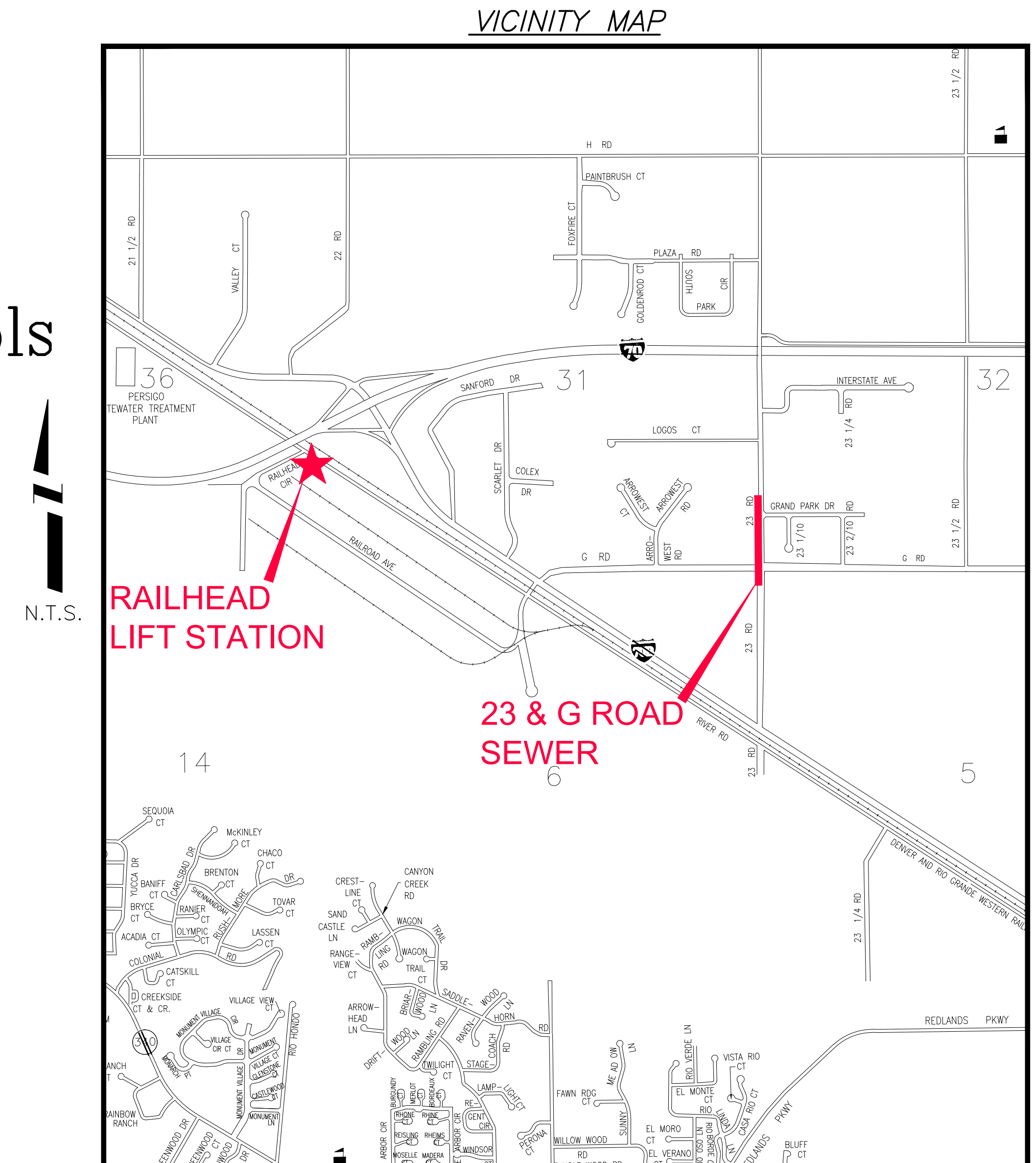


RAILHEAD LIFT STATION REPLACEMENT AUGUST, 2010

- 1 ————— Cover Sheet
- 2 ————— Standard Abbreviations, Legend, and Symbols
- 3 ————— Summary of Approximate Quantities
- 4-6 ————— 23 Road & G Road Sewer
- 7 ————— Railhead Lift Station Wet Well Plan
- 8-9 ————— Project Details
- 10-11 ————— Storm Water Management Plan

AS BUILT 05/10/2011

UTILITIES AND AGENCIES								
AGENCY	NAME	POSITION	ROLE	MAILING ADDRESS	STREET ADDRESS	CITY, STATE	VOICE-WK	FAX
GRAND JUNCTION, CITY OF	DAVID DONOHUE	PROJECT ENGINEER	PROJECT ENGINEER	250 N. 5th STREET	250 N. 5th STREET	GRAND JCT., CO 81501	(970) 244-1558	(970) 256-4022
GRAND JUNCTION, CITY OF	BRET GUILLORY	UTILITY ENGINEER	SANITARY SEWER	250 N. 5th STREET	250 N. 5th STREET	GRAND JCT., CO 81501	(970) 244-1590	(970) 256-4022
PERSIGO WASTE WATER T.P.	LARRY BROWN	MAINTENANCE SUPERVISOR	SANITARY SEWER	250 N. 5th STREET	250 N. 5th STREET	GRAND JCT., CO 81501	(970) 256-4168	(970) 245-8620
BRESNAN	CHUCK WEIDMAN	MANAGER	CABLE TV	2502 FORESIGHT CIRCLE	2502 FORESIGHT CIRCLE	GRAND JCT., CO 81504	(970) 245-8750	(970) 245-6803
QWEST	CHRIS JOHNSON	ENGINEER	TELEPHONE	2524 BLICHMANN AVE	2524 BLICHMANN AVE	GRAND JCT., CO 81504	(970) 244-4311	(970) 240-4349
UTE WATER	DARYL MOORE	SUPERVISOR	WATER	PO BOX 460		GRAND JCT., CO 81502	(970) 242-7491	(970) 242-9189
XCEL	DAN STEINKIRCHNER	UNIT MANAGER	GAS, ELECTRIC	2538 BLICHMANN AVE	2538 BLICHMANN AVE	GRAND JCT., CO 81506	(970) 244-2656	(970) 244-2661



*Public Works & Planning
Engineering Division*

NOTE: NOTIFY AFFECTED UTILITY VENDOR 48 HOURS PRIOR TO EXCAVATIONS THAT WILL EXPOSE UTILITY LINES. THE COVER SHEET WILL HAVE A LISTING OF UTILITY VENDORS AND TELEPHONE NUMBERS.

REVISION	DESCRIPTION	DATE
REVISION Δ	_____	_____
REVISION Δ	_____	_____
REVISION Δ	_____	_____
REVISION Δ	_____	_____

DRAWING STATUS:	
<input type="radio"/>	PROGRESS
<input type="radio"/>	FINAL CONSTRUCTION DRAWINGS
<input checked="" type="radio"/>	ASBUILT
DESIGNED BY:	
DAVID R. DONOHUE, PROJECT ENGINEER	DATE _____
REVIEWED BY:	
BRET GUILLORY, UTILITY ENGINEER	DATE _____
AUTHORIZED FOR CONSTRUCTION	
TRENTON C. PRALL, CITY ENGINEER	DATE _____
ACCEPTED AS CONSTRUCTED	
DAVID R. DONOHUE, PROJECT ENGINEER	DATE _____

RAILHEAD LIFT STATION REPLACEMENT, AUGUST, 2010, Plan Set No. _____

ABBREVIATIONS

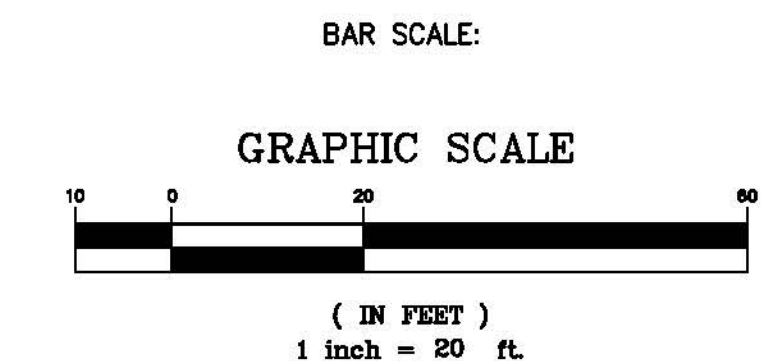
AASTHO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
ABC	AGGREGATE BASE COURSE
AC	ASBESTOS CEMENT
AP	ANGLE POINT
ASB	ANCHORED STRAW BALES
ASP	ALUMINIZED STEEL PIPE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
BC	BACK OF CURB
BF	BUTTERFLY VALVE
BOW	BACK OF WALK
BCR	BEGIN CURB RETURN
BOT	BOTTOM
BSWMP	BETTER STORM WATER MANAGEMENT PRACTICES
CH	CHORD
CAP	CORRUGATED ALUMINUM PIPE
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CI	CAST IRON
C,G,& SW	CURB, GUTTER & SIDEWALK
CL	CENTER LINE
CL	CLEAR
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
COMB	COMBINATION (AS IN STORM SEWER AND SANITARY SEWER)
CONC	CONCRETE
CSM	CITY SURVEY MONUMENT
CSP	CORRUGATED STEEL PIPE
CU	COPPER
DI	DUCTILE IRON
DWY	DRIVEWAY
E	ELECTRIC
ECR	END CURB RETURN
EG	EDGE OF GUTTER
EL	ELEVATION
EP	EDGE OF PAVEMENT
EX	EXISTING
FB	FULL BODY
FC	FACE OF CURB
FG	FINISHED GRADE
F	FLOW LINE
FL	FLANGE
FM	FORCE MAIN
FO	FIBER OPTICS
FS	FAR SIDE
FTG	FOOTING
G	GAS
GB	GRADE BREAK
GM	GAS METER
GV	GATE VALVE
HBP	HOT BITUMINOUS PAVEMENT
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
IRR	IRRIGATION
L	LENGTH OF ARC
LC	LONG CHORD
LF	LINEAR FEET
LL	LONG ARC
LS	SHORT ARC
LT	LEFT
MB	MAILBOX
MCSM	MESA COUNTY SURVEY MONUMENT
MH	MANHOLE
MJ	MECHANICAL JOINT
MW	WILL WRAP
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOP	NO ONE PERSON
NRCP	NON-REINFORCED CONCRETE PIPE
NS	NEAR SIDE
NTS	NOT TO SCALE
OHP	OVERHEAD POWER
OHT	OVERHEAD TELEPHONE
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PE	POLYETHYLENE
PERF	PERFORATED
PI	POINT OF INTERSECTION
PIP	PLASTIC IRRIGATION PIPE
POC	POINT ON CURVE
POT	POINT ON TANGENT
PR	PROPOSED
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
RG	RESTRAINED GLANDS
RL	LONG RADIUS
ROW	RIGHT OF WAY
RP	RADIUS POINT
RR	RAIL ROAD
RS	SHORT RADIUS
RT	RIGHT
S	SLOPE
SAN	SANITARY
SC	SHORT CHORD
SCD	STANDARD CONTRACT DOCUMENTS
SCH	SCHEDULE
SF	SILT FENCE
SL	SECTION LINE
SSRB	STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION
SSUJ	STANDARD SPECIFICATIONS FOR CONSTRUCTION OF UNDERGROUND UTILITIES
STA	STATION
STL	STEEL
STM	STORM
T	TELEPHONE
TAN	LENGTH OF TANGENT
TC	TOP OF CURB
TH	TEST HOLE
TV	TELEVISION
(TYP)	TYPICAL
UU	UNDERGROUND UTILITIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VPC	VERTICAL POINT OF CURVATURE
VPCC	VERTICAL POINT OF COMPOUND CURVATURE
VPRC	VERTICAL POINT OF REVERSE CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WATER
Δ	DELTA ANGLE

LEGEND

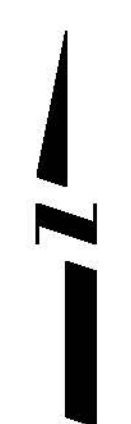
BSWMP DRAINAGE BASIN BOUNDARY	
BSWMP ANCHORED STRAW BALES	
BSWMP SILT FENCE	
BUILDING	
CONCRETE CURB AND GUTTER	
CONCRETE CURB, GUTTER, & SIDEWALK	
CONCRETE DITCH	
CONCRETE SIDEWALK	
CULVERT	
EARTH DITCH	
EDGE OF GRAVEL	
EDGE OF PAVEMENT	
FENCE (BARBED WIRE)	
FENCE (CHAIN LINK)	
FENCE (IRON)	
FENCE (PLASTIC)	
FENCE (TEMPORARY CONSTRUCTION)	
FENCE (WOOD)	
FENCE (WOVEN WIRE)	
GUARD RAIL	
HATCHING: INDICATES ASPHALT REMOVAL	
HATCHING: INDICATES CONCRETE REMOVAL	
HATCHING: INDICATES STAGING AREA	
LINE (CENTER OF IMPROVEMENTS)	
LINE (CITY LIMITS)	
LINE (CONTROL)	
LINE (EASEMENT)	
LINE (MONUMENT/SECTION)	
LINE (PROPERTY)	
LINE (RIGHT OF WAY)	
MATCH LINE	
PIPE (IRRIGATION)	
PIPE (SIPHON)	
PROPOSED CONCRETE CURB AND GUTTER	
PROPOSED CONCRETE CURB, GUTTER, & SIDEWALK	
PROPOSED CONCRETE SIDEWALK	
PROPOSED "WET" UTILITIES (CONSTRUCTION NOTE WILL INDICATE TYPE, SIZE, AND MATERIAL OF NEW MAIN)	
RAIL ROAD	
RETAINING WALL	
STRIPING (CONTINUOUS WHITE)	
STRIPING (DASHED WHITE)	
STRIPING (CONTINUOUS YELLOW)	
STRIPING (DASHED YELLOW)	
TOP OF SLOPE	
CONTOUR LINES (SHOWN BETWEEN TOP & TOE)	
TOE OF SLOPE	
TRAFFIC DETECTOR LOOP	
UTILITY LINE (ABANDON) (THIS CASE A WATER LINE)	
UTILITY LINE (CABLE TV)	
UTILITY LINE (ELECTRIC)	
UTILITY LINE (FIBER OPTIC)	
UTILITY LINE (GAS)	
UTILITY LINE (HIGH VOLTAGE OVERHEAD POWER)	
UTILITY LINE (OVERHEAD POWER)	
UTILITY LINE (OVERHEAD TELEPHONE)	
UTILITY LINE (SANITARY SEWER)	
UTILITY LINE (SANITARY SEWER FORCE MAIN)	
UTILITY LINE (SANITARY SEWER SERVICE)	
UTILITY LINE (STORM SEWER)	
UTILITY LINE (STORM SEWER, PERFORATED)	
UTILITY LINE (STORM/SANITARY SEWER SEWER COMBINATION)	
UTILITY LINE (TELEPHONE)	
UTILITY LINE (WATER)	

SYMBOLS

BENCH MARK	
CATCH BASIN	
CLEAN OUT	
CURB STOP	
FIRE HYDRANT	
GUY WIRE ANCHOR	
HEADGATE	
IRRIGATION PUMP	
MAILBOX	
MANHOLE (ELECTRIC)	
MANHOLE (GAS)	
MANHOLE (SANITARY/STORM)	
MANHOLE (TELEPHONE)	
MANHOLE (TV)	
MANHOLE (WATER)	
METER (GAS)	
METER (WATER)	
PEDESTAL (TELEPHONE)	
PEDESTAL (TV)	
PROPERTY PIN	
PULL BOX	
REDUCER FITTING	
SIGN OR POST (SIGN TYPE NOTED)	
SPRINKLER HEAD	
STREET LIGHT	
SURVEY MONUMENT (CITY)	
SURVEY MONUMENT (TYPE NOTED)	
TEST HOLE	
TRAFFIC SIGNAL POLE AND MAST ARM	
UTILITY POLE	
VALVE (GAS)	
VALVE (IRRIGATION)	
VALVE (WATER)	
VEGETATION (HEDGE OR BUSH)	
VEGETATION (TREE STUMP)	
VEGETATION (TREE) (CALIPER SIZE NOTED)	
WATER HYDRANT	
WEIR	
YARD LIGHT	



NORTH ARROW:



REVISION Δ	DESCRIPTION	DATE	DRAWN BY	JCS	DATE	4-02
REVISION Δ			DESIGNED BY		DATE	
REVISION Δ			CHECKED BY		DATE	
REVISION Δ			APPROVED BY		DATE	

SCALE	
PLAN	PROFILE
HORIZ. 1"=20'	HORIZ.
	VERT.



PUBLIC WORKS AND PLANNING ENGINEERING DIVISION

CITY OF GRAND JUNCTION STANDARD ABBREVIATIONS, LEGEND, AND SYMBOLS SHEET

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION Δ	_____	_____	DESIGNED BY	DATE
REVISION Δ	_____	_____	CHECKED BY	DATE
REVISION Δ	_____	_____	APPROVED BY	DATE

SCALE
N.T.S.



