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PLOTTED: 2/10/2014 2:54:24 PM

NORTHERN KENTUCKY WATER DISTRICT FT THOMAS WATER TREATMENT PLANT 36" RAW WATER MAIN PROJECT

BURGESS & NIPLÉ
312 PLUM STREET, 12TH FLOOR
CINCINNATI, OHIO 45202

NORTHERN KENTUCKY WATER DISTRICT
FT THOMAS WATER TREATMENT PLANT
36" RAW WATER MAIN PROJECT

SHEET INDEX

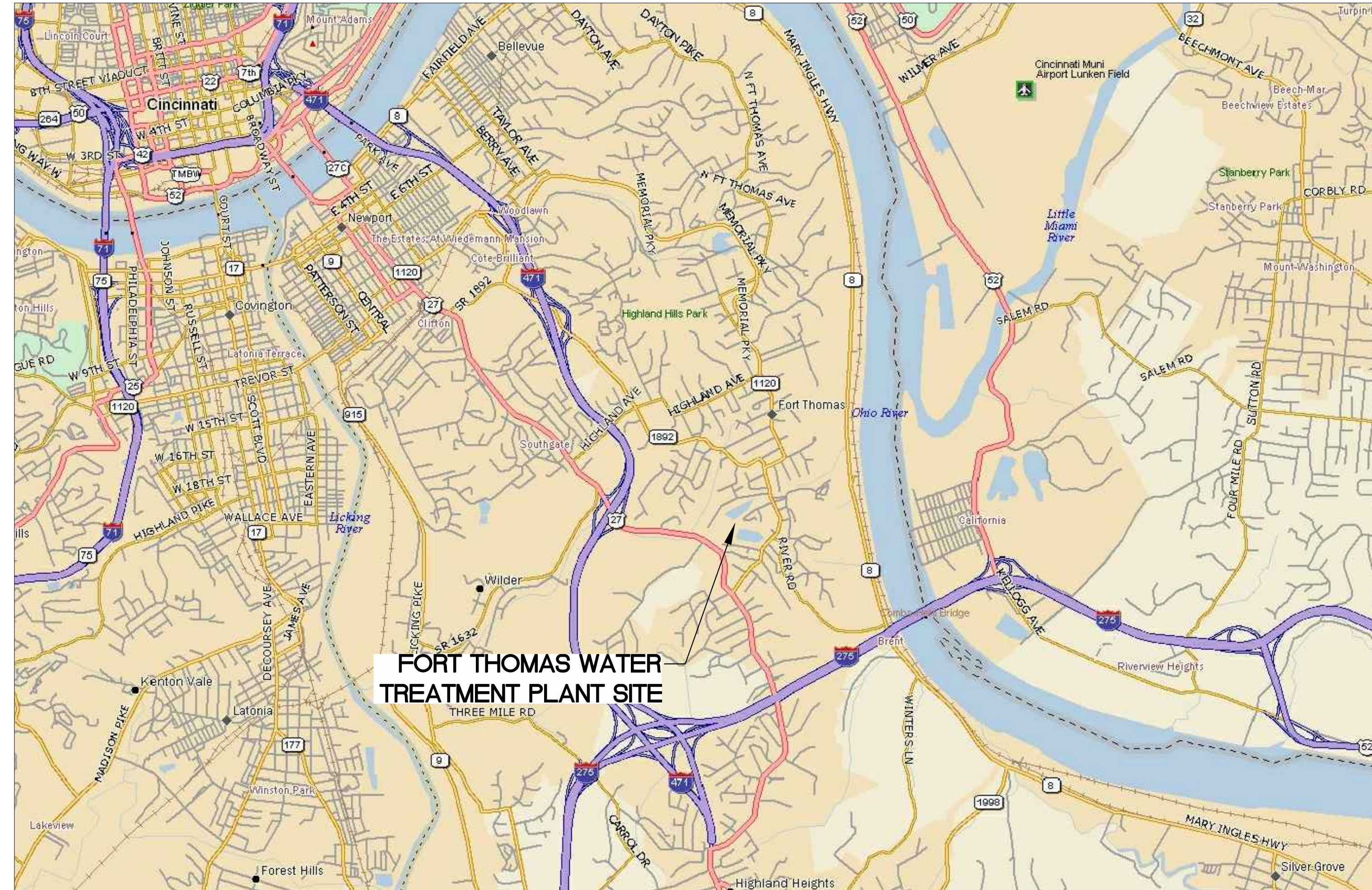
- 1 - TITLE
- 2 - OVERALL SITE PLAN
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- 4 - PLAN AND PROFILE STA. 5+00 TO 10+00
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UNDERGROUND UTILITIES

PROJECT ENGINEER

BURGESS & NIPLÉ, INC
312 PLUM STREET, 12TH FLOOR
CINCINNATI, OHIO 45202
PHONE (513) 579-0042
FAX (513) 579-0321



VICINITY MAP



BOARD OF COMMISSIONERS

DOUGLAS C. WAGNER
FRED A. MACKE, JR
CLYDE CUNNINGHAM
DAVID M. SPAULDING, ESQ.
ANDREW COLLINS
DR. PATRICIA SOMMERKAMP

PRESIDENT/CEO

C. RONALD LOVAN, P.E.

VICE PRESIDENTS

JACK P. BRAGG, JR
RICHARD B. HARRISON

OWNER SITE LOCATION

NORTHERN KENTUCKY WATER DISTRICT
FORT THOMAS WATER TREATMENT PLANT
700 ALEXANDRIA PIKE
FORT THOMAS, KY 41075
PHONE (859)441-0482

OWNER BUSINESS OFFICE

NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640
PHONE (859)578-9898
FAX (859) 578-7893

NO.	DESCRIPTION	DATE

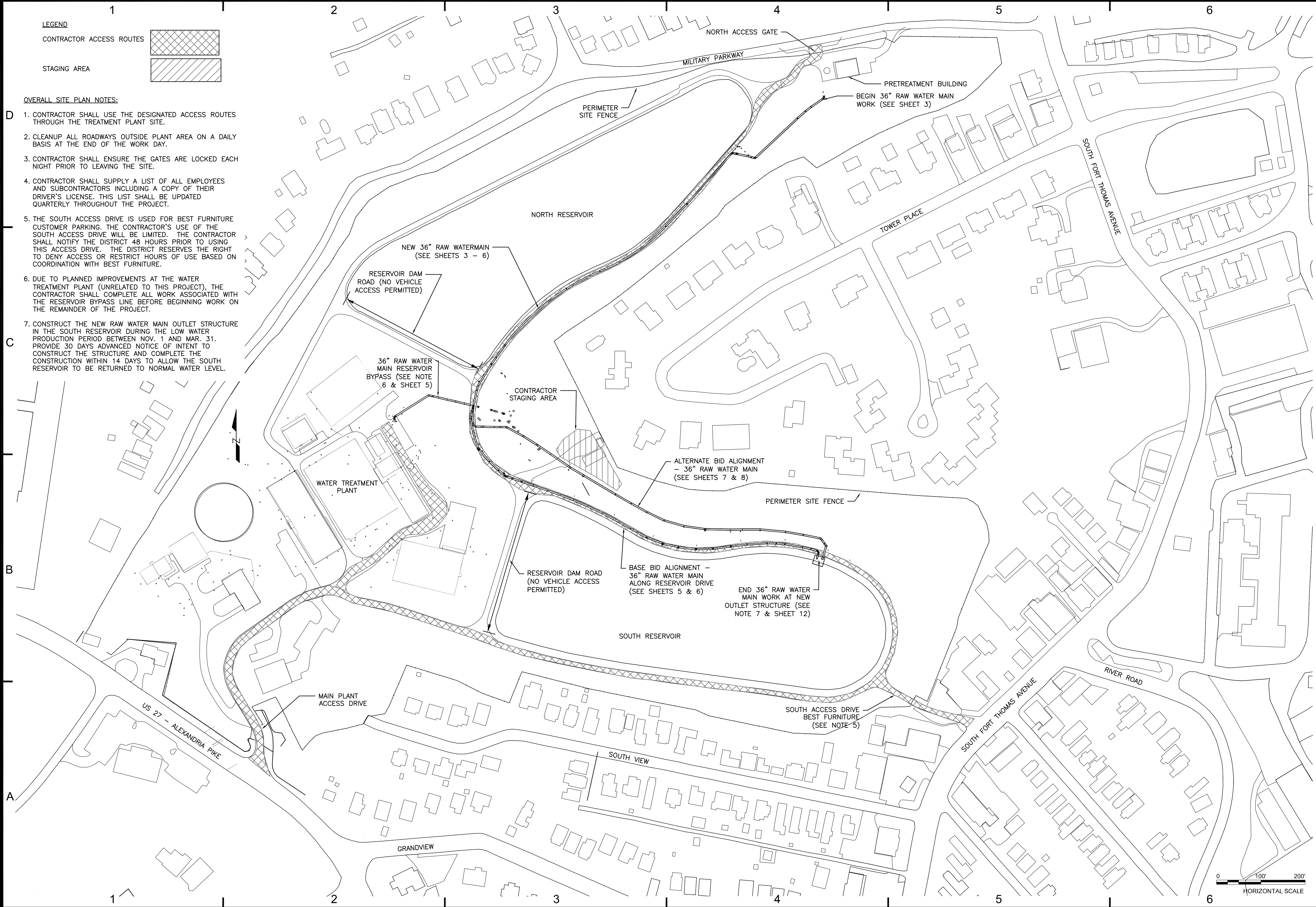
JOB NO:	PR51569
DATE:	AUG, 2013
DESIGNED BY:	DWB
DRAWN BY:	DWB
CHECKED BY:	GB
APPROVED BY:	GB
SCALE:	NONE

TITLE

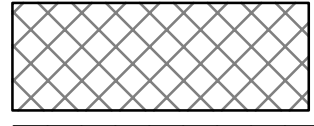
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SHEET: 1 OF 16


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LEGEND

CONTRACTOR ACCESS ROUTES 

STAGING AREA 

- OVERALL SITE PLAN NOTES:**
1. CONTRACTOR SHALL USE THE DESIGNATED ACCESS ROUTES THROUGH THE TREATMENT PLANT SITE.
 2. CLEANUP ALL ROADWAYS OUTSIDE PLANT AREA ON A DAILY BASIS AT THE END OF THE WORK DAY.
 3. CONTRACTOR SHALL ENSURE THE GATES ARE LOCKED EACH NIGHT PRIOR TO LEAVING THE SITE.
 4. CONTRACTOR SHALL SUPPLY A LIST OF ALL EMPLOYEES AND SUBCONTRACTORS INCLUDING A COPY OF THEIR DRIVER'S LICENSE. THIS LIST SHALL BE UPDATED QUARTERLY THROUGHOUT THE PROJECT.
 5. THE SOUTH ACCESS DRIVE IS USED FOR BEST FURNITURE CUSTOMER PARKING. THE CONTRACTOR'S USE OF THE SOUTH ACCESS DRIVE WILL BE LIMITED. THE CONTRACTOR SHALL NOTIFY THE DISTRICT 48 HOURS PRIOR TO USING THIS ACCESS DRIVE. THE DISTRICT RESERVES THE RIGHT TO DENY ACCESS OR RESTRICT HOURS OF USE BASED ON COORDINATION WITH BEST FURNITURE.
 6. DUE TO PLANNED IMPROVEMENTS AT THE WATER TREATMENT PLANT (UNRELATED TO THIS PROJECT), THE CONTRACTOR SHALL COMPLETE ALL WORK ASSOCIATED WITH THE RESERVOIR BYPASS LINE BEFORE BEGINNING WORK ON THE REMAINDER OF THE PROJECT.
 7. CONSTRUCT THE NEW RAW WATER MAIN OUTLET STRUCTURE IN THE SOUTH RESERVOIR DURING THE LOW WATER PRODUCTION PERIOD BETWEEN NOV. 1 AND MAR. 31. PROVIDE 30 DAYS ADVANCED NOTICE OF INTENT TO CONSTRUCT THE STRUCTURE AND COMPLETE THE CONSTRUCTION WITHIN 14 DAYS TO ALLOW THE SOUTH RESERVOIR TO BE RETURNED TO NORMAL WATER LEVEL.

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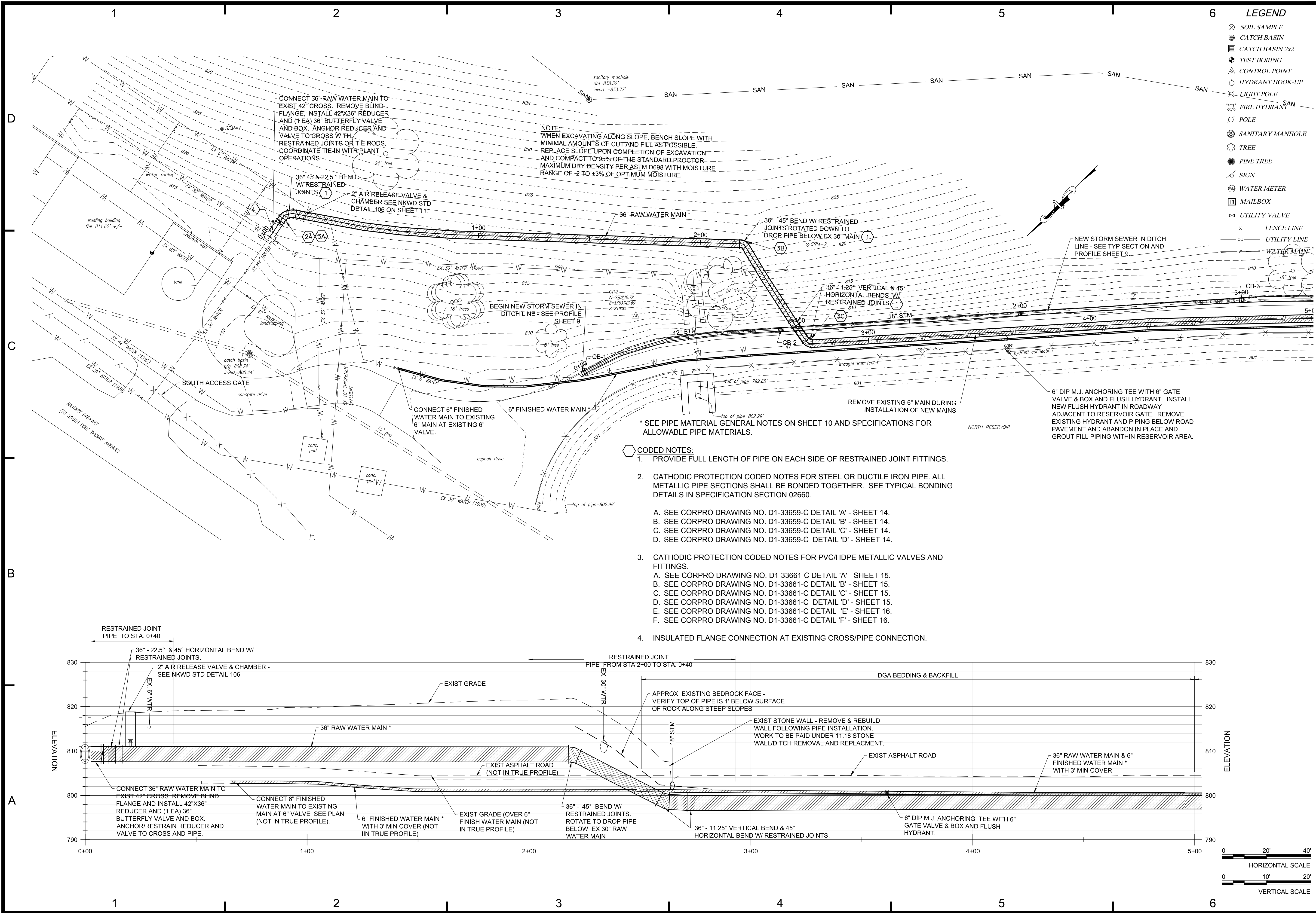
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OVERALL SITE PLAN

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LEGEND

- ⊗ SOIL SAMPLE
- ⊕ CATCH BASIN
- ⊕ CATCH BASIN 2x2
- ⊕ TEST BORING
- ⊕ CONTROL POINT
- ⊕ HYDRANT HOOK-UP
- ⊕ LIGHT POLE
- ⊕ FIRE HYDRANT
- ⊕ POLE
- ⊕ SANITARY MANHOLE
- ⊕ TREE
- ⊕ PINE TREE
- ⊕ SIGN
- ⊕ WATER METER
- ⊕ MAILBOX
- ⊕ UTILITY VALVE
- x — FENCE LINE
- ou — UTILITY LINE
- w — WATER MAIN

NOTE:
 WHEN EXCAVATING ALONG SLOPE, BENCH SLOPE WITH MINIMAL AMOUNTS OF CUT AND FILL AS POSSIBLE. REPLACE SLOPE UPON COMPLETION OF EXCAVATION AND COMPACT TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY PER ASTM D698 WITH MOISTURE RANGE OF -2 TO +3% OF OPTIMUM MOISTURE.

CODED NOTES:

1. PROVIDE FULL LENGTH OF PIPE ON EACH SIDE OF RESTRAINED JOINT FITTINGS.
2. CATHODIC PROTECTION CODED NOTES FOR STEEL OR DUCTILE IRON PIPE. ALL METALLIC PIPE SECTIONS SHALL BE BONDED TOGETHER. SEE TYPICAL BONDING DETAILS IN SPECIFICATION SECTION 02660.
 - A. SEE CORPRO DRAWING NO. D1-33659-C DETAIL 'A' - SHEET 14.
 - B. SEE CORPRO DRAWING NO. D1-33659-C DETAIL 'B' - SHEET 14.
 - C. SEE CORPRO DRAWING NO. D1-33659-C DETAIL 'C' - SHEET 14.
 - D. SEE CORPRO DRAWING NO. D1-33659-C DETAIL 'D' - SHEET 14.
3. CATHODIC PROTECTION CODED NOTES FOR PVC/HDPE METALLIC VALVES AND FITTINGS.
 - A. SEE CORPRO DRAWING NO. D1-33661-C DETAIL 'A' - SHEET 15.
 - B. SEE CORPRO DRAWING NO. D1-33661-C DETAIL 'B' - SHEET 15.
 - C. SEE CORPRO DRAWING NO. D1-33661-C DETAIL 'C' - SHEET 15.
 - D. SEE CORPRO DRAWING NO. D1-33661-C DETAIL 'D' - SHEET 15.
 - E. SEE CORPRO DRAWING NO. D1-33661-C DETAIL 'E' - SHEET 16.
 - F. SEE CORPRO DRAWING NO. D1-33661-C DETAIL 'F' - SHEET 16.
4. INSULATED FLANGE CONNECTION AT EXISTING CROSS/PIPE CONNECTION.

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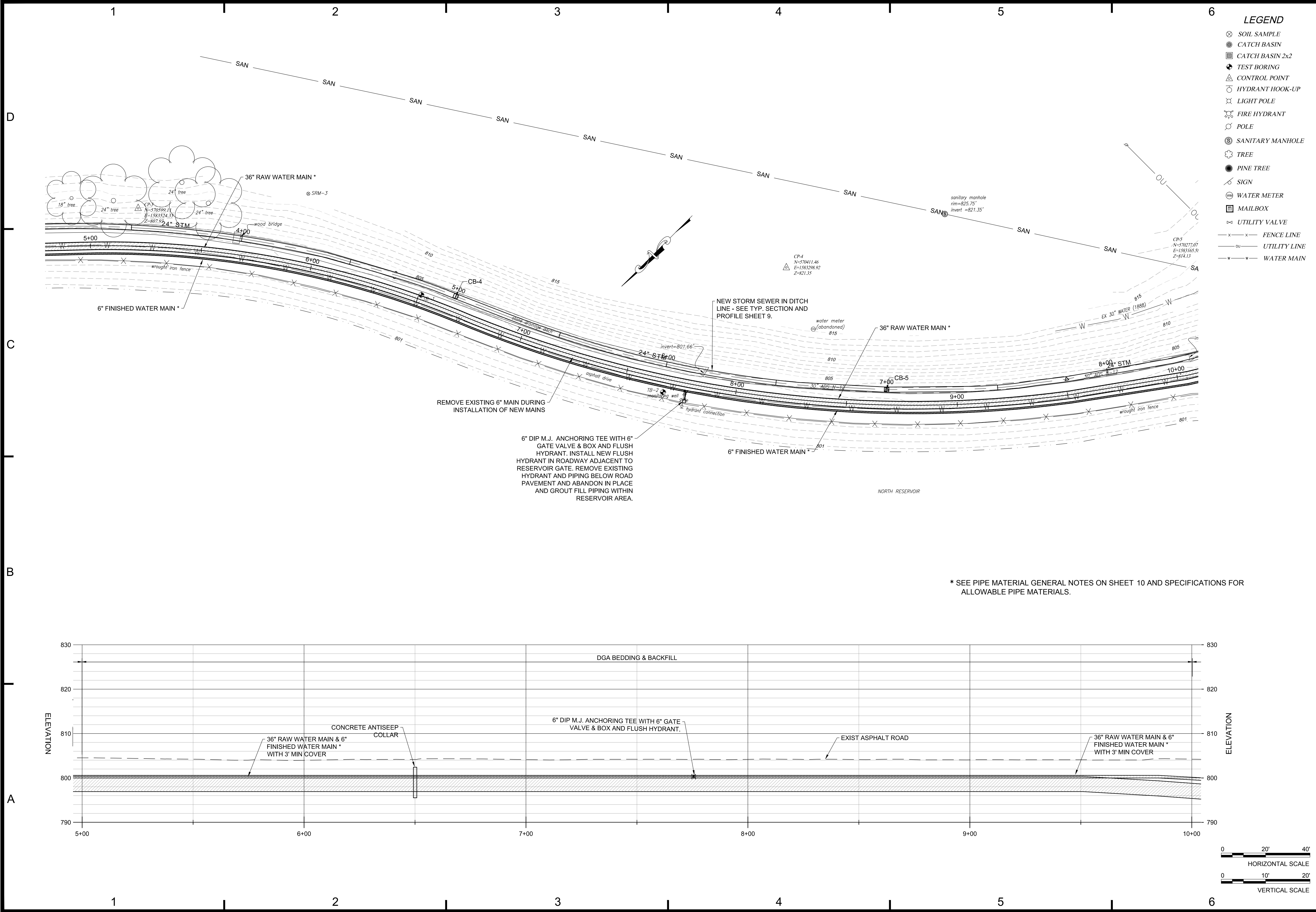
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PLAN AND PROFILE STA. 0+00 TO 5+00

3
 SHEET: 3 OF 16

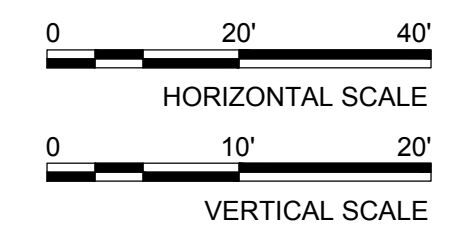
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- LEGEND**
- ⊗ SOIL SAMPLE
 - ⊙ CATCH BASIN
 - ⊠ CATCH BASIN 2x2
 - ⊕ TEST BORING
 - △ CONTROL POINT
 - HYDRANT HOOK-UP
 - ⊗ LIGHT POLE
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 - ⊙ SANITARY MANHOLE
 - TREE
 - PINE TREE
 - SIGN
 - ⊙ WATER METER
 - ⊠ MAILBOX
 - ⊖ UTILITY VALVE
 - x — x — FENCE LINE
 - o — o — UTILITY LINE
 - w — w — WATER MAIN

* SEE PIPE MATERIAL GENERAL NOTES ON SHEET 10 AND SPECIFICATIONS FOR ALLOWABLE PIPE MATERIALS.



