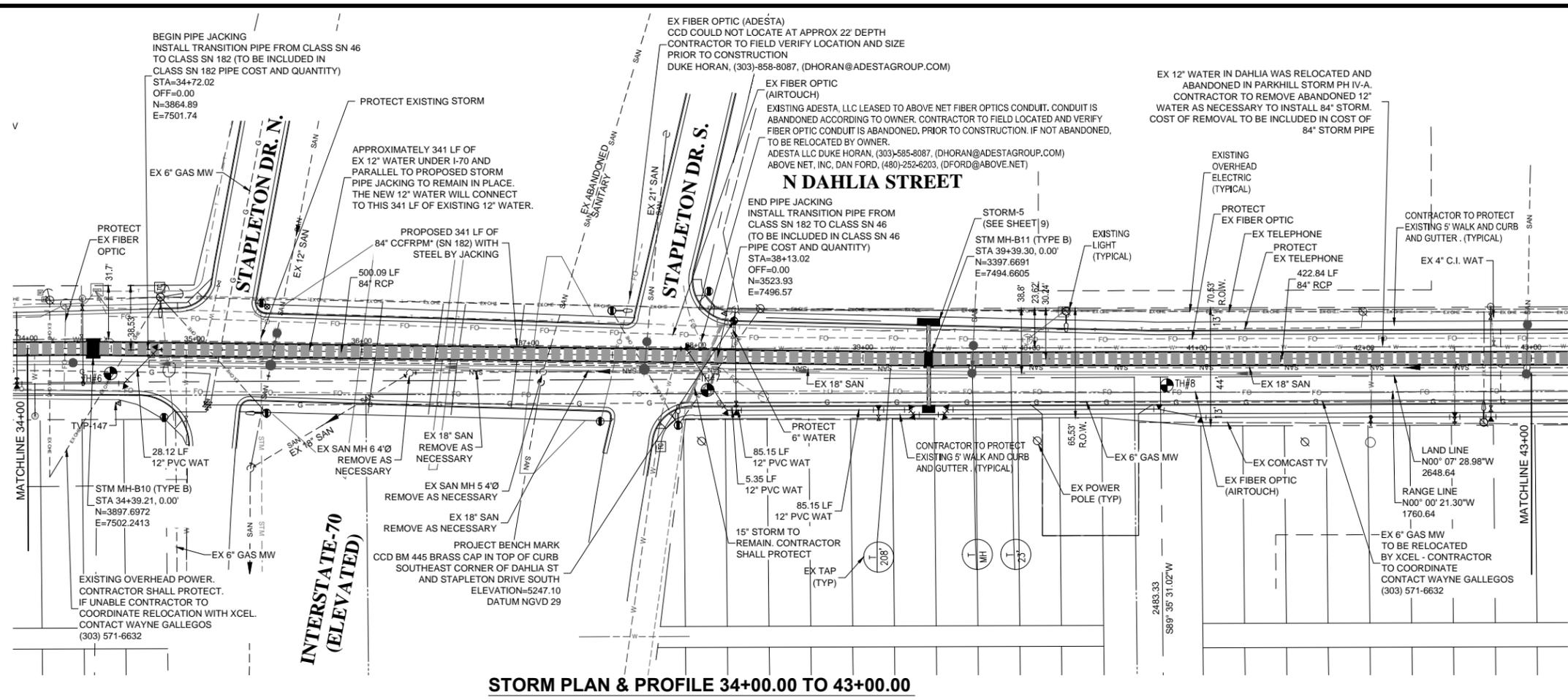
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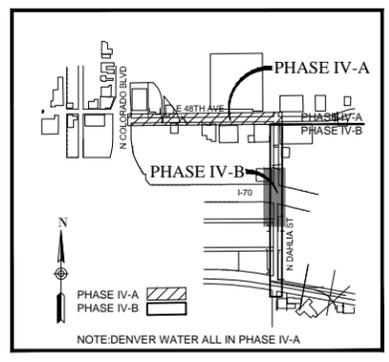
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**PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY**