PUBLIC WORKS
AND PLANNING
ENGINEERING DIVISION

RAILHEAD LIFT STATION REPLACEMENT
SUMMARY OF APPROXIMATE QUANTITIES

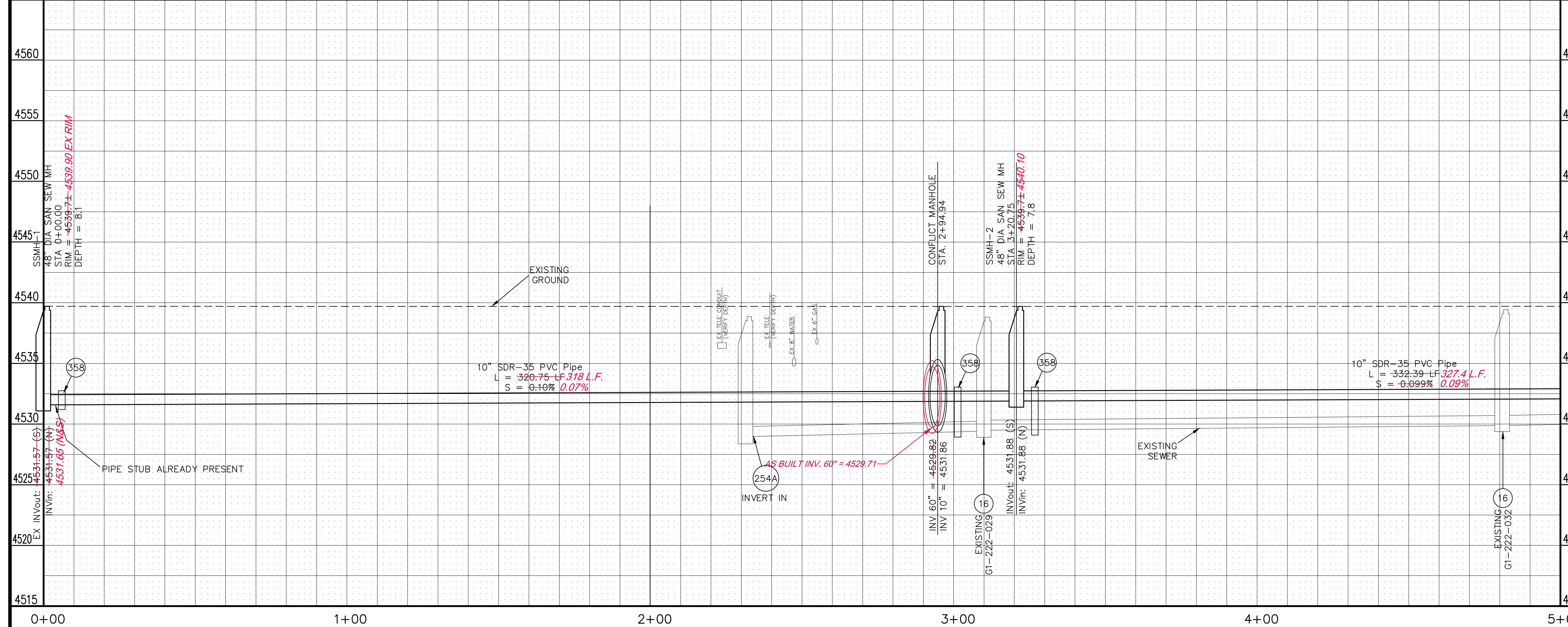
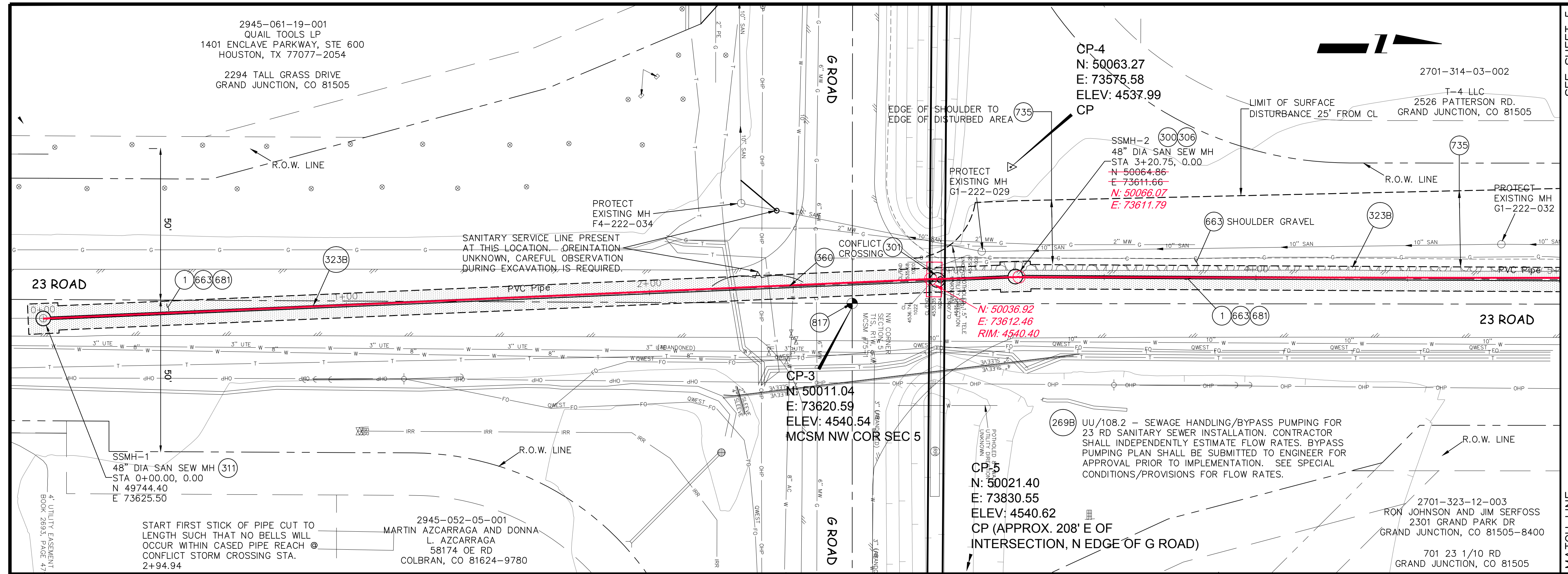
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CONSTRUCTION NOTES

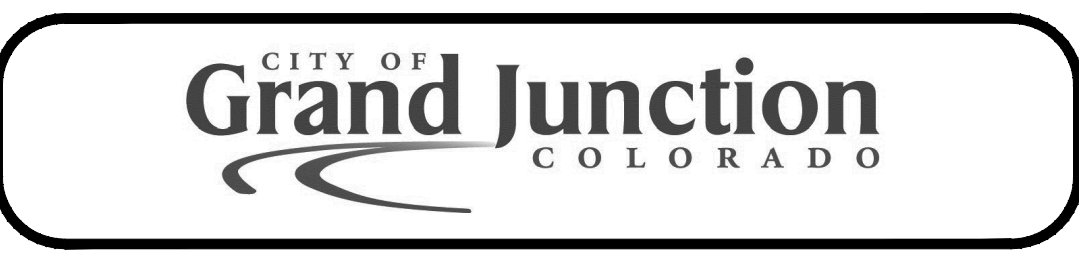
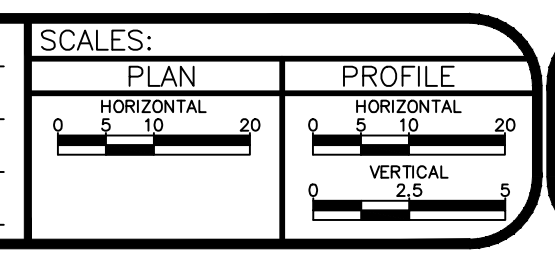
- 1 202 - REMOVAL OF ASPHALT MAT. CUT AND REMOVE AS SHOWN.
- 254A 102.14 - GROUT/CONCRETE-SEAL HOLE OPENING IN MANHOLE, CATCH BASIN, OR PIPE STUB; DIA. 18 INCHES OR LESS. CLASS B CONCRETE REQUIRED FOR DIA. > 8".
- 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.)(DEPTH ≤ 5'). INCLUDES CONNECTION OF ADJACENT SEWER LINES (INCLUDING PIPE STUB LENGTHS AND COUPLINGS), FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02).
- 301 102./108.5 - SANITARY-STORM CONFLICT CROSSING: 60X8 FT STORM SEWER WITH 4 FT MANHOLE AND CASED SANITARY SEWER CROSSING. SEE DETAILS IN DRAWINGS. INCLUDES STORM SEWER SECTION, MANHOLE, GEOTEXTILES FOR FOUNDATION, BEDDING AND BACKFILL, STEEL CASING PIPE, SPACERS AND END SEALS, PENETRATION AND SEALING OF PENETRATIONS.
- 306 102.11/108.5 - MANHOLE BARREL SECTION (DEPTH>5')(DIA. = 48").
- 311 102.11/108.5 - CONNECT TO EXISTING MANHOLE (PIPE DIA VARIES). (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-08). CONTRACTOR SHALL CONNECT THE SEWER PIPE TO THE EXISTING MANHOLE USING A STANDARD RUBBER BOOT AND GROUT SEAL AS PER SS-08. CONTRACTOR SHALL RECONSTRUCT MH INVERT, COST SHALL BE INCIDENTAL TO THE COST OF "CONNECT TO EXISTING MANHOLE" BID ITEM.
- 323B 102.9/108.2 - 10" GRAVITY SEWER PIPE (ASTM D-3034 SDR-35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS OR IMPORTED MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL, AS DETERMINED OR AGREED TO BY THE ENGINEER.
- 358 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)
- 360 206 - STRUCTURE BACKFILL (FLOWFILL). USE FOR BACKFILL BENEATH WATER, STORM, IRR LINES; EXTEND 5 FT EITHER SIDE OF UPPER UTILITY.
- 663 304 - AGGREGATE BASE COURSE (CLASS 6) (6" THICK)
- 681 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK) (GRADING SX, BINDER GRADE PG 64-22); TWO 2.0-INCH LIFTS; INSTALLATION AND LIFT THICKNESSES SHALL CONFORM TO STANDARD CONTRACT DOCUMENT SPECIFICATIONS.
- 731 207 - STOCKPILE AND RESET TOP 12 INCHES OF TOPSOIL OR IMPORT NEW FROM SOURCE APPROVED BY ENGINEER. KEEP FREE FROM DEBRIS. PLACE AT 90% MAX DENSITY WITH TOP 3" LOOSENEED FOR SEED BED.
- 735 212 - SEEDING (HYDROSEEDING/HYDROMULCH APPLICATION) OF PERIPHERAL DISTURBED AREAS, INCLUDING VEHICLE TRACKS, STAGING AREAS, ETC. SEE SPECIAL PROVISIONS FOR SEED BLEND AND APPLICATION DETAILS. SOIL SURFACE SHALL BE DISKED, TILLED, OR OTHERWISE LOOSENEED, PRIOR TO APPLICATION OF HYDROSEEDING. SURFACE SHALL ALSO BE CLEARED OF WEEDS AND OTHER DEBRIS. NATIVE PLANT MATTER STILL PRESENT SHALL BE PRESERVED.
- 817 REFERENCE AND PROTECT OR REFERENCE AND RESET SURVEY MONUMENT/PROPERTY PIN. COST IS INCIDENTAL TO COST OF CONSTRUCTION.

NOTE: MANHOLES NOT IN ASPHALT REQUIRE CONCRETE COLLAR; COST IS INCIDENTAL TO MANHOLE PAY ITEM

AS BUILT 05/10/2011



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
1	REVISION	10/07/10	JAH	8/2010
2	REVISION	5/10/2011	DRD	8/2010
3	REVISION			
4	REVISION			



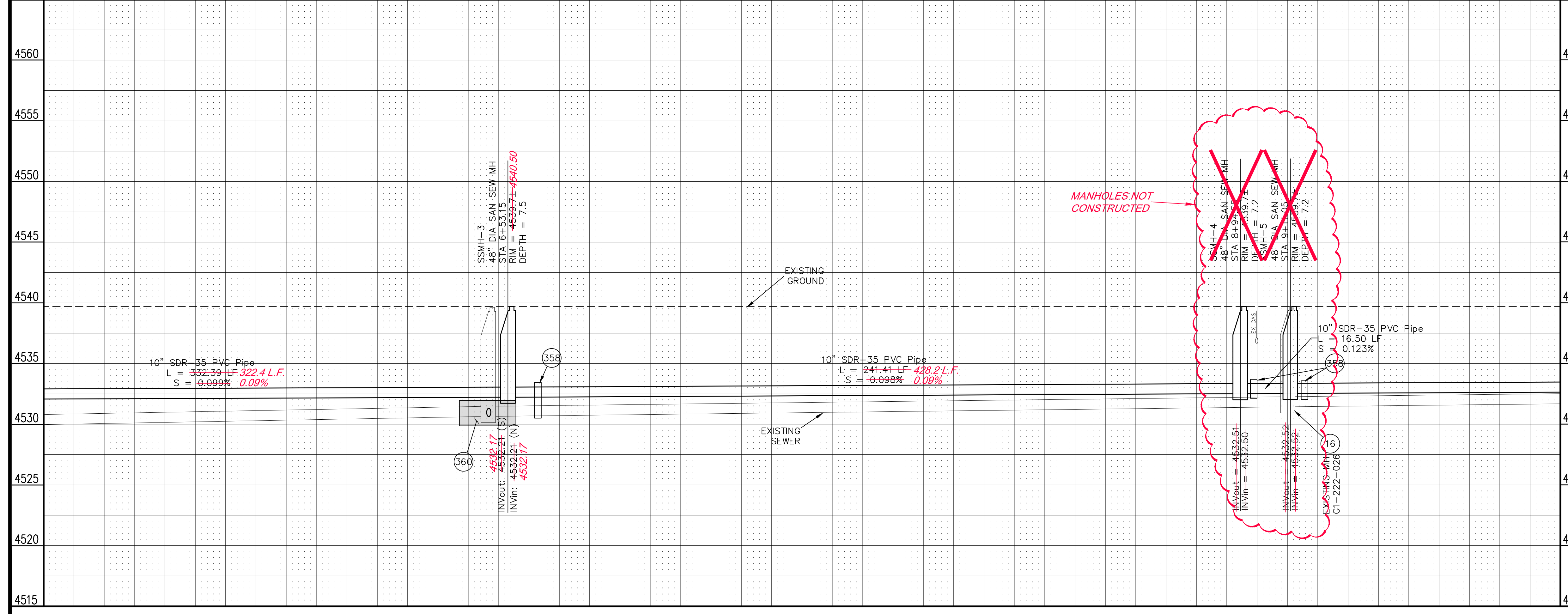
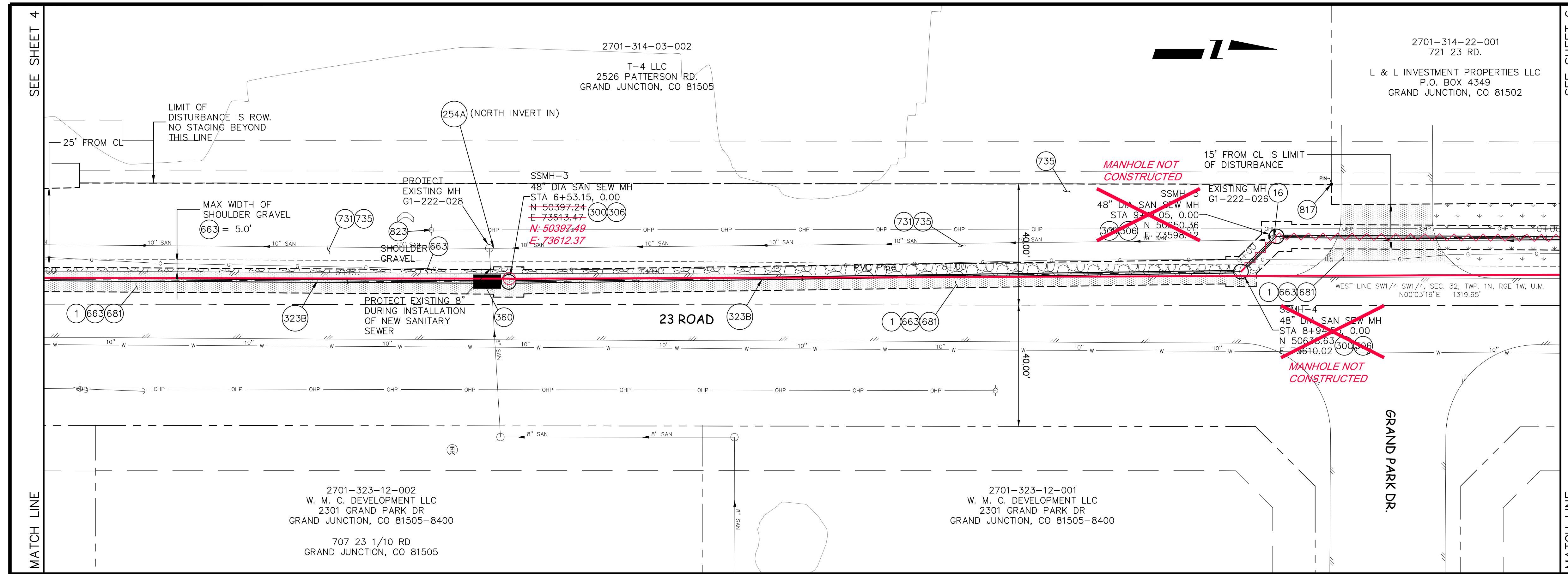
PUBLIC WORKS AND PLANNING ENGINEERING DIVISION