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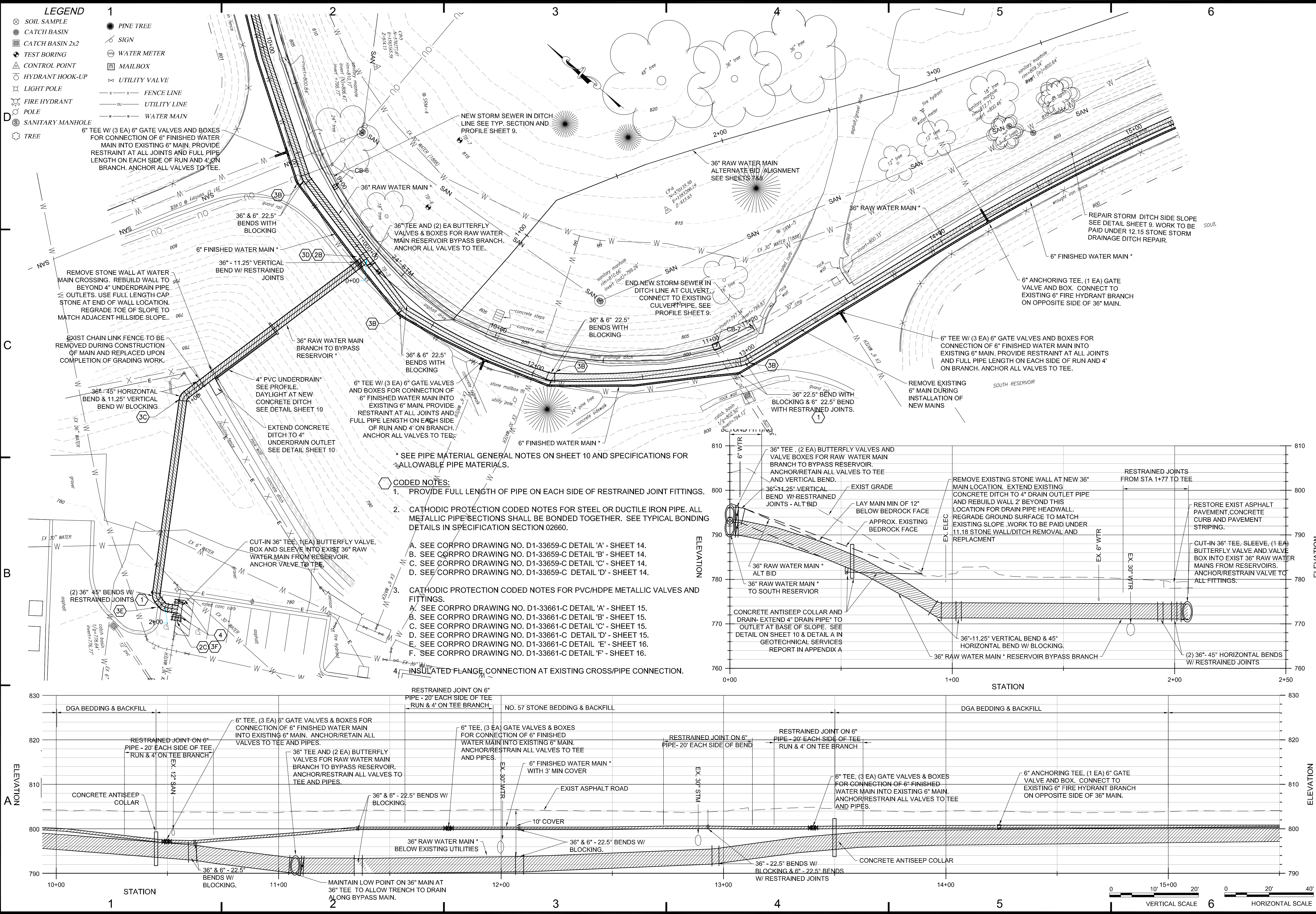
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 SHEET: 4 OF 16



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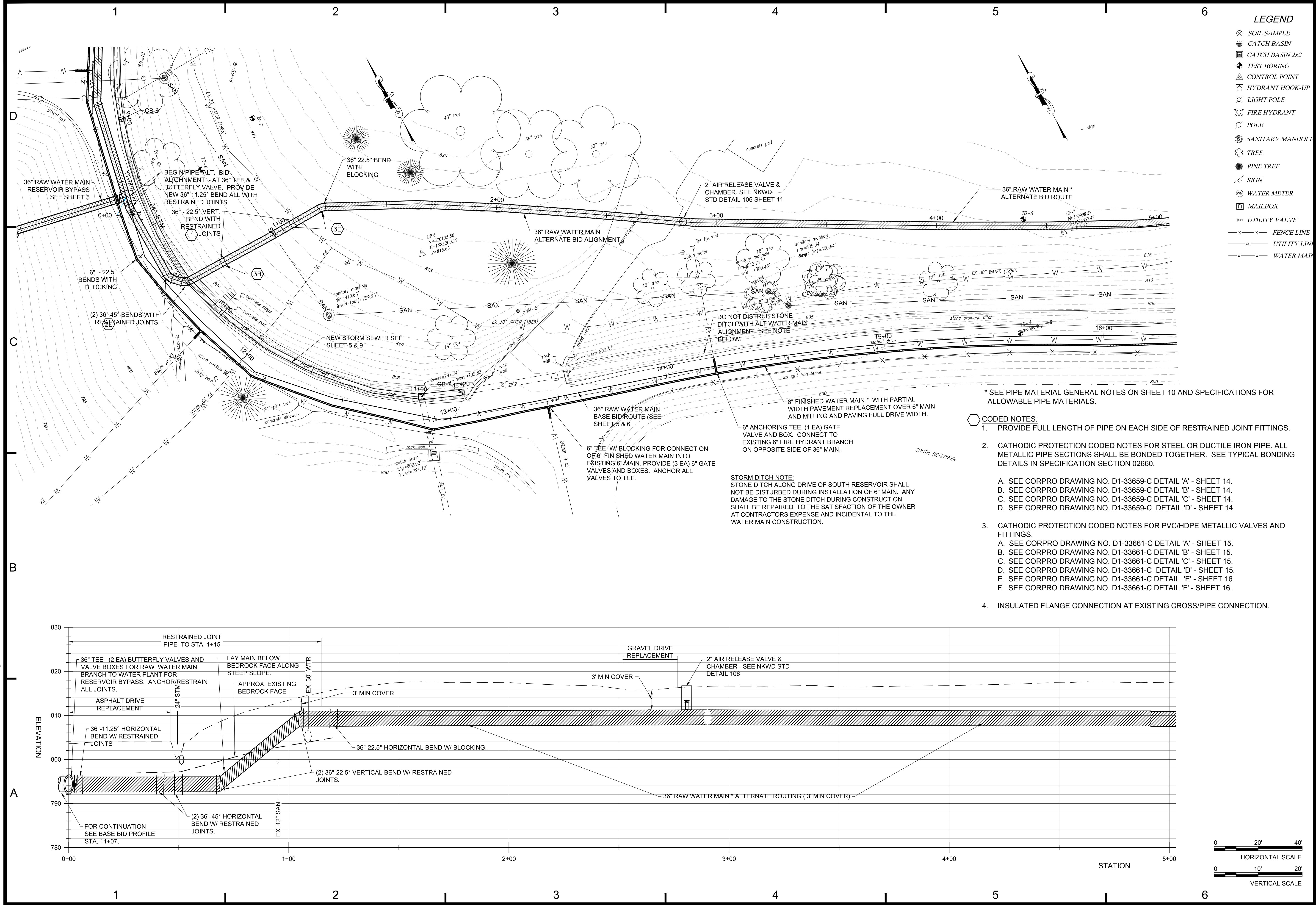
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APPROVED BY: GB
SCALE: 1"=20'

PLAN AND PROFILE STA. 10+00 TO 15+50 MAIN LINE & STA 0+00 TO 2+00 BRANCH TO PLANT

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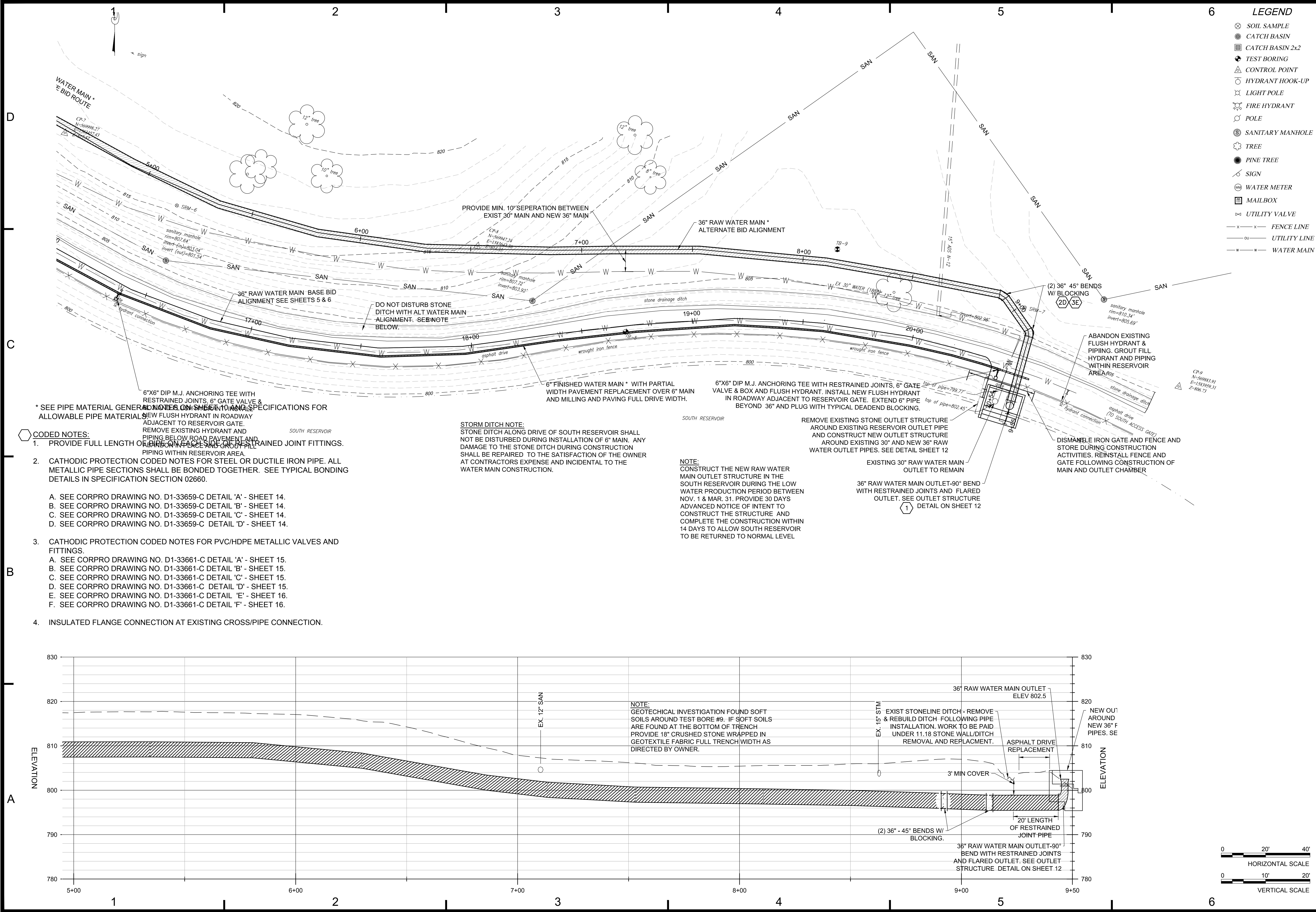
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ALT ALIGN PLAN AND PROFILE
 STA. 0+00 TO 5+00

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 SHEET: 7 OF 16



LEGEND

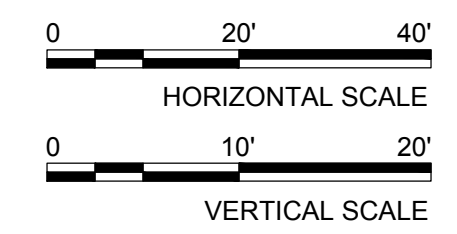
- ⊗ SOIL SAMPLE
- ⊙ CATCH BASIN
- ⊠ CATCH BASIN 2x2
- ⊕ TEST BORING
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- ⊙ MAILBOX
- ⊙ UTILITY VALVE
- x-x- FENCE LINE
- o-o- UTILITY LINE
- w-w- WATER MAIN

- * SEE PIPE MATERIAL GENERAL NOTES ON SHEET 10 AND SPECIFICATIONS FOR ALLOWABLE PIPE MATERIALS**
- CODED NOTES:**
1. PROVIDE FULL LENGTH OF PIPE WITH RESTRAINED JOINT FITTINGS.
 2. CATHODIC PROTECTION CODED NOTES FOR STEEL OR DUCTILE IRON PIPE. ALL METALLIC PIPE SECTIONS SHALL BE BONDED TOGETHER. SEE TYPICAL BONDING DETAILS IN SPECIFICATION SECTION 02660.
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 - E. SEE CORPRO DRAWING NO. D1-33661-C DETAIL 'E' - SHEET 16.
 - F. SEE CORPRO DRAWING NO. D1-33661-C DETAIL 'F' - SHEET 16.
 4. INSULATED FLANGE CONNECTION AT EXISTING CROSS/PIPE CONNECTION.

STORM DITCH NOTE:
STONE DITCH ALONG DRIVE OF SOUTH RESERVOIR SHALL NOT BE DISTURBED DURING INSTALLATION OF 6" MAIN. ANY DAMAGE TO THE STONE DITCH DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT CONTRACTORS EXPENSE AND INCIDENTAL TO THE WATER MAIN CONSTRUCTION.

NOTE:
CONSTRUCT THE NEW RAW WATER MAIN OUTLET STRUCTURE IN THE SOUTH RESERVOIR DURING THE LOW WATER PRODUCTION PERIOD BETWEEN NOV. 1 & MAR. 31. PROVIDE 30 DAYS ADVANCED NOTICE OF INTENT TO CONSTRUCT THE STRUCTURE AND COMPLETE THE CONSTRUCTION WITHIN 14 DAYS TO ALLOW SOUTH RESERVOIR TO BE RETURNED TO NORMAL LEVEL

NOTE:
GEOTECHNICAL INVESTIGATION FOUND SOFT SOILS AROUND TEST BORE #9. IF SOFT SOILS ARE FOUND AT THE BOTTOM OF TRENCH PROVIDE 18" CRUSHED STONE WRAPPED IN GEOTEXTILE FABRIC FULL TRENCH WIDTH AS DIRECTED BY OWNER.



