

36" SOUTHWEST TRANSMISSION MAIN RELOCATION

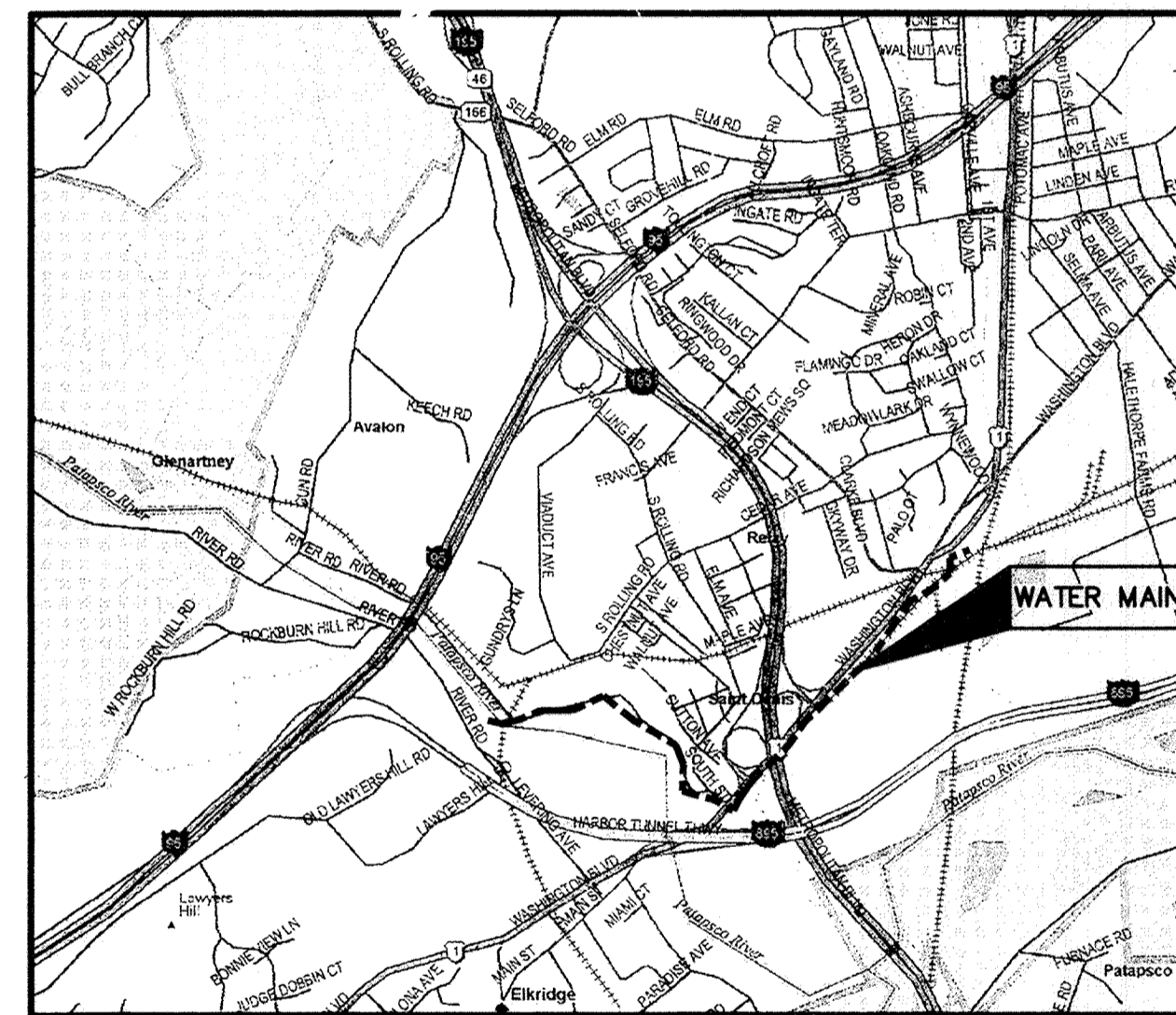
CONTRACT NO. 44-4618
CAPITAL PROJECT NO. W-8276



BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS

PROJECT NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH BALTIMORE COUNTY, MARYLAND, DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION), THE CONTRACT DRAWINGS, AND THE CONTRACT SPECIFICATIONS.
- EXISTING UTILITIES ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, BUT THE COMPLETENESS AND ACCURACY OF SAME IS NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES IN ADVANCE OF CONSTRUCTION WITHOUT ADDITIONAL COMPENSATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REPAIR OF ALL DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION DUE TO HIS NEGLIGENCE.
- CONTACT "MISS UTILITY" TELEPHONE 1-800-257-7777. 72 HOURS PRIOR TO CONSTRUCTION START UP.
- EXISTING TOPOGRAPHY IS BASED ON A. MORTON THOMAS, INC. SURVEY DATED DEC, 2006 AND EBA ENGINEERING, INC. SURVEY DATED OCT, 2008.
- VERTICAL DATUM IS BASED ON THE NAVD 88 DATUM. HORIZONTAL COORDINATE SYSTEM IS BASED ON THE NAD 83/91 DATUM.
- FIELD CONDITIONS MAY WARRANT THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES IN ADDITION TO THOSE SHOWN ON THESE PLANS.
- SEE SPECIFICATIONS SPECIAL PROVISIONS FOR REQUIREMENTS OF UTILITY POLE SUPPORT AND/OR RELOCATIONS.
- OPERATING HYDRAULIC GRADIENT ELEVATION = 213. (92 PSI)
LEAKAGE TEST GRADIENT ELEVATION = 213. (92 PSI) PRESSURE TEST GRADIENT ELEVATION = 346. (150 PSI)
- THE CONTRACTOR FOR THE MAIN EXTENSION WILL NOTIFY BALTIMORE CITY, BUREAU OF WATER AND WASTE WATER, AT (410) 396-7807, 72 HOURS BEFORE STARTING WORK.
- NOTIFY BALTIMORE CITY BUREAU OF WATER AND WASTEWATER AT 410-396-7870 AT LEAST 72 HOURS IN ADVANCE OF STARTING CONSTRUCTION.
- NOTIFY PARK MANAGER AT 410-461-5005 AT LEAST 2 WEEKS IN ADVANCE OF ANY WORK WITHIN THE STATE PARK.