**RAILHEAD LIFT STATION REPLACEMENT
SANITARY SEWER PLAN AND PROFILE
STA 0+00 TO STA 5+00**

CONSTRUCTION NOTES

- 1 202 - REMOVAL OF ASPHALT MAT. CUT AND REMOVE AS SHOWN.
- 16 202 - REMOVE MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS. INCLUDES SEALING ENDS OF ADJACENT PIPES WITH 12-INCH LONG PLUG OF CLASS B CONCRETE.
- 254A 102.14 - GROUT/CONCRETE-SEAL HOLE OPENING IN MANHOLE, CATCH BASIN, OR PIPE STUB; DIA. 18 INCHES OR LESS. CLASS B CONCRETE REQUIRED FOR DIA. > 8".
- 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.)(DEPTH ≤ 5'). INCLUDES CONNECTION OF ADJACENT SEWER LINES (INCLUDING PIPE STUB LENGTHS AND COUPLINGS), FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02).
- 306 102.11/108.5 - MANHOLE BARREL SECTION (DEPTH>5')(DIA. = 48").
- 321 102.9/108.2 - 4" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
- 323B 102.9/108.2 - 10" GRAVITY SEWER PIPE (ASTM D-3034 SDR-35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS OR IMPORTED MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL, AS DETERMINED OR AGREED TO BY THE ENGINEER.
- 347 102.9/104.2/108.2 - 10" x 4" SEWER SERVICE TAP (NEW SERVICE ON NEWLY INSTALLED PVC PIPE), TO INCLUDE: FULL BODY WYE, W/ STREET 45, ALL BENDS AND FITTINGS, CLEANOUT, VERTICAL PIPING, TRACING WIRE, CLEANOUT RING & COVER AND CONCRETE COLLAR, AS REQUIRED, TO ALIGN AND CONNECT TO EXISTING SERVICE AT ROW LINE. 4" SERVICE PIPE SEPARATE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL "TYPICAL SERVICE "Y" CONNECTION" SS-06 AND SS-07).
- 358 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)
- 360 206 - STRUCTURE BACKFILL (FLOWFILL). USE FOR BACKFILL BENEATH WATER, STORM, IRR LINES; EXTEND 5 FT EITHER SIDE OF UPPER UTILITY.
- 663 304 - AGGREGATE BASE COURSE (CLASS 6) (6" THICK)
- 681 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK) (GRADING SX, BINDER GRADE PG 64-22); TWO 2.0-INCH LIFTS; INSTALLATION AND LIFT THICKNESS SHALL CONFORM TO STANDARD CONTRACT DOCUMENT SPECIFICATIONS.
- 731 207 - STOCKPILE AND RESET TOP 12 INCHES OF TOPSOIL OR IMPORT NEW FROM SOURCE APPROVED BY ENGINEER. KEEP FREE FROM DEBRIS. PLACE AT 90% MAX DENSITY WITH TOP 3" LOOSENED FOR SEED BED.
- 735 212 - SEEDING (HYDROSEEDING/HYDROMULCH APPLICATION) OF PERIPHERAL DISTURBED AREAS, INCLUDING VEHICLE TRACKS, STAGING AREAS, ETC. SEE SPECIAL PROVISIONS FOR SEED BLEND AND APPLICATION DETAILS. SOIL SURFACE SHALL BE DISKED, TILLED, OR OTHERWISE LOOSENED, PRIOR TO APPLICATION OF HYDROSEEDING. SURFACE SHALL ALSO BE CLEARED OF WEEDS AND OTHER DEBRIS. NATIVE PLANT MATTER STILL PRESENT SHALL BE PRESERVED.
- 817 REFERENCE AND PROTECT OR REFERENCE AND RESET SURVEY MONUMENT/PROPERTY PIN. COST IS INCIDENTAL TO COST OF CONSTRUCTION.
- 823 PROTECT UTILITY POLE. NOTIFY XCEL ENERGY 2 WEEKS IN ADVANCE THAT STABILIZATION VIA "POLE HOLDING" IS REQUIRED.

AS BUILT 05/10/2011



5+00 6+00 7+00 8+00 9+00 10+00

REVISION	DESCRIPTION	DATE
Δ	REVISED SEWER ALIGNMENT	10/07/10
Δ	AS BUILT	5/10/2011
Δ		
Δ		

DRAWN BY	JAH	DATE	8/2010
DESIGNED BY	DRD	DATE	8/2010
CHECKED BY		DATE	
APPROVED BY		DATE	

SCALES:	
PLAN	PROFILE
HORIZONTAL 0 5 10 20	HORIZONTAL 0 5 10 20
VERTICAL 0 5 10	VERTICAL 0 5 10

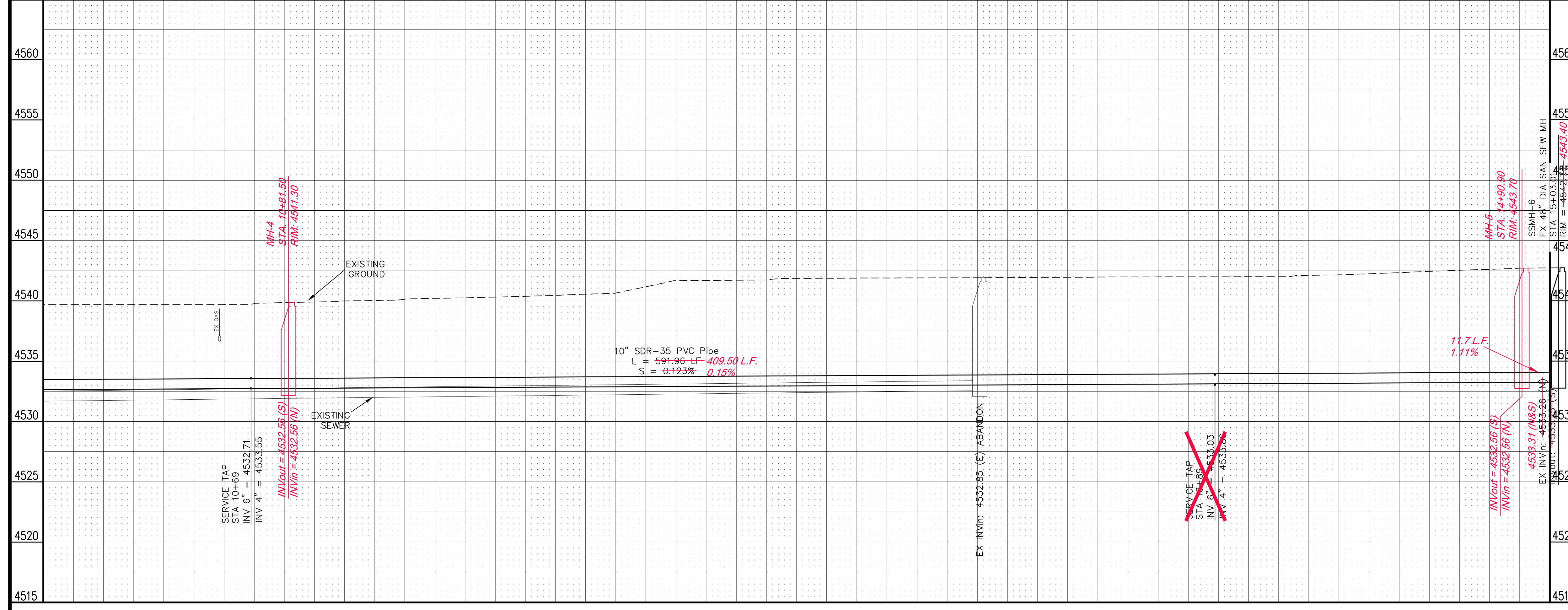
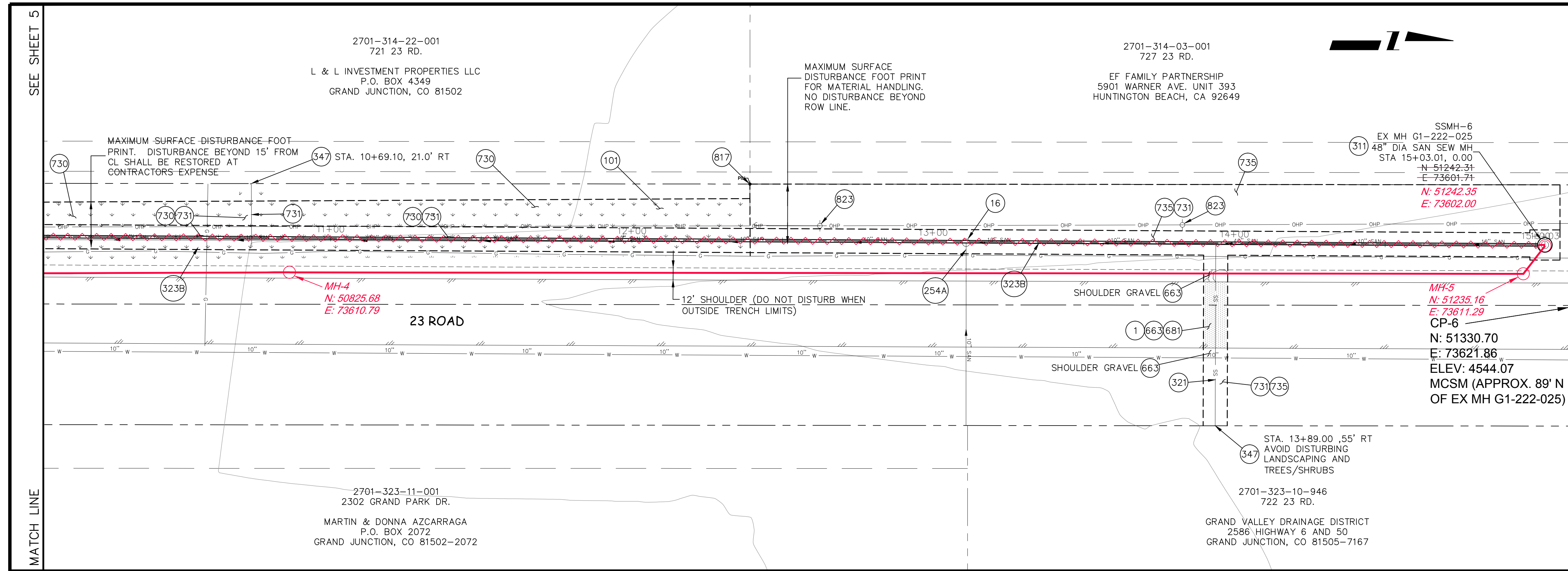


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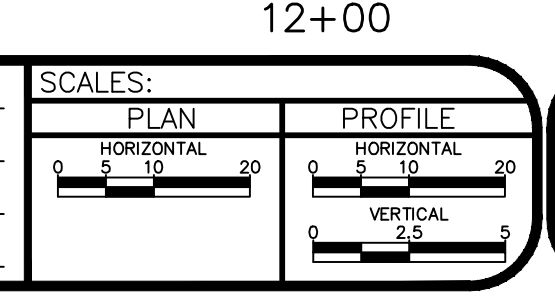
RAILHEAD LIFT STATION REPLACEMENT
SANITARY SEWER PLAN AND PROFILE
STA 5+00 TO STA 10+00

CONSTRUCTION NOTES

- 1 202 - REMOVAL OF ASPHALT MAT. CUT AND REMOVE AS SHOWN.
- 16 202 - REMOVE MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS. INCLUDES SEALING ENDS OF ADJACENT PIPES WITH 12-INCH LONG PLUG OF CLASS B CONCRETE.
- 101 210 - RESET SPRINKLER SYSTEM, AS NEEDED (COMPLETE IN PLACE)
- 254A 102.14 - GROUT/CONCRETE-SEAL HOLE OPENING IN MANHOLE, CATCH BASIN, OR PIPE STUB; DIA. 18 INCHES OR LESS. CLASS B CONCRETE REQUIRED FOR DIA. > 8".
- 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.)(DEPTH ≤ 5'). INCLUDES CONNECTION OF ADJACENT SEWER LINES (INCLUDING PIPE STUB LENGTHS AND COUPLINGS), FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02).
- 306 102.11/108.5 - MANHOLE BARREL SECTION (DEPTH>5')(DIA. = 48").
- 321 102.9/108.2 - 4" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
- 323B 102.9/108.2 - 10" GRAVITY SEWER PIPE (ASTM D-3034 SDR-35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS OR IMPORTED MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL, AS DETERMINED OR AGREED TO BY THE ENGINEER.
- 347 102.9/104.2/108.2 - 10" x 4" SEWER SERVICE TAP (NEW SERVICE ON NEWLY INSTALLED PVC PIPE), TO INCLUDE: FULL BODY WYE, W/ STREET 45, ALL BENDS AND FITTINGS, CLEANOUT, VERTICAL PIPING, TRACING WIRE, CLEANOUT RING & COVER AND CONCRETE COLLAR, AS REQUIRED, TO ALIGN AND CONNECT TO EXISTING SERVICE AT ROW LINE. 4" SERVICE PIPE SEPARATE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL "TYPICAL SERVICE "Y" CONNECTION" SS-06 AND SS-07).
- 358 ~~103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)~~
- 66.3 304 - AGGREGATE BASE COURSE (CLASS 6) (6" THICK)
- 681 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK) (GRADING SX, BINDER GRADE PG 64-22); TWO 2.0-INCH LIFTS; INSTALLATION AND LIFT THICKNESS SHALL CONFORM TO STANDARD CONTRACT DOCUMENT SPECIFICATIONS.
- 730 RESOD AREA SHOWN. INCLUDES PREPARING AREA BY REMOVING DAMAGED SOD, AND LOOSENING AND LEVELING SOIL.
- 731 207 - STOCKPILE AND RESET TOP 12 INCHES OF TOPSOIL OR IMPORT NEW FROM SOURCE APPROVED BY ENGINEER. KEEP FREE FROM DEBRIS. PLACE AT 90% MAX DENSITY WITH TOP 3" LOOSENED FOR SEED BED.
- 735 212 - SEEDING (HYDROSEEDING/HYDROMULCH APPLICATION) OF PERIPHERAL DISTURBED AREAS, INCLUDING VEHICLE TRACKS, STAGING AREAS, ETC. SEE SPECIAL PROVISIONS FOR SEED BLEND AND APPLICATION DETAILS. SOIL SURFACE SHALL BE DISKED, TILLED, OR OTHERWISE LOOSENED, PRIOR TO APPLICATION OF HYDROSEEDING. SURFACE SHALL ALSO BE CLEARED OF WEEDS AND OTHER DEBRIS. NATIVE PLANT MATTER STILL PRESENT SHALL BE PRESERVED.
- 817 REFERENCE AND PROTECT OR REFERENCE AND RESET SURVEY MONUMENT/PROPERTY PIN. COST IS INCIDENTAL TO COST OF CONSTRUCTION.
- 823 PROTECT UTILITY POLE. NOTIFY XCEL ENERGY 2 WEEKS IN ADVANCE THAT STABILIZATION VIA "POLE HOLDING" IS REQUIRED.