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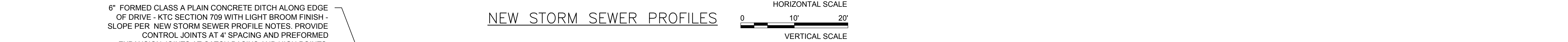
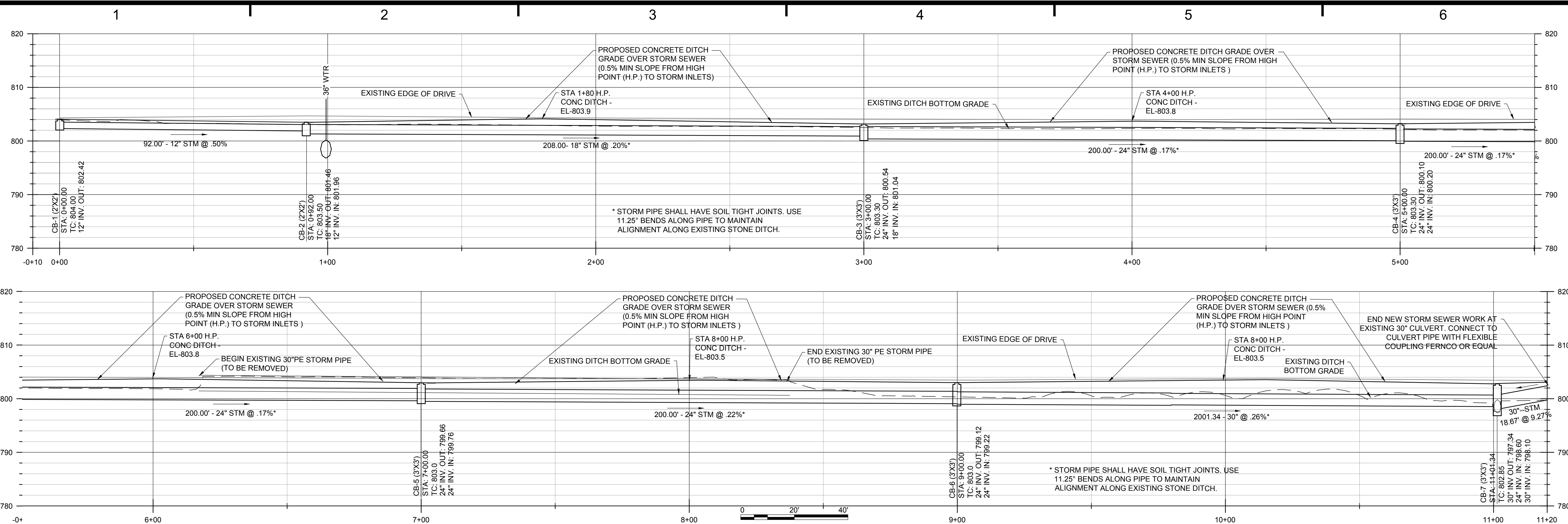
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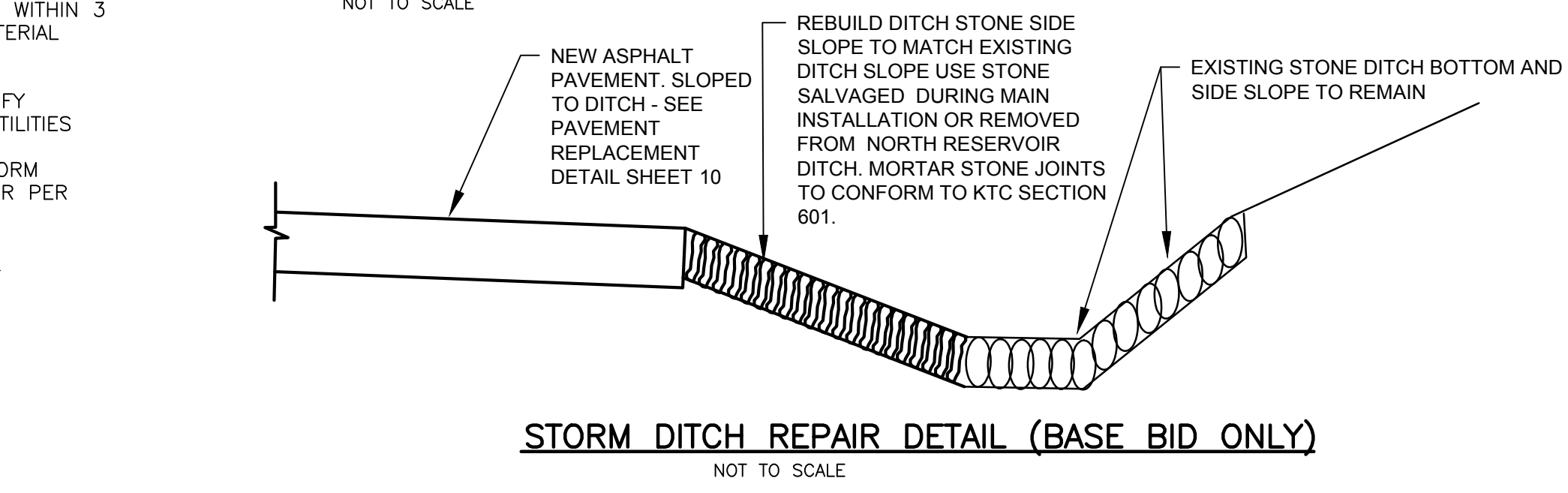
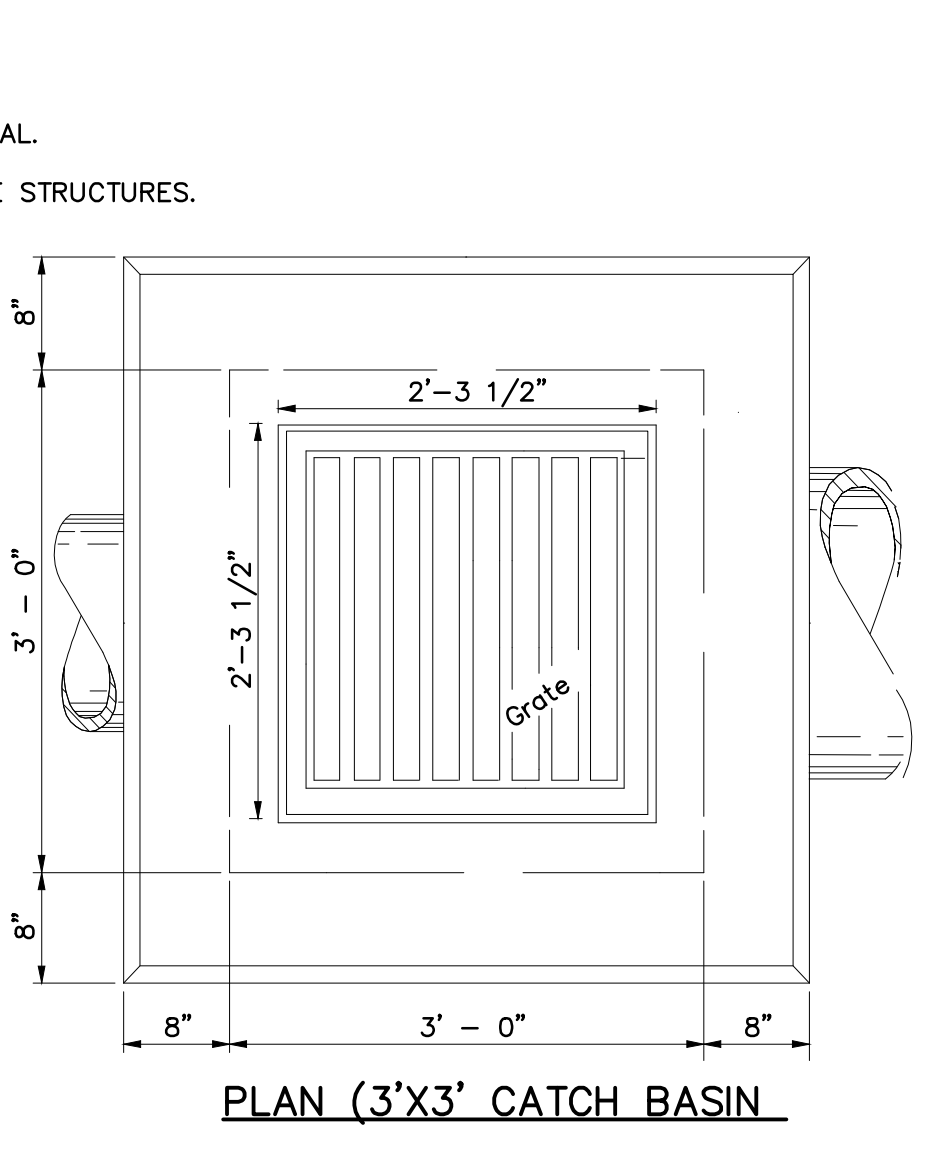
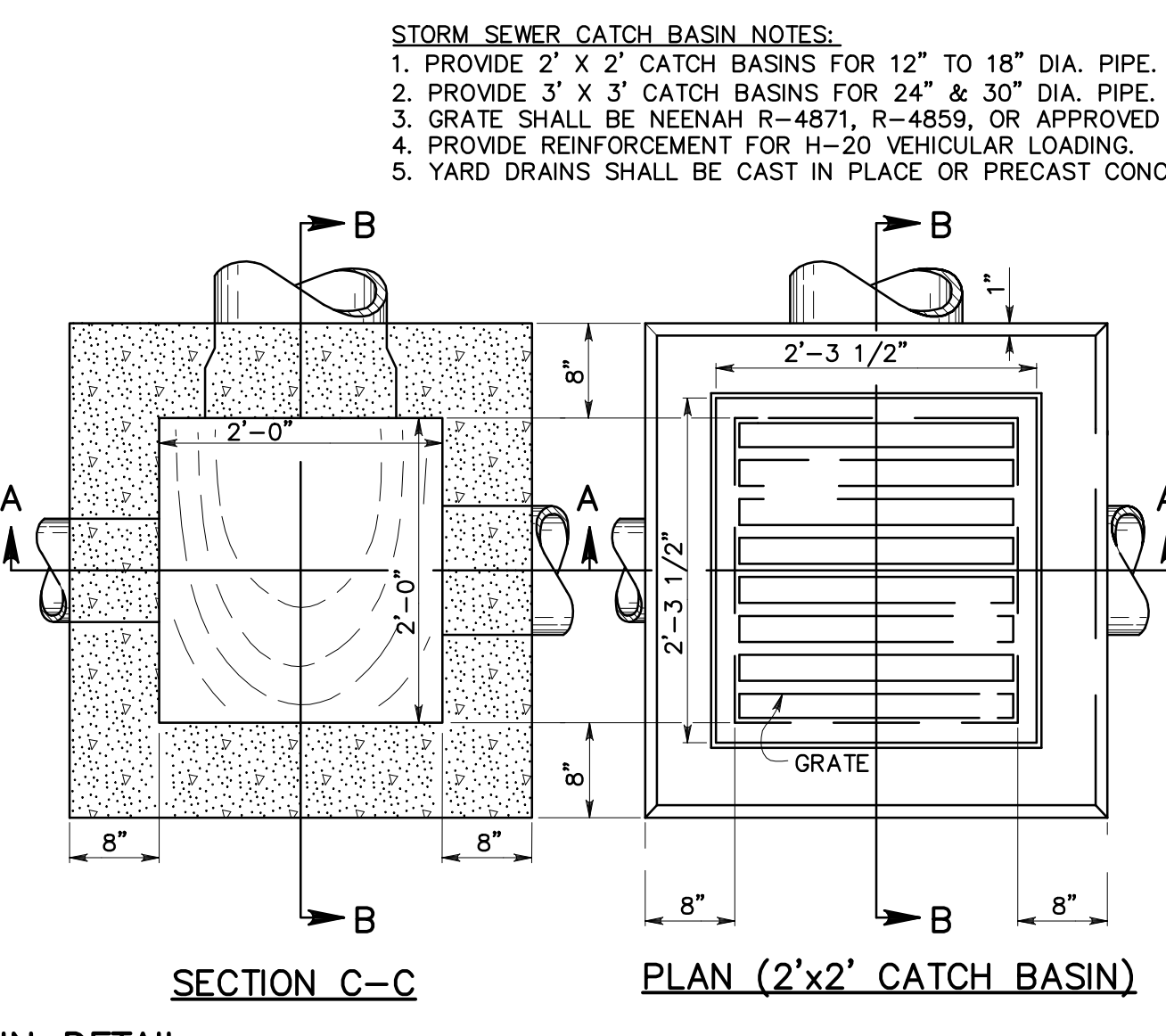
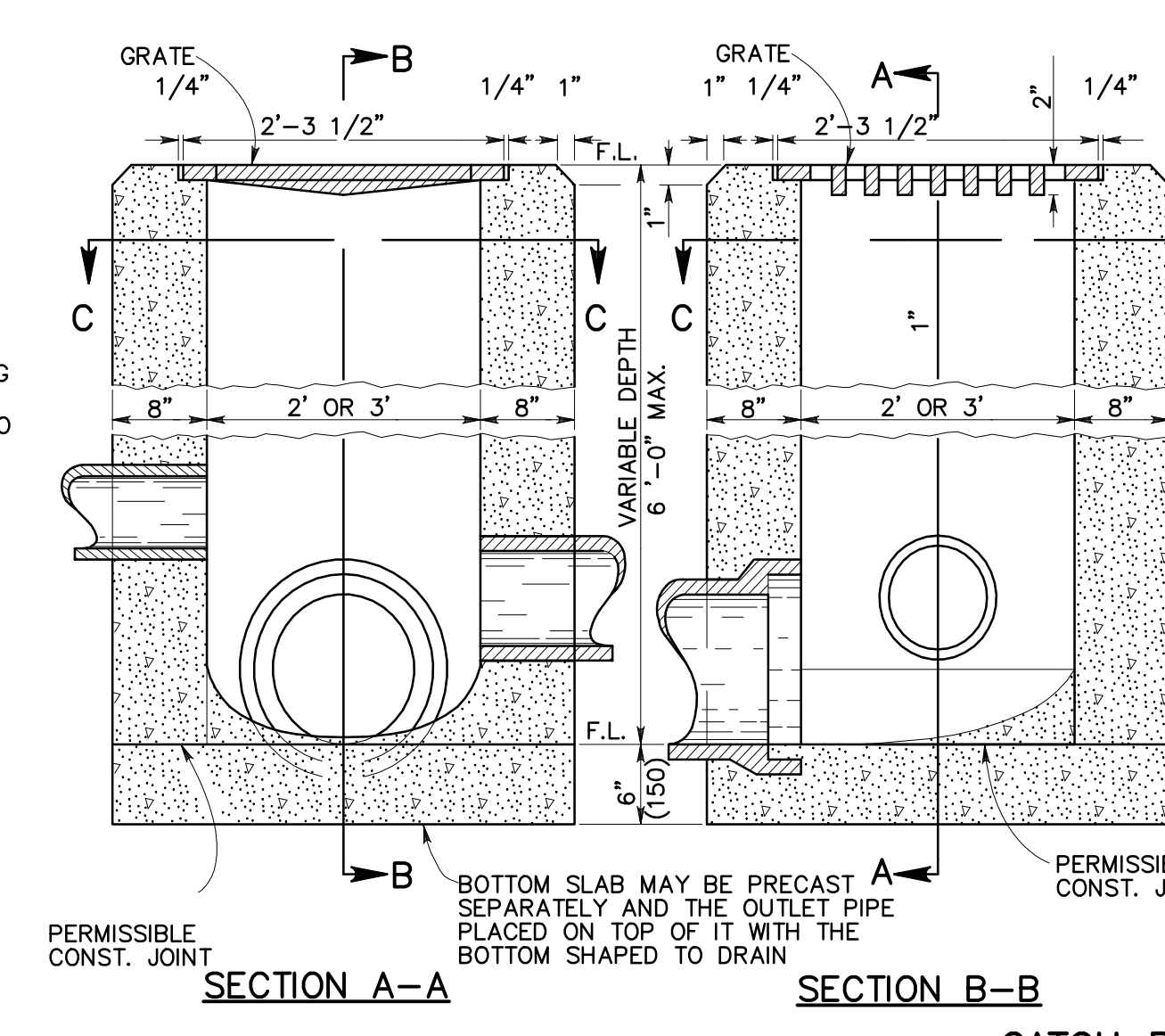
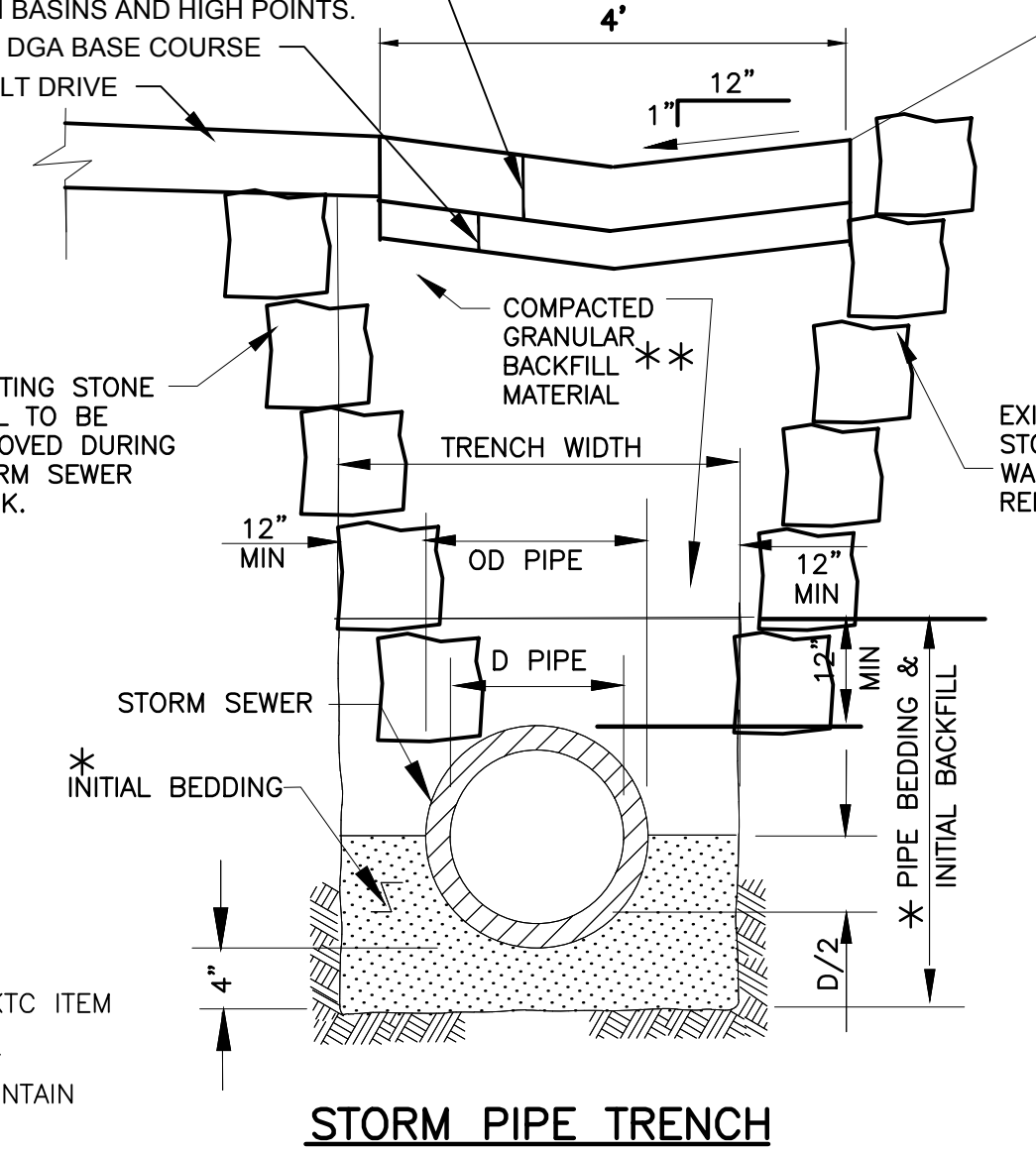
ALT. ALIGN. PLAN AND PROFILE STA. 5+00 TO 9+50

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SHEET: 8 OF 16



- NOTE ***
PIPE BEDDING SHALL BE CRUSHED AGGREGATE AASHTO M43 SIZE 67, 7, OR 8 COMPACTED IN 6" LAYERS.
- NOTE ****
COMPACTED GRANULAR BACKFILL MATERIAL SHALL BE USED FOR ALL TRENCHES IN PAVED AREAS GRANULAR BACKFILL SHALL BE GRAVEL OR CRUSHED STONE MEETING THE FOLLOWING GRADATION REQUIREMENTS:
- | SIEVE | TOTAL PERCENT PASSING |
|------------------|-----------------------|
| 2-1/2 INCH | 100 |
| NO.4 (3/16 INCH) | 40-85 |
| NO.40 | 10-60 |
| NO.200 | 5-25 |
- THE FRACTION PASSING A NO. 40 SIEVE SHALL HAVE A LIQUID LIMIT NOT GREATER THAN 30 AND A PLASTICITY INDEX NOT GREATER THAN 6.

- STORM SEWER NOTES:**
- ALL STORM SEWER PIPE WORK SHALL CONFORM TO KTC ITEM 701. AND MATERIAL SECTION 810.06.02 CORRUGATED POLYETHYLENE SMOOTH LINED PIPE, WITH SOIL TIGHT CONNECTIONS. PROVIDE FITTINGS ALONG PIPE TO MAINTAIN ALIGNMENT ALONG EXISTING STONE DITCH.
 - TRENCH BACKFILL:** ALL TRENCH BACKFILL UNDER AND WITHIN 3 FEET OF PAVEMENT TO BE COMPACTED GRANULAR MATERIAL SEE DETAIL THIS SHEET.
 - CONSTRUCTION CONFLICT:** CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING UNDERGROUND SEWERS AND UTILITIES BEFORE STARTING UNDERGROUND CONSTRUCTION. IF A CONFLICT IS FOUND IN GRADE OR ALIGNMENT THE STORM SEWER IS TO BE FIELD ADJUSTED BY THE CONTRACTOR PER OWNER/ENGINEER'S APPROVAL.
 - STORM SEWER CATCH BASIN STRUCTURE WORK SHALL CONFORM TO KTC ITEM 710.



- STORM SEWER CATCH BASIN NOTES:**
- PROVIDE 2' X 2' CATCH BASINS FOR 12" TO 18" DIA. PIPE.
 - PROVIDE 3' X 3' CATCH BASINS FOR 24" & 30" DIA. PIPE.
 - GRATE SHALL BE NEENAH R-4871, R-4859, OR APPROVED EQUAL.
 - PROVIDE REINFORCEMENT FOR H-20 VEHICULAR LOADING.
 - YARD DRAINS SHALL BE CAST IN PLACE OR PRECAST CONCRETE STRUCTURES.

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STORM SEWER PROFILE AND DETAILS