LOCATION MAP
SCALE: 1" = 2,000'

LIST OF DRAWINGS

SHEET NO.	DWG.	BALTIMORE CO. DRAWING NO.	DESCRIPTION
1	G-1	2009-3350	TITLE SHEET
2	G-2	2009-3351	GENERAL NOTES, SEQUENCE OF CONSTRUCTION, LEGEND
3	C-1	2009-3352	PLAN & PROFILE 0+00 TO 12+11.28
4	C-2	2009-3353	PLAN & PROFILE 12+11.38 TO 24+55.00
5	C-3	2009-3354	PLAN & PROFILE 24+55.00 TO 36+60.30
6	C-4	2009-3355	PLAN & PROFILE 100+00.00 TO 110+52.07
7	C-5	2009-3356	PLAN & PROFILE 110+52.07 TO 120+88.01
8	C-6	2009-3357	PLAN & PROFILE 120+88.01 TO 130+66.08
9	C-7	2009-3358	PLAN & PROFILE 130+66.08 TO 141+57.28
10	C-8	2009-3359	MAG METER VAULT - PLAN & PROFILE
11	C-9	2009-3360	MAG METER VAULT - STRUCTURAL
12	C-10	2009-3361	AIR RELEASE & MANWAY ACCESS VAULT DETAILS
13	C-11	2009-3362	DEWATERING VALVE & VAULT DETAILS
14	C-12	2009-3363	PATAPSCO VALLEY STATE PARK IMPROVEMENTS PLAN
15	C-13	2009-3364	CSX RAILROAD AND WASHINGTON BLVD. JACK & BORE DETAILS
16	C-14	2009-3365	MISCELLANEOUS CIVIL DETAILS
17	C-15	2009-3366	MISCELLANEOUS CIVIL DETAILS
18	C-16	2009-3367	DIAGEO PROPERTY IMPROVEMENTS PLAN
19	C-17	2009-3368	RESTORATION PLAN STA. 0+00 TO STA. 33+89
20	SC-1	2009-3369	EROSION & SEDIMENT CONTROL TITLE SHEET
21	SC-2	2009-3370	EROSION & SEDIMENT CONTROL LEGEND AND NOTES 1
22	SC-3	2009-3371	EROSION & SEDIMENT CONTROL NOTES 2
23	SC-4	2009-3372	EROSION & SEDIMENT CONTROL NOTES 3
24	SC-5	2009-3373	EROSION & SEDIMENT CONTROL DETAILS
25	SC-6	2009-3374	EROSION & SEDIMENT CONTROL PLAN 1 STA. 0+00 TO STA. 33+89.00
26	SC-7	2009-3375	EROSION & SEDIMENT CONTROL PLAN 2 STA. 33+89.00 TO STA. 126+89.00
27	SC-8	2009-3376	EROSION & SEDIMENT CONTROL PLAN 3 STA. 126+89.00 TO STA. 141+57.28
28	TC-1	2009-3377	TRAFFIC CONTROL GENERAL NOTES
29	TC-2	2009-3378	PATAPSCO VALLEY STATE PARK ENTRANCE ROAD TRAFFIC CONTROL
30	TC-3	2009-3379	TRAFFIC CONTROL PLAN 2 STA. 100+00 TO 128+20
31	CP-1	2009-3380	CATHODIC PROTECTION LAYOUT (STA. 0+00 TO STA. 36+60.30)
32	CP-2	2009-3381	CATHODIC PROTECTION LAYOUT (STA. 100+00 TO STA. 141+60±)
33	CP-3	2009-3382	CATHODIC PROTECTION DETAILS - 1
34	CP-4	2009-3383	CATHODIC PROTECTION DETAILS - 2
35	CP-5	2009-3384	CATHODIC PROTECTION DETAILS - 3
36	CP-6	2009-3385	CATHODIC PROTECTION DETAILS - 4

WATER MAIN TEST PRESSURE - 225 PSI

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Acting Engineer CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER DATE: 3/15/12	Head, Bureau of Water and Wastewater DATE: 3/1/12	Director, Dept. of Public Works DATE: 3/22/12	Chief, Utility Engineering DATE:	Chief, Water Engineering Section DATE:	Director, Dept. of Public Works DATE: 1/27/12
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013		DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING AND CONSTRUCTION		DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION	
ENGINEER: SYAM B. NAYER DESIGN BY: BBB DRAWN BY: JCD CHECKED BY: SBN DATE: 1/23/12	REVISION BY DATE P.W.A. NO. KEY SHEET POSITION SHIT DRAWING SCALE PLAN SCALE: PROFILE SCALE:	BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER BUR. OF ENGINEERING & CONSTRUCTION APPROVED BY: [Signature] DATE: 1/23/12	APPROVED BY: [Signature] DATE: 1-27-12	AS-BUILT JUNE 2016 BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION SUBDIVISION: SAINT DENIS	

HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
11019 McCormick Road, Suite 260
Hunt Valley, Maryland 21031

SHEET DESIGNATION	CONTRACT NO.
G-1	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 1 OF 36	DRAWING NO.
2009-3350	FILE NO. FILE 36