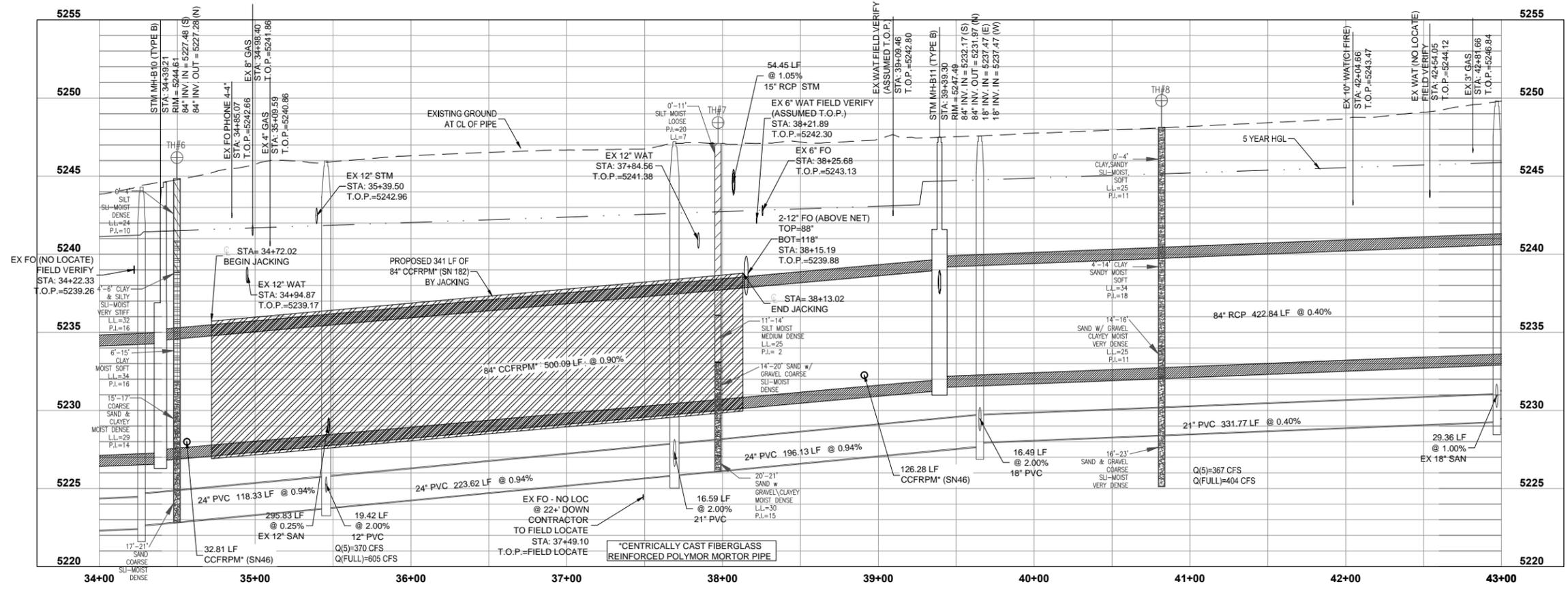
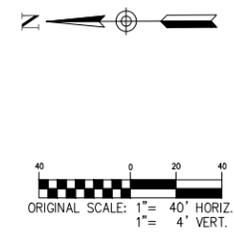
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DESIGNED BY:	MWG
APPROVED BY:	MWG
DRAWING NAME:	D:\04-323-STM-01.dwg
DATE:	08/01/2009
SHEET NO.:	9 OF 17



STORM PLAN & PROFILE 34+00.00 TO 43+00.00



KEY MAP
N.T.S.