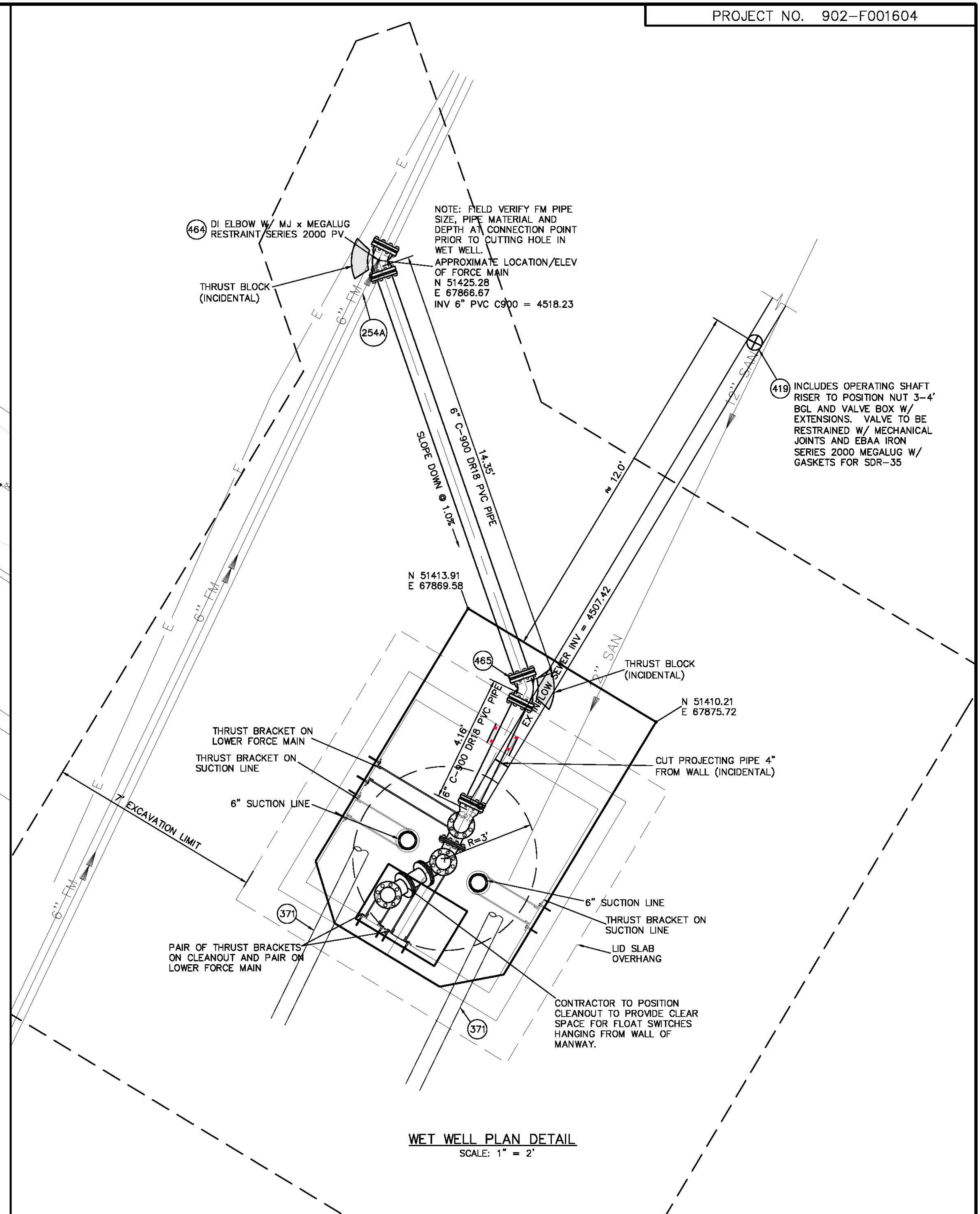
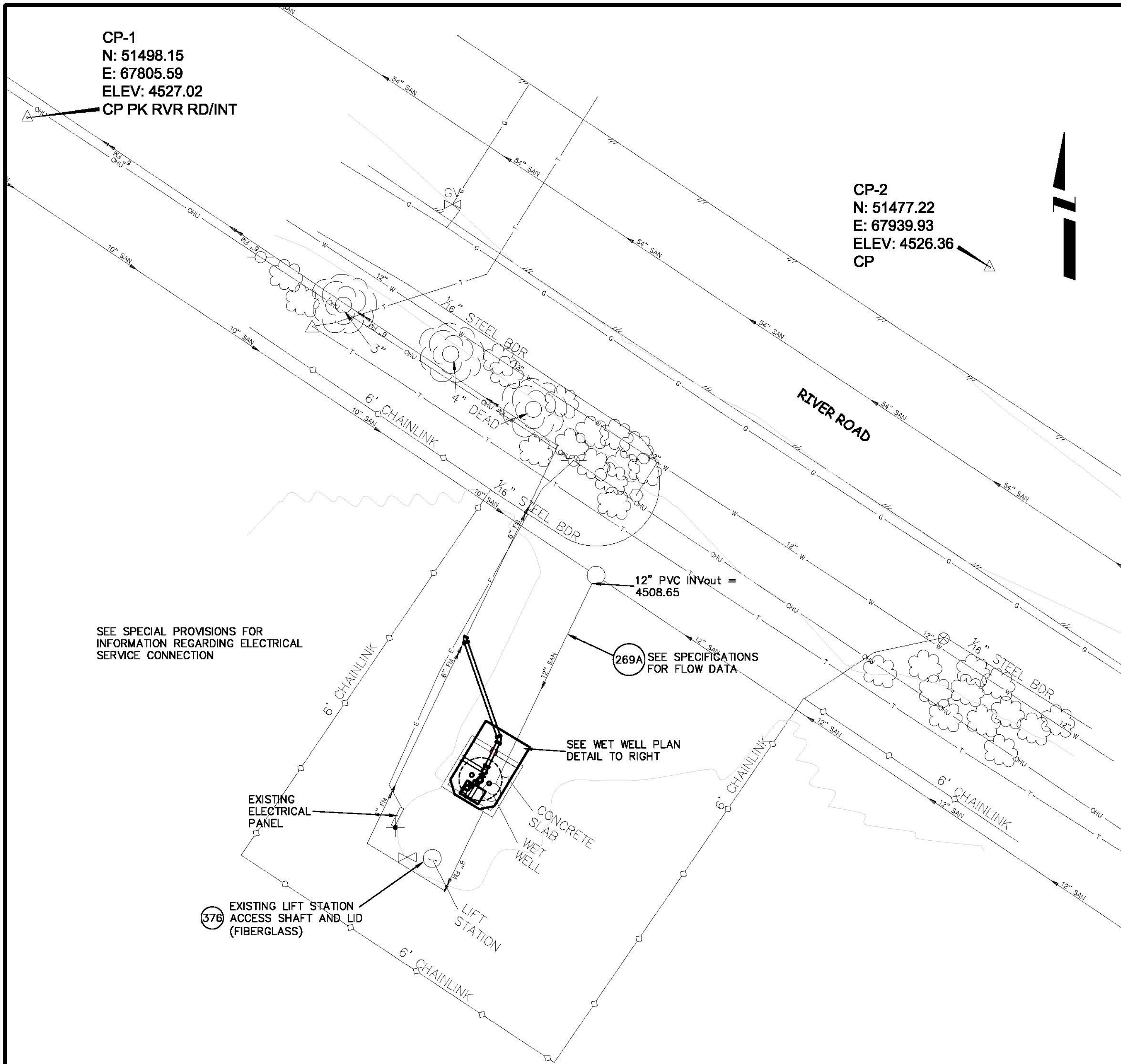
DESCRIPTION	DATE	DRAWN BY	JAH	DATE	8/2010
REVISION Δ REVISED SEWER ALIGNMENT	10/07/10	DESIGNED BY	DRD	DATE	8/2010
REVISION Δ AS BUILT	5/10/2011	CHECKED BY		DATE	
REVISION Δ		APPROVED BY		DATE	



PUBLIC WORKS AND PLANNING ENGINEERING DIVISION

RAILHEAD LIFT STATION REPLACEMENT
SANITARY SEWER PLAN AND PROFILE
STA 10+00 TO STA 13+06.26

AS BUILT 05/10/2011



CP-1
N: 51498.15
E: 67805.59
ELEV: 4527.02
CP PK RVR RD/INT

CP-2
N: 51477.22
E: 67939.93
ELEV: 4526.36
CP

SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING ELECTRICAL SERVICE CONNECTION

269A SEE SPECIFICATIONS FOR FLOW DATA

SEE WET WELL PLAN DETAIL TO RIGHT

376 EXISTING LIFT STATION ACCESS SHAFT AND LID (FIBERGLASS)

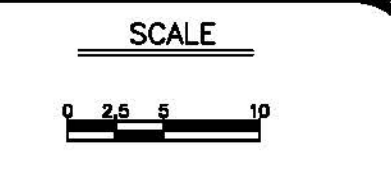
CONSTRUCTION NOTES

- 254A 102.14 - GROUT/CONCRETE-SEAL HOLE OPENING IN MANHOLE, CATCH BASIN, OR PIPE STUB; DIA. 18 INCHES OR LESS. CLASS B CONCRETE REQUIRED FOR DIA. > 8".
- 371 UU - CUT AND REMOVE EXISTING DUCTILE IRON SUCTION PIPE AT BOTTOM OF WET WELL. CUT FLUSH W/ FILLET/WALL. FILL AND SEAL ENDS (IN WALL) WITH CLASS B CONCRETE. COAT EXPOSED CONCRETE W/ SW COR-COTE SC OR TNEMIC PERMA-GLAZE SERIES 435 EPOXY.
- 269A UU/108.2 - BYPASS PUMPING RAILHEAD LIFT STATION INSTALLATION. CONTRACTOR SHALL INDEPENDENTLY ESTIMATE FLOW RATES. BYPASS PUMPING PLAN SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO IMPLEMENTATION. BYPASS PUMPING SHALL BE VIA SECURE TEMPORARY DIRECT CONNECTION TO EXISTING FORCE MAIN AT LOCATION OF PROPOSED CONNECTION FOR NEW LIFT STATION.
- 376 UU - ABANDON EXISTING LIFT STATION VAULT. AFTER SALVAGE OF EQUIPMENT BY PERSIGO PERSONNEL, EXCAVATE TO EXPOSE TOP 6 FT OF FIBERGLASS ACCESS SHAFT; CUT, REMOVE AND DISPOSE OF TOP 6 FT OF SHAFT AND LID. FILL LIFT STATION VAULT WITH 2 FEET OF FLOW FILL, THEN PIT RUN. FINAL 2 FT OF FILL SHALL BE CLASS B CONCRETE. RE-FILL EXCAVATION WITH NATIVE MATERIAL AND IMPORTED PIT RUN TO MAKE UP ANY SHORTFALL. COMPACT TO 95% MAXIMUM DENSITY.
- 419 102.8b/108.3 - 12-INCH GATE VALVE WITH MECHANICAL JOINTS AND EBAA IRON SERIES 2000 MEGALUG RESTRAINT COLLARS FOR PVC-SDR-35. VALVE SHALL BE COATED ON INTERIOR WITH PROTECTO 401 CERAMIC EPOXY COATING. INCLUDES VALVE BOX RISERS/LID AND APPURTENANCES TO POSITION NUT 3-5 FT BELOW GROUND.
- 464 102.7a/108.3 - 6" DUCTILE IRON 45-DEGREE BEND WITH EBAA IRON SERIES 2000PV MECHANICAL JOINT RESTRAINT (BOTH SIDES). ELBOW SHALL BE COATED WITH PROTECTO 401 CERAMIC EPOXY COATING.
- 465 102.7/108.3 - 6-INCH, DUCTILE IRON, COMPACT 45-DEGREE BEND, CONFORMING TO ANSI/AWWA C153/A21.53. COATED INSIDE AND OUTSIDE WITH INDURON PROTECTO 401 CERAMIC-EPOXY COATING. MJ X MJ WITH EBAA IRON MEGALUG 1100.

WET WELL PLAN DETAIL
SCALE: 1" = 2'