ELECTION DISTRICT NO. 3

GENERAL NOTES

- ALL ELEVATIONS BASED ON NAVD 88 VERTICAL DATUM.
- AVAILABLE INFORMATION AS TO THE LOCATION OF EXISTING SUBSTRUCTURES AND UTILITIES HAS BEEN COLLECTED FROM VARIOUS SOURCES. THE RESULTS OF SUCH INVESTIGATIONS, AS MAY BE SHOWN ON THE CONTRACT DRAWINGS, ARE NOT GUARANTEED AS TO ACCURACY. ALL EXISTING UTILITIES ARE SHOWN FOR INFORMATION ONLY. THE CONTRACTOR SHALL DIG TEST PITS AS DIRECTED BY THE ENGINEER, WHERE SHOWN ON THE DRAWINGS AND AS REQUIRED.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES A MINIMUM OF 72 HOURS PRIOR TO EXCAVATION, AND SHALL COMPLY WITH ALL CURRENT MARKOUT REQUIREMENTS OF THE PRESIDING COUNTIES.
- THE FOLLOWING IS A LISTING OF REPORTED TELEPHONE NUMBERS OF UTILITY COMPANIES AND AGENCIES HAVING FACILITIES OR JURISDICTION IN THE VICINITY OF THE PROJECT. THIS LIST SHALL NOT BE CONSIDERED AS COMPLETE.

AT&T	1-800-252-1133
BGE (CONSTRUCTION SERVICES)	410-850-4620
BGE (EMERGENCY)	410-685-0123
BUREAU OF UTILITIES (HOWARD COUNTY)	410-313-4900
CSX	215-891-5520
DPW - BALTIMORE CITY	410-396-1466
DPW - ENG. & CONST. (BALTIMORE COUNTY)	410-887-3788
MCI	1-800-289-3427 #2
STATE HIGHWAY ADMINISTRATION	410-531-5533
VERIZON	1-800-743-0033 / 410-224-9210
CSX (EMERGENCY)	1-800-232-0144
- EXCAVATIONS OR TRENCHING WITHIN CLOSE PROXIMITY TO UNDERGROUND FACILITIES OR UTILITY POLES WILL REQUIRE PROTECTION TO PREVENT DAMAGE OR INTERRUPTION OF SERVICE TO UNDERGROUND FACILITIES. THE COST TO PROVIDE THIS PROTECTION WILL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL ABIDE BY ALL REQUIREMENTS OF THE "HIGH VOLTAGE PROXIMITY ACT".
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT EXISTING THRUST BLOCKS WHICH ARE RESTRAINING EXISTING UTILITIES. EXISTING THRUST BLOCKS SHALL NOT BE UNDERMINED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL EXCESS EXCAVATED MATERIAL TO AN OFF-SITE LOCATION AT NO ADDITIONAL COST TO THE OWNER.
- ALL TRENCH LINES IN PAVED AREAS SHALL BE SAW CUT, OR MILLED.
- THE CONTRACTOR SHALL COMPLY WITH ALL ROAD OPENING REQUIREMENTS AND ORDINANCES OF THE MARYLAND DEPARTMENT OF TRANSPORTATION AND BALTIMORE COUNTY.
- ALL TRENCHES SHALL BE BACKFILLED WITHOUT DELAY. OPEN TRENCHES SHALL BE KEPT TO A MINIMUM. NO OPEN PIPELINE TRENCHES SHALL BE LEFT OVERNIGHT. UPON BACKFILLING THE CONTRACTOR SHALL BROOM SWEEP STREETS AND USE APPROPRIATE METHODS TO CONTROL DUST. STEEL PLATES WILL BE PERMITTED ONLY AT ACCESS PITS FOR SPECIAL CROSSINGS.
- GENERALLY, UNLESS OTHERWISE SPECIFICALLY PERMITTED, NO WORK SHALL BE DONE BETWEEN THE HOURS OF 6:00 P.M AND 6:00 A.M., PREVAILING TIME. ANY WORK DURING THESE HOURS MUST BE APPROVED BY THE ENGINEER. GOOD LIGHTING AND ALL OTHER NECESSARY FACILITIES FOR PROPER EXECUTION AND INSPECTION OF THE WORK SHALL BE PROVIDED. THE CONTRACTOR SHALL ALSO COMPLY WITH ALL STATE AND LOCAL LAWS GOVERNING HOURS DURING WHICH CONSTRUCTION EQUIPMENT MAY BE OPERATED.
- THE CONTRACTOR SHALL INSTALL THRUST RESTRAINT AS RECOMMENDED BY PIPE SUPPLIER. AREAS WHERE RESTRAINED JOINTS WILL BE NECESSARY HAVE BEEN INDICATED ON THE CONTRACT DRAWINGS. ADDITIONAL THRUST RESTRAINT SHALL BE AS RECOMMENDED BY THE PIPE SUPPLIER.
- THE CONTRACTOR SHALL FURNISH 2" NPT NIPPLES AND GATE VALVES AT TEST PLUGS, AND 2" CORPORATIONS AS SHOWN ON THE DRAWINGS AND ON BOTH SIDES OF ALL MAIN LINE VALVES FOR BLEEDING, FLUSHING, PRESSURE TESTING, AND DISINFECTING THE WATER MAIN. THE CONTRACTOR SHALL INSTALL AS MANY CORPORATIONS AS ARE REQUIRED FOR PROPER TESTING, FLUSHING, AIR BLEEDING AND DISINFECTION AT NO ADDITIONAL COST TO THE COUNTY OTHER THAN THE PRICES BID.
- TO MAINTAIN THE HORIZONTAL AND VERTICAL ALIGNMENT SHOWN ON THE PLANS, PIPE JOINTS MUST BE DEFLECTED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S REQUIREMENTS. IF NECESSARY, EITHER TO MAINTAIN THE ALIGNMENT SHOWN OR TO ADJUST THE ALIGNMENT SHOWN OR TO ADJUST THE ALIGNMENT TO MEET ACTUAL FIELD CONDITIONS, ADDITIONAL FITTINGS SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER OTHER THAN THE PRICES BID.
- ALL STATIONING SHOWN ON PLANS IS APPROXIMATE.
- ALL CONSTRUCTION ACTIVITIES ARE TO BE CONFINED TO THE PUBLIC RIGHT-OF-WAY OR TO BALTIMORE COUNTY / HOWARD COUNTY DPW EASEMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING SUFFICIENT LAND FOR TEMPORARY TRAILERS AND STORAGE. WRITTEN PERMISSION FROM PRIVATE PROPERTY OWNERS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE COUNTY.
- THE CONTRACTOR SHALL NOTIFY BALTIMORE COUNTY AND HOWARD COUNTY DPW PRIOR TO CONNECTION TO OR RELOCATION OF ANY EXISTING BALTIMORE COUNTY OR HOWARD COUNTY DPW OWNED AND MAINTAINED FACILITIES. ALL CONNECTIONS AND MODIFICATIONS TO EXISTING FACILITIES SHALL BE DONE AT THE CONVENIENCE OF THE BALTIMORE COUNTY AND HOWARD COUNTY DPW.
- CONTRACTOR SHALL TAKE STEPS NECESSARY TO PRESERVE EXISTING CURB AND MINIMIZE THE LENGTH OF CURBING THAT MUST BE REPLACED.
- THE CONTRACTOR IS CAUTIONED THAT ALL SANITARY LATERALS AND UTILITY SERVICES HAVE NOT BEEN LOCATED. WHEN THE CONTRACTOR ENCOUNTERS AN OBSTRUCTION AND CANNOT ADJUST THE ALIGNMENT USING ALLOWABLE JOINT DEFLECTION THE CONTRACTOR SHALL INSTALL FITTINGS. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PROMPT REPAIR OF DAMAGED UTILITIES, AND SHALL MAINTAIN ON SITE AN ADEQUATE SUPPLY OF REPAIR MATERIALS.