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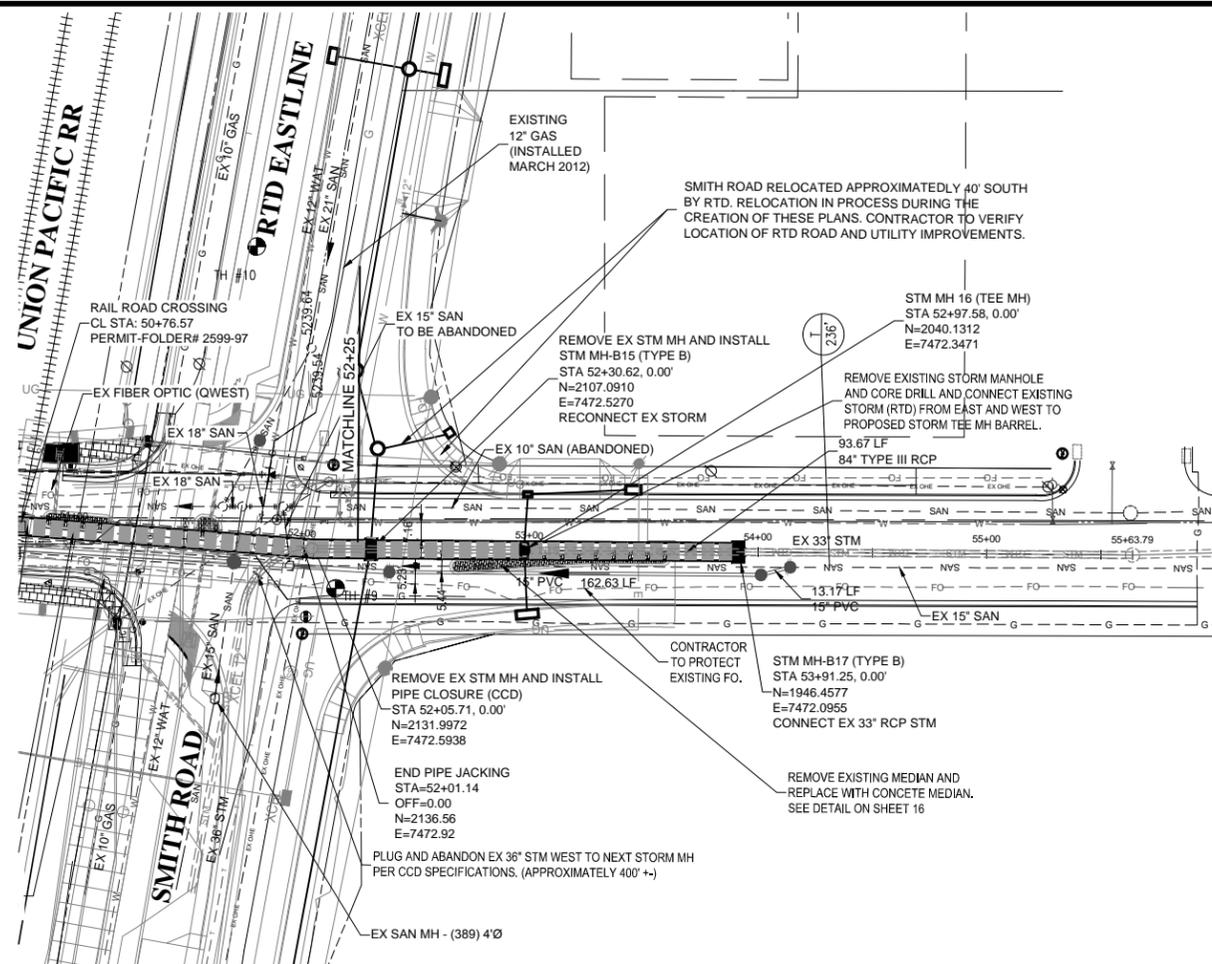
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DENVER
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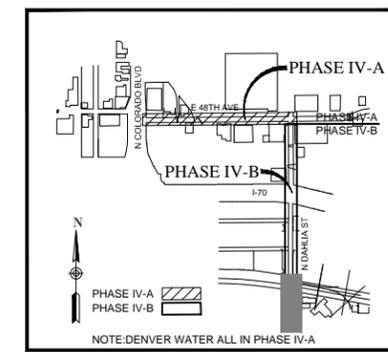
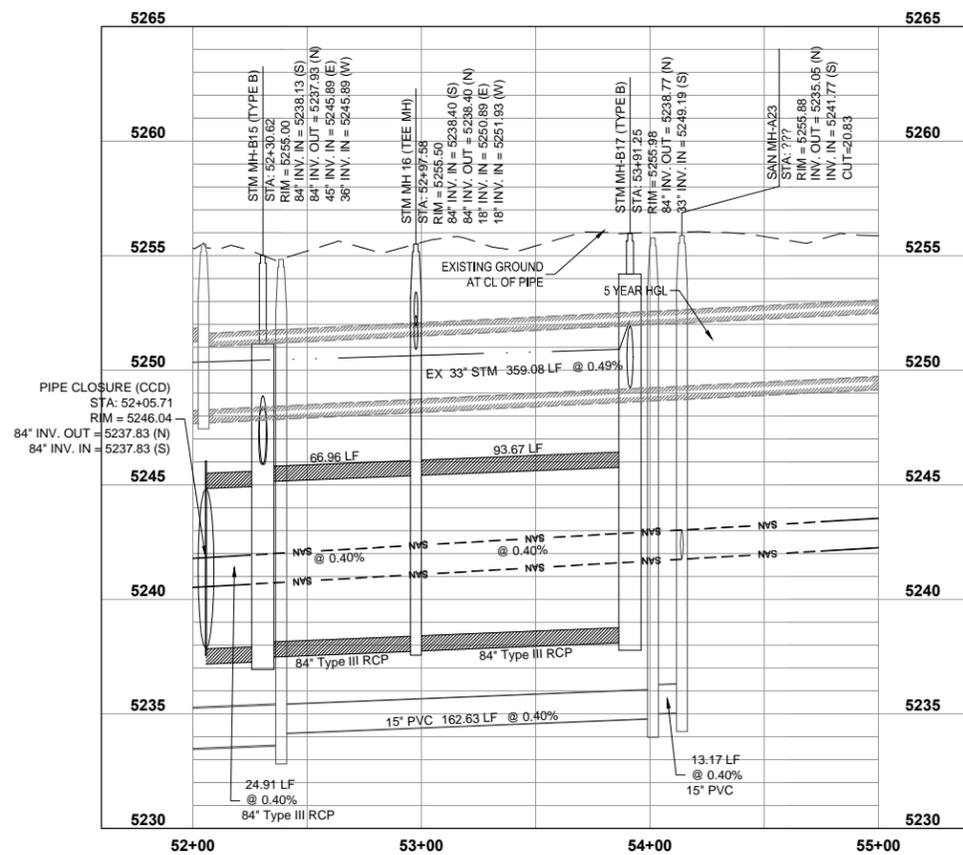
**PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY**