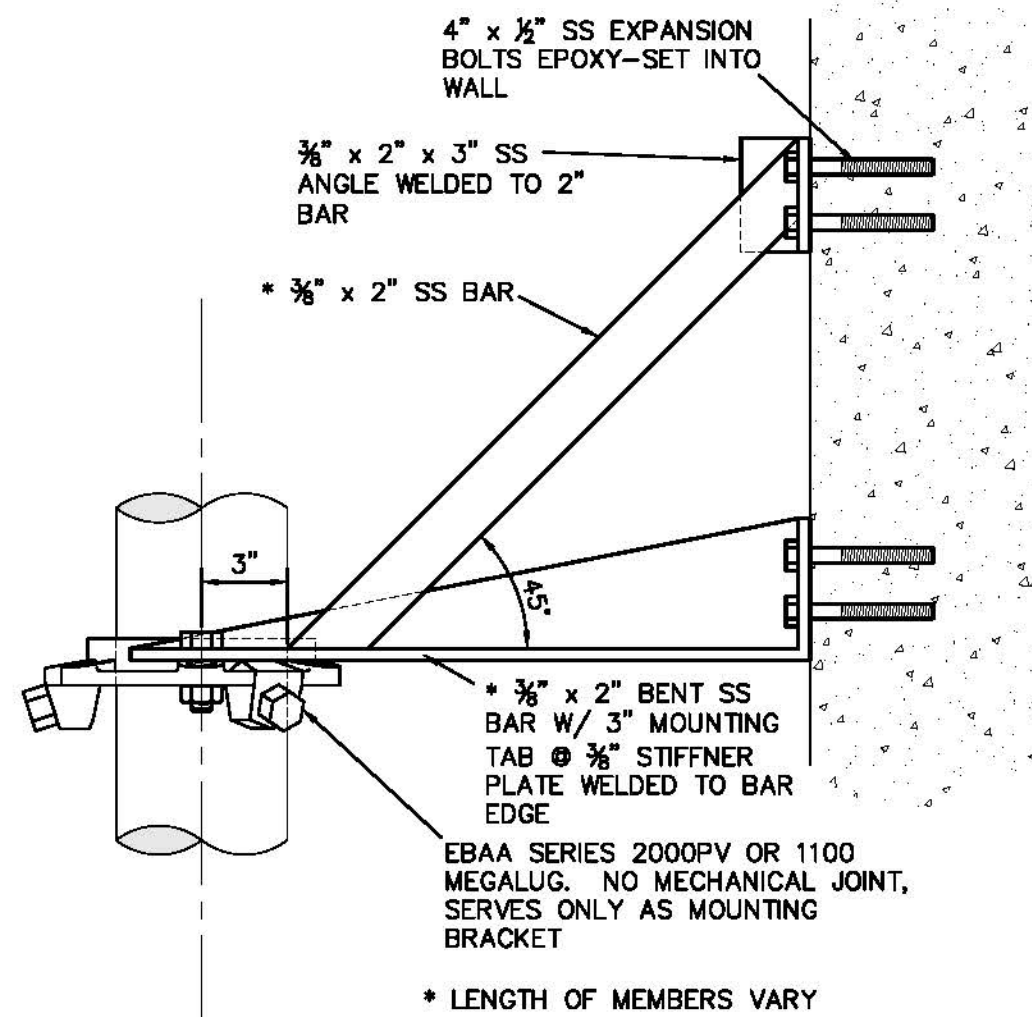
REVISION	DESCRIPTION	DATE
REVISION A		
REVISION B		
REVISION C		
REVISION D		

DRAWN BY	JAH	DATE	8/2010
DESIGNED BY	DRD	DATE	8/2010
CHECKED BY		DATE	
APPROVED BY		DATE	

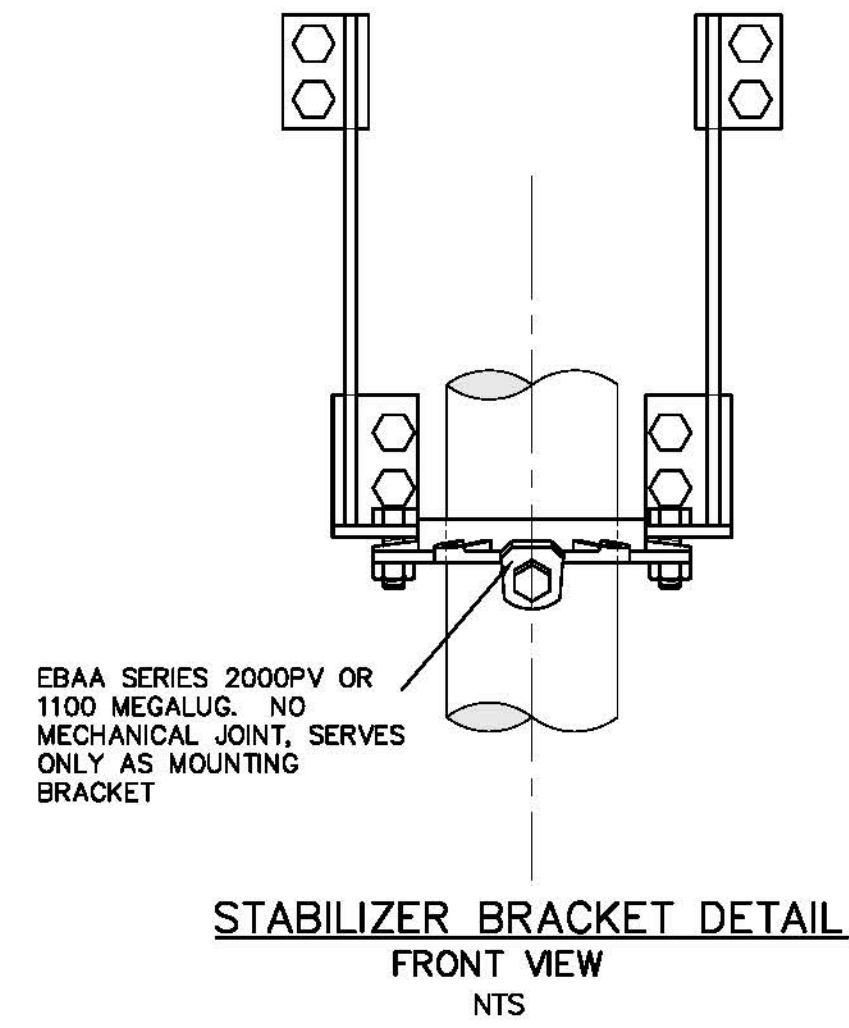


PUBLIC WORKS AND PLANNING ENGINEERING DIVISION

**RAILHEAD LIFT STATION REPLACEMENT
RAILHEAD LIFT STATION WET WELL PLAN**

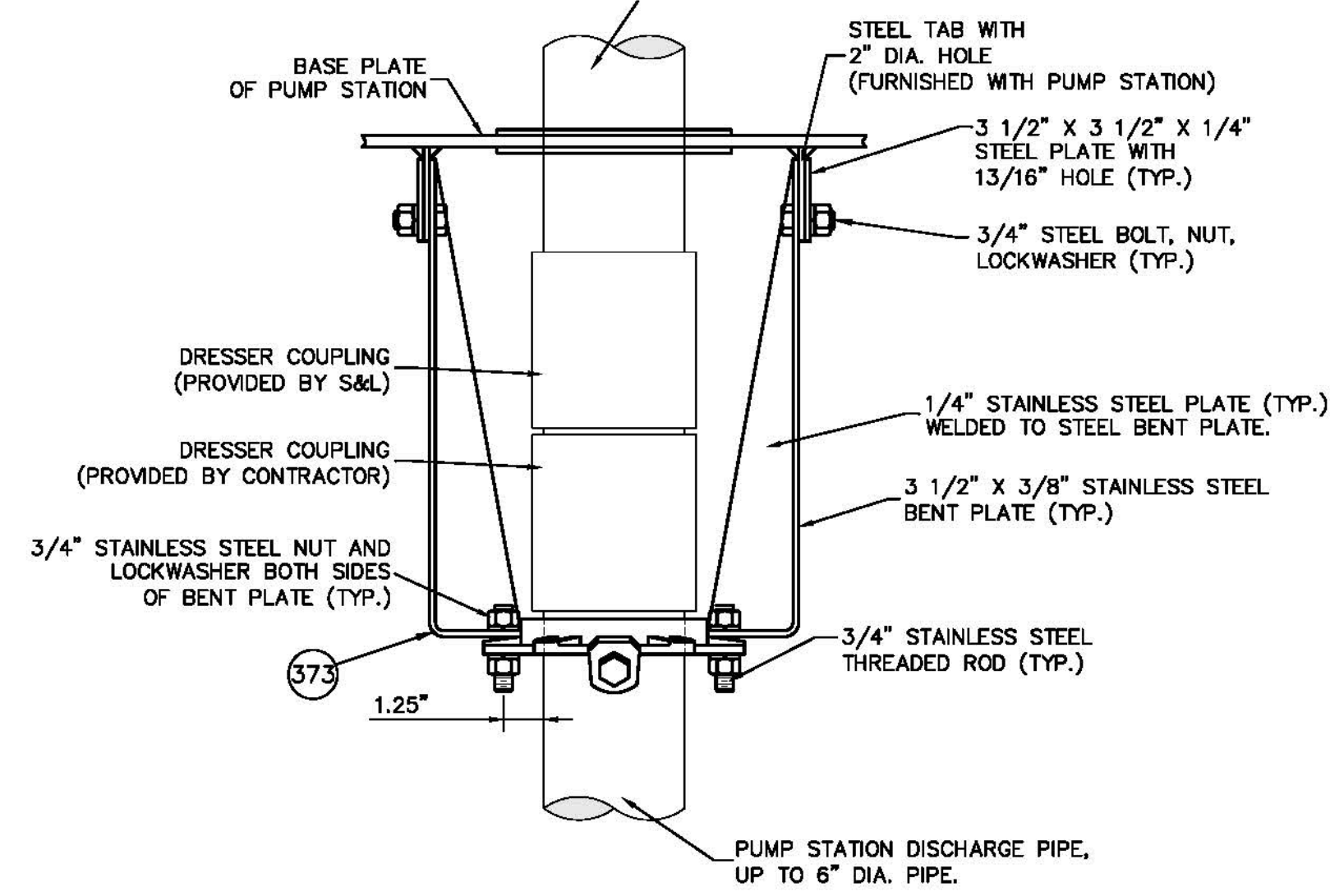


373 STABILIZER BRACKET DETAIL
SIDE VIEW
NTS

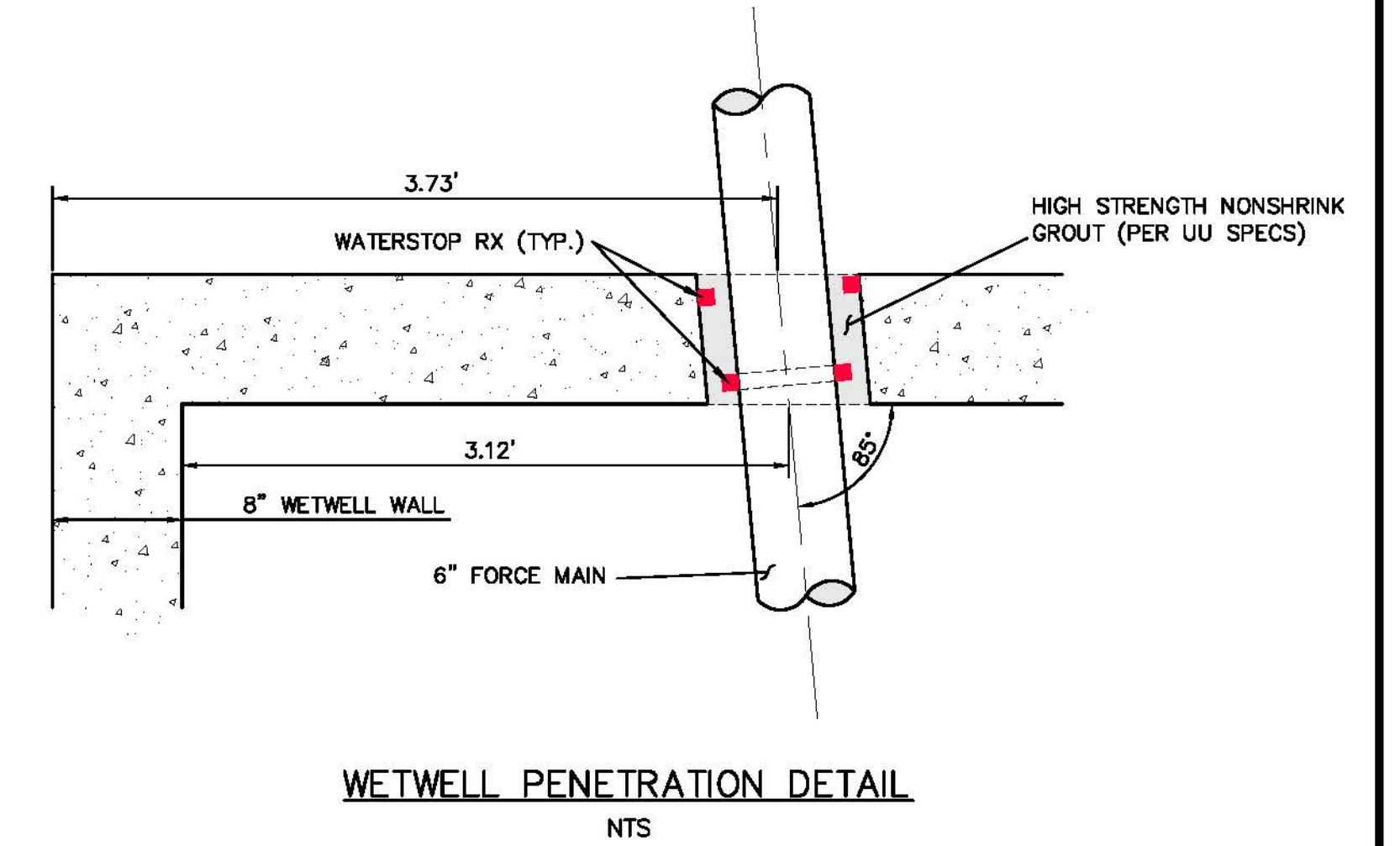


STABILIZER BRACKET DETAIL
FRONT VIEW
NTS

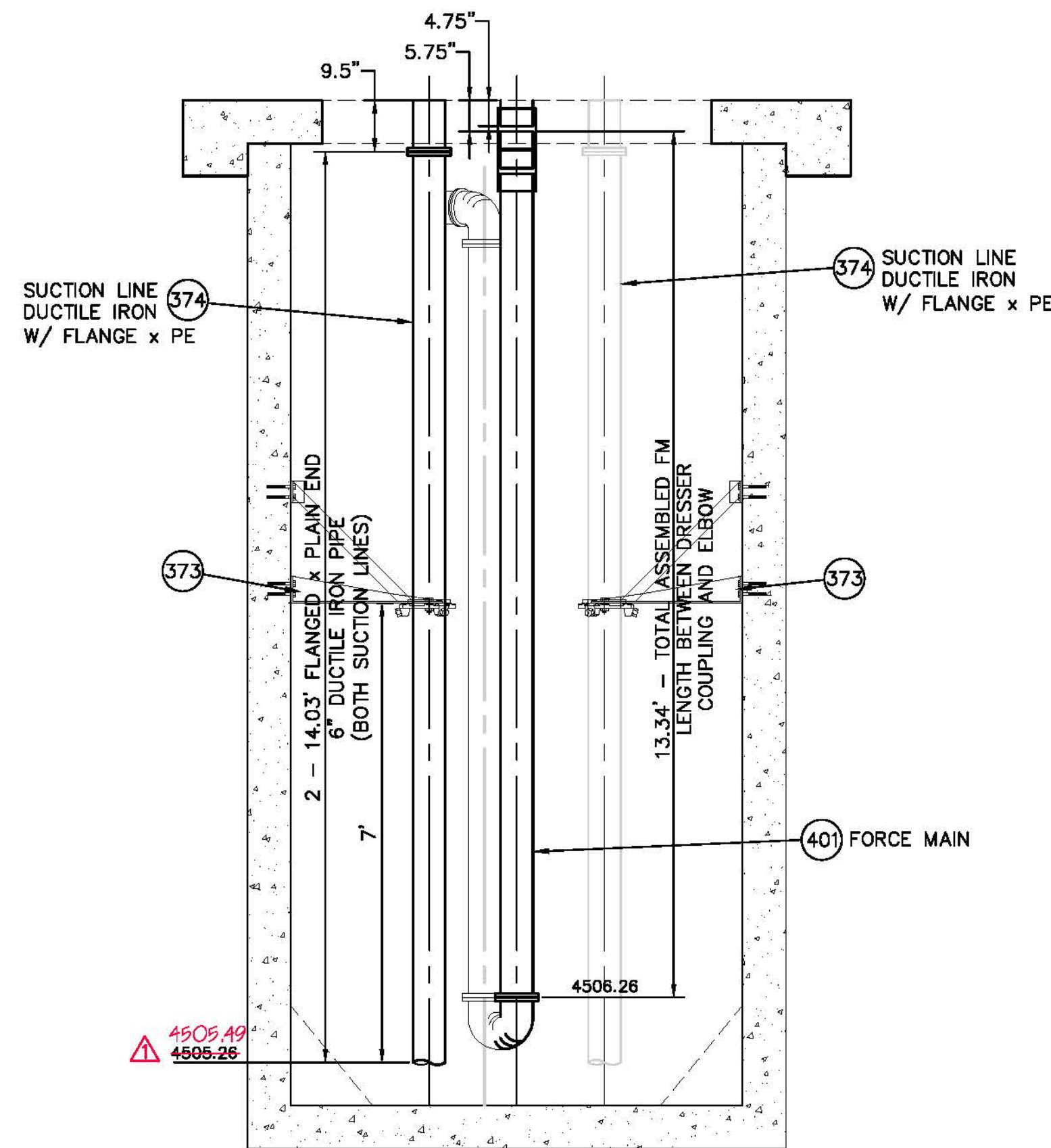
NOTE: ALL ANCHOR/CONNECTION BOLTS, NUT, WASHERS AND ALL THREAD SHALL BE GRADE 60 STAINLESS STEEL.



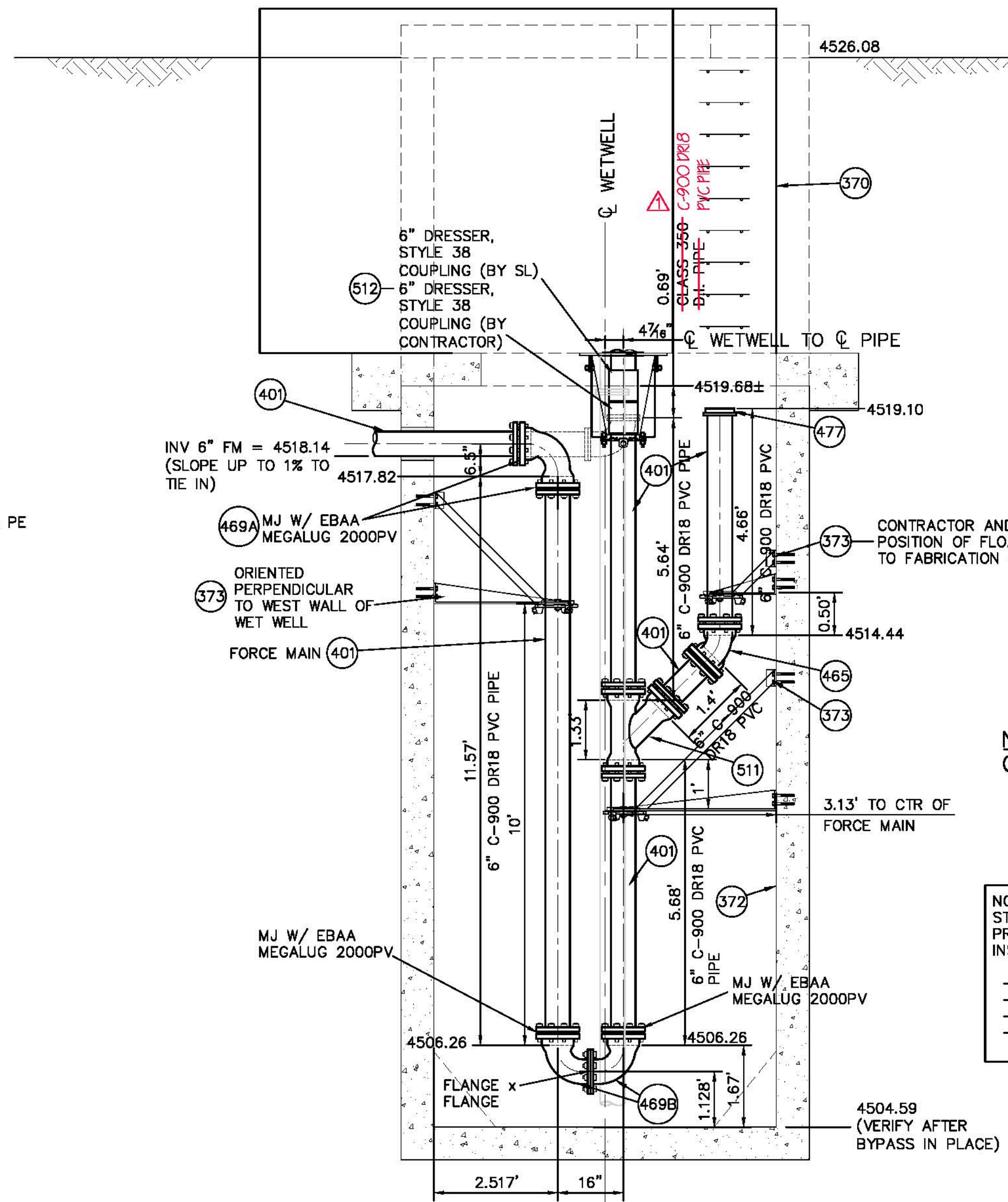
UPPER FORCE MAIN SUPPORT BRACKET DETAIL
NTS



WETWELL PENETRATION DETAIL
NTS



WETWELL DETAIL
SCALE: 1" = 2'