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GENERAL NOTES

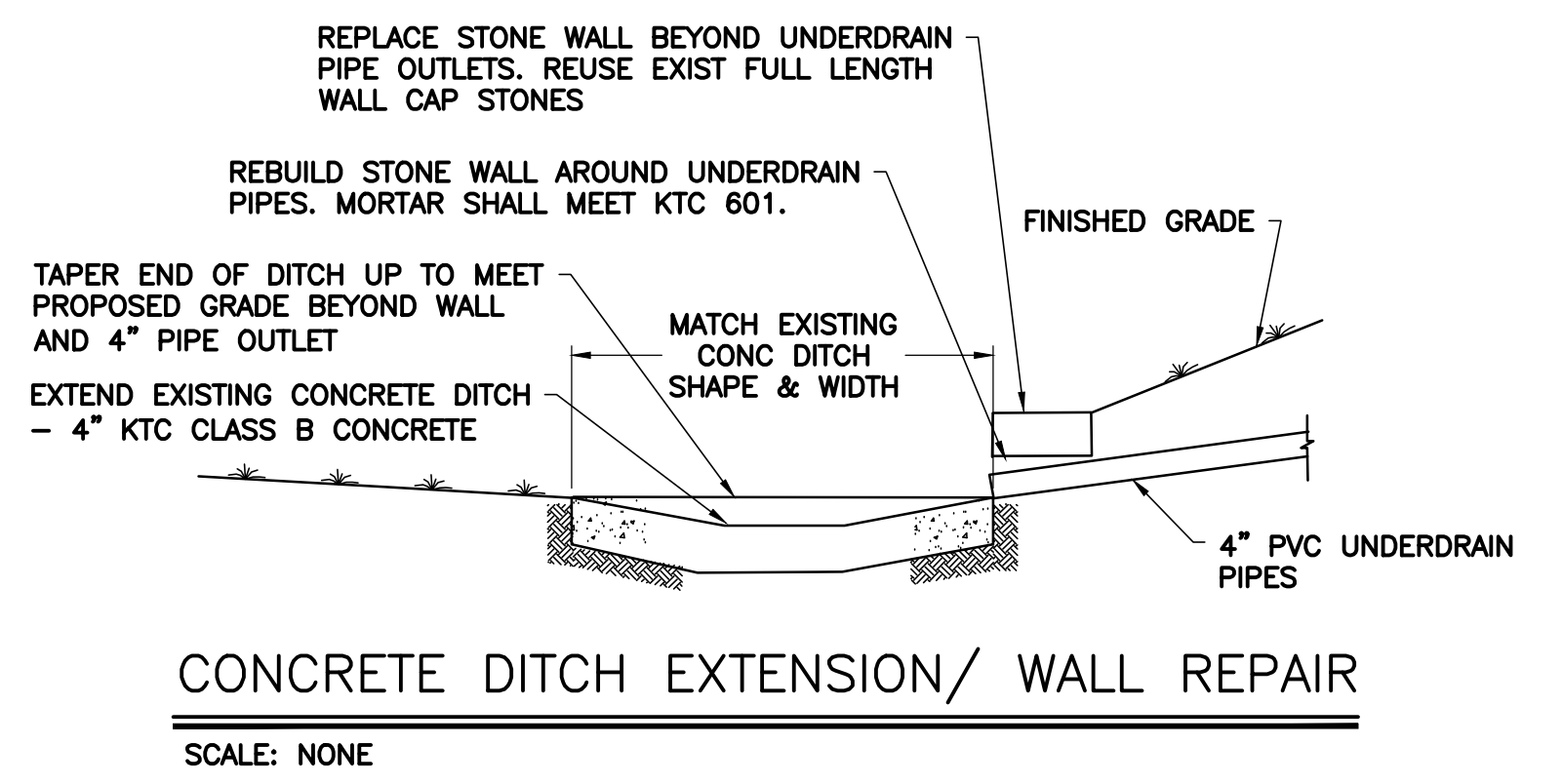
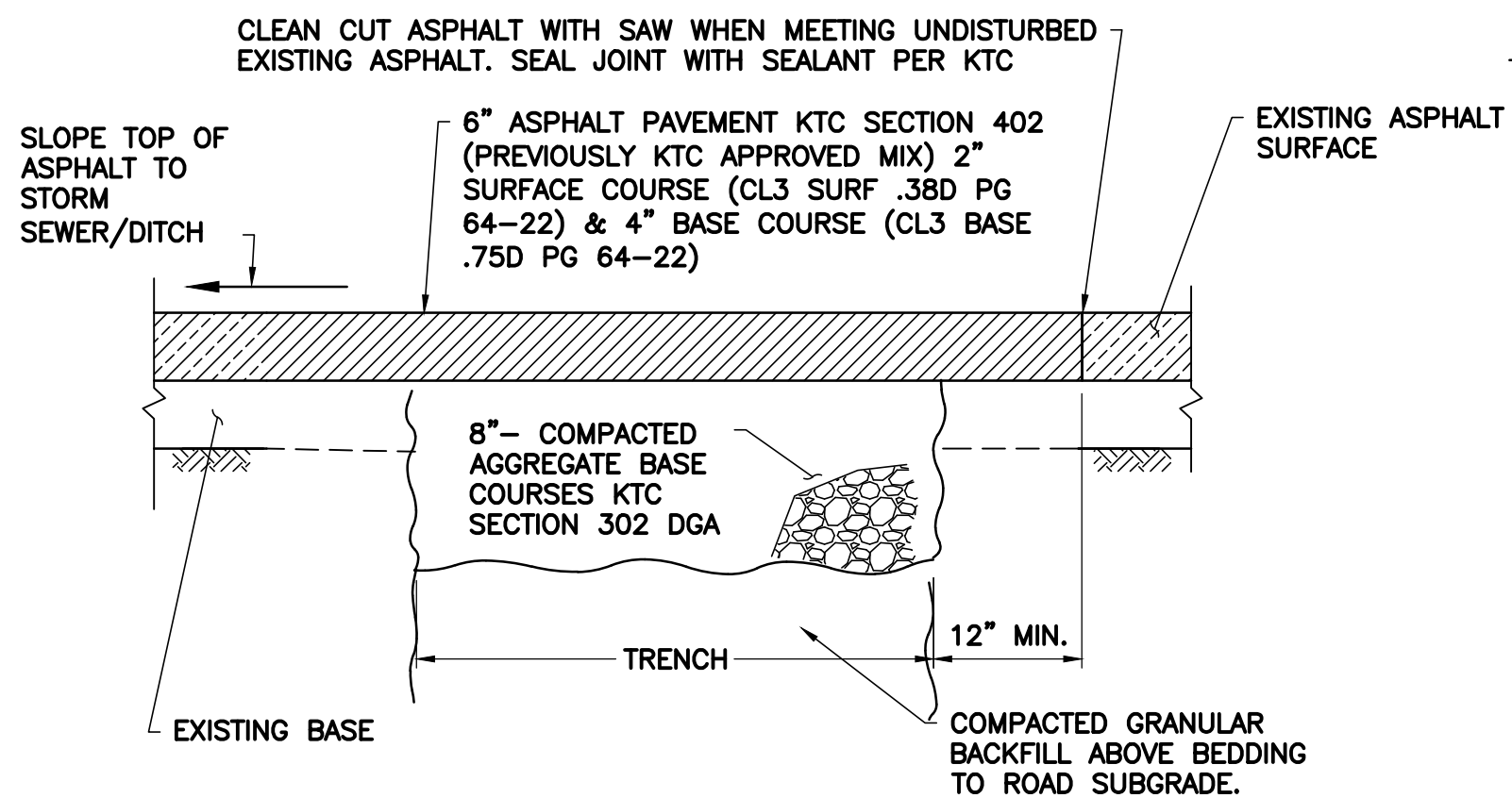
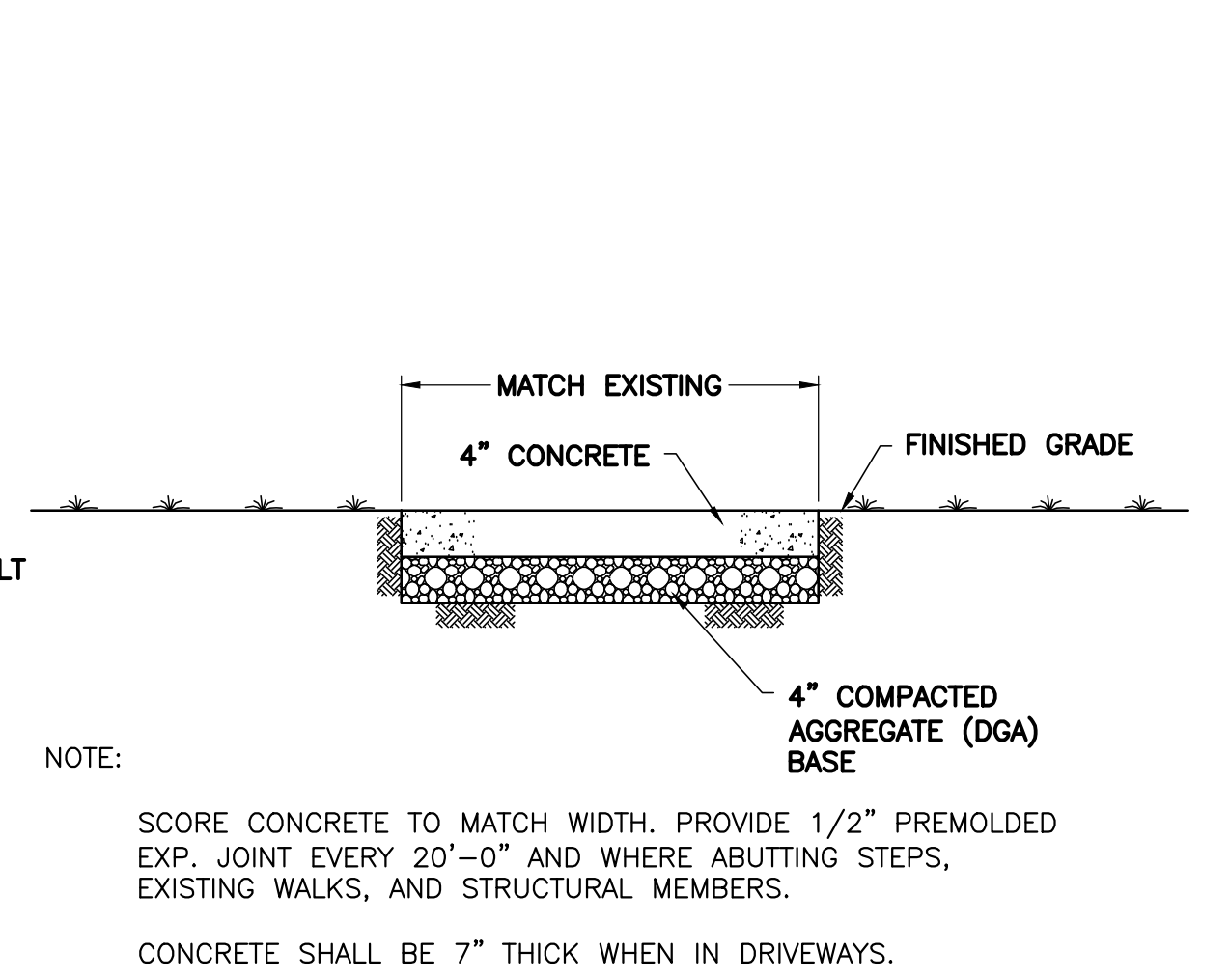
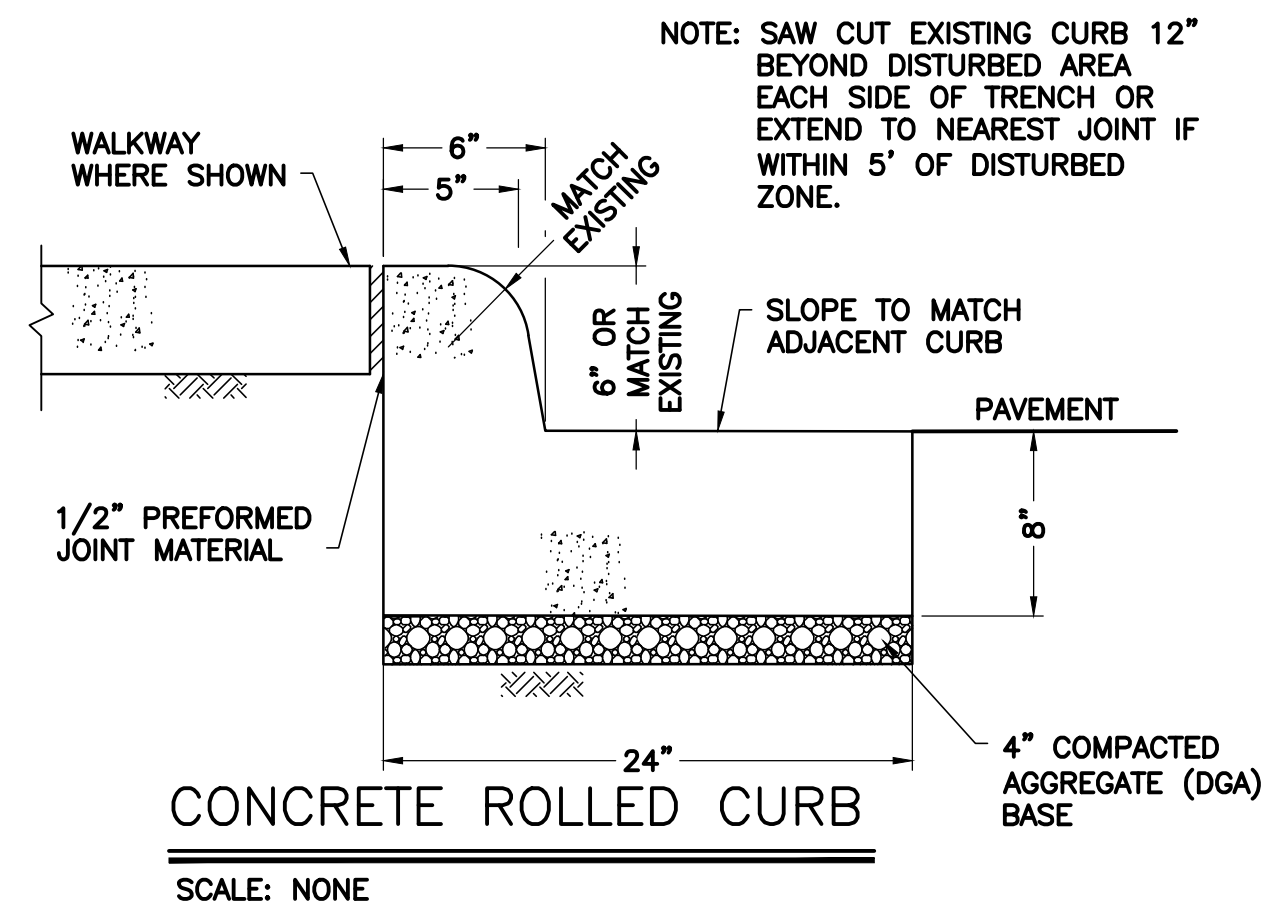
- SUBSURFACE CONDITIONS: GEOTECHNICAL INVESTIGATION WAS COMPLETED BY THELEN & ASSOCIATES. COPY OF THE REPORT IS INCLUDED IN THE APPENDIX OF THE SPECIFICATIONS. IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN INVESTIGATIONS OF SUB-SURFACE CONDITIONS IN OTHER AREAS PRIOR TO SUBMITTING HIS PROPOSAL. THE CONTRACTOR AGREES THAT HE WILL MAKE NO CLAIM AGAINST THE OWNER OR ENGINEER IF, IN CARRYING OUT THE WORK, HE FINDS THAT THE ACTUAL SUBSURFACE CONDITIONS ENCOUNTERED DO NOT CONFORM TO HIS INVESTIGATIONS OF SUBSURFACE CONDITIONS.
- PRESERVATION OF PROPERTY CORNERS AND SURVEY MARKERS: THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PRESERVE ALL CORNERSTONES, IRON PINS, CONCRETE MONUMENTS, OR ANY OTHER TYPE OF LAND MONUMENT. HE SHALL HAVE ALL LAND MONUMENTS IN THE PROXIMITY OF THE WORK REFERENCED. THEN, IF ANY OF THE LAND MONUMENTS ARE DESTROYED OR DAMAGED, HE SHALL HAVE THEM REPLACED BY A SURVEYOR AND SHALL FURNISH A CERTIFICATION BY A REGISTERED SURVEYOR THAT THE MONUMENTS HAVE BEEN RESTORED.
- STATIONING: ALONG NEW 36" RAW WATER MAIN CENTERLINE AT 100 FT INTERVALS.
- FIELD ADJUSTMENTS: FIELD ADJUSTMENTS INCLUDING MINOR CHANGES IN WATER LINE ALIGNMENT, ADDITION OF OR DELETION OF FITTINGS, MAY BE ACCOMPLISHED ON SITE WITH THE APPROVAL OF THE OWNER.
- INSPECTION: NORTHERN KENTUCKY WATER DISTRICT WILL PROVIDE FULL TIME RESIDENT INSPECTION ON THIS PROJECT IN ADDITION TO INTERMITTENT INSPECTION FROM BURGESS & NIPLÉ, INC.
- CONNECTIONS: IN ANTICIPATION OF MAKING ANY WATER MAIN CONNECTIONS, THE CONTRACTOR SHALL GIVE THE OWNER 48 HOURS NOTICE OF INTENTION TO MAKE SUCH CONNECTION. THE OWNER SHALL DO ALL CLOSING AND OPENING OF VALVES NECESSARY AT THE TIME OF MAKING CONNECTIONS WITH EXISTING MAINS. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT IT WILL BE NECESSARY TO SCHEDULE THE TIME OF CONNECTIONS WITH THE OWNER IN ORDER TO MINIMIZE DISRUPTION OF SERVICE.
- CONSTRUCTION SCHEDULE: IT IS RESPONSIBILITY OF THE CONTRACTOR AND ITS SUBCONTRACTORS TO SCHEDULE THE CONSTRUCTION OF THE NEW WATER MAIN WORK WITH NORTHERN KENTUCKY WATER DISTRICT. THE SCHEDULE MUST BE APPROVED BY NORTHERN KENTUCKY WATER DISTRICT.
- BASE MAPPING: BASE TOPOGRAPHY ON THESE DRAWINGS WAS TAKEN FROM A FIELD SURVEY MADE BY VIOX & VIOX INC., ERLANGER, KY. THESE CONSTRUCTION DRAWINGS ARE TO BE USED FOR THIS PROJECT CONSTRUCTION PURPOSES ONLY.
- MAINTAINING TRAFFIC: OWNER'S OPERATING STAFF MUST HAVE ACCESS TO EACH END OF THE CONSTRUCTION WORK AREA WHEN ADJACENT TO THE RESERVOIRS.
- SITE CLEANUP: ALL SITE CLEANUP INCLUDING BRUSH, TREES, PAVEMENT AND ALL OTHER DEBRIS MUST BE REMOVED AND SITE GRADED TO DRAIN WITHIN 500 FEET OF LAYING PIPE.
- TRENCH BACKFILLING: COMPACTION OF TRENCH BACKFILL TO A MOIST, FIRM, DENSE CONDITION IS IMPORTANT THROUGHOUT THE ALIGNMENT. GRANULAR BEDDING AND BACKFILL SHOULD BE COMPACTED TO AT LEAST 80 PERCENT RELATIVE DENSITY PER ASTM D4253 AND D4254, FOR SOILS THAT DO NOT EXHIBIT A WELL-DEFINED MOISTURE-DENSITY RELATIONSHIP OR AT LEAST 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY, ASTM D698, FOR DGA AND SOILS THAT EXHIBIT A WELL-DEFINED MOISTURE-DENSITY RELATIONSHIP. CLAY AND SHALE BACKFILL SHALL BE PLACED IN SHALLOW (4" TO 8" THICKNESS) LEVEL LAYERS AND COMPACTED TO DENSITIES NOT LESS THAN 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY, ASTM D698 WITH MOISTURE CONDITIONING WITHIN THE RANGE OF 2 PERCENT BELOW AND 3 PERCENT ABOVE OPTIMUM MOISTURE. ALL SHALE SHALL BE PULVERIZED TO A SOIL-LIKE CONSISTANCY. NO LIMESTONE LARGER THAN 4" SHALL BE USED IN THE TRENCH BACKFILL.
- EROSION CONTROL: CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE AND EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT. SEE STORM WATER POLLUTION PREVENTION PLAN NOTES SHOWN ON SHEET NO. 8.
- TOPSOIL, SEEDING & MULCHING: CONTRACTOR SHALL PROVIDE MIN 4" DEPTH TOPSOIL, FERTILIZER AND SEED ON ALL UNPAVED AREAS DISTURBED DURING CONSTRUCTION. FOR PAYMENT QUANTITY SEE PROJECT SPECIFICATIONS. ALSO USE SEED MIX TYPE 2 FOR ALL AREA RESTORATION PER PROJECT SPECIFICATIONS.
- PAVED DRIVEWAYS AND WALKS: ALL PROPOSED WATER MAINS UNDER CONCRETE, GRAVEL AND ASPHALT DRIVEWAYS, PARKING LOTS AND WALKS SHALL HAVE TRENCH BACKFILLED AND PAVEMENT RESTORED PER DETAILS SHOWN ON THE PROJECT PLANS.
- SAWING CONCRETE PAVEMENT: AT LOCATIONS WHERE PAVEMENT SHALL REMAIN, THE PAVEMENT SHALL BE SAW CUT IN NEAT, STRAIGHT LINES. THE DEPTH OF SAW CUT SHALL BE AT LEAST 3 INCHES.
- PROTECTION OF TREES: SPECIAL CARE SHALL BE TAKEN TO AVOID DAMAGE TO TREES AND THEIR ROOT SYSTEM. THE OPERATION OF ALL EQUIPMENT PARTICULARLY WHEN EMPLOYING BOOMS, THE STORAGE OF MATERIALS, AND THE DEPOSITION OF EXCAVATED MATERIAL SHALL BE CONDUCTED IN THE MANNER WHICH WILL NOT INJURE TREES, TRUNKS, BRANCHES OR THE ROOTS UNLESS SUCH TREES ARE DESIGNATED FOR REMOVAL BY THE OWNER.
- RESTORATION OF FENCES: THE CONTRACTOR SHALL AVOID THE CUTTING OF FENCES WHENEVER POSSIBLE. WHEN IT IS NECESSARY TO CUT A FENCE THE CONTRACTOR SHALL RESTORE THE FENCE TO ITS ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER.
- GEOTECHNICAL SERVICES HAVE DETERMINED WATER FROM THE RESERVOIR WILL MIGRATE TO THE PIPE TRENCH. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING THE TRENCH DURING PIPE INSTALLATION. WATER SHALL NOT BE DISCHARGED TO THE RESERVOIRS DURING DEWATERING. REMOVE SEDIMENT FROM WATER PRIOR TO DISCHARGE TO ANY STORM SEWER OR DRAINAGE SWALE.
- IF ANY SOFT OR UNSTABLE SOIL IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, THE UNSTABLE SOIL SHALL BE REMOVED BY UNDERCUTTING TO STIFF NATIVE SOILS, BED ROCK OR TO A MAXIMUM DEPTH OF 18" BELOW PIPE INVERT FOR THE FULL TRENCH WIDTH. UNSTABLE SOIL SHALL BE REPLACED WITH COMPACTED CRUSH STONE (KTC SECTION 805 #57) WRAPPED IN NONWOVEN GEOTEXTILE FABRIC (KTC SECTION 843 TYPE II). COMPACTION SHALL BE AS NOTED IN TRENCH BACKFILL ABOVE.

GENERAL NOTES FOR WATER MAIN WORK

- EXISTING UTILITY LOCATIONS.
 - LOCATIONS, SIZES AND MATERIALS OF EXISTING PIPING, UTILITIES AND STRUCTURES INDICATED ON THE PLANS ARE DETERMINED FROM AVAILABLE RECORDS AND FIELD SURVEYS.
 - THE LOCATIONS INDICATED ARE NOT NECESSARILY COMPLETE OR CORRECT AND SHALL BE FIELD VERIFY AS NECESSARY.
 - THE CONTRACTOR, BEFORE DIGGING, SHALL CALL UNDERGROUND UTILITIES AT 1(800)752-6007.
 - THE LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL PIPING, UTILITIES AND STRUCTURES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALIGNMENT AND GRADE.
 - SLOPE ALL MAINS UNIFORMLY BETWEEN GIVEN ELEVATIONS UNLESS APPROVED OTHERWISE.
 - WHERE NOT FEASIBLE, PROVIDE VERTICAL BENDS OR OFFSETS AS NECESSARY.
- ABANDONED PIPING.
 - REMOVE EXISTING PIPING DESIGNATED TO BE ABANDONED AS NECESSARY.
 - PLUG ALL REMAINING ABANDONED PIPE THAT HAS BEEN SEVERED WITH CLASS C FILL CONCRETE TO PREVENT SETTLEMENT.
- SUPPORT.
 - ADEQUATELY SUPPORT PIPING ACROSS TRENCH EXCAVATIONS WITH COMPACTED GRANULAR BACKFILL OR CLASS C FILL CONCRETE.
 - SUPPORT PIPE CROSSING OVER OTHER PIPE WITH COMPACTED GRANULAR BACKFILL OR CLASS C CONCRETE.
 - THE METHOD OF SUPPORT IN ALL CASES SHALL BE AS SHOWN, UNLESS APPROVED OTHERWISE.
- FREEZE PROTECTION.
 - PIPING SUBJECT TO FREEZING SHALL HAVE A MINIMUM COVER OF 3 FEET UNLESS SHOWN OR APPROVED OTHERWISE.
- RESTRAINTS.
 - ADEQUATELY RESTRAIN ALL FITTINGS WITH CONCRETE BLOCKING OR OTHER APPROVED JOINT RESTRAINING SYSTEM.
- DUST AND NOISE.
 - USE APPROPRIATE DUST AND NOISE CONTROL MEASURES TO AVOID NUISANCE CONDITIONS FOR PROPERTIES ADJOINING THE SITE.
- MAXIMUM SLOPES.
 - FINISH GRADED SLOPES SHALL NOT EXCEED 3:1 UNLESS SHOWN OTHERWISE.
 - PAVEMENT SLOPES SHALL MATCH ADJACENT PAVEMENT.
- RESTORATION.
 - GRADE AND SEED ALL NONPAVED AREAS DISTURBED BY THIS CONSTRUCTION IN ACCORDANCE WITH THE SPECIFICATIONS.
 - REPLACE EXISTING PAVEMENT DISTURBED BY THIS CONSTRUCTION TO ORIGINAL CONDITION UNLESS SHOWN OTHERWISE.
- PIPING UNDER PAVEMENT.
 - BACKFILL PIPING UNDER NEW AND EXISTING PAVEMENT WITH COMPACTED GRANULAR BACKFILL.
 - BACKFILL PIPING UNDER PAVEMENT WHEN ADJACENT TO THE RESERVOIRS WITH NO. 67 STONE OR DGA PER KTC SECTION 805 AS NOTED ON THE PIPE PROFILE SHEETS.
- MINIMUM SANITARY SEWER CLEARANCE:
 - WHERE NEW WATER MAINS ARE TO BE INSTALLED IN LONGITUDINAL ALIGNMENT WITH AN EXISTING SANITARY SEWER, THE CONTRACTOR SHALL MAINTAIN A 10 FOOT HORIZONTAL SEPARATION OR AN 18 INCH VERTICAL SEPARATION BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE SEWER PIPE.
 - WHERE A PROPOSED WATER MAIN CROSSES AN EXISTING SANITARY SEWER THE CONTRACTOR SHALL MAINTAIN AN 18 INCH VERTICAL SEPARATION. ALL MEASUREMENTS SHALL BE MADE BETWEEN THE OUTSIDE PIPE WALLS.
- JOINT DEFLECTIONS: WATER MAIN JOINTS MAY BE DEFLECTED TO OBTAIN HORIZONTAL ALIGNMENT AND VERTICAL ELEVATIONS IN LIEU OF FITTINGS UNLESS OTHERWISE INDICATED. DEFLECTIONS ARE TO BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATION.
- TESTS AND DISINFECTION: EACH VALVED SECTION OF WATER MAIN SHALL BE FURNISHED WITH AN APPROPRIATELY LOCATED CORPORATION STOP AND TUBING TO TEST, DISINFECT, AND DRAIN THE WATER MAIN. AFTER EACH SECTION HAS BEEN TESTED, DISINFECTED, AND APPROVED, THE CORPORATION STOP SHALL BE REMOVED AND A PLUG INSTALLED. OPEN END OF 36" MAIN AT THE RESERVOIR SHALL BE TEMPORARILY PLUGGED DURING TESTING. ALL REQUIRED MATERIAL AND TIME FOR TESTING SHALL BE INCIDENTAL AND INCLUDED IN THE COST FOR PIPE INSTALLATION.
- EXPOSED STEEL PROTECTION: ALL EXPOSED STEEL (BOLTS, RODS, ETC.) SHALL BE COATED WITH A MINIMUM OF TWO COATS OF BITUMINOUS MATERIAL EQUAL TO CARBOLINE COAL TAR URETHANE OR APPROVED EQUAL.
- TRENCH EXCAVATION: THE CONTRACTOR IS RESPONSIBLE FOR THE SUPPORT AND STABILITY OF ALL TRENCHES DURING THE CONSTRUCTION OF THE WATER MAIN. THE CONTRACTOR SHALL LIMIT THE LENGTH OF THE TRENCH AND PROVIDE SHORING AS NECESSARY TO MAINTAIN TRENCH STABILITY. NO TRENCHES ARE TO BE LEFT OPEN WITHOUT PROPER SHORING SUPPORT DURING NON-WORKING HOURS.
- RESTRAINED JOINTS AT FITTINGS ON 36" PIPE MAY BE USED INSTEAD OF CONCRETE BLOCKING AS NOTED ON THE DRAWINGS. PROVIDE FULL LENGTH OF PIPE ON EACH SIDE OF FITTING IF RESTRAINED JOINTS ARE USED.

GENERAL NOTES FOR DRINKING WATER FACILITIES:

- ALL PRODUCTS AND MATERIALS IN CONTACT WITH RAW AND FINISHED WATER SHALL BE CERTIFIED TO MEET ANSI / NSF STANDARD 61.
 - THE CONTRACTOR SHALL SUBMIT EVIDENCE OF SUCH CERTIFICATION TO THE OWNER FOR THE PROJECT RECORDS.
- PIPE MATERIAL NOTES:**
- DUCTILE IRON PIPE (DIP) SHALL BE ANSI MINIMUM PRESSURE CLASS 150 PER AWWA C151, WITH CEMENT LINING AWWA C104 AND POLYETHYLENE ENCASEMENT PER AWWA C105. PIPE JOINTS SHALL BE MECHANICAL OR PUSH ON. FITTINGS SHALL BE AWWA C100 OR C153 DUCTILE IRON WITH MECHANICAL JOINTS. SEE SPECIFICATION SECTION 01600 FOR ADDITIONAL REQUIREMENTS.
 - POLYVINYL CHLORIDE (PVC) PIPING SHALL BE AWWA C900 DR18 FOR 6" PIPE AND C905, DR41 FOR 36" PIPE. ALL FITTINGS SHALL BE MECHANICAL JOINT DUCTILE IRON PER AWWA C110 OR C153. SEE SPECIFICATION SECTION 01600 FOR ADDITIONAL REQUIREMENTS.
 - POLYETHYLENE (PE) PIPE SHALL BE ASTM D2513, IPS, DR 25. ALL FITTINGS SHALL BE MECHANICAL JOINT DUCTILE IRON PER AWWA C110 OR C153. SEE SPECIFICATION SECTION 01600 FOR ADDITIONAL REQUIREMENTS.
 - STEEL (STL) PIPE SHALL BE AWWA C200, .188" THICK WITH CEMENT MORTAR LINING, MULTI LAYER TAPE EXTERIOR COATING, WELDED JOINTS AND FABRICATED STL FITTINGS. SEE STEEL PIPE SPECIFICATION SECTION 01600 FOR ADDITIONAL REQUIREMENTS.
 - ALL METALLIC PIPE AND FITTINGS SHALL BE CATHODICALLY PROTECTED. SEE SPECIFICATION SECTION 02660 AND SHEETS 14-16.
 - BUTTERFLY VALVES SHALL BE RATED AT 150 PSI.
 - 4" DRAIN PIPE (PERFORATED OR SOLID) SHALL BE PVC SDR 35 PER ASTM D-3034 WITH ELASTOMERIC JOINTS MEETING ASTM D-3212.