DRAWN BY: MWG
DESIGNED BY: MWG
APPROVED BY: MWG
DRAWING NAME: D-04-323-STM-01.dwg
DATE: 08/01/2009
SHEET NO.: 10 OF 17

STORM PLAN & PROFILE 34+00.00 TO 43+00.00

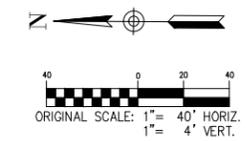


STORM PLAN & PROFILE 52+00.00 TO 55+00.00



KEY MAP
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CONTRACTOR SHALL COORDINATE WITH RTD-FASTRACKS AT SMITH ROAD AND DAHLIA STREET FOR ALL CONSTRUCTION ON DAHLIA STREET. DAHLIA STREET SOUTH OF I-70 CAN NOT BE CLOSED AT THE SAME TIME DAHLIA STREET NORTH OF I-70 IS CLOSED OR AT THE SAME TIME AS HOLLY STREET IS CLOSED. CONTACT JESSE GROSS FASTRACKS (303) 837-2603 WORK (720) 334-3583 CELL Jesse.gross@dtpjv.com



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NO.	DESCRIPTION OF REVISIONS	DATE	BY
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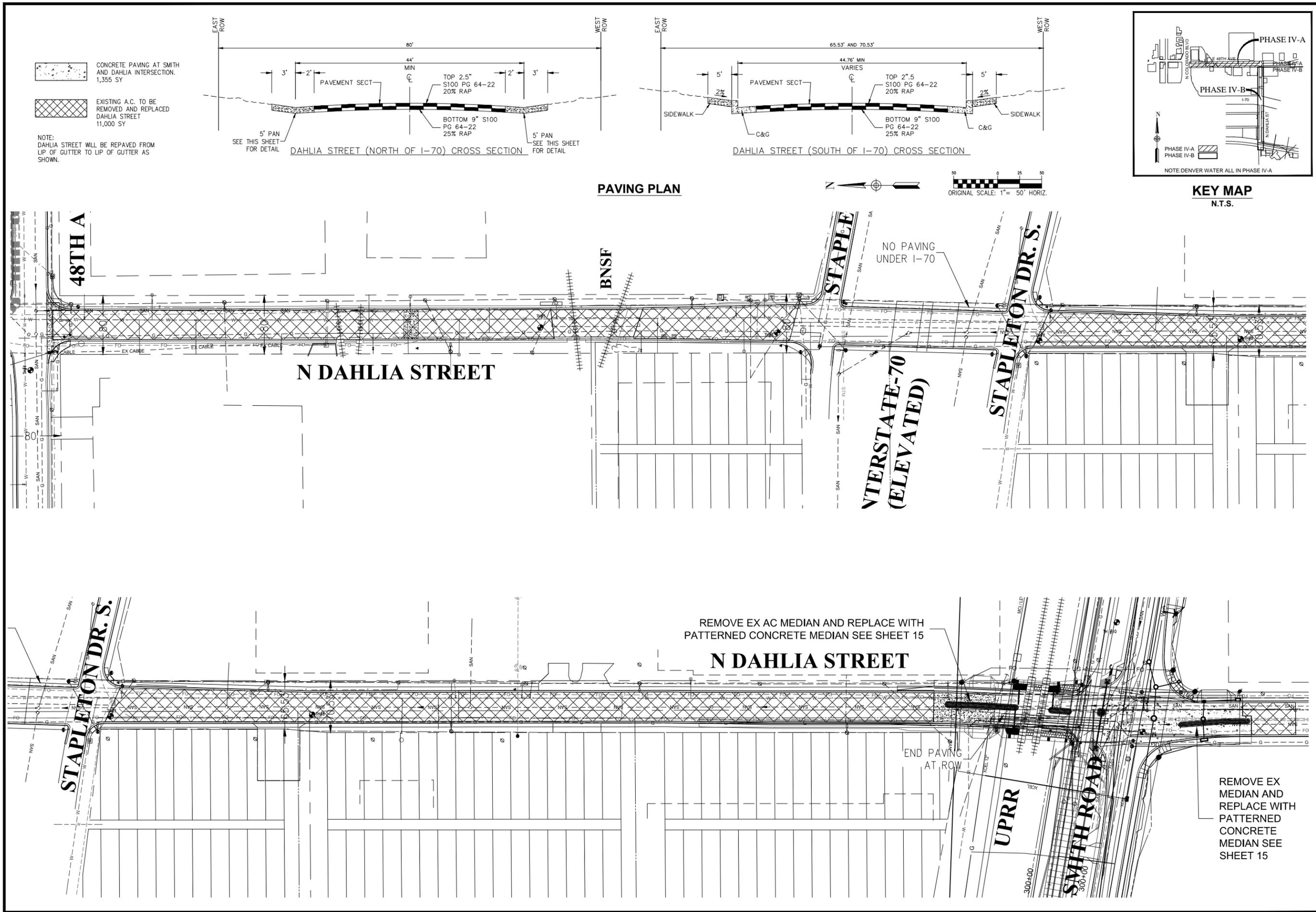
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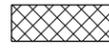


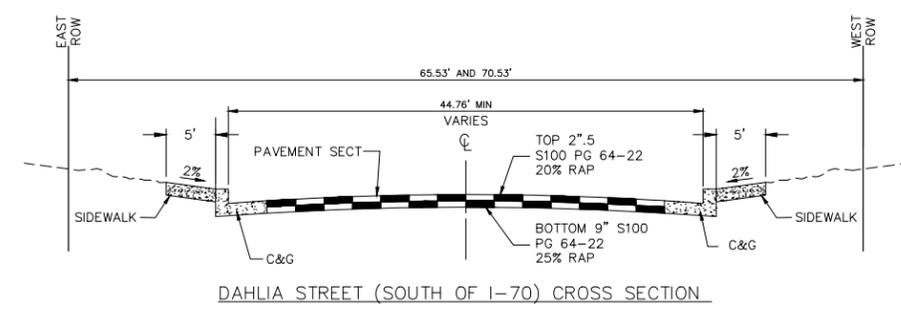
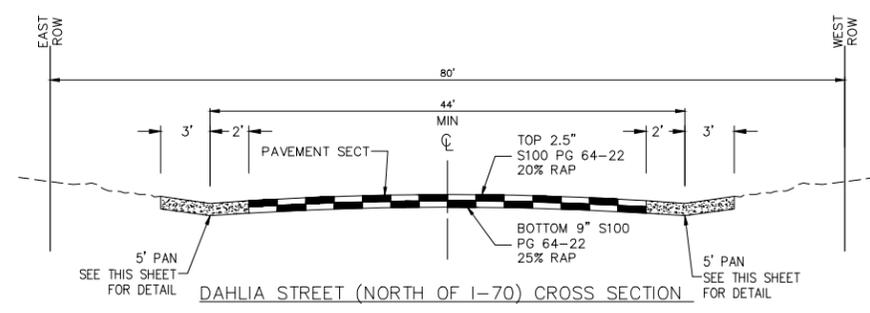
**PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY**

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DESIGNED BY:	MWG
APPROVED BY:	MWG
DRAWING NAME:	D04-323-STM-01.dwg
DATE:	08/01/2009
SHEET NO.:	12 OF 17

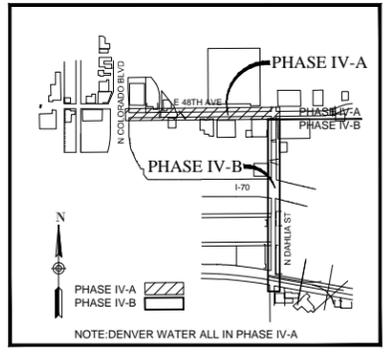
STORM PLAN & PROFILE 52+00.00 TO 55+00.00



 CONCRETE PAVING AT SMITH AND DAHLIA INTERSECTION. 1,355 SY
 EXISTING A.C. TO BE REMOVED AND REPLACED DAHLIA STREET 11,000 SY
 NOTE: DAHLIA STREET WILL BE REPAVED FROM LIP OF GUTTER TO LIP OF GUTTER AS SHOWN.