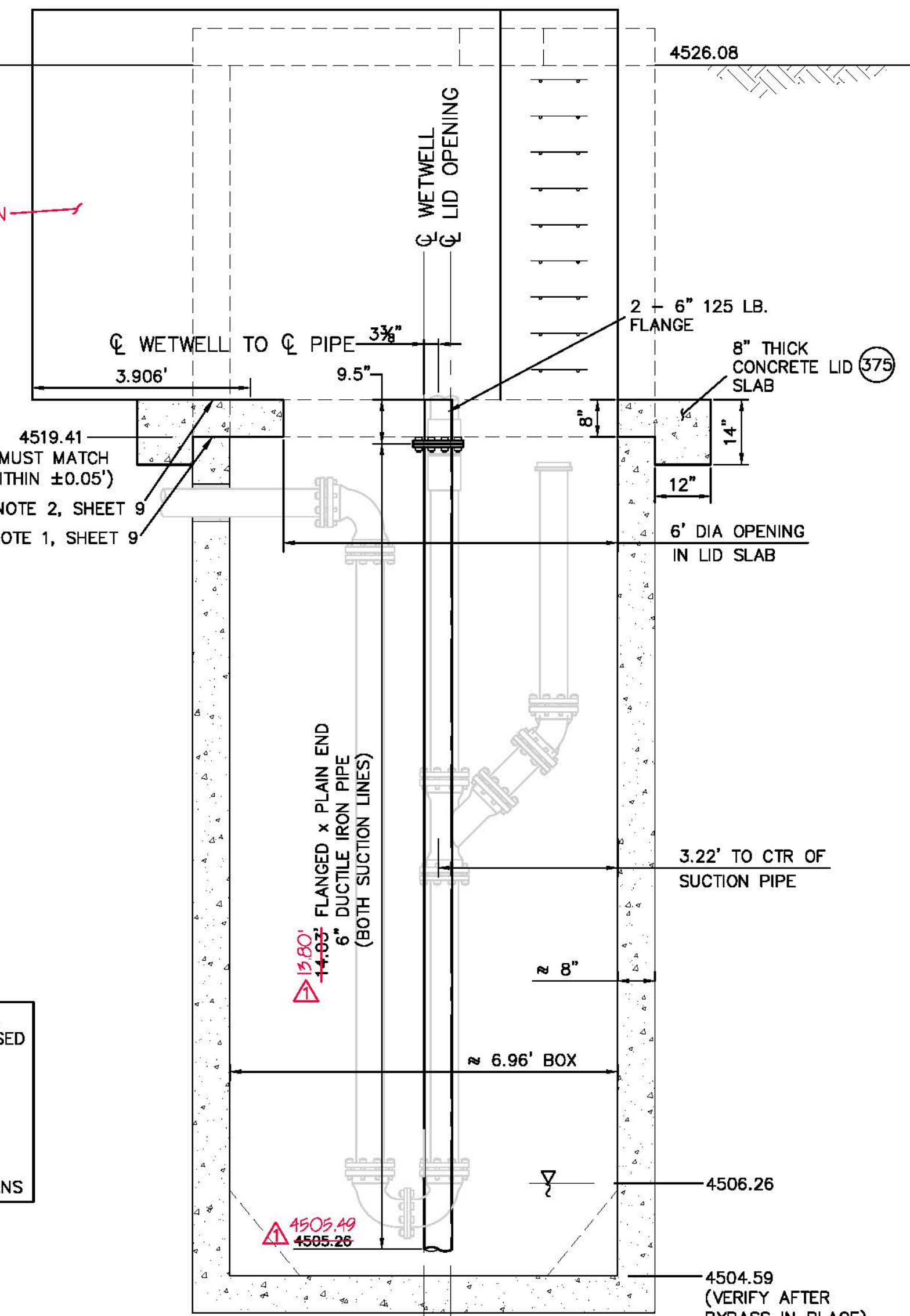
WETWELL DETAIL
FORCE MAIN
SCALE: 1" = 2'

NOTES: LID SLAB SHALL BE DESIGNED, STAMPED AND SUBMITTED BY A LICENSED PROFESSIONAL ENGINEER PRIOR TO INSTALLATION.

- HIGH LEVEL PUMP ON = 4509.05
- LOW LEVEL PUMP ON = 4508.80
- PUMP OFF = 4506.26
- PUMP CONTROL SWITCHES TO BE INSTALLED BY PERSIGO TECHNICIANS

NOTE: SEE SHEET 9 FOR CONSTRUCTION NOTES

CUT AND REMOVE UPPER PORTION OF WETWELL (INCIDENTAL TO LIFT STATION PAY ITEM)



WETWELL DETAIL
SUCTION PIPES
SCALE: 1" = 2'

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION A	APPENDUM 1	9/27/2010	JAH	7/2010
REVISION B			DRD	7/2010
REVISION C				
REVISION D				

SCALE
VARIES



PUBLIC WORKS AND PLANNING ENGINEERING DIVISION

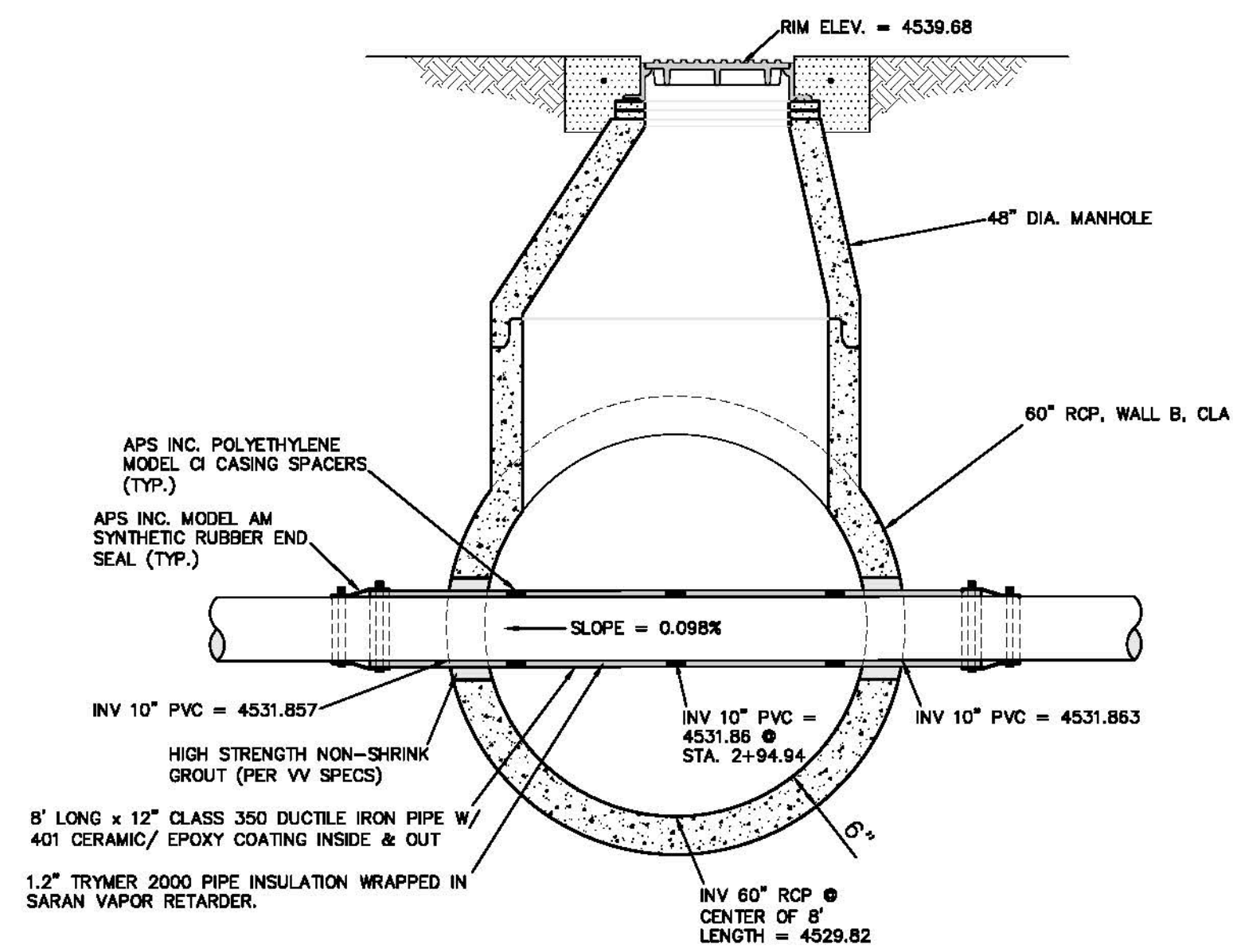
RAILHEAD LIFT STATION PROJECT DETAILS

CONSTRUCTION NOTES SHEETS 8 & 9

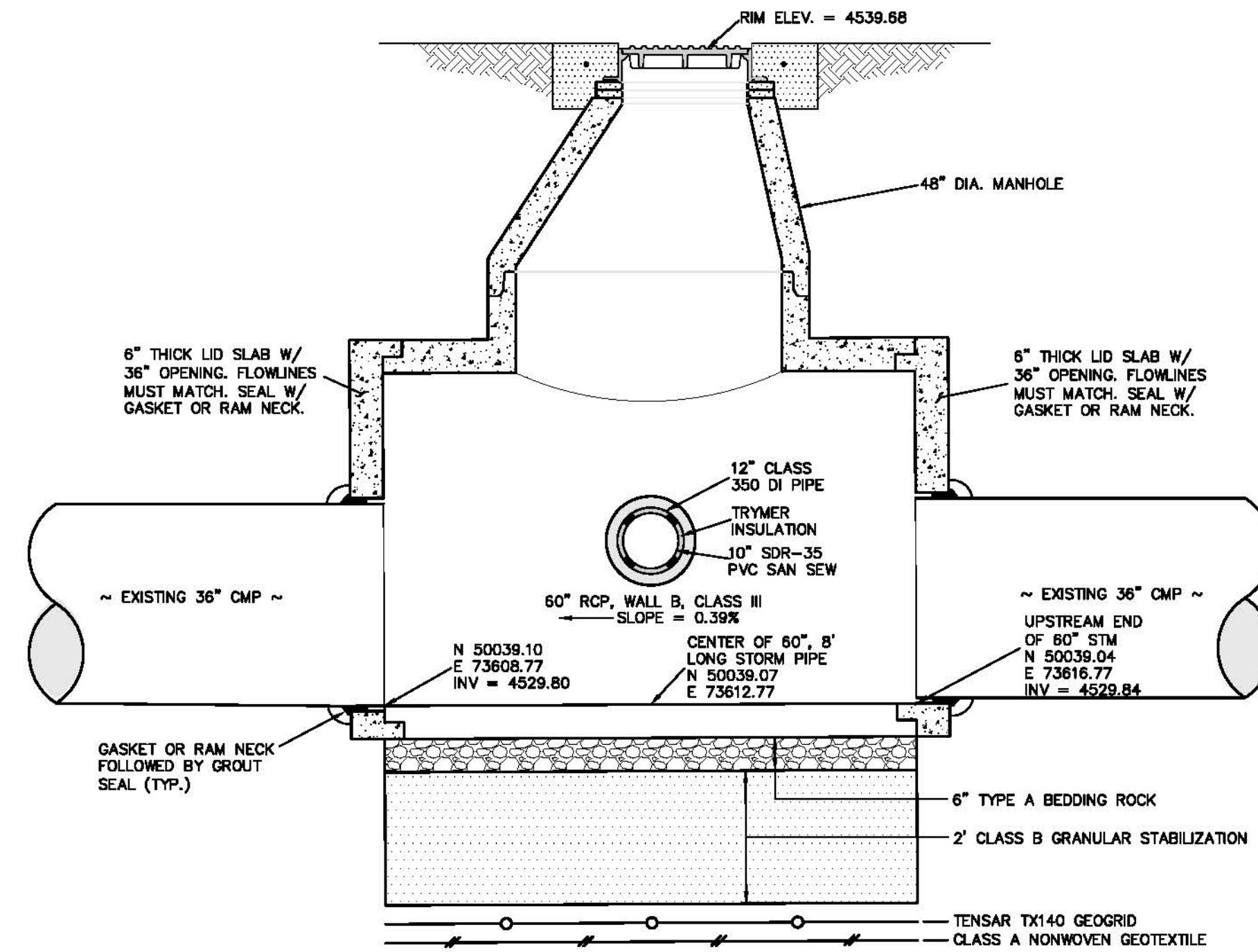
- 301 102/108.5 - SANITARY-STORM CONFLICT CROSSING: 60x8 FT STORM SEWER WITH 4 FT MANHOLE AND CASED SANITARY SEWER CROSSING. SEE DETAILS IN DRAWINGS. INCLUDES STORM SEWER SECTION, MANHOLE, GEOTEXTILES FOR FOUNDATION, BEDDING AND BACKFILL, STEEL CASING PIPE, SPACERS AND END SEALS, PENETRATION AND SEALING OF PENETRATIONS.
- 370 UU - INSTALL SMITH & LOVELESS, INC. RECTANGULAR RECESSED WET WELL MOUNTED PUMP/LIFT STATION W/ RELAY LOGIC AND VACUUM-PRIMED CONSTANT SPEED DUAL 4B2B PUMPS WITH 7.5-INCH IMPELLERS. INCLUDES ALL ELECTRICAL CONNECTIONS (BY LICENSED ELECTRICIAN) AND EXCAVATION/BACKFILLING (W/ APPROVED MATERIALS) REQUIRED FOR INSTALLATION. SMITH & LOVELESS LIFT STATION WILL BE PURCHASED AND PROVIDED BY CITY. CONTRACTOR SHALL BE RESPONSIBLE FOR UNLOADING AT SITE.
- 372 UU - CLEAN AND COAT INTERIOR OF WETWELL USING SHERWIN WILLIAMS COR-COTE SC, SEWER COTE, GRAY-HAZE COLOR. ELECTRIC HOLIDAY TESTING W/ MANUFACTURER APPROVED DEVICE IS REQUIRED AND SHALL BE OBSERVED BY PROJECT ENGINEER. CLEANING SHALL INCLUDE HIGH-PRESSURE HOT-WATER WASH WITH DETERGENT. APPLY COATING AS PER MANUFACTURER SPECIFICATIONS. INCLUDES COATING UNDERSIDE OF LID SLAB.
- 373 UU - STABILIZER BRACKET FOR FORCE MAIN IN WETWELL. INCLUDES UPPER FORCE MAIN LOCATION BELOW WETWELL FLOOR AND LOWER FORCE MAIN AND RISER LOCATIONS. INCLUDES MEGALUG COLLAR FOR SECURING TO DIP. DIMENSIONS VARY; SEE DETAILS. ALL STEEL AND ANCHORS SHALL BE STAINLESS STEEL (EXCLUDING MEGALUG COLLAR).
- 374 102/103/104/108.2 - 6-INCH DUCTILE IRON PIPE, CLASS 350 (0.25-INCH WALL THICKNESS), CONFORMING TO ANSI/AWWA C150/A21.50 AND ANSI/AWWA C151/A21.51. INCLUDES FLANGED ENDS WHERE SPECIFIED. PIPE SHALL BE COATED INSIDE AND OUTSIDE WITH 40 MIL THICKNESS INDURON PROTECTO 401 CERAMIC-EPOXY COATING. FIELD CUTS TO BE COATED WITH PROTECTO 401 AS PER MANUFACTURER SPECIFICATIONS.
- 375 102/108.5 - 8-INCH THICK REINFORCED CONCRETE LID SLAB COVER FOR WET WELL/BASE FOR LIFT STATION. SLAB SHALL BE CONSTRUCTED OF CLASS-B CONCRETE WITH EPOXY-COATED REBAR. LID SLAB SHALL BE CAPABLE OF SUPPORTING H-20 LOAD WHEN INSTALLED ON WET WELL. SEE DRAWINGS FOR DETAILS. REINFORCING TO BE DESIGNED AND SEALED BY LICENSED P.E. AND SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.
- 401 102.7/108.2 - 6-INCH SANITARY SEWER FORCE MAIN, C-900, DR-18, PVC PIPE. INCLUDES BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL WHEN DIRECT BURIED.
- 465 102.7/108.3 - 6-INCH, DUCTILE IRON, COMPACT 45-DEGREE BEND, CONFORMING TO ANSI/AWWA C153/A21.53. COATED INSIDE AND OUTSIDE AS PER 102.7g. MJ X MJ WITH EBAA IRON MEGALUG 2000PV.
- 469A 102.7/108.3 - 6-INCH, DUCTILE IRON, COMPACT 90-DEGREE BEND, CONFORMING TO ANSI/AWWA C153/A21.53. COATED INSIDE AND OUTSIDE AS PER 102.7g. MJ X MJ WITH EBAA IRON MEGALUG 2000PV RESTRAINTS.
- 469B 102.7/108.3 - 6-INCH, DUCTILE IRON, COMPACT 90-DEGREE BEND, CONFORMING TO ANSI/AWWA C153/A21.53. COATED INSIDE AND OUTSIDE AS PER 102.7g. FLANGE X MJ WITH EBAA IRON MEGALUG 2000PV RESTRAINT.
- 477 102.7/108.3 - 6-INCH, EBAA IRON MEGAFLLANGE WITH FLANGED PLUG (SERIES 2000PV). COATED INSIDE AND OUTSIDE AS PER 102.7g.
- 511 102.7/108.3 - 6-INCH, DUCTILE IRON, COMPACT 45-DEGREE WYE, CONFORMING TO ANSI/AWWA C153/A21.53. COATED INSIDE AND OUTSIDE AS PER 102.7g. MJ X MJ X MJ WITH EBAA IRON MEGALUG 2000PV RESTRAINTS.
- 512 6-INCH, DRESSER (OR EQUIVALENT) COUPLING, STYLE 38, C-900 PVC PIPE SIZE. MAX LENGTH 9.5 INCHES.