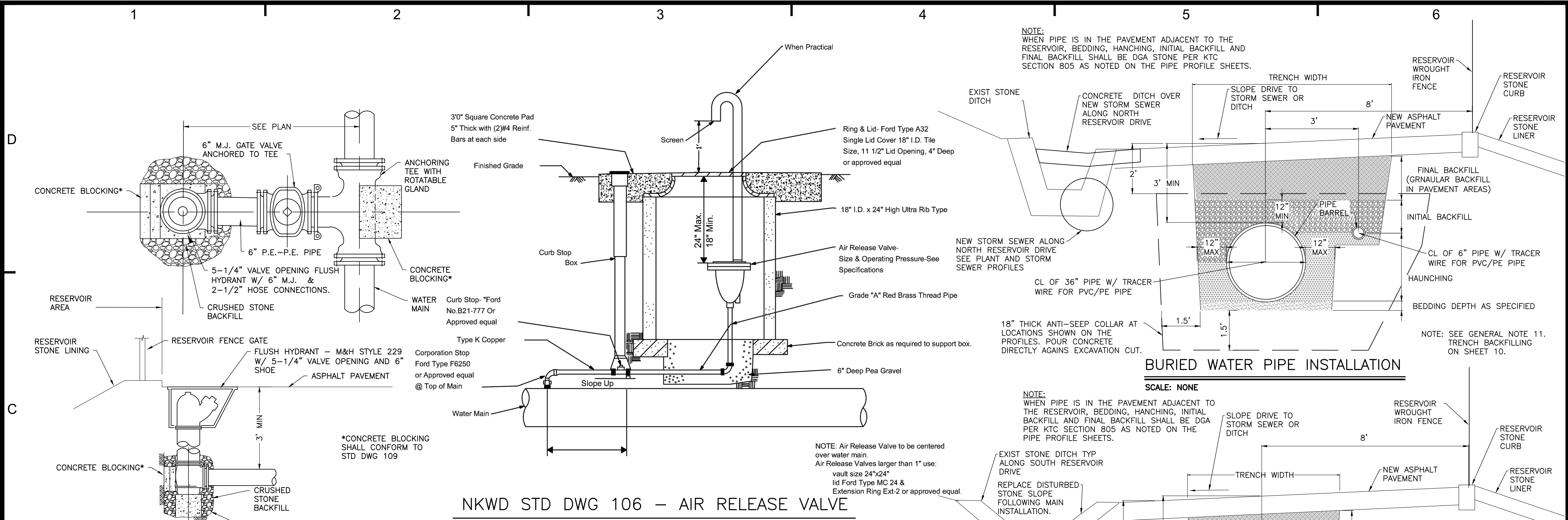
BURGESS & NIPLÉ
312 PLUM STREET, 12th FLOOR
CINCINNATI, OHIO 45202

NORTHERN KENTUCKY WATER DISTRICT
FT THOMAS WATER TREATMENT PLANT
36" RAW WATER MAIN PROJECT

NO.	DESCRIPTION	DATE

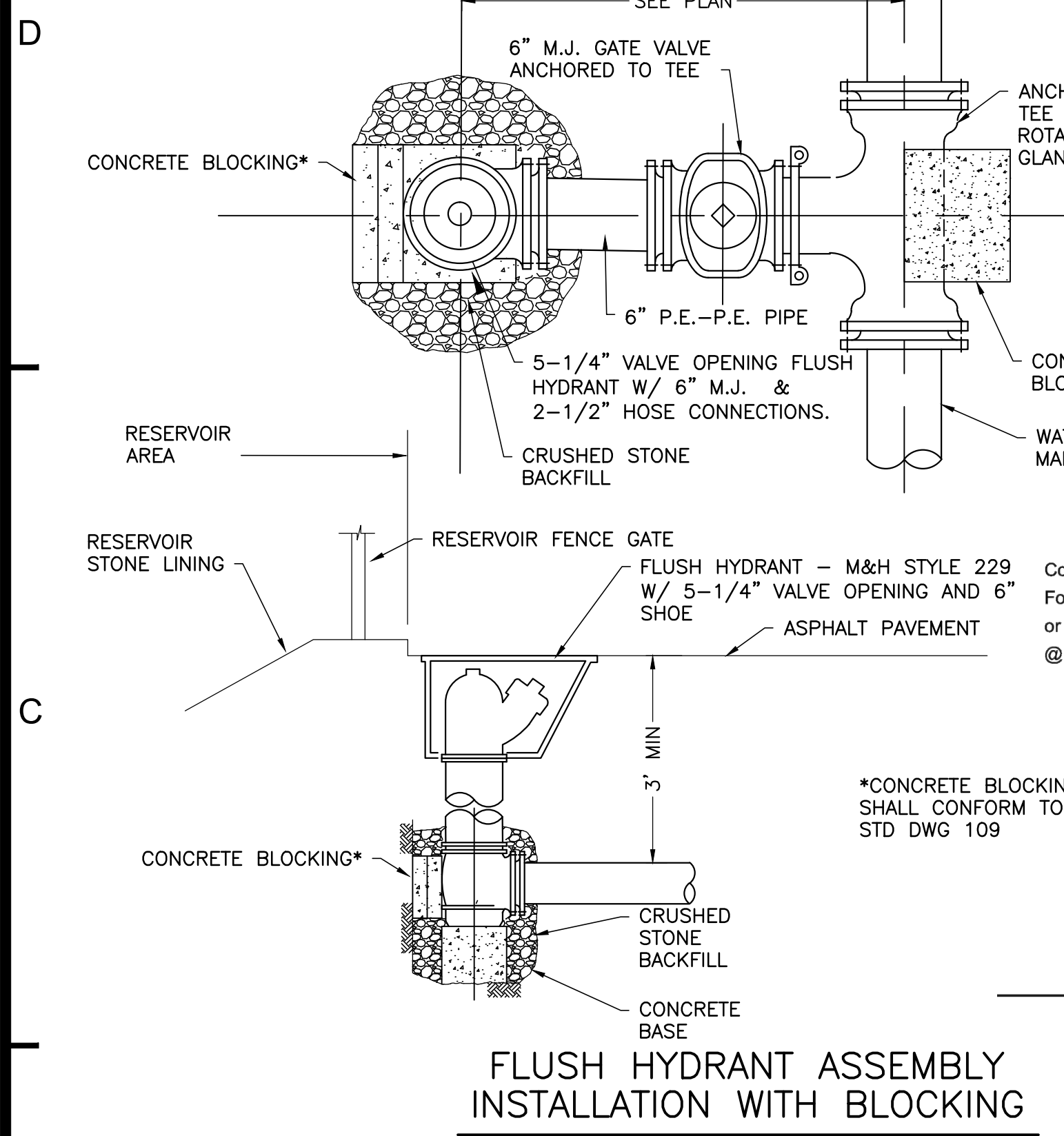
JOB NO: PR51569
 DATE: AUG, 2013
 DESIGNED BY: DWB
 DRAWN BY: DWB
 CHECKED BY: GB
 APPROVED BY: GB
 SCALE: AS SHOWN

GENERAL NOTES & DETAILS



BURIED WATER PIPE INSTALLATION
SCALE: NONE

ALTERNATE BURIED WATER PIPE INSTALLATION
SCALE: NONE

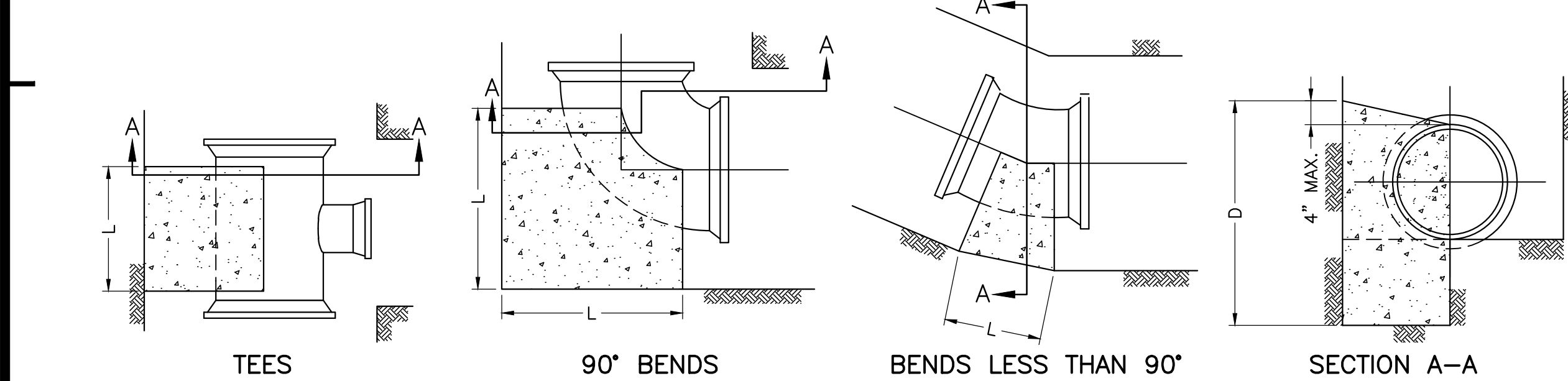


FLUSH HYDRANT ASSEMBLY INSTALLATION WITH BLOCKING
SCALE: NONE

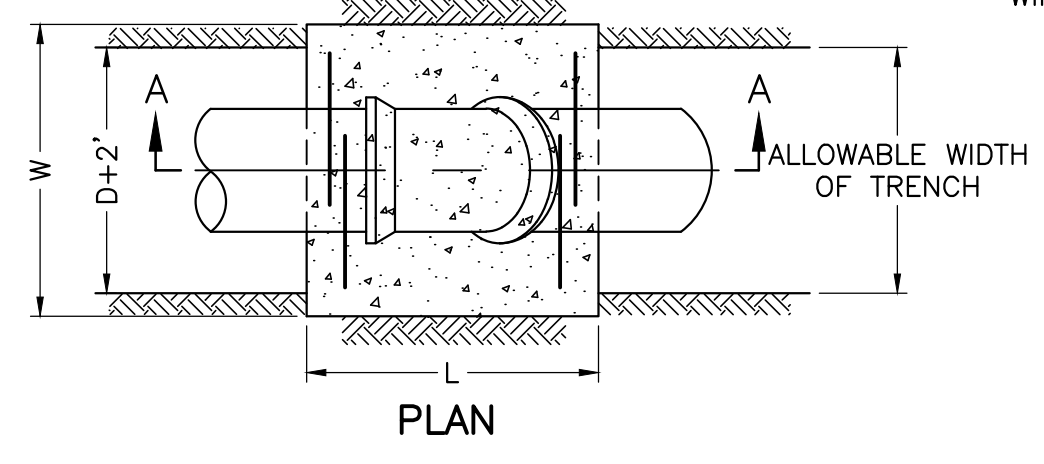
NKWD STD DWG 106 - AIR RELEASE VALVE
SCALE: NONE

SIZE OF PIPE	DEGREE OF BEND								RUN		BRANCH		
	11 1/4°		22 1/2°		45°		90°						6"
	L"	D"	L"	D"	L"	D"	L"	D"					
6"	17	17	23	23	33	33	44	44	6"	37	37		
36"	26	26	36	36	51	51	69	69	36"			42	42

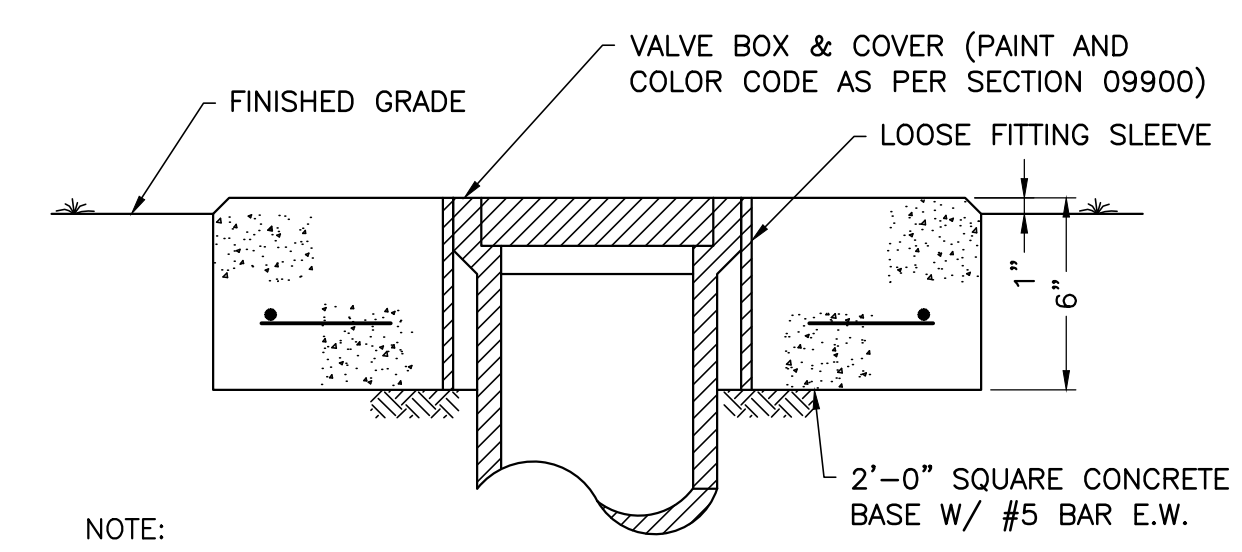
SIZE OF PIPE	DEGREE OF BEND											
	11 1/4°				22 1/2°				45°			
	L"	W"	H"	VOL	L"	W"	H"	VOL	L"	W"	H"	VOL
6"	15	48	30	12.5	28	48	32	24.9	42	55	36	48.1
36"	24	48	48	32.0	42	50	50	60.8	62	60	60	129.0



CONCRETE BACKING FOR HORIZONTAL & VERTICAL UP BENDS AND TEES
SCALE: NONE



CONCRETE BACKING FOR VERTICAL DOWN BENDS
SCALE: NONE



VALVE BOX BASE, CONCRETE
SCALE: NONE

1. BACKING DESIGNED FOR 1000 POUNDS PER SQUARE FOOT SOIL BEARING AND 150 POUNDS PER SQUARE INCH INTERNAL PRESSURE FOR 6" PIPE AND 20 PSI FOR 36" PIPE.
2. PROVIDE CONCRETE REINFORCEMENT AS DIRECTED BY THE ENGINEER/ARCHITECT.
3. THESE SAME DIMENSIONS WILL BE USED FOR SHORT BODY FITTINGS.

1. BACKING DESIGNED FOR 1000 POUNDS PER SQUARE FOOT SOIL BEARING AND 150 POUNDS PER SQUARE INCH INTERNAL PRESSURE FOR 6" PIPE AND 20 PSI FOR 36" PIPE.
2. PROVIDE MINIMUM CONCRETE REINFORCEMENT OF 2 PAIR OF TWO #5 "U" BARS AT 12" C/C.
3. CENTER BACKING ON BEND.
4. THESE SAME DIMENSIONS WILL BE USED FOR SHORT BODY FITTINGS.

NOTE:
YARD VALVE BOXES IN LANDSCAPED AREAS WITHIN PLANT FENCE RECEIVE CONCRETE BASES UNLESS NOTED OTHERWISE.

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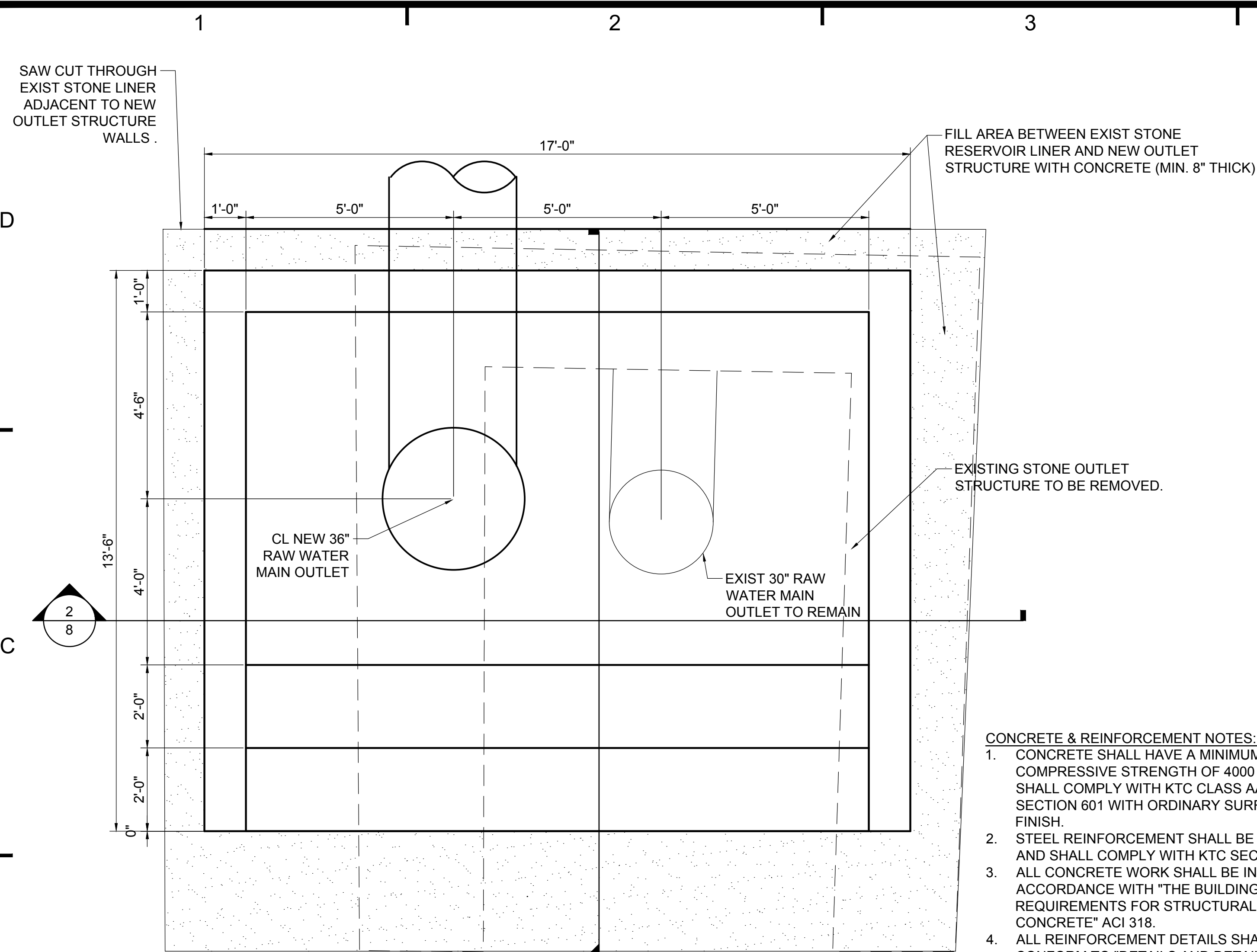
NO.	DESCRIPTION	REVISIONS	
		DATE	

JOB NO: PR51569
DATE: AUG, 2013
DESIGNED BY: DWB
DRAWN BY: DWB
CHECKED BY: GB
APPROVED BY: GB
SCALE: AS SHOWN

WATER MAIN DETAILS

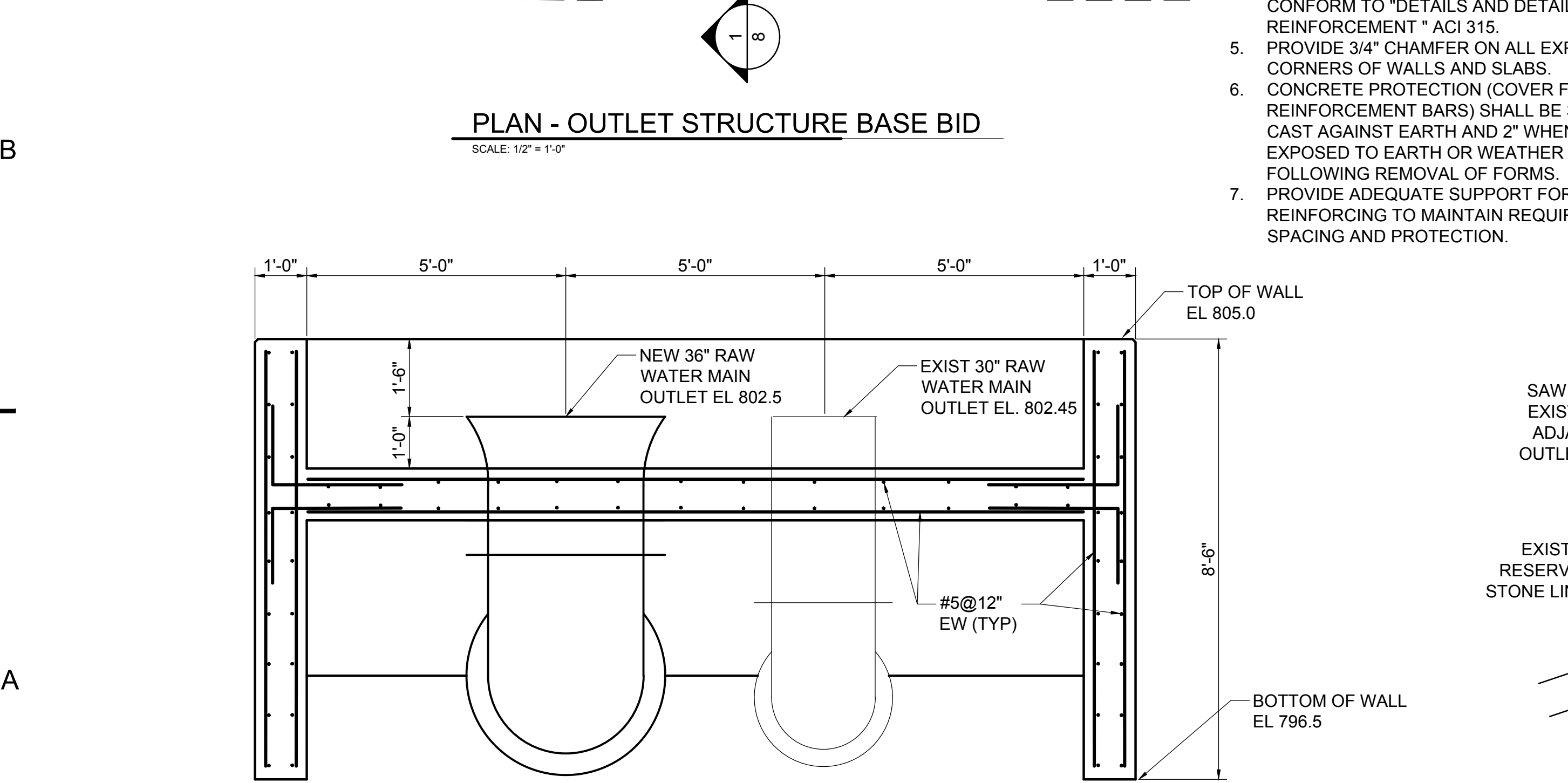
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P:\PR51569\cadd\sheet\12 RAW WATER OUTLET STRUCTURE.dwg 2/10/2014 2:49:31 PM Bezold, Donald