- THE CONTRACTOR SHALL PROTECT ALL STRUCTURES, ROADS, PIPELINES, TREES, SHRUBBERY, GRASS AREAS, ETC. DURING THE PROGRESS OF THE WORK AND SHALL REMOVE DAILY FROM THE SITE ALL DEBRIS AND UNUSED MATERIALS. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL RESTORE THE SITES AS NEATLY AS POSSIBLE TO THEIR ORIGINAL CONDITION.
- REPAIR WORK SHALL BE PERFORMED TO THE SATISFACTION OF THE GOVERNING AGENCY.
- TRAFFIC STRIPING AND MARKINGS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED IN-KIND WITH THERMOPLASTIC IN ACCORDANCE WITH MDOT AND BALTIMORE COUNTY STANDARDS, AND TO THEIR ORIGINAL LAYOUT.
- CONTRACTOR SHALL NOT OPERATE EXISTING VALVES.
- ALL REQUIRED DEWATERING SHALL BE INCLUDED IN THE UNIT PRICES BID.
- ALL TREES, VEGETATION AND LANDSCAPING REPLACED AND/ OR REPLANTED SHALL BE GUARANTEED BY THE CONTRACTOR FOR 1 YEAR AFTER PLANTING.
- THE LOCATION AND FULL EXTENT OF TRAFFIC SIGNAL LOOPS, CONDUIT AND WIRING MAY NOT BE SHOWN. THE CONTRACTOR SHALL COORDINATE A MARK-OUT OF SIGNAL LOOPS AND WIRING WITH THE GOVERNING AGENCY. LOOPS AND WIRING DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE GOVERNING AGENCY AT NO ADDITIONAL COST TO BALTIMORE COUNTY OR HOWARD COUNTY.
- GUIDERAILS, FENCES, DRAINAGE PIPES, MAILBOXES, HEADWALLS AND OTHER FEATURES WHICH REQUIRE REINSTALLATION BUT ARE FOUND NOT TO BE REUSABLE, OR WHICH ARE DAMAGED DURING REMOVAL, SHALL BE REPLACED WITH NEW MATERIAL AT NO ADDITIONAL COST TO BALTIMORE COUNTY OR HOWARD COUNTY.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH BALTIMORE COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION DATED 2000 AND AMENDED.
- NOTIFY BALTIMORE CITY BUREAU OF WATER AND WASTEWATER AT 410-396-7807 3 DAYS BEFORE STARTING CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 PRIOR TO BEGINNING OF WORK.
- ONLY BALTIMORE CITY SHALL OPERATE EXISTING VALVES. CONTRACTOR SHALL NOTIFY THE BALTIMORE COUNTY INSPECTOR TO ARRANGE A SHUTDOWN WITH THE CITY AT LEAST 4 DAYS PRIOR TO PROPOSED SHUTDOWN. IF THE INSPECTOR IN THE FIELD IS UNAVAILABLE, CALL THE BALTIMORE COUNTY AREA ENGINEER AT 410-887-3531. CONTACT AUGIE SEVERN AT BALTIMORE CITY WAO 410-396-0239 FOR MAIN SHUTDOWN/VALVE OPERATIONS.
- WHEN EXCAVATING FOR UTILITIES, ALL SPOIL MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
- FULL COMPACTION IS REQUIRED FOR ALL TRENCHES.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE EROSION & SEDIMENT CONTROL PLANS (SC-1 THRU SC-8) PERMIT NO. 290-COUNTY-05.
- MAIN SHALL HAVE A MINIMUM OF 4 FEET OF COVER EXCEPT WHERE SPECIFIED.
- THE COST OF CONSTRUCTING UNDER OR OVER ANY EXISTING UTILITY OR CABLE SHOWN ON THIS PLAN AND ALL EXISTING SERVICE CONNECTIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE 36-INCH WATER MAIN. THIS SHALL INCLUDE ANY WATER SERVICE & SEWER HOUSE CONNECTIONS THAT HAVE TO BE RELOCATED DURING CONSTRUCTION OF THE PROJECT.
- WHEN CROSSING EXISTING UTILITIES THE CONTRACTOR IS TO SUPPORT BRACE AND PROTECT SUCH UTILITIES DURING CONSTRUCTION. (COST TO BE INCLUDED IN THE PRICE BID FOR THE 36-INCH WATER MAIN).
- CONTRACTOR IS TO TEST PIT EXISTING UTILITIES PRIOR TO PREPARING SHOP DRAWINGS AND PRIOR TO LAYING PIPE TO WITHIN 3-20 FOOT LENGTHS OF PIPE SO INVERTS CAN BE ADJUSTED.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES TO HIS OWN SATISFACTION PRIOR TO STARTING ANY WORK.
- HIGHLY CHLORINATED WATER TO BE DISPOSED OF IN A SANITARY SEWER AT A RATE NOT TO EXCEED 100 GAL/MIN.