NOTE 1: WET WELL LID SLAB SHALL BE MOUNTED LEVEL IN ALL DIRECTIONS. CONTRACTOR SHALL USE STEEL SHIMS FOLLOWED BY HIGH STRENGTH NON-SHRINK GROUT (SEE UU SPECS) TO FILL GAPS AND CORRECT IRREGULARITIES IN CUT SURFACE OF WET WELL OR SURFACE OF LID SLAB.

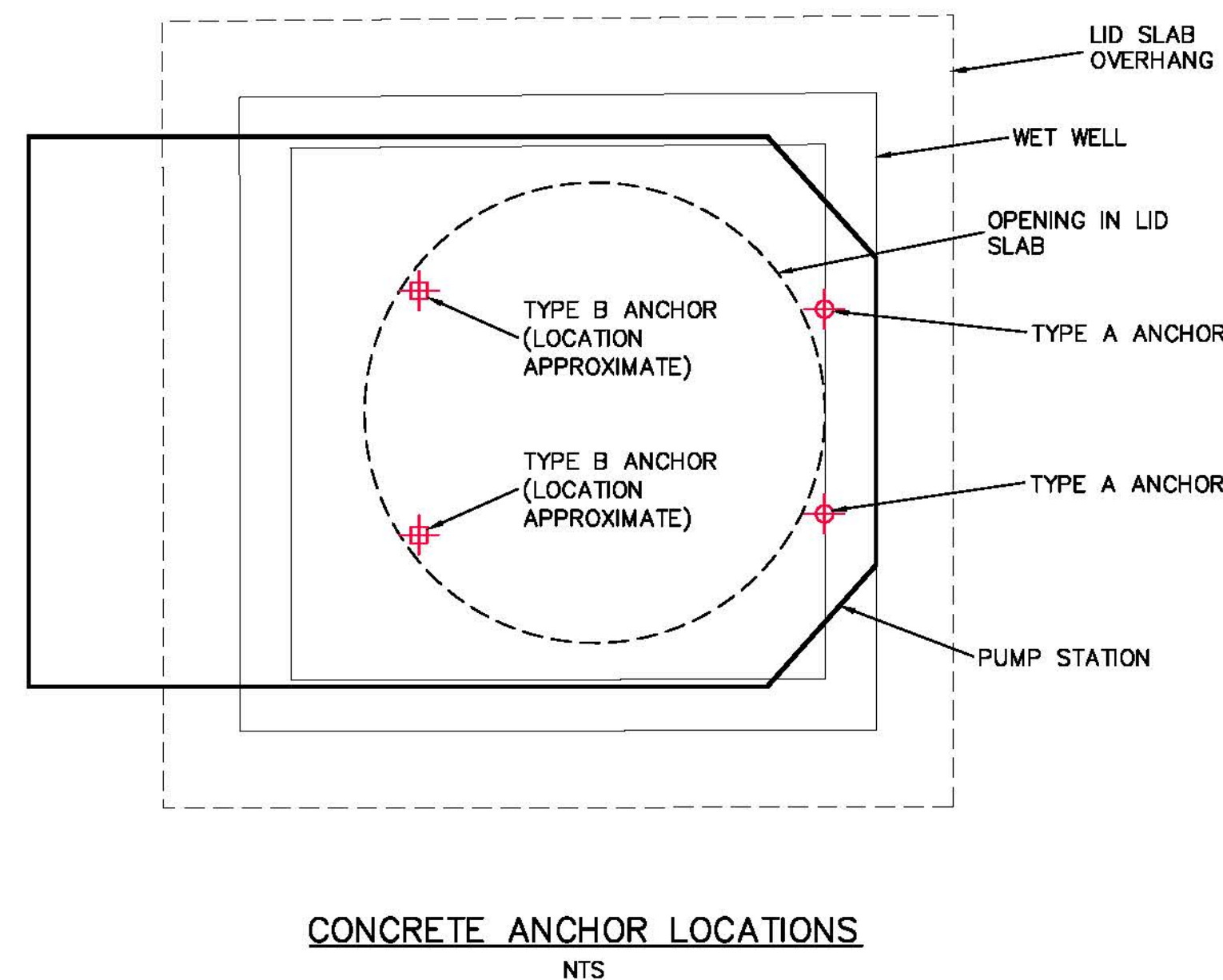
NOTE 2: CONTRACTOR SHALL APPLY A LAYER OF NON-SHRINK EPOXY GROUT TO SURFACE OF LID SLAB PRIOR TO LIFT STATION PLACEMENT AS PER SMITH & LOVELESS SPECIFICATIONS.



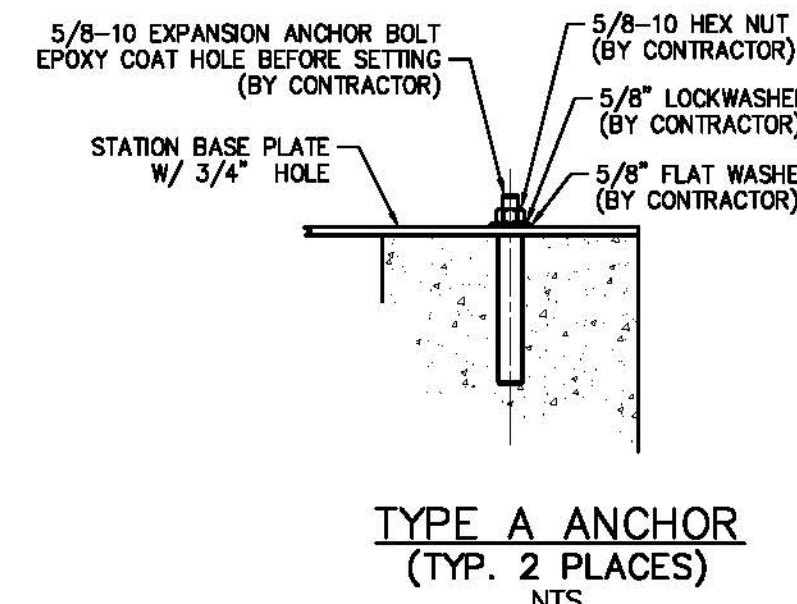
301 23 & G ROAD SANITARY-STORM CONFLICT CROSSING
SECTION VIEW
SCALE: 1" = 2'



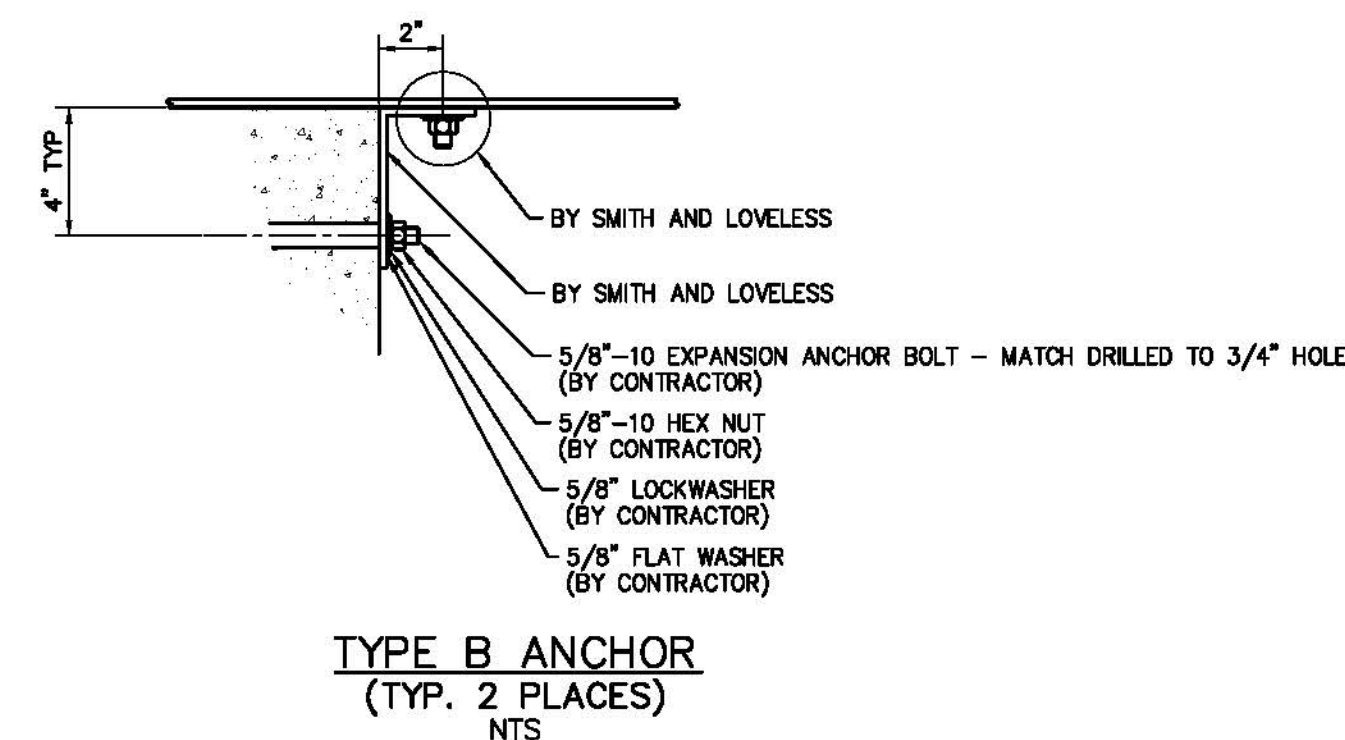
301 23 & G ROAD SANITARY-STORM CONFLICT CROSSING
SIDE VIEW
SCALE: 1" = 2'



CONCRETE ANCHOR LOCATIONS
NTS



TYPE A ANCHOR
(TYP. 2 PLACES)
NTS



TYPE B ANCHOR
(TYP. 2 PLACES)
NTS

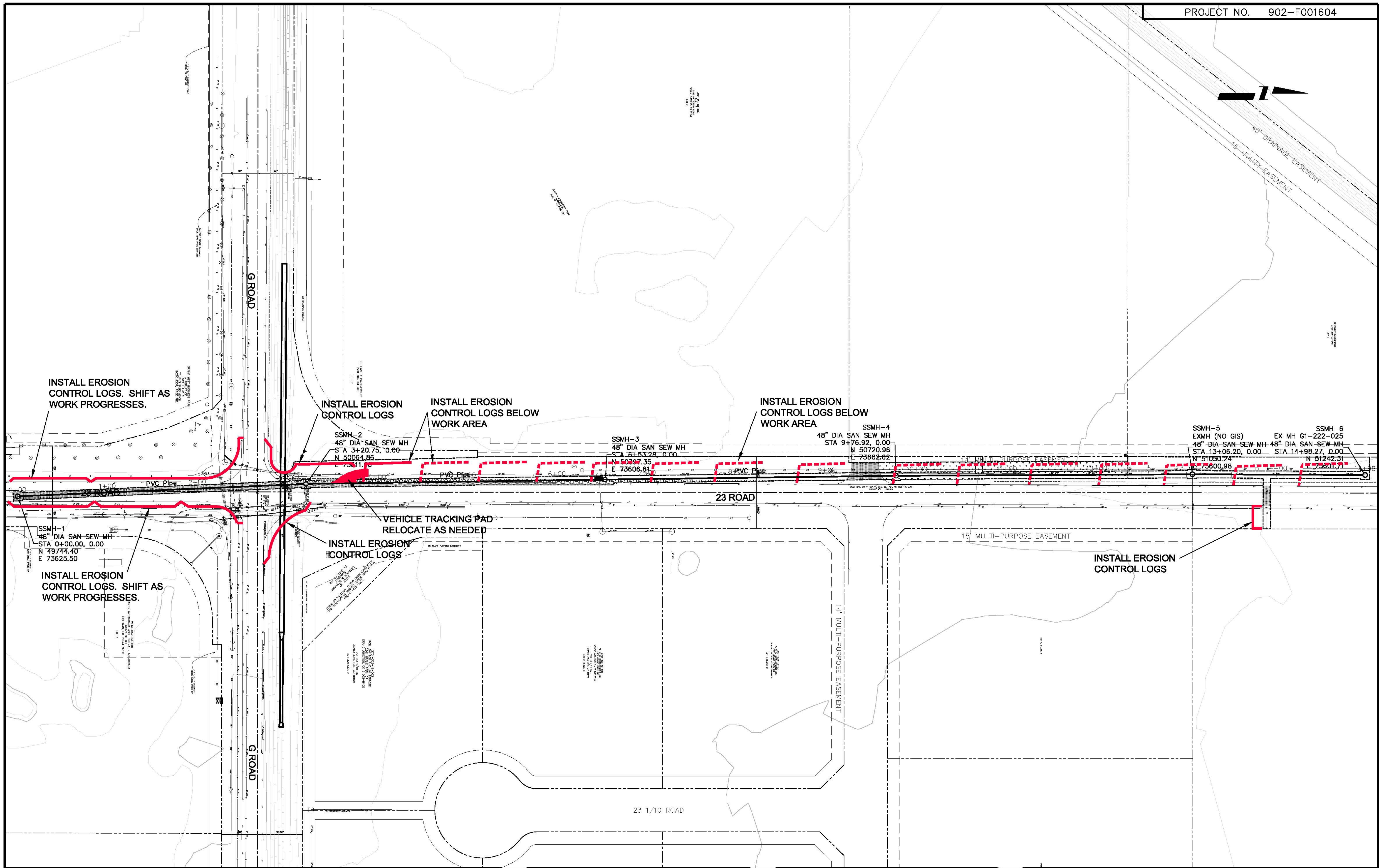
REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION A	APPENDIX I	9/27/2010	JAH	7/2010
REVISION B			DRD	7/2010
REVISION C				
REVISION D				

SCALE
1" = 2'



PUBLIC WORKS
AND PLANNING
ENGINEERING DIVISION

RAILHEAD LIFT STATION
PROJECT DETAILS



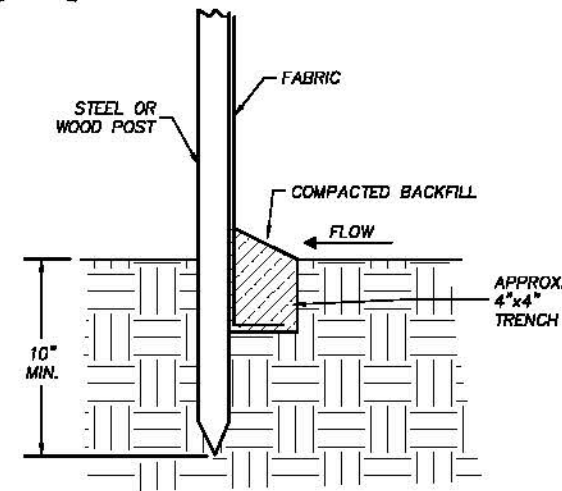
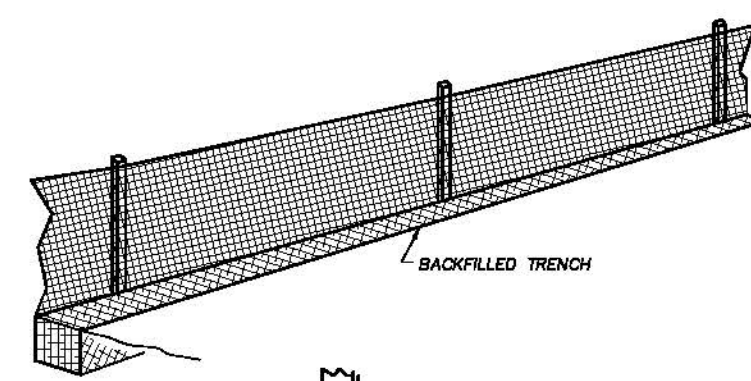
REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION A			JAH	8/2010
REVISION B				
REVISION C				
REVISION D				

DESIGNED BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

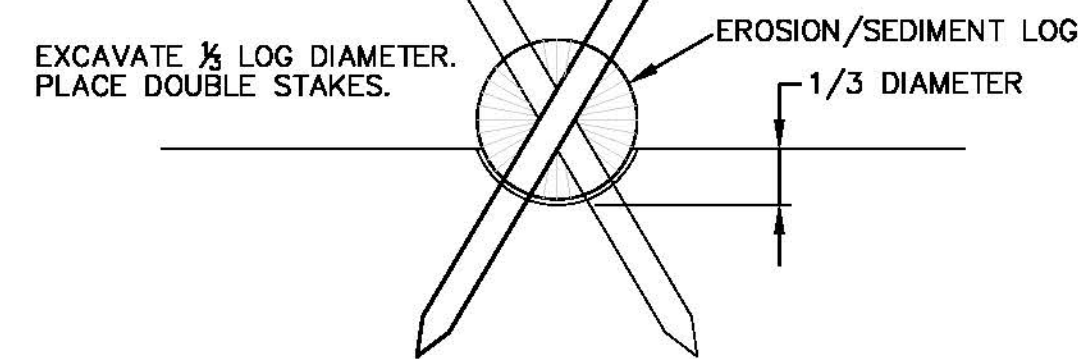
SCALE
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**PUBLIC WORKS
AND UTILITIES
ENGINEERING DIVISION**