PAVING PLAN



KEY MAP
N.T.S.

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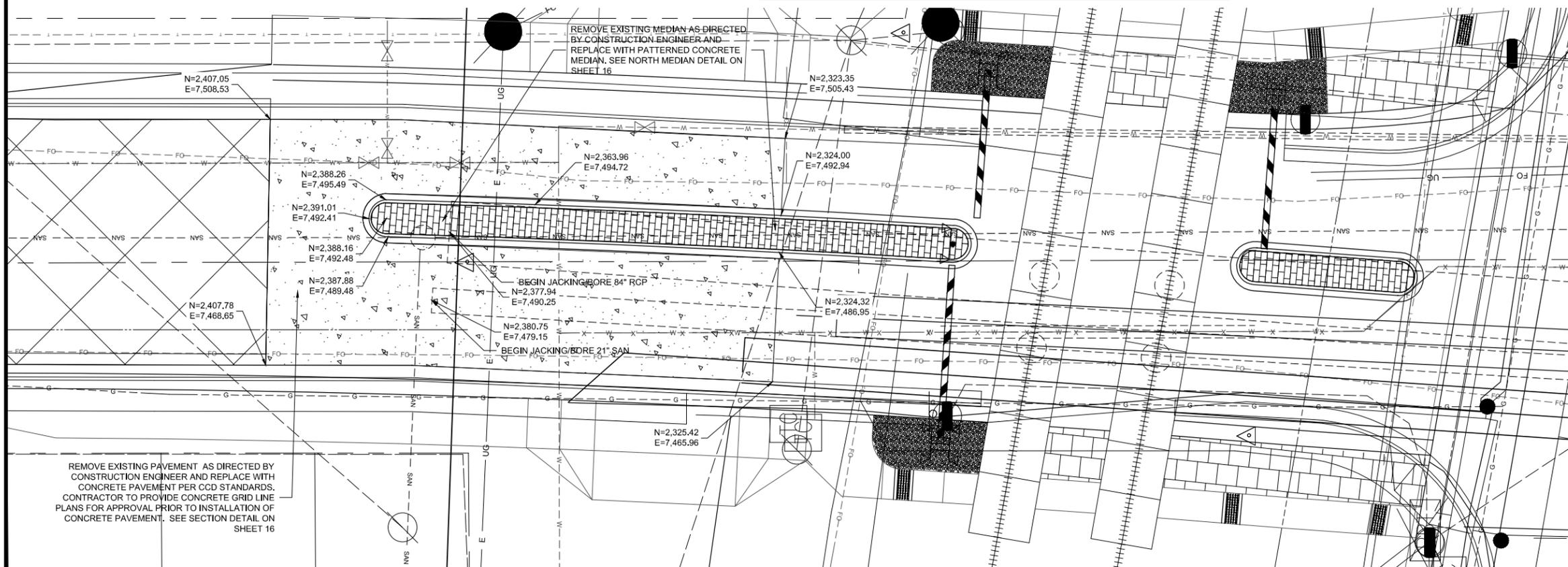
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PARK HILL STORM, PH IV-B
51ST AND ST PAUL SANITARY

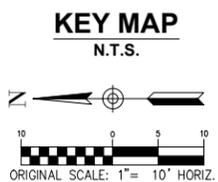
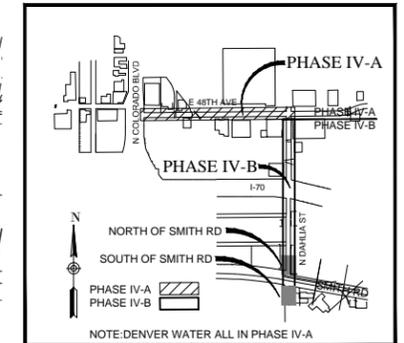
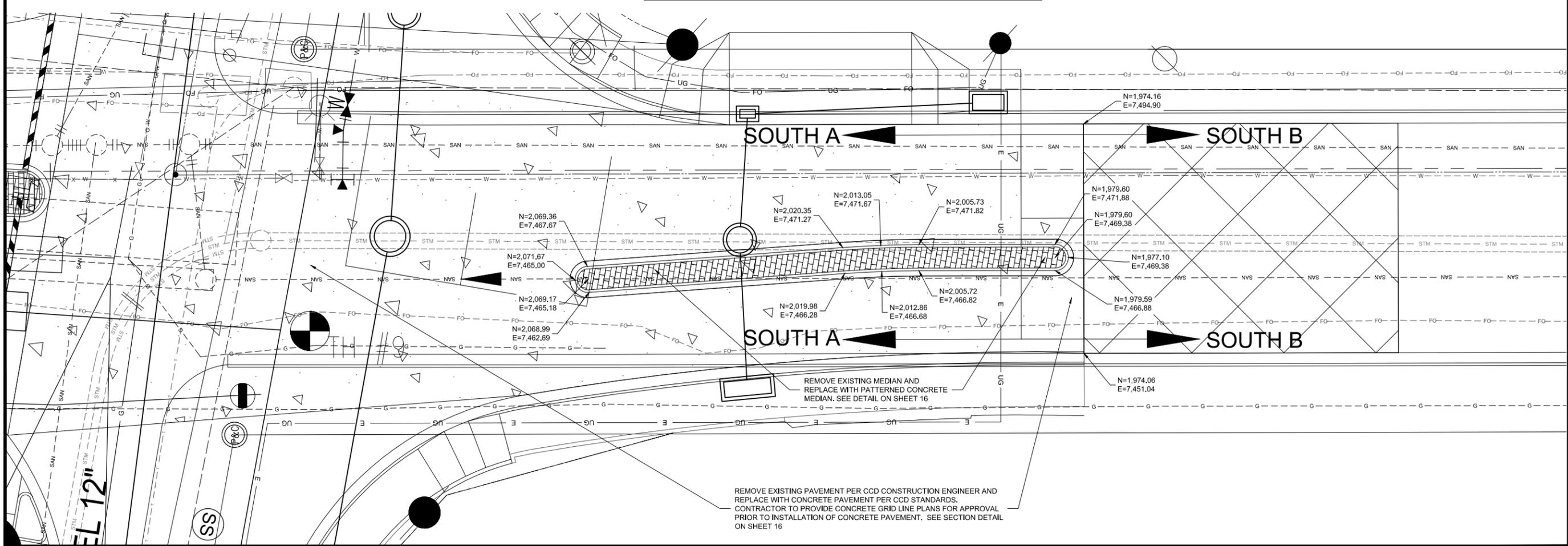
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DESIGNED BY: MWG
APPROVED BY: MWG
DRAWING NAME: D04-323-PAV-IV-B.dwg
DATE: 08/01/2009
SHEET NO.: 14 OF 17