SURVEY CONTROL NOTES

- THE ELEVATIONS SHOWN HEREON ARE REFERRED TO NAVD 88 DATUM USING NGS MONUMENTS GIS 86 (PID AE2450), ELEVATION = 57.13 AND GIS 87 (PID AE2451), ELEVATION = 68.97.
- THE COORDINATES SHOWN HEREON ARE REFERRED TO THE MARYLAND STATE PLANE DATUM NAD 83/91 USING NGS MONUMENTS GIS 86 (PID AE 2450), N. 566928.28 E. 1397313.26 AND GIS 87 (PID AE2451), N. 566798.08 E. 1393675.58.
- GIS 86 AND GIS 87 ARE SURVEY DISKS SET IN TOP OF CONCRETE MONUMENTS.

SEQUENCE OF CONSTRUCTION

THIS SEQUENCE OF CONSTRUCTION DOES NOT ADDRESS ALL REQUIRED ACTIVITIES NEEDED TO COMPLETE THE CONTRACT. THE CONTRACTOR IS RESPONSIBLE FOR A COMPLETE SEQUENCE OF CONSTRUCTION, APPROVED IN ADVANCE OF BEGINNING WORK. THE CONTRACTOR MUST, PRIOR TO THE START OF CONSTRUCTION, OBTAIN THE APPROVAL OF BALTIMORE COUNTY AND THE APPROVAL OF THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT.

- THE CONTRACTOR SHALL NOTIFY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT (DEPRM) INSPECTION AND ENFORCEMENT DIVISION AT 410-887-3226, AT 48 HOURS PRIOR TO BEGINNING WORK.

- NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, INSPECTION AND COMPLIANCE PROGRAM AT 410-537-3510 AT LEAST 5 DAYS PRIOR TO BEGINNING WORK.
- CLEAR AND GRUB FOR ALL SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES.
- INSTALL ALL SEDIMENT AND EROSION CONTROL DEVICES.
- NOTIFY BALTIMORE COUNTY DEPRM, INSPECTION AND ENFORCEMENT DIVISION, UPON COMPLETION OF SAID INSTALLATION.
- PATAPSCO VALLEY STATE PARK PIPELINE CREW NO. 1:
 - INSTALL TRAFFIC CONTROL MEASURES AT THE INTERSECTION OF SOUTH STREET AND WASHINGTON BOULEVARD.
 - ESTABLISH JACK AND BORE PITS AT SOUTH STREET AND WASHINGTON BOULEVARD INTERSECTION. INSTALL PIPELINE FROM STATION 31+09± TO STATION 36+60±. INSTALL 36-INCH WATER MAIN, FITTINGS, VALVES, AND APPURTENANCES AS SHOWN ON SHEETS C-01, C-02 AND C-03. FROM STATION 34+35± TO STATION 31+90±. THE CONTRACTOR SHALL ONLY BE PERMITTED TO OPEN THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED ON THE DOWN SLOPE OF THE TRENCH. SILT FENCE WILL BE REQUIRED ON THE DOWN SLOPE SIDE OF THE PIPE TRENCH FROM STATION 21+50 TO STATION 27+00 UNTIL THAT PORTION OF THE WATER MAIN IS COMPLETED.
 - PROVIDE TRAFFIC CONTROL DEVICES ALONG THE PARK ENTRANCE ROAD SO THAT ONE LANE OF TRAFFIC WILL REMAIN OPEN AT ALL TIMES. DURING THOSE PERIODS WHEN ONLY ONE LANE OF TRAFFIC IS OPEN, PROVIDE FLAGMEN AS WORK PROCEEDS ALONG THE PARK ENTRANCE ROAD.
 - INSTALL 36-INCH WATER MAIN, 54-INCH STEEL CASING BETWEEN CSX RAILROAD ABUTMENTS, VALVE VAULTS, FITTINGS, VALVES, AND APPURTENANCES AS SHOWN ON SHEET C-03 FROM STATION 2+25± TO STATION 3+35±. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING ADJACENT TO BGE TOWER AND THE CSX RAILROAD BRIDGE ABUTMENTS. SILT FENCE SHALL BE REQUIRED ON THE DOWN SLOPE OF THE TRENCH FROM STATION 2+25 TO STATION 3+35.
 - INSTALL 36-INCH WATER MAIN, FITTINGS, VALVES, AND APPURTENANCES INCLUDING THE METERING VAULT AS SHOWN ON SHEET C-03 AND C-08 FROM STATION 0+10± TO STATION 2+25±. SILT FENCE SHALL BE REQUIRED ON THE DOWN SLOPE OF THE TRENCH FROM STATION 0+10 TO STATION 2+45.
- WASHINGTON BOULEVARD (ROUTE 1) PIPELINE CREW NO. 2:
 - INSTALL TRAFFIC CONTROL MEASURES ALONG WASHINGTON BOULEVARD
 - INSTALL 36-INCH WATER MAIN, FITTINGS, VALVES AND APPURTENANCES FROM STATION 100+00 TO 128+50 AS SHOWN ON SHEETS C-04, C-05 AND C-06. THE CONTRACTOR SHALL ONLY BE PERMITTED TO OPEN THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF THE TRENCH MUST REMAIN OPEN LONGER THEN ONE DAY, SILT FENCE SHALL BE PLACED ON THE DOWN SLOPE OF THE TRENCH.
 - SILT FENCE WILL BE REQUIRED ON JACK AND BORE PITS (STATION 100+00, STATION 115+50, STATION 116+50, STATION 124+50 AND STATION 127+00) UNTIL THE WORK IS COMPLETED.
 - DURING INSTALLATION OF 54-INCH STEEL CASING (UNDER RT. 195 BRIDGE ABUTMENT) MAINTAIN SILT FENCE UNTIL WORK IS COMPLETED.
 - CONSTRUCT TEMPORARY TRUCK PARKING LOT ON DIAGEO PROPERTY AS SHOWN ON SHEET C-16. AND IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION SHOWN ON SHEET C-16.
 - CONSTRUCT 36-INCH WATER MAIN, FITTINGS AND APPURTENANCES FORM STATION 129+50± TO STATION 134+50±. CONTRACTOR MUST COORDINATE WITH DIAGEO PROPERTY MANAGER AT LEAST SEVEN (7) DAYS IN ADVANCE OF STARTING THIS WORK. CONTRACTOR MUST COMPLETE THIS WORK WITHIN FIVE (5) CALENDAR DAYS.
 - CONSTRUCT 36-INCH WATER MAIN, FITTING, VALVES AND APPURTENANCES FROM STATION 134+50± TO STATION 141+50± USING CAUTION TO FOLLOW ALL REQUIREMENTS OF CSX RAILROAD.
 - TEST WATER MAIN FROM STATION 0+15± TO STATION 141+50±.
 - AFTER WATER MAIN HAS BEEN SUCCESSFULLY TESTED, REMOVE TEMPORARY PAVEMENT OVER THE TRENCH AND PROVIDE FROM PERMANENT PAVEMENT REPAIR INCLUDING MILL AND OVERLAY OF THE DIAGEO PARKING LOT AND OVERLAY OF RIVER ROAD AS SHOWN ON SHEET C-17.
 - HOWARD COUNTY TO INSTALL AFO CABLE BEFORE 36" WATER MAIN IS TESTED
 - INSTALL WATER MAIN INTERCONNECTION AT STATION 32+00
 - SHUTDOWN EXISTING 36" WATER MAIN AND MAKE CONNECTIONS AT EACH END OF THE NEW WATER MAIN.
 - PLACE NEW 36" WATER MAIN IN SERVICE. (THIS WORK TO BE COMPLETED BETWEEN OCT. 1 AND MAY 1)
 - REMOVE SEDIMENT CONTROL DEVICES.
 - TOPSOIL, SEED AND MULCH.
 - ABANDONED 36" PIPE TO BE FILLED WITH FLOWABLE FILL.

LAND ACQUISITION SYMBOLS

- EXISTING UTILITY EASEMENT
- PROPOSED DRAINAGE & UTILITY EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT

LEGEND:

EXISTING UTILITIES

- SANITARY SEWER MAIN
- SANITARY SEWER FORCE MAIN
- SANITARY SEWER MANHOLE
- SANITARY SEWER VALVE
- STORM DRAIN
- STORM DRAIN MANHOLE
- STORM DRAIN JUNCTION CHAMBER
- INLET, CURB TYPE
- INLET, GRATING TYPE
- INLET, CURB AND GRATING TYPE
- WATER MAIN
- WATER MAIN MANHOLE
- WATER METER BOX
- FIRE HYDRANT
- ELECTRIC (UNDERGROUND)
- TELEPHONE (UNDERGROUND)
- CABLE (UNDERGROUND)
- GAS MAINS
- GAS METER
- OVERHEAD ELECTRIC
- WATER MAIN VAULT
- VALVE
- JUNCTION BOX
- CONDUIT MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE

PROPOSED IMPROVEMENTS

- WATER MAIN
- PROPOSED CURB

EXISTING FEATURES

- ABANDONED UTILITY
- GUIDE RAIL
- FENCE
- FENCE, HEDGE
- POWER / TELEPHONE POLE
- RAILROAD TRACKS
- DECIDUOUS TREE
- CONIFEROUS TREE
- SPOT ELEVATION +25.00
- MINOR CONTOUR
- MAJOR CONTOUR
- BORING
- TEST PIT
- BENCHMARK
- EXISTING CURB
- WALKS (NOTE WIDTH AND TYPE)
- EDGE OF ROAD
- EXISTING RIGHT-OF-WAY LINE
- EXISTING PROPERTY LINE
- CENTERLINE OF EXISTING R/W OR ROAD
- SIGN