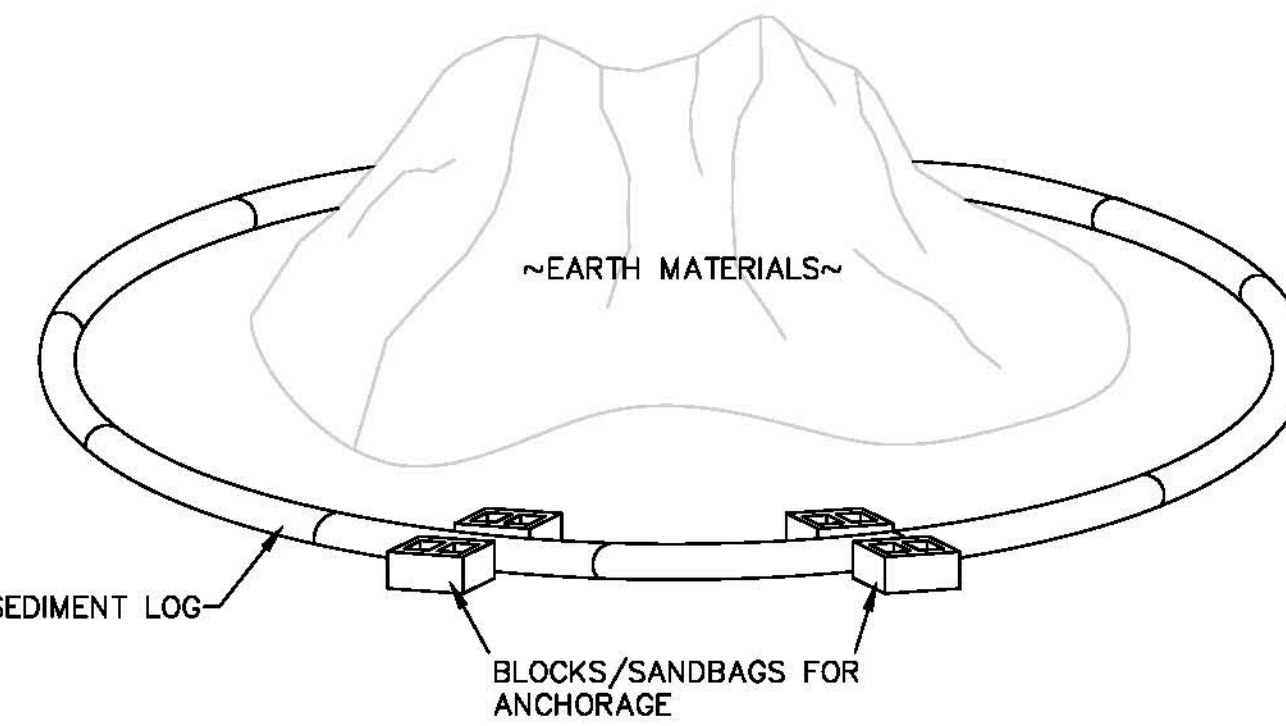
**RAILHEAD LIFT STATION REPLACEMENT
STORM WATER MANAGEMENT PLAN MAP**



DETAIL B - SILT FENCE (S.F.)

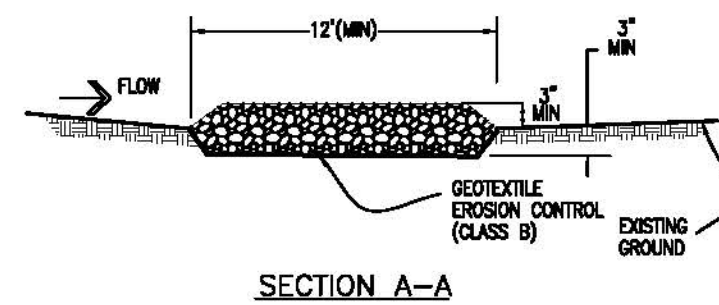
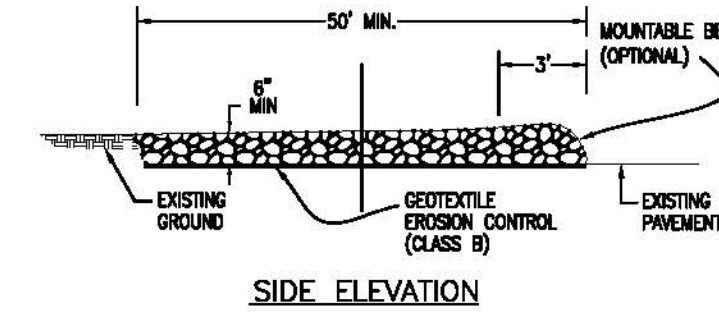
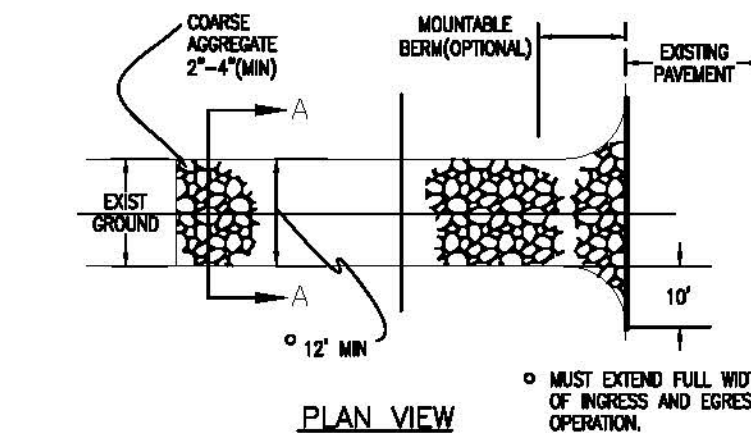


EROSION/SEDIMENT LOG
EXCAVATE 1/2 LOG DIAMETER. PLACE DOUBLE STAKES.



DETAIL OF EARTH MATERIAL EROSION CONTROL
NTS

INSTALL AROUND ALL STOCK AND SPOIL PILES OF EARTH MATERIALS DURING PRECIPITATION EVENTS AND NON WORK HOURS. APPLIES TO ALL STOCK PILES NOT CONTROLLED BY OTHER SILT FENCES OR EROSION LOGS. DO NOT RELY ON INLET PROTECTION ONLY.



STABILIZED CONSTRUCTION ENTRANCE
NTS

NOTE:

Protect all inlets using a combination of upstream controls (silt fences, wattles, grading controls, sweeping) and inlet controls (rock filters, inlet silt sacks, etc.)

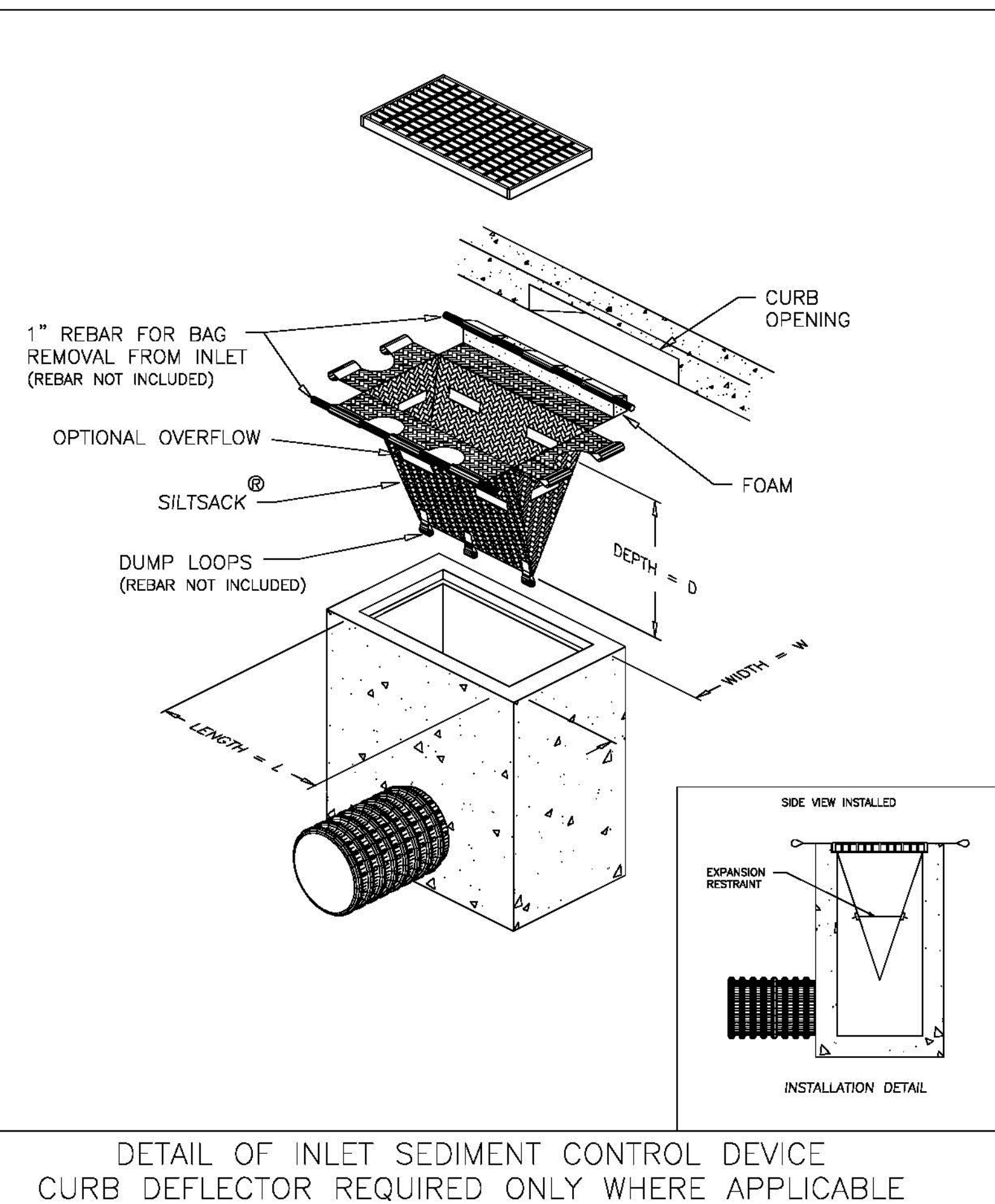
Prevent onsite erosion and offsite sediment transport using measures such as silt fences, wattles, grading controls, tracking pads, and others

Manage stormwater run-on using measures such as silt fences, wattles, grading controls, bypasses, and others

Provide sediment migration controls for all stockpiles of materials using wattles, silt fences, grading controls, and others;
Provide concrete washout areas conforming with Stormwater Management regulations

Prevent wind-erosion via dust control measures;
Provide street sweeping for fugitive sediment not contained via other BMP's

Provide spill-containment measures and spill-containment refueling practices for the handling of all fuels and hazardous liquids. Because individual BMP's are not shown for each location, the Contractor shall note on the construction plans the locations and types of BMP's used, as they are installed and implemented. This set of redlined and continuously updated plans shall constitute a required component of the SWMP and shall be kept onsite at all times and available for inspection by the Project Engineer, the Project Inspector, and regulatory enforcement personnel.



DETAIL OF INLET SEDIMENT CONTROL DEVICE
CURB DEFLECTOR REQUIRED ONLY WHERE APPLICABLE

SILTSACK OR EQUIVALENT SPECIFICATIONS

NOTE: THE SILTSACK SHALL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.

REGULAR FLOW SILTSACK
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS	
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS	
GRAB TENSILE ELONGATION	ASTM D-4632	20 %	
PUNCTURE	ASTM D-4833	120 LBS	
MULLEN BURST	ASTM D-3786	800 PSI	
TRAPEZOID TEAR	ASTM D-4533	120 LBS	
UV RESISTANCE	ASTM D-4355	80 %	
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE	
FLOW RATE	ASTM D-4491	40 GAL./MIN./SQ FT	
PERMITTIVITY	ASTM D-4491	0.55 SEC -1	

HI-FLOW SILTSACK
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS	
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS	
GRAB TENSILE ELONGATION	ASTM D-4632	20 %	
PUNCTURE	ASTM D-4833	135 LBS	
MULLEN BURST	ASTM D-3786	420 PSI	
TRAPEZOID TEAR	ASTM D-4533	45 LBS	
UV RESISTANCE	ASTM D-4355	90 %	
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE	
FLOW RATE	ASTM D-4491	200 GAL./MIN./SQ FT	
PERMITTIVITY	ASTM D-4491	1.5 SEC -1	

Performance Standards

The general requirements for erosion control work shall be as follows:

- All grading shall be designed, constructed and completed in such a manner so that exposed area of any disturbed land shall be limited to the shortest time period.
- Temporary erosion and sediment control facilities shall be removed and all disturbed areas graded and stabilized with permanent soil erosion control measures pursuant to approved plans and specifications.

During Construction (Temporary Measures)

- Erosion Logs: The use of a single row of erosion logs shall be installed from the edge of ditch or swale unless specified otherwise. Installation shall be in accordance with the detail as shown on the plans. All stockpiles of construction earth materials and excavation spoil must be encircled with erosion control logs during any/all storm events generating runoff.
- All vehicles exiting the construction site with dirt caked tires must pass a Tracking Control Pad. Aggregate in the Tracking Control Pad shall be bladed and amended with fresh rock as needed during the project to maintain effectiveness. Tracking pads shall be located as needed to remove dirt/soil/sediment from equipment/trucks. Tracking pad material shall not be paid for separately and shall be included in the stormwater management pay item. Scale tickets shall be turned in to inspector & kept separate from other materials tickets. Tracking pads shall be of sufficient length and thickness to remove all sediment.
- Siltsacks shall include curb opening style and area-inlet style, as necessary. Siltsacks shall be checked and emptied after each runoff event. Inlets in ring road shall be serviced during non-business hours to minimize business disruption and traffic risk to workers and motorists.
- Contractor shall ensure all construction equipment is cleaned prior to entering work site.

- Contractor shall install concrete washouts on site as needed. Urban (pre-manufactured self-contained) concrete washouts are required but shall be maintained/replaced as needed. All washout materials and un-evaporated water shall be removed from site. No fluids shall escape to receiving waters.
- Whenever sediment is transported onto the highway, the road shall be cleaned as needed. Street washing will not be allowed. Storm drain inlet protection shall be in place prior to shoveling or sweeping. Street cleaning will not be paid for separately. The contractor shall have daily access to an effective street sweeper to clean streets in the event other measures fail to prevent tracking into streets.
- Containment and cleanup of equipment fuel, oil and lubricant leaks:
Contractor shall inspect and certify equipment and vehicles daily to ensure petroleum oils, and lubricants (POL) are not leaking onto the soil or pavement. Absorbent material or containers approved by the Engineer shall be used to prevent leaking POL from reaching the soil or pavement. Contractor shall have ready approved absorbent material or containers of sufficient capacity to contain any leak POL that can reasonably be foreseen. All materials resulting from POL leakage control and cleanup shall be property of the Contractor and removed from the site. The cost for control and cleanup of POL leaks shall not be paid for separately, but shall be included in the cost of the work. All onsite vehicle refueling activities shall conform to EPA, Federal and State codes, and all aspects of NFPA 30 and 2003 International Fire Code. Absorbent socks shall be placed around all fill necks during fueling operations.

General Notes

- At all times during construction, erosion and sediment control shall be maintained by the Contractor.
- Details shown are schematic only. Adjust as necessary to fit field conditions.
- Erosion logs shall be placed to avoid runoff flowing between, around or under logs. Logs shall be staked or anchored with sand bags, masonry blocks or other suitable measures, and shall be placed with a shallow trench w/ trench depth = 1/2 of log diameter. Tamp soil material against log on either side and stake to secure in place.
- The Contractor shall have a water truck available at all times to assist in controlling dust and wind erosion.

After Construction (Permanent Measures)

- Landscaping / Seeding: All designated areas shall be hydroseeded as per plans and project specifications.

Maintenance

- The Contractor shall conduct routine checks of all erosion control measures to determine if repairs or sediment removal is necessary.
- After each rainfall or moderate snow melt, erosion control measures are to be checked. The Contractor is responsible for maintaining all erosion control measures.

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION A			JAH	8/2010
REVISION B				
REVISION C				
REVISION D				

DESIGNED BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

SCALE: N.T.S.

PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

RAILHEAD LIFT STATION REPLACEMENT STORM WATER MANAGEMENT PLAN NOTES AND DETAILS