PAVING PLAN

DAHILIA STREET MEDIAN PLAN-NORTH OF SMITH ROAD



DAHILIA STREET MEDIAN PLAN-SOUTH OF SMITH ROAD



NOTE: THE MEDIAN IMPROVEMENTS ARE INCORPORATED FROM THE RTD FASTRAK IMPROVEMENTS. CONTRACTOR SHOULD REFERENCE THOSE PLANS FOR DESIGN DETAILS.

NO.	DESCRIPTION OF REVISIONS	DATE	BY
1	FOC 100% SUBMITAL	8-23-13	MWG

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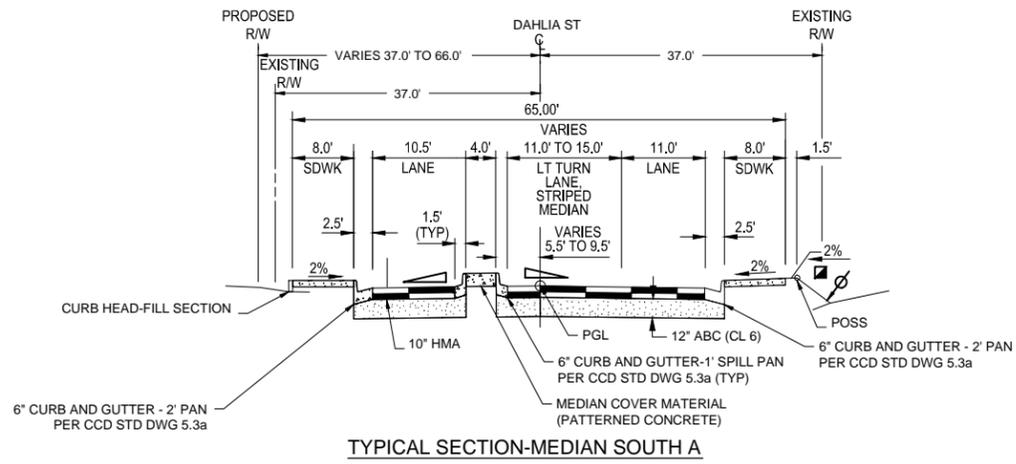
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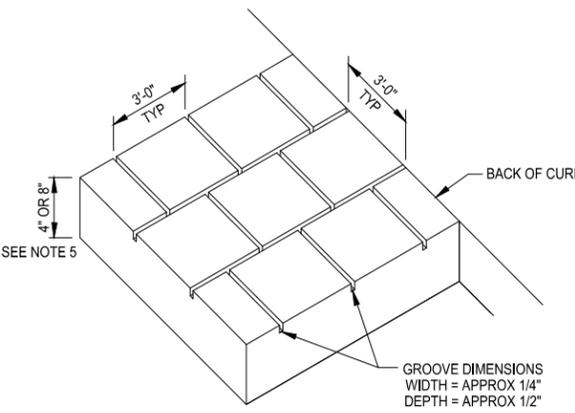
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51ST AND ST PAUL SANITARY

MEDIAN PLAN

DRAWN BY:	MWG
DESIGNED BY:	MWG
APPROVED BY:	MWG
DRAWING NAME:	D-04-323-MEDIAN-PH_IV-B.dwg
DATE:	08/01/2009
SHEET NO.:	15 OF 17



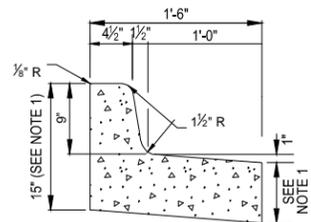
TYPICAL SECTION-MEDIAN SOUTH A



MEDIAN COVER MATERIAL (PATTERNED CONCRETE) DETAIL

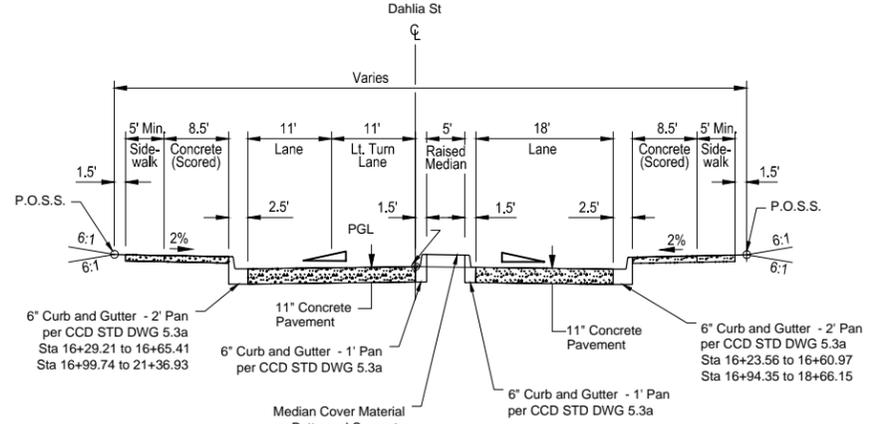
MEDIAN COVER MATERIAL (PATTERNED CONCRETE) NOTES:

- 1/2" EXPANSION JOINT SHALL BE PLACED BETWEEN THE CURB AND MEDIAN COVER MATERIAL.
- MEDIAN COVER MATERIAL SHALL BE ALTERNATING BRUSHED PATTERN AS SHOWN ABOVE.
- CONTROL JOINTS FOR MEDIAN COVER MATERIAL SHALL BE PLACED EVERY 10' WITH A MINIMUM DEPTH OF 1".
- PROVIDE OPENINGS FOR SIGN POSTS AND SIGNALIZATION FOUNDATIONS.
- MEDIAN COVER MATERIAL THICKNESS SHALL BE 8" THICK BETWEEN CRT AND UPRR, WHERE ACCESS BEING PROVIDED. ALL OTHERS AREAS MEDIAN COVER MATERIAL SHALL BE 4" THICK.
- SIDEWALK ADJUST TO 8" THICK MEDIAN COVER MATERIAL SHALL BE 8" THICK PCCP.



9" VERTICAL CURB & 1' SPILL PAN DETAIL

- 9" VERTICAL CURB & 1' SPILL PAN DETAIL NOTES:
1. IF CONSTRUCTED ADJACENT TO HMA PAVEMENT, PAN THICKNESS IS 6" MINIMUM. IF CONSTRUCTED ADJACENT TO PCC PAVEMENT, PAN THICKNESS TO MATCH THICKNESS OF ADJACENT PCC PAVEMENT.



DAHLIA ST MEDIAN TYPICAL SECTION NORTH OF SMITH ROAD

TYPICAL SECTION NOTES

- THE CONTRACTOR SHALL BE REQUIRED TO PERFORM SOIL PREPARATION (SPECIAL) AND SEEDING/MULCHING TO ALL DISTURBED SURFACE. (IF EXISTING MATERIAL IS OTHER THAN SOIL, REPLACE IN KIND.)
 - BREAK POINTS IN SLOPES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE.
 - CROSS-SLOPE, 2% IN FULL RECONSTRUCTION AREAS OR MATCH EXISTING, EXCEPT AS SHOWN ON PAVING AND GRADING PLANS.
 - VERTICAL ALIGNMENT CONTROL POINTS.
 - P.O.S.S. POINT OF SLOPE SELECTION
- PROVIDE CURB AND GUTTER TRANSITION IN ACCORDANCE WITH SHEET CSD-003, THIS APPLIES WHERE CURB AND GUTTER ENDS AT ALL TRACK CROSSING.
- FOR VARYING DIMENSIONS SEE PLAN AND PROFILE SHEETS FOR ADDITIONAL DETAIL.
- SEE PAVING AND GRADING PLANS FOR PAVEMENT CROSS-SLOPE TRANSITIONS.
- TYPICAL SECTIONS ARE NOT INTENDED FOR STAKING THE PROJECT. SEE ROADWAY PLANS FOR GENERAL LAYOUT AND STATION/OFFSET INFORMATION.