PLAN - OUTLET STRUCTURE BASE BID

SCALE: 1/2" = 1'-0"

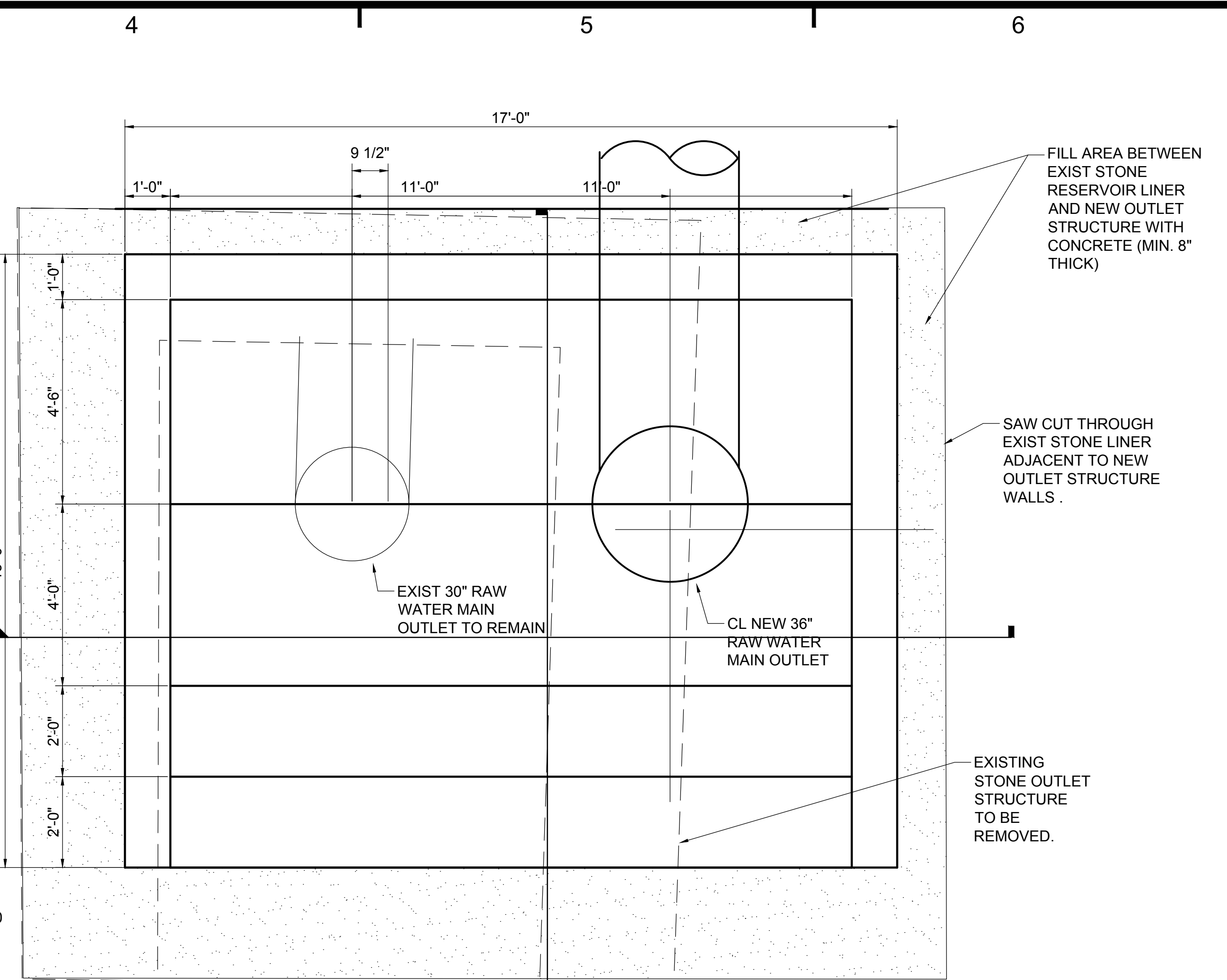


SECTION - OUTLET STRUCTURE

SCALE: 1/2" = 1'-0"

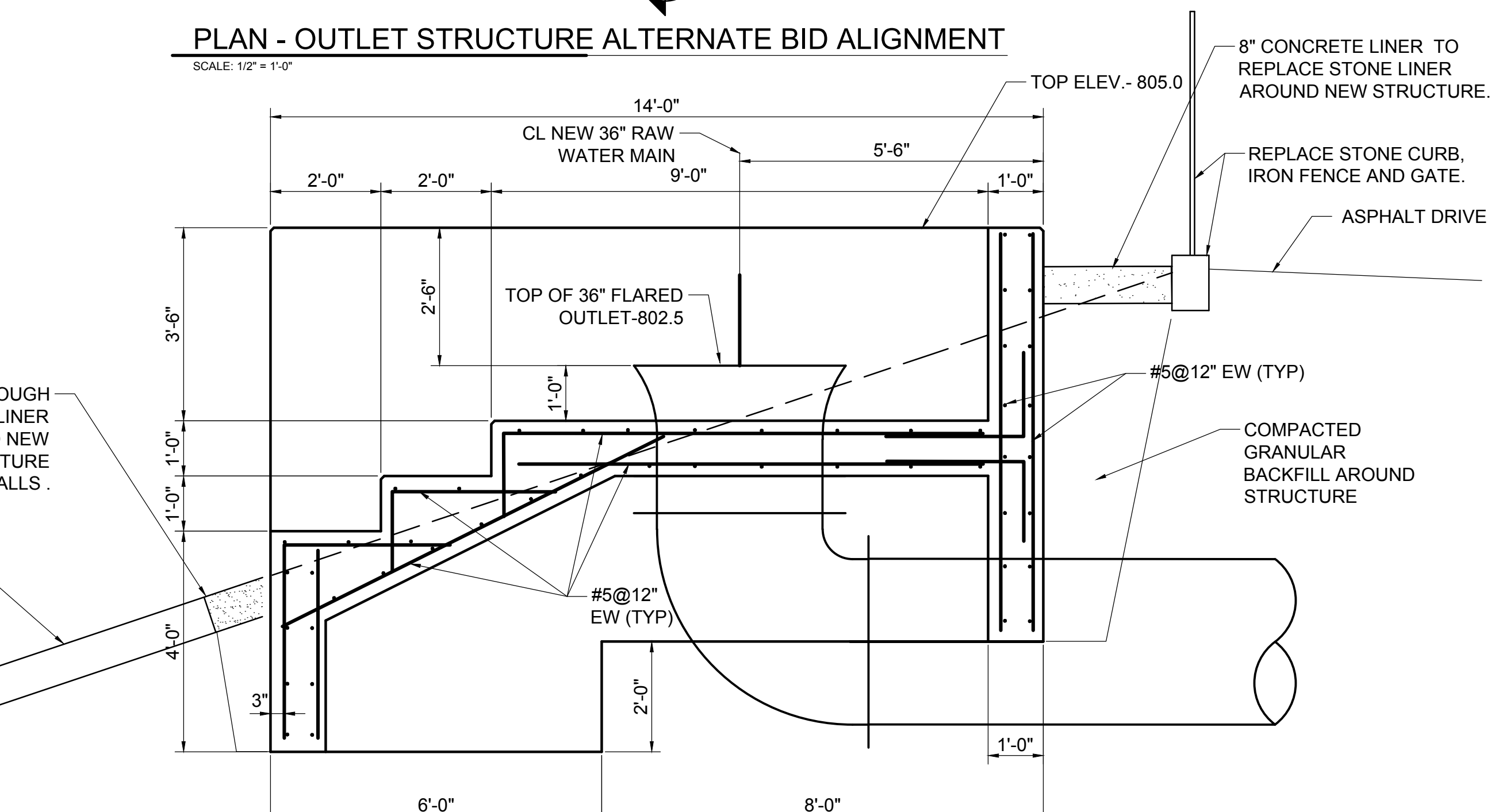
CONCRETE & REINFORCEMENT NOTES:

1. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI AND SHALL COMPLY WITH KTC CLASS AA SECTION 601 WITH ORDINARY SURFACE FINISH.
2. STEEL REINFORCEMENT SHALL BE GRADE 60 AND SHALL COMPLY WITH KTC SECTION 602.
3. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH "THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" ACI 318.
4. ALL REINFORCEMENT DETAILS SHALL CONFORM TO "DETAILS AND DETAILING REINFORCEMENT" ACI 315.
5. PROVIDE 3/4" CHAMFER ON ALL EXPOSED CORNERS OF WALLS AND SLABS.
6. CONCRETE PROTECTION (COVER FOR REINFORCEMENT BARS) SHALL BE 3" WHEN CAST AGAINST EARTH AND 2" WHEN EXPOSED TO EARTH OR WEATHER FOLLOWING REMOVAL OF FORMS.
7. PROVIDE ADEQUATE SUPPORT FOR REINFORCING TO MAINTAIN REQUIRED SPACING AND PROTECTION.



PLAN - OUTLET STRUCTURE ALTERNATE BID ALIGNMENT

SCALE: 1/2" = 1'-0"



SECTION - OUTLET STRUCTURE

SCALE: 1/2" = 1'-0"

BURGESS & NIPLE

312 PLUM STREET, 12th FLOOR
CINCINNATI, OHIO 45202

NORTHERN KENTUCKY WATER DISTRICT
FT THOMAS WATER TREATMENT PLANT
36" RAW WATER MAIN PROJECT

NO.	DESCRIPTION	DATE

JOB NO: PR51569

DATE: AUG, 2013

DESIGNED BY: DWB

DRAWN BY: DWB

CHECKED BY: GB

APPROVED BY: GB

SCALE: AS SHOWN

RAW WATER MAIN
OUTLET
STRUCTURE

12

SHEET: 12 OF 16

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P:\PR51569\cadd\SHEETS\13 STORM WATER POLLUTION PREVENTION NOTES AND DETAILS.dwg 1/8/2014 4:31:45 PM Bezold, Donald

STORM WATER POLLUTION PREVENTION PLAN

INTRODUCTION

IN COMPLIANCE WITH THE PROVISIONS OF THE FEDERAL WATER POLLUTION CONTROL ACT (33 u.s.c. 1251), AND THE KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM (KPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES (KYR10), DISCHARGE OF STORM WATER FROM SITES WHERE CONSTRUCTION ACTIVITY IS BEING CONDUCTED ARE AUTHORIZED BY THE KENTUCKY DIVISION OF WATER AND SHALL BE CONTROLLED. THE DISTURBED AREA OF THE PROJECT WILL BE LESS THAN 1 ACRE THEREFORE NOTICE OF INTENT IS NOT REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES SET FORTH IN THE CONTRACT DOCUMENTS. ANY FINES OR PENALTIES FROM NON COMPLIANCE OF THIS PLAN SHALL BE COMPENSATED BY THE CONTRACTOR. THE CONTRACTOR SHALL GIVE SPECIAL ATTENTION TO PROPER WATER MAIN CONSTRUCTION, PROTECTION OF DITCHES, SWALES, AND CREEKS FROM EROSION DURING WATER MAIN CONSTRUCTION AND THE EROSION AND SEDIMENT CONTROL NOTES AND DETAILS SHOWN HERE AS WELL AS THOSE STATED IN THE SPECIFICATIONS.

PROJECT NAME: NORTHERN KENTUCKY WATER DISTRICT
FORT THOMAS WATER TREATMENT PLANT
36" RAW WATER MAIN PROJECT

LOCATION: CITY OF FORT THOMAS, CAMPBELL COUNTY, KENTUCKY
OWNER NAME AND ADDRESS: NORTHERN KENTUCKY WATER DISTRICT
700 ALEXANDRIA PIKE
FORT THOMAS, KY 41075

DESCRIPTION: 36" RAW WATER MAIN AND 6" FINISHED WATER MAIN INSTALLATION
TOTAL ESTIMATED DISTURBED SITE AREA LESS THAN 1 ACRES

RUNOFF COEFFICIENT: THE FINAL RUNOFF COEFFICIENT
AFTER CONSTRUCTION WILL
REMAIN UNCHANGED FROM THE
INITIAL RUNOFF COEFFICIENT.

NAME OF RECEIVING WATERS: TRIBUTARY TO THREE MILE CREEK

EROSION AND SEDIMENT CONTROL:

- CLEARING AND GRUBBING OF THE CONSTRUCTION AREA SHALL BE PHASED TO MAINTAIN COVER AND VEGETATION UNTIL CONSTRUCTION PROGRESSES TO THE AREA. LIMIT CLEARING TO ONLY THOSE AREAS OF THE EASEMENT WHERE ACTUAL WATER MAIN CONSTRUCTION WORK IS REQUIRED.
- PROVIDE AND MAINTAIN EROSION PROTECTION USING STRAW BALES OR SILT FENCING (AS SHOWN IN DETAILS ON THIS SHEET) ALONG CLEARED SLOPING AREAS, EXPOSED SOILS WITHIN 25 FEET OF THE TOP OF A CREEK BANK, CREEK CROSSING SITES, DITCHES, SWALES, OR OTHER EROSION PRONE AREAS.
- REMOVE ONLY THOSE TREES NECESSARY FOR ACTUAL CONSTRUCTION. NO VEGETATION SHALL BE DAMAGED OUTSIDE OF THE CONSTRUCTION LIMITS. MATERIAL STORAGE FOR LONGER THAN 3 DAYS AND CONTINUOUS EQUIPMENT MOVEMENT WITHIN THE DRIPLINE OF TREES TO BE SAVED WILL NOT BE ALLOWED.
- STOCKPILE TOP SOIL ON UP-SLOPE SIDE OF THE WATERLINE TRENCH AND REPLACE DURING FINAL RESTORATION; PROVIDE EROSION CONTROL FOR ALL STOCKPILED AREAS.
- TEMPORARILY STABILIZE BY SEEDING ALL LAND DISTURBED IMMEDIATELY FOLLOWING TRENCH BACKFILL UNTIL FINAL RESTORATION IS COMPLETED.
- FINAL RESTORATION SHALL BEGIN AS SOON AS POSSIBLE AFTER CONSTRUCTION IN THE AREA IS COMPLETED.
- FINAL GRADING WORK SHALL BE CONSISTENT WITH PRE-CONSTRUCTION TOPOGRAPHY. FINAL GRADING SHALL BE PHASED TO FOLLOW WATER LINE CONSTRUCTION AND SHALL BE COMPLETED AS SOON AS AREAS ARE NO LONGER NEEDED FOR TRAFFICING OF CONSTRUCTION EQUIPMENT AND MATERIALS.
- ALL AREAS TO BE SEEDD ON SLOPES GREATER THAN 3:1 INCLUDING SMALL DRAINAGE SWALES SHALL BE PROVIDED WITH EROSION CONTROL MATTING TO PREVENT EROSION PER KTC/DOH ITEM 213 & 627.07.
- DEWATERING FLOWS ARE TO BE SETTLED OR FILTERED BEFORE DISCHARGE TO STABILIZED SITES, SUCH AS STREAMS OR STORM SEWERS; NOT ONTO EXPOSED SOILS, STREAMBANKS, OR ANY OTHER SITES WHERE THE FLOWS COULD CAUSE EROSION.
- SILT FROM CONSTRUCTION OPERATIONS SHALL NOT BE PERMITTED TO ENTER STORM SEWER SYSTEMS OR STREAMS. WHEN CONSTRUCTION OCCURS NEAR STORM SEWER INLETS OR STREAMS, EROSION CONTROL MEASURES SUCH AS INLET FILTERS AND STRAW BALES SHALL BE USED TO PREVENT SILT FROM ENTERING THE STORM SEWERS AND STREAMS.
- FOLLOWING INSTALLATION OF WATER MAIN AND BACKFILL OPERATION WITHIN PAVEMENT AREAS COVER TRENCH WITH AGGREGATE BASE TO STABILIZE SURFACE TO PREVENT SEDIMENT AND EROSION FROM RUNNING OFF PAVEMENT AREA.

OTHER CONTROLS:

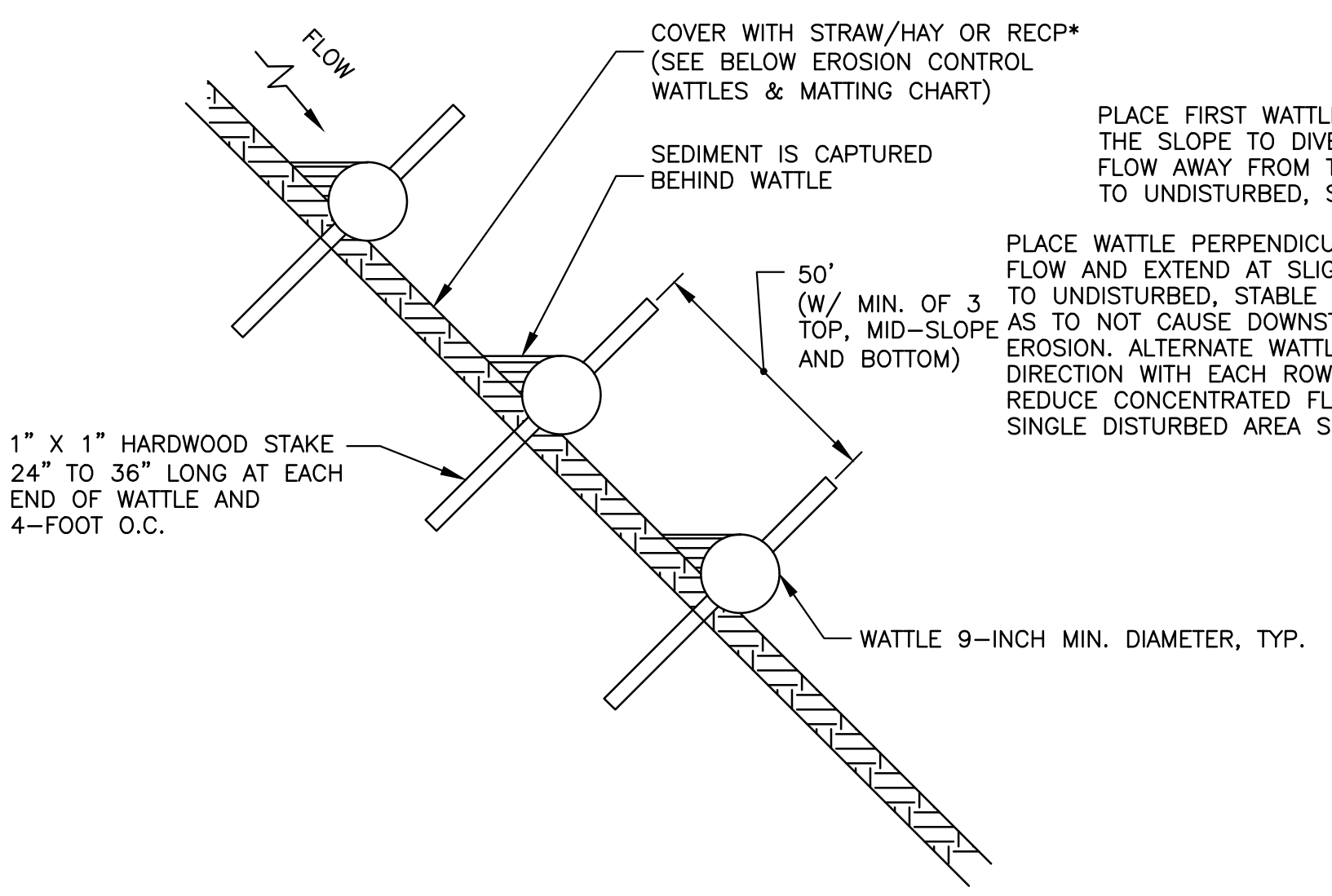
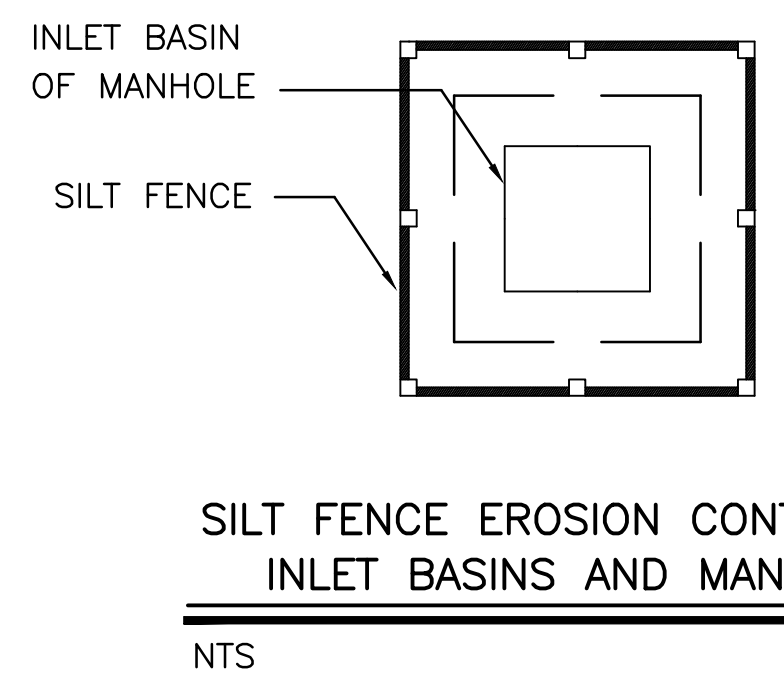
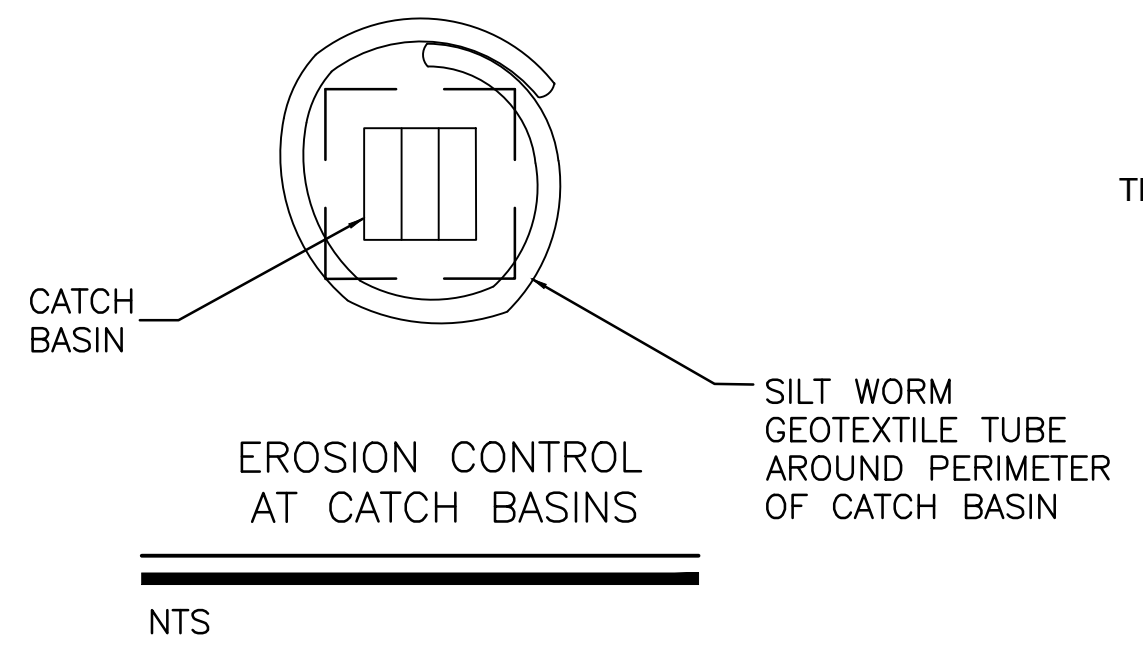
- NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DISPOSAL IN COMPLIANCE WITH LOCAL AND STATE REGULATIONS.
- ANY HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION AND IN ACCORDANCE WITH THE MATERIALS MANUFACTURER'S RECOMMENDATIONS.
- ALL SANITARY WASTE SHALL BE COLLECTED FROM PORTABLE UNITS AS REQUIRED BY LOCAL REGULATION.
- WATER USED FOR WATER LINE DISINFECTION SHALL BE DISPOSED OF IN ACCORDANCE WITH AWWA C651.