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Chief, Water & Wastewater Eng. Div. DATE: 3/15/12		Chief, Utility Engineering DATE:		Director, Dept. of Public Works DATE: 1/12/12	
Chief, Water Engineering Section DATE:		Bureau of Engineering and Construction DATE:		Buildings DATE:	
AS-BUILT PER RECORD PRINT BY: JCD DATE:		REVIEWED BY: RBF DATE: 1/23/12		HIGHWAYS DATE:	
CHKD BY: SBN DATE:		DATE REVIEWED:		STRUCTURES DATE:	
DATE: 1-12-2012		STORM DRAINS DATE: 1/22/12		SEWER DATE: 1/20/12	
WATER DATE: 1/21/12		FIELD ENGINEER DATE: 1/23/12		APPROVED BY: JCD DATE: 1/12/12	

HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
11019 McCormick Road, Suite 260
Hunt Valley, Maryland 21031

AS-BUILT JUNE 2016 CWO.51738

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

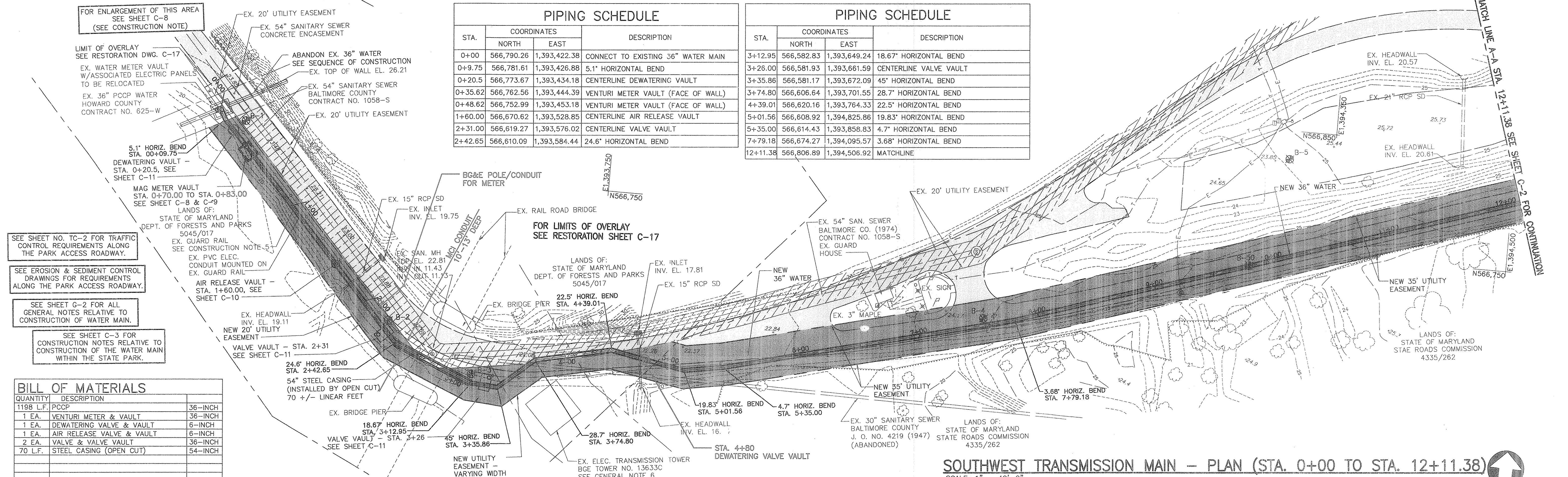
SOUTHWEST TRANSMISSION MAIN
GENERAL NOTES, SEQUENCE OF CONSTRUCTION, LEGEND

SUBDIVISION: ST. DENIS ELECTION DISTRICT: 13

SHEET DESIGNATION	CONTRACT NO.
G-2	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 2 OF 36	
DRAWING NO.	2009-3351
FILE NO.	

PIPING SCHEDULE			
STA.	COORDINATES		DESCRIPTION
	NORTH	EAST	
0+00	566,790.26	1,393,422.38	CONNECT TO EXISTING 36" WATER MAIN
0+9.75	566,781.61	1,393,426.88	5.1" HORIZONTAL BEND
0+20.5	566,773.67	1,393,434.18	CENTERLINE DEWATERING VAULT
0+35.62	566,762.56	1,393,444.39	VENTURI METER VAULT (FACE OF WALL)
0+48.62	566,752.99	1,393,453.18	VENTURI METER VAULT (FACE OF WALL)
1+60.00	566,670.62	1,393,528.85	CENTERLINE AIR RELEASE VAULT
2+31.00	566,619.27	1,393,576.02	CENTERLINE VALVE VAULT
2+42.65	566,610.09	1,393,584.44	24.6" HORIZONTAL BEND

PIPING SCHEDULE			
STA.	COORDINATES		DESCRIPTION
	NORTH	EAST	
3+12.95	566,582.83	1,393,649.24	18.67" HORIZONTAL BEND
3+26.00	566,581.93	1,393,661.59	CENTERLINE VALVE VAULT
3+35.86	566,581.17	1,393,672.09	45" HORIZONTAL BEND
3+74.80	566,606.64	1,393,701.55	28.7" HORIZONTAL BEND
4+39.01	566,620.16	1,393,764.33	22.5" HORIZONTAL BEND
5+01.56	566,608.92	1,394,825.86	19.83" HORIZONTAL BEND
5+35.00	566,614.43	1,393,858.83	4.7" HORIZONTAL BEND
7+79.18	566,674.27	1,394,095.57	3.68" HORIZONTAL BEND
12+11.38	566,806.89	1,394,506.92	MATCHLINE



FOR ENLARGEMENT OF THIS AREA SEE SHEET C-8 (SEE CONSTRUCTION NOTE)