CONCRETE PAVEMENT NOTES

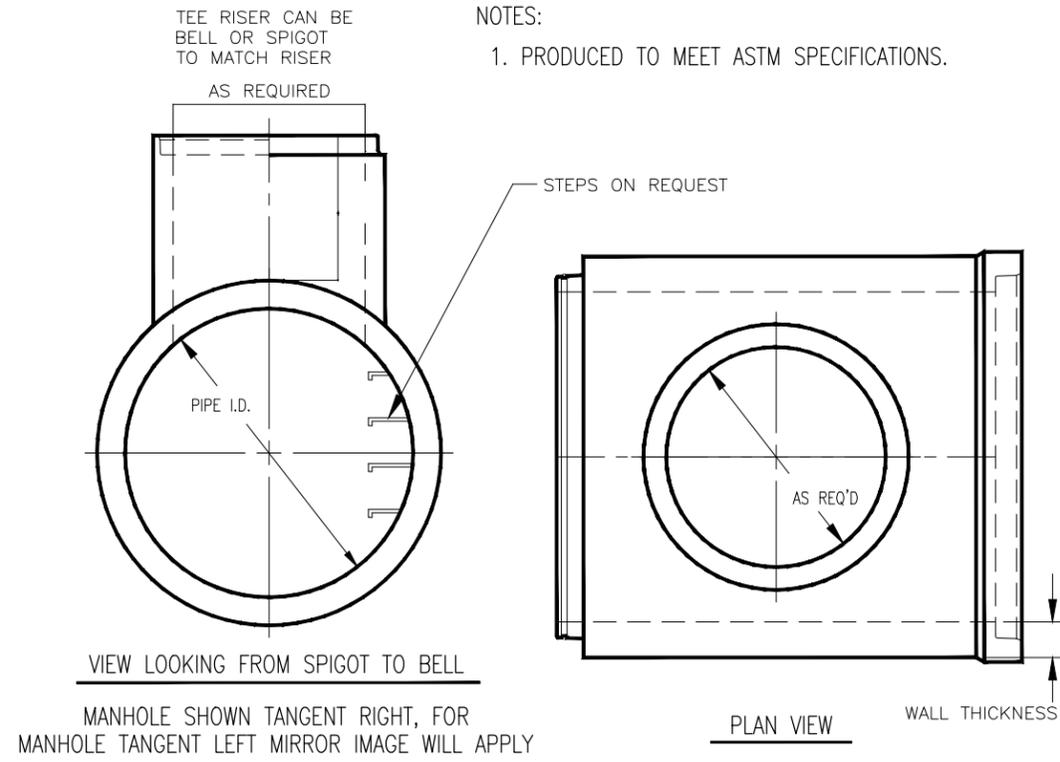
1. CONSTRUCT THICKENED CONCRETE PAVEMENT SECTION AT BUTT JOINTS TO EXISTING OR PROPOSED ASPHALT PAVEMENT PER CCD STD DWG 11.4.
2. CONTRACTOR TO PREPARE AND SUBMIT FOR APPROVAL CONCRETE JOINTING PLANS. ALL TRANSVERSE JOINTS REQUIRE LOAD TRANSFER DOWEL BARS. SEE CDOT STD PLAN NO. M-412-1.
3. ALL CONCRETE FOR CONCRETE PAVEMENT SHALL BE CDOT CLASS P WITH AIR CONTENT 5.0% MINIMUM TO 8.0% MAXIMUM. THE MIX CAN HAVE 3/4" AGGREGATE SIZE (#67 OR #57) OR 1.5" (#467 OR #357).
4. CONTRACTOR HAS THE OPTION TO USE CDOT CLASS E CONCRETE TO OPEN PAVEMENT TO SERVICE SOON AFTER PLACEMENT. NO ADDITIONAL PAYMENT FOR USE OF CLASS E CONCRETE.
5. CONTRACTOR HAS THE OPTION TO CONSTRUCT CURB, GUTTER AND PAVEMENT MONOLITHIC PER CDOT STD PLAN NO. M-412-1.
6. THE CCD MAXIMUM MONOLITHIC PLACEMENT IS 14.0' FROM THE LONG JOINT TO THE BACK OF CURB; OTHERWISE, USE LONG JOINT OR TIED LONGITUDINAL (L) JOINT ON GUTTER PAN EDGE.
7. CONSTRUCT CURB AND GUTTER THE SAME THICKNESS AS ADJACENT PAVEMENT.
8. DOWEL NEW CONCRETE PAVEMENT INTO EXISTING PAVEMENT PER CCD STD DWG. 11.2B AND DWG. 11.4.
9. CONSTRUCT TEMPORARY ASPHALT PAVEMENT BETWEEN THE UPRR TRACKS. ONCE THE TRACKS HAVE BEEN UTILIZED AND THE PANELS HAVE SETTLED, PERMANENT CONCRETE WILL BE PLACED.
10. TRANSITION CONCRETE PAVEMENT TO ASPHALT PAVEMENT AS PER CCD DWG 11.4.
11. INSTALL 3" INTERCONNECT CONDUIT BETWEEN SMITH RD AND THE CONSTRUCTION LIMIT. LOCATION PER CCD DWG 16.7 OR AS DIRECTED IN THE FIELD BY INSPECTOR. INSTALL TRAFFIC PULL BOXES AT EACH INTERSECTION AND 350' MAXIMUM LENGTH OF CONDUIT.

TYPICAL SECTION NOTES

- PLACE 4 INCHES OF TOPSOIL TO THIS LINE AFTER COMPLETION OF PAVING OPERATIONS. IF EXISTING MATERIAL IS OTHER THAN SOIL, REPLACE IN KIND.
- CONSTRUCT AT 2.0% CROSS SLOPE IN FULL RECONSTRUCTION AREAS. MATCH EXISTING CROSS SLOPE IN PAVEMENT WIDENING AREAS EXCEPT AS SHOWN IN THE CROSS SECTIONS.
- VERTICAL ALIGNMENT CONTROL POINTS.
- POINT OF SLOPE SELECTION
- PROVIDE CURB AND GUTTER TRANSITION FROM STANDARD TO MATCH EXISTING GROUND OVER A DISTANCE OF 6'-0". THIS APPLIES WHERE CURB AND GUTTER ENDS AT ALL TRACK CROSSING.
- FOR VARYING DIMENSIONS SEE PLAN AND PROFILE SHEETS FOR ADDITIONAL DETAIL.
- SEE PAVING AND GRADING PLANS FOR PAVEMENT CROSS-SLOPE TRANSITIONS.
- TYPICAL SECTIONS ARE NOT INTENDED FOR STAKING THE PROJECT. SEE ROADWAY PLANS FOR GENERAL LAYOUT AND STATION/OFFSET INFORMATION.
- SEE CROSS SECTIONS FOR FORE SLOPES AND BACK SLOPES.
- SEE EAST SMITH ROAD TYPICAL SECTIONS FOR THICKNESS OF CONCRETE PAVEMENT THROUGH INTERSECTION OF EAST SMITH ROAD AND DAHLIA STREET.

DATE	BY	DESCRIPTION OF REVISIONS
8-23-13	MWG	PGD 100% SUBMITAL
NO.	1	
CALL UNCC TWO WORKING DAYS BEFORE YOU DIG 1-800-922-1987 UTILITY INFORMATION CENTER OF COLORADO		
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DRAWN BY: MWG		
DESIGNED BY: MWG		
APPROVED BY: MWG		
DRAWING NAME: D-04-323-MEDIAN-PH-IV-B.dwg		
DATE: 08/01/2009		
SHEET NO.: 16 OF 17		

MEDIAN DETAIL



NOTES:
1. PRODUCED TO MEET ASTM SPECIFICATIONS.

PRECAST REINFORCED CONCRETE
CONCENTRIC MANHOLE TEE

NO.	DESCRIPTION OF REVISIONS	DATE	BY
1	PCO 100% SUBMITTAL	7-25-13	MWG

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