MAINTENANCE

- ALL EROSION CONTROL MEASURES SHALL BE INSPECTED, CLEANED AND REPAIRED IF NECESSARY AT LEAST ONCE A WEEK AND AFTER 1/2" OR MORE RAIN EVENTS.
- ALL MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER: IF REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.
- SEEDING SHALL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.

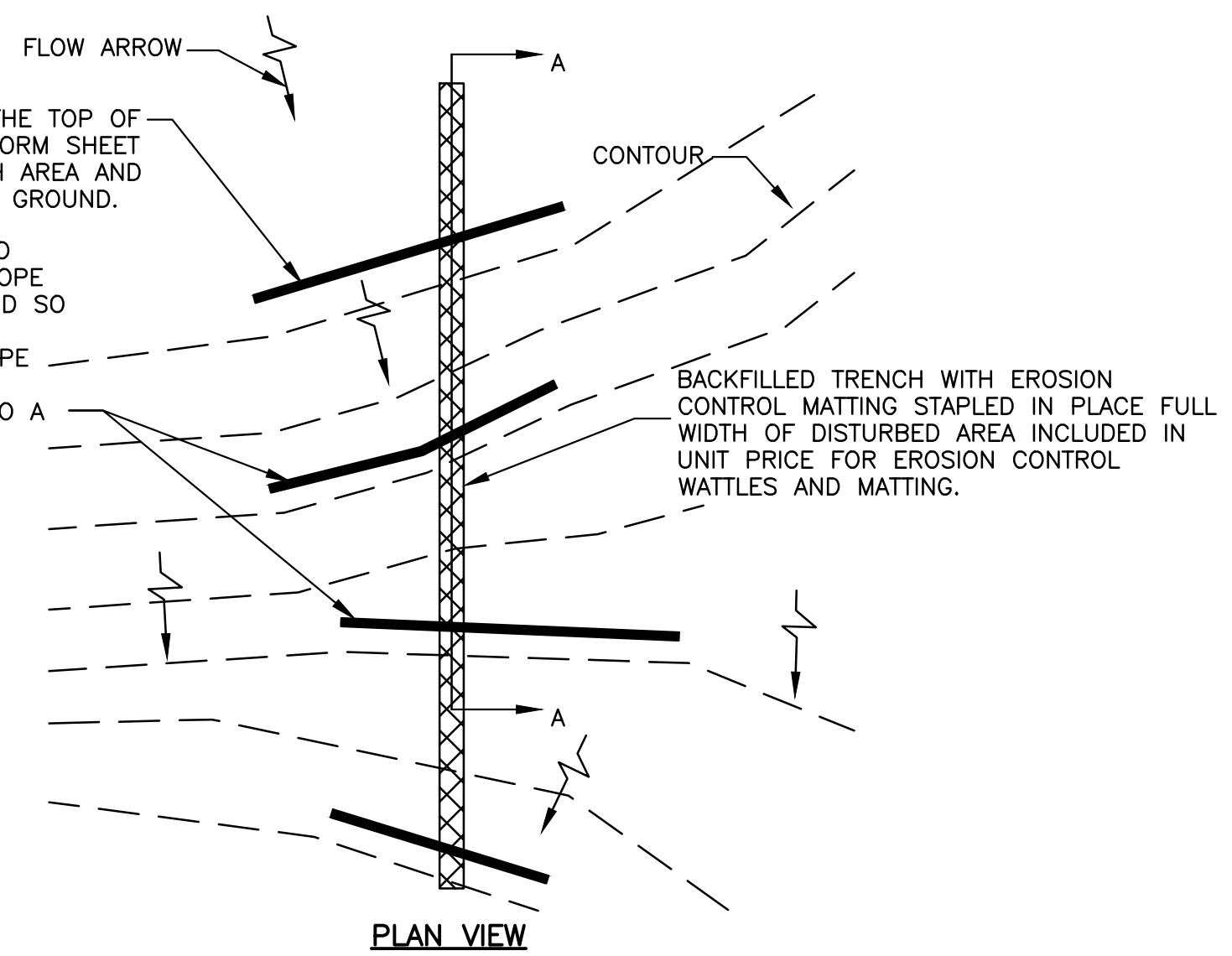
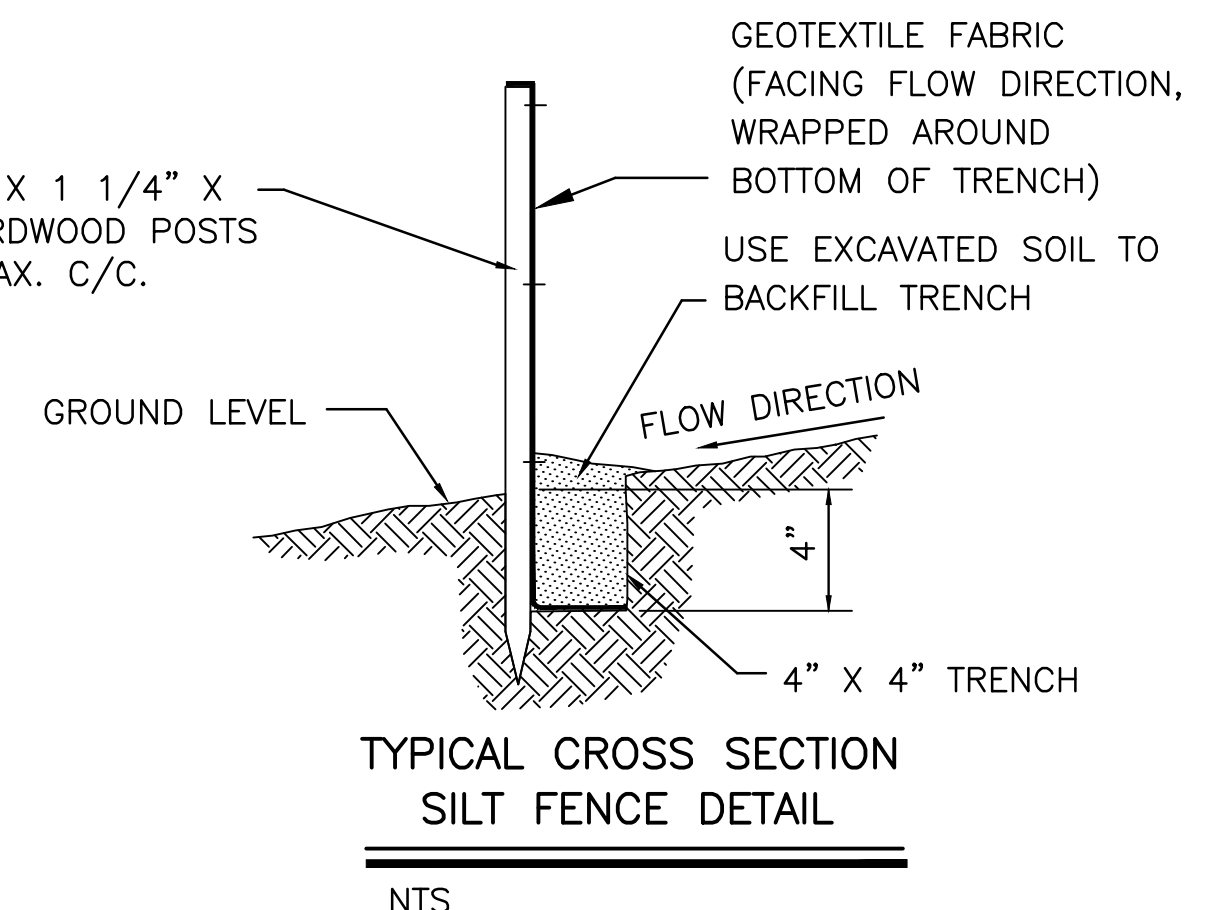
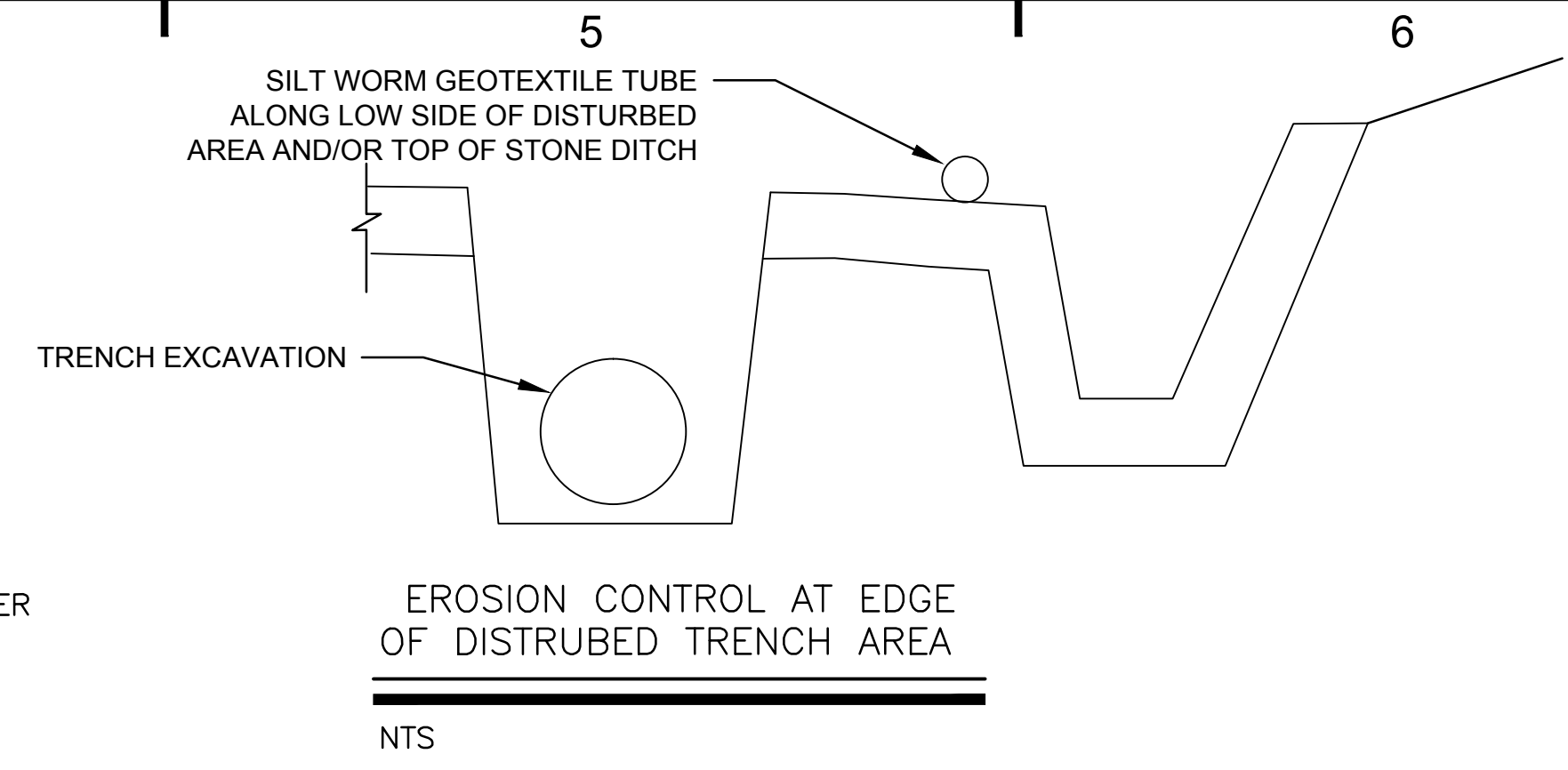
MATERIALS MANAGEMENT:

- ALL CONSTRUCTION MATERIALS, LUBRICANTS, FUEL AND DEBRIS SHALL BE CONTAINED AND STORED WHERE THERE WILL BE NO CONTACT WITH RUNOFF AND SEEPAGE TO THE SOIL.
- THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS WHEN FUELING/SERVICING LARGE EQUIPMENT.
- THE CONTRACTOR SHALL HAVE A CONTINGENCY PLAN IN PLACE TO HANDLE THE RELEASE OF ANY HAZARDOUS MATERIALS.



RECP* TYPE PER KTC/DOH SECTION 827.07	WATTLES (FIBER ROLLS) REQUIRED (YES/NO)	MAXIMUM SLOPE** (H:V)	RECP MAXIMUM SHEAR STRESS (LB/FT ²)**	DESCRIPTION ***
--	NO	3:1	--	STRAW / HAY MULCH PER PROJECT SPECIFICATIONS
A	YES	2:1	2.25	EROSION CONTROL BLANKETS & OPEN WEAVE TEXTILES WITH WATTLES @ 50'

* "RECP" DENOTES "ROLLED EROSION CONTROL PRODUCT"
 ** ANTICIPATED MAXIMUM SHEAR STRESS IS CALCULATED USING A CROSS SECTIONAL AREA OF RUNOFF 10-FT WIDE BY 0.03-FT DEEP ALONG THE SLOPE.
 *** FOR ALL DISTURBED AREAS PROVIDE SEEDING MIX PER PROJECT SPECIFICATIONS AND PROVIDE COVER PER THIS CHART.



- NOTES:
- PERFORM ALL WORK IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
 - FOR FURTHER SPECIFICATIONS, REFER TO KENTUCKY TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS, SPECIFICATION SECTIONS 212 AND 827.07.
 - FOR FURTHER INFORMATION SEE EROSION CONTROL TECHNOLOGY COUNCIL WEBSITE AT WWW.ECTC.ORG
 - FOLLOW MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS FOR ALL PRODUCTS.
 - PROVIDE CERTIFICATION LETTER FROM MANUFACTURER THAT PRODUCT WILL WITHSTAND THE PROJECT SPECIFIC CONDITIONS.

EROSION CONTROL WATTLES AND MATTING DETAIL

NOT TO SCALE

BURGESS & NIPLE
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CINCINNATI, OHIO 45202

NORTHERN KENTUCKY WATER DISTRICT
FT THOMAS WATER TREATMENT PLANT
36" RAW WATER MAIN PROJECT

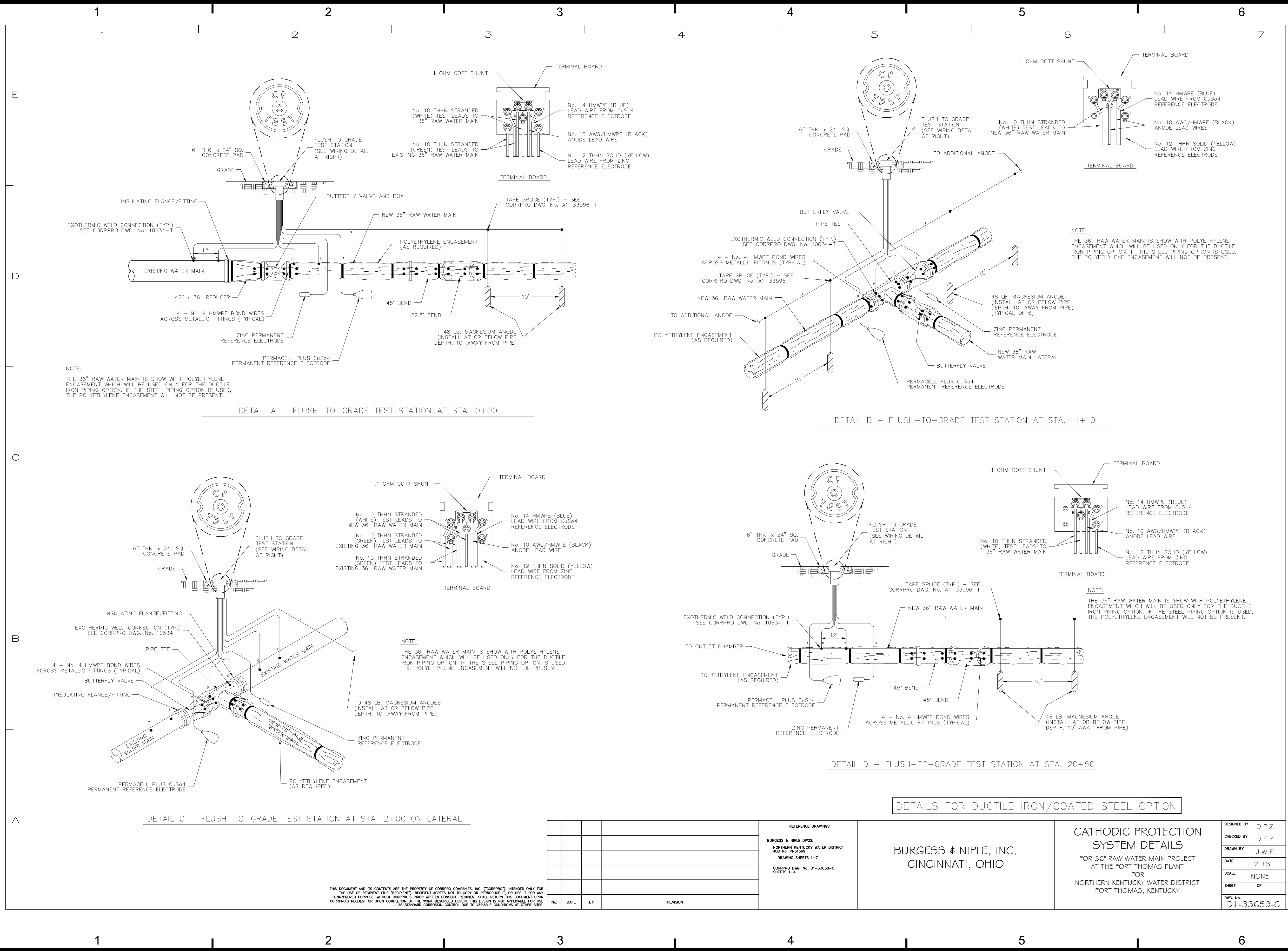
NO.	DESCRIPTION	DATE

JOB NO: PR51569
 DATE: AUG, 2013
 DESIGNED BY: DWB
 DRAWN BY: DWB
 CHECKED BY: GB
 APPROVED BY: GB
 SCALE: AS SHOWN

STORM WATER POLLUTION PREVENTION NOTES AND DETAILS

13

SHEET: 13 OF 16



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NORTHERN KENTUCKY WATER DISTRICT	
JOB No. PR51569	
DRAWING SHEETS 1-7	
CORRPRO DWG. No. 01-33658-C	
SHEETS 1-4	

CATHODIC PROTECTION SYSTEM DETAILS	
FOR 36" RAW WATER MAIN PROJECT AT THE FORT THOMAS PLANT FOR NORTHERN KENTUCKY WATER DISTRICT FORT THOMAS, KENTUCKY	

DESIGNED BY	D.F.Z.
CHECKED BY	D.F.Z.
DRAWN BY	J.W.P.
DATE	1-7-13
SCALE	NONE
SHEET	1 OF 1
DWG. No.	DI-33659-C

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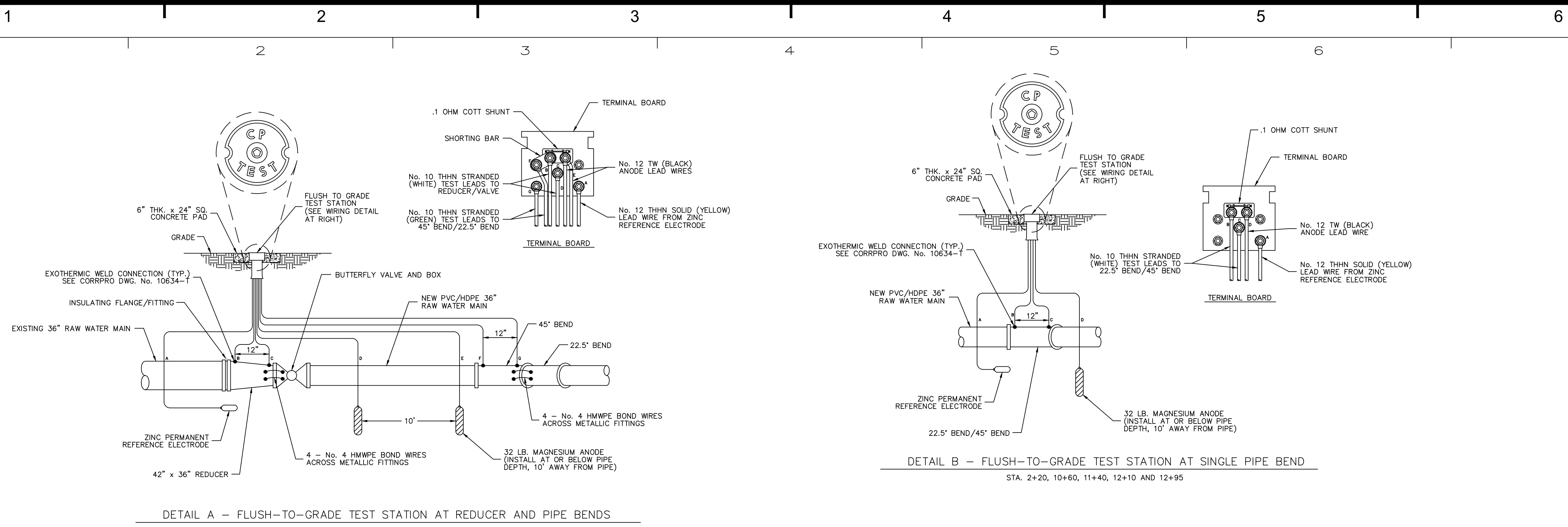
NORTHERN KENTUCKY WATER DISTRICT
FT THOMAS WATER TREATMENT PLANT
36" RAW WATER MAIN PROJECT

NO.	DESCRIPTION	DATE

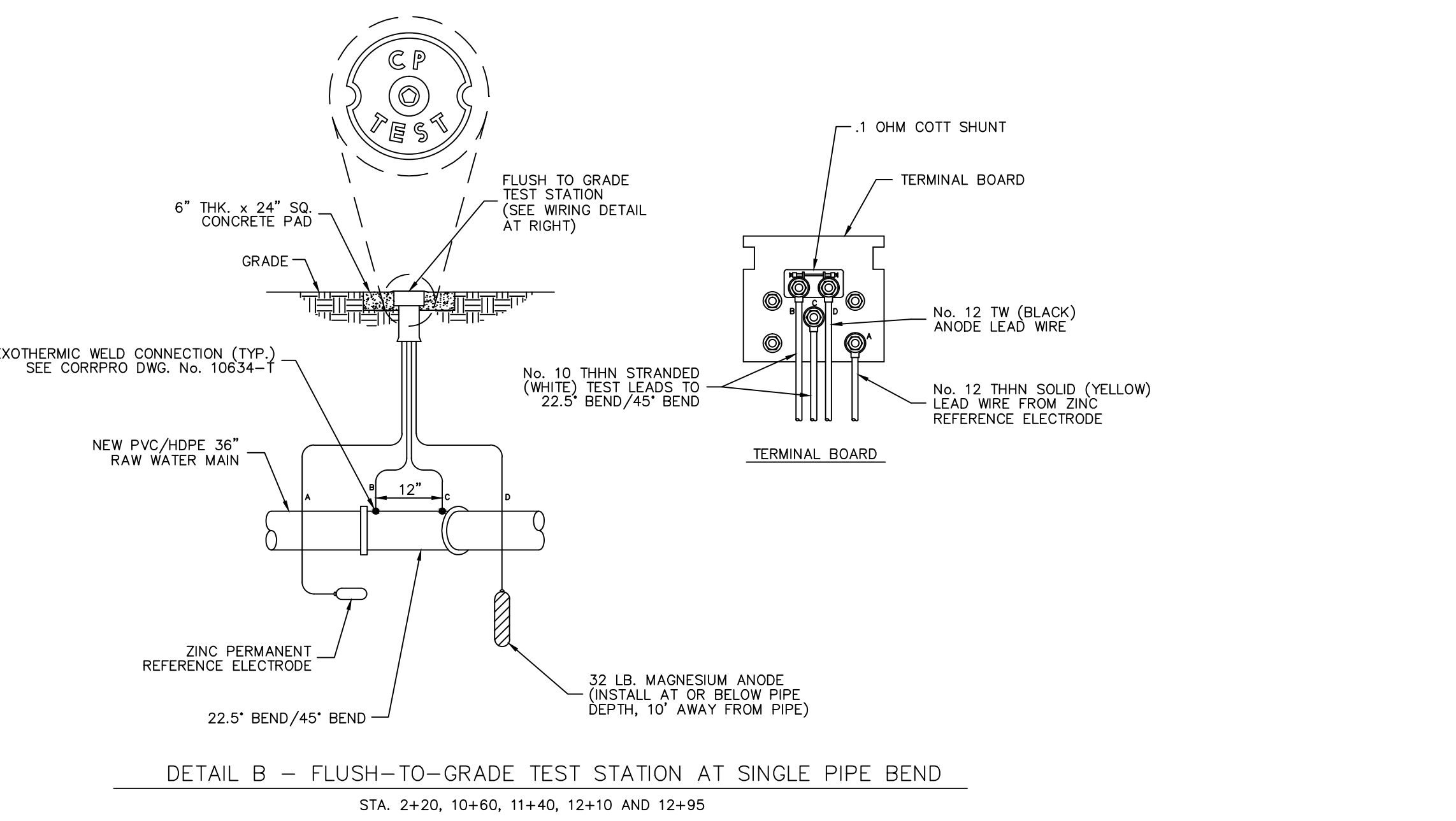
JOB NO:	PR51569
DATE:	AUG, 2013
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CHECKED BY:	GB
APPROVED BY:	GB
SCALE:	AS SHOWN

CATHODIC PROTECTION DETAILS STEEL & DUCTILE IRON PIPE

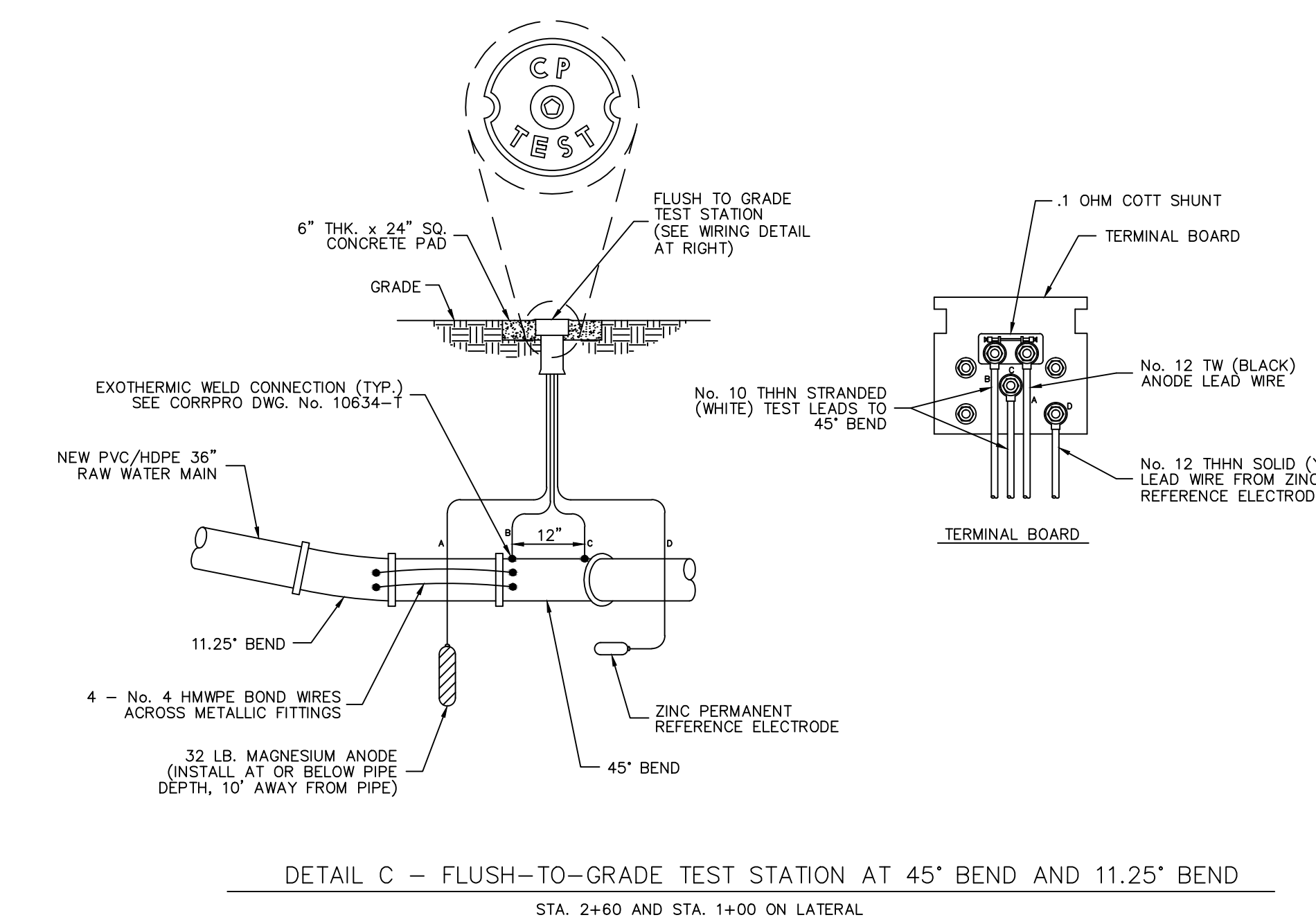
14
SHEET: 14 OF 16



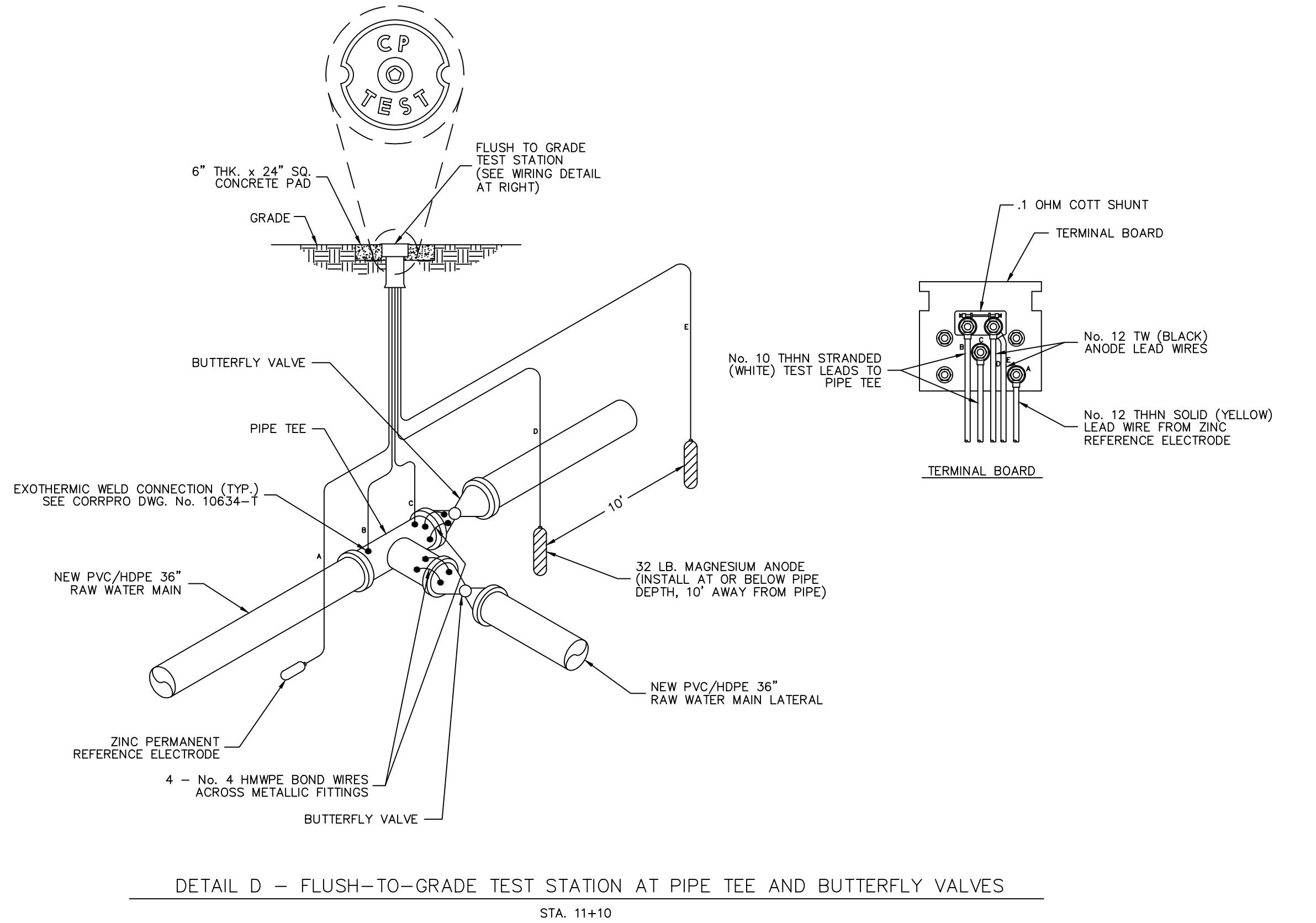
DETAIL A - FLUSH-TO-GRADE TEST STATION AT REDUCER AND PIPE BENDS
STA. 0+00



DETAIL B - FLUSH-TO-GRADE TEST STATION AT SINGLE PIPE BEND
STA. 2+20, 10+60, 11+40, 12+10 AND 12+95



DETAIL C - FLUSH-TO-GRADE TEST STATION AT 45° BEND AND 11.25° BEND
STA. 2+60 AND STA. 1+00 ON LATERAL



DETAIL D - FLUSH-TO-GRADE TEST STATION AT PIPE TEE AND BUTTERFLY VALVES
STA. 11+10

DETAILS FOR PVC/HDPE (METALLIC VALVES/FITTINGS) OPTION

No.	DATE	BY	REVISION

REFERENCE DRAWINGS

BURGESS & NIPLÉ DWS.

NORTHERN KENTUCKY WATER DISTRICT
JOB No. PR51569
DRAWING SHEETS 1-7

CORRPRO DWG. No. D1-33660-C
SHEETS 1-4

BURGESS & NIPLÉ, INC.
CINCINNATI, OHIO

CATHODIC PROTECTION SYSTEM DETAILS

FOR 36" RAW WATER MAIN PROJECT AT THE FORT THOMAS PLANT FOR NORTHERN KENTUCKY WATER DISTRICT FORT THOMAS, KENTUCKY

DESIGNED BY D.F.Z.
CHECKED BY D.F.Z.
DRAWN BY J.W.P.
DATE 1-7-13
SCALE NONE
SHEET 1 OF 2
DWG. No. D1-33661-C

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NORTHERN KENTUCKY WATER DISTRICT
FT THOMAS WATER TREATMENT PLANT
36" RAW WATER MAIN PROJECT

NO.	DESCRIPTION	DATE

JOB NO:	PR51569
DATE:	AUG, 2013
DESIGNED BY:	DWB
DRAWN BY:	DWB
CHECKED BY:	GB
APPROVED BY:	GB
SCALE:	AS SHOWN

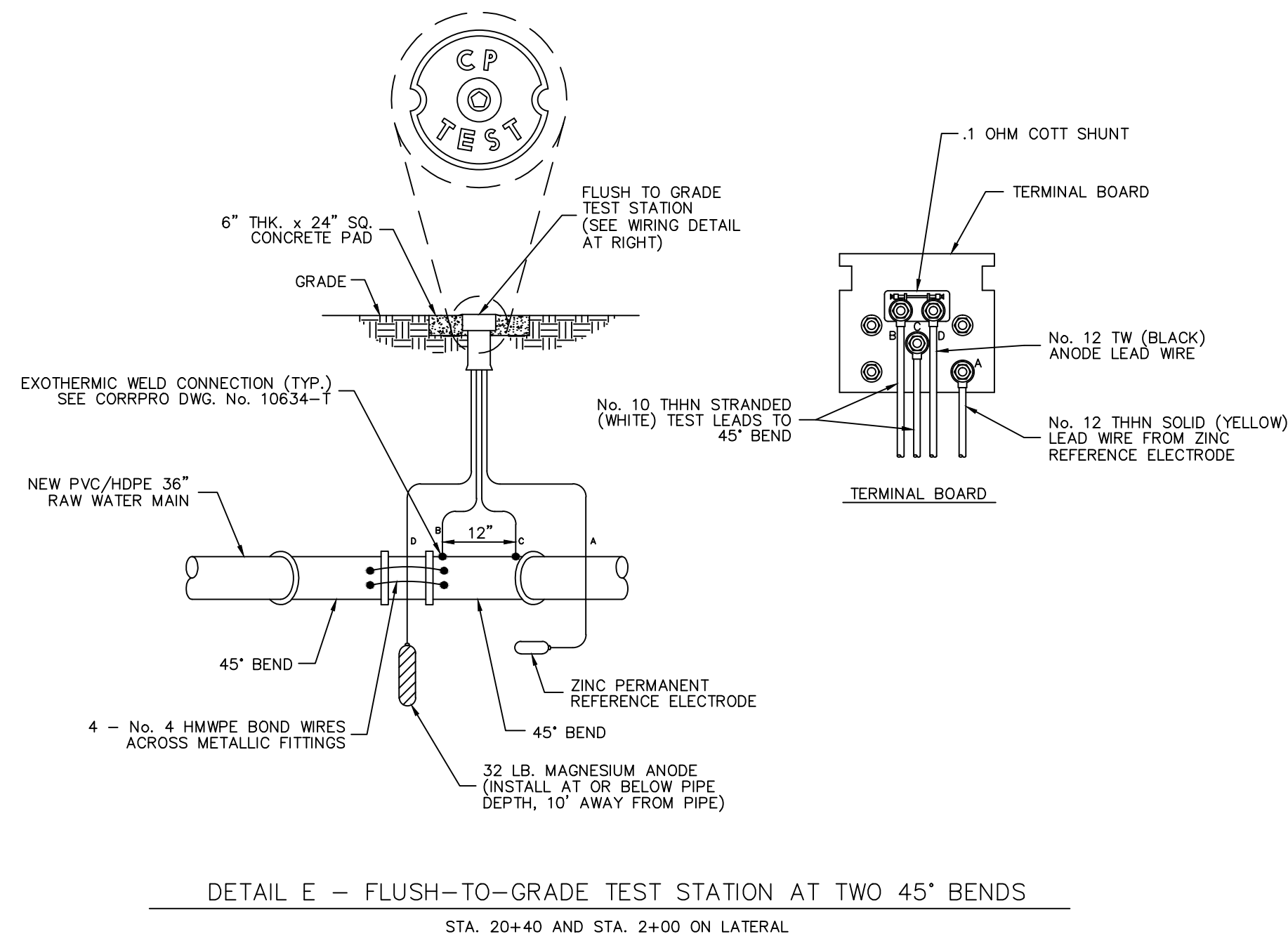
CATHODIC PROTECTION DETAILS PVC & HDPE PIPE

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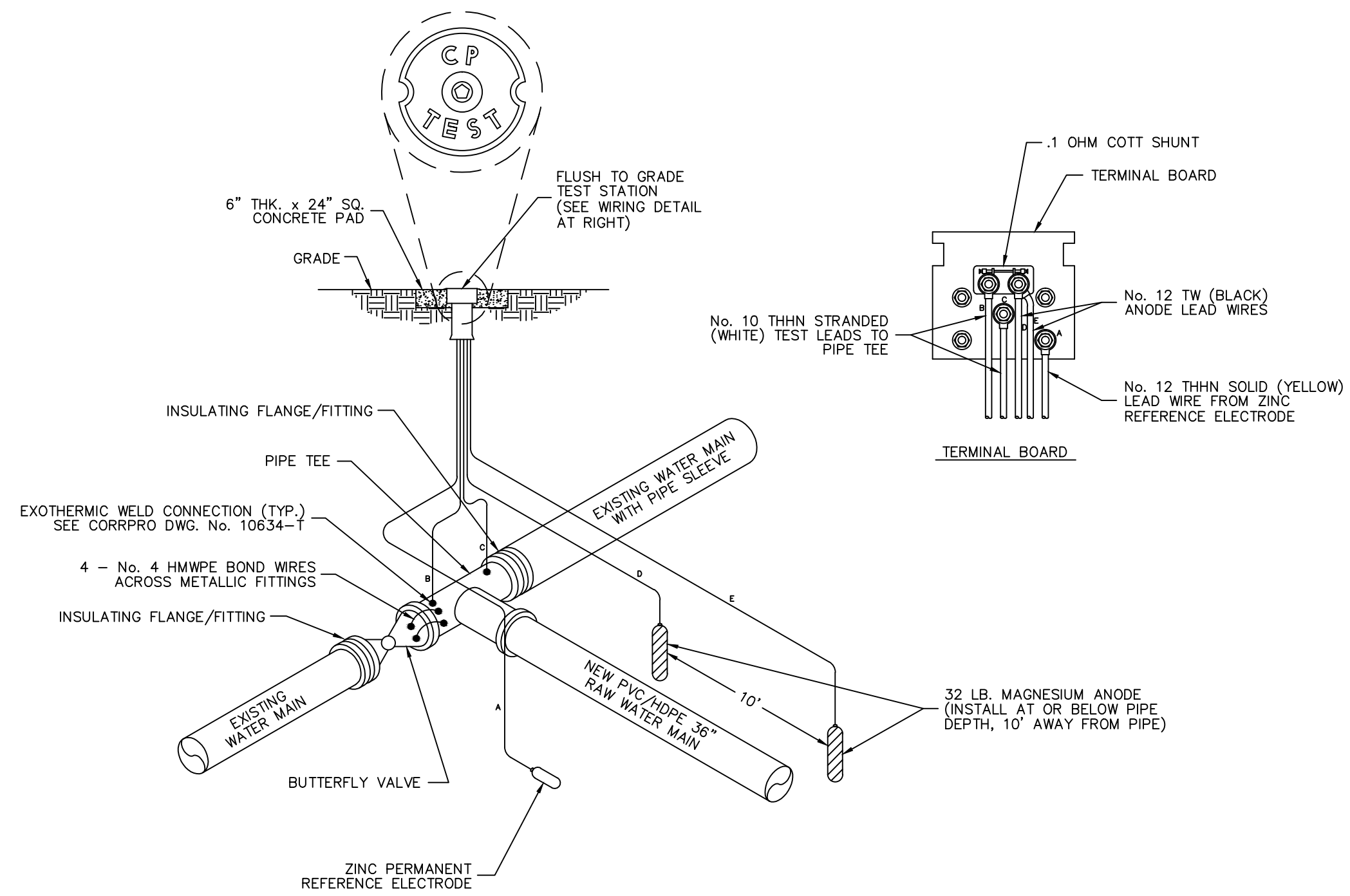
SHEET: 15 OF 16

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P:\PR51569\CAD\3\SHEETS\16 CATHODIC PROTECTION DETAILS - PVC & HDPE PIPE.dwg 1/30/2014 11:02:50 AM Bezold, Donald



DETAIL E - FLUSH-TO-GRADE TEST STATION AT TWO 45° BENDS
STA. 20+40 AND STA. 2+00 ON LATERAL



DETAIL F - FLUSH-TO-GRADE TEST STATION AT PIPE TEE AT END OF LATERAL
STA. 2+00

DETAILS FOR PVC/HDPE (METALLIC VALVES/FITTINGS) OPTION

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BURGESS & NIPLE, INC.
CINCINNATI, OHIO

CATHODIC PROTECTION
SYSTEM DETAILS
FOR 36" RAW WATER MAIN PROJECT
AT THE FORT THOMAS PLANT
FOR
NORTHERN KENTUCKY WATER DISTRICT
FORT THOMAS, KENTUCKY

DESIGNED BY	D.F.Z.
CHECKED BY	D.F.Z.
DRAWN BY	J.W.F.
DATE	1-7-13
SCALE	NONE
SHEET	2 OF 2
DWG. No.	D1-33661-C

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FT THOMAS WATER TREATMENT PLANT
36" RAW WATER MAIN PROJECT

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CATHODIC PROTECTION
DETAILS PVC & HDPE PIPE

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SHEET: 16 OF 16