LIMIT OF OVERLAY SEE RESTORATION DWG. C-17

EX. WATER METER VAULT W/ASSOCIATED ELECTRIC PANELS TO BE RELOCATED

EX. 36" PCCP WATER HOWARD COUNTY CONTRACT NO. 625-W

EX. 20' UTILITY EASEMENT

ABANDON EX. 36" WATER SEE SEQUENCE OF CONSTRUCTION EX. TOP OF WALL EL. 26.21

EX. 54" SANITARY SEWER BALTIMORE COUNTY CONTRACT NO. 1058-S

EX. 20' UTILITY EASEMENT

5.1" HORIZ. BEND STA. 0+9.75

DEWATERING VAULT - STA. 0+20.5, SEE SHEET C-11

MAG METER VAULT STA. 0+70.00 TO STA. 0+83.00 SEE SHEET C-8 & C-9

LANDS OF: STATE OF MARYLAND DEPT. OF FORESTS AND PARKS 5045/017

EX. GUARD RAIL SEE CONSTRUCTION NOTE

EX. PVC ELEC. CONDUIT MOUNTED ON EX. GUARD RAIL

AIR RELEASE VAULT - STA. 1+60.00, SEE SHEET C-10

EX. HEADWALL INV. EL. 19.11

NEW 20' UTILITY EASEMENT

VALVE VAULT - STA. 2+31

24.6" HORIZ. BEND STA. 2+42.65

54" STEEL CASING (INSTALLED BY OPEN CUT) 70 +/- LINEAR FEET

EX. BRIDGE PIER

18.67" HORIZ. BEND STA. 3+12.95

VALVE VAULT - STA. 3+26

45" HORIZ. BEND STA. 3+35.86

NEW UTILITY EASEMENT VARYING WIDTH

EX. BRIDGE PIER

22.5" HORIZ. BEND STA. 4+39.01

EX. RAIL ROAD BRIDGE

FOR LIMITS OF OVERLAY SEE RESTORATION SHEET C-17

LANDS OF: STATE OF MARYLAND DEPT. OF FORESTS AND PARKS 5045/017

EX. INLET INV. EL. 17.81

EX. 15" RCP SD

NEW 36" WATER

EX. 20' UTILITY EASEMENT

EX. 54" SAN. SEWER BALTIMORE CO. (1974) CONTRACT NO. 1058-S

EX. GUARD HOUSE

EX. 3" MAPLE

NEW 35' UTILITY EASEMENT

3.68" HORIZ. BEND STA. 7+79.18

EX. HEADWALL INV. EL. 16.7

EX. ELEC. TRANSMISSION TOWER BGE TOWER NO. 13633C SEE GENERAL NOTE 6

STA. 4+80 DEWATERING VALVE VAULT

EX. 30" SANITARY SEWER BALTIMORE COUNTY J. O. NO. 4219 (1947) (ABANDONED)

LANDS OF: STATE OF MARYLAND STATE ROADS COMMISSION 4335/262

EX. HEADWALL INV. EL. 20.57

EX. 24" RCP SD

EX. HEADWALL INV. EL. 20.61

NEW 36" WATER

NEW 35' UTILITY EASEMENT

LANDS OF: STATE OF MARYLAND STATE ROADS COMMISSION 4335/262

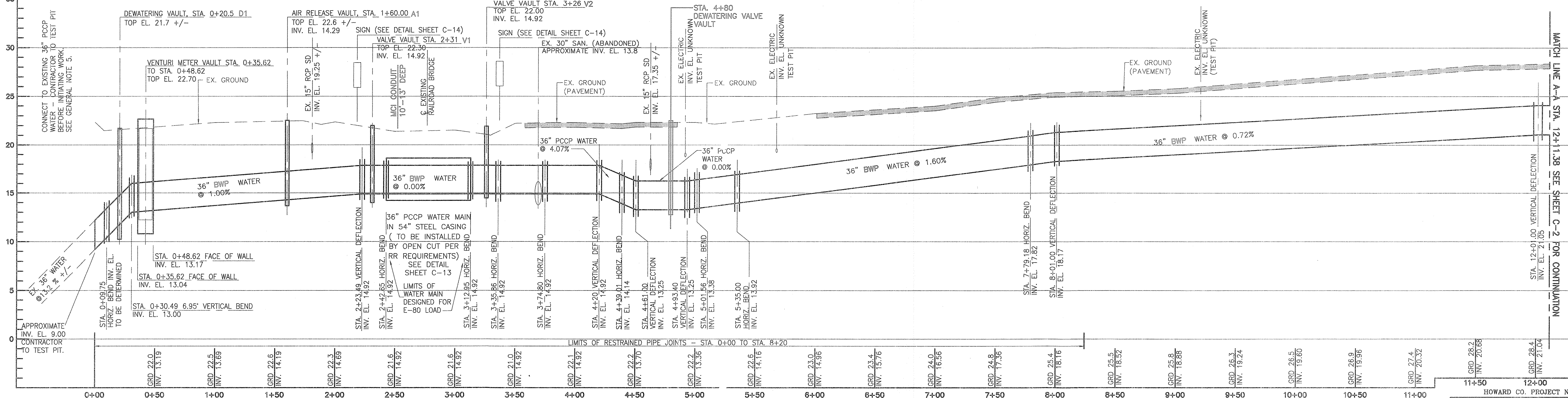
BILL OF MATERIALS	
QUANTITY	DESCRIPTION
1198 LF.	PCCP
1 EA.	VENTURI METER & VAULT
1 EA.	DEWATERING VALVE & VAULT
1 EA.	AIR RELEASE VALVE & VAULT
2 EA.	VALVE & VALVE VAULT
70 LF.	STEEL CASING (OPEN CUT)

SOUTHWEST TRANSMISSION MAIN - PLAN (STA. 0+00 TO STA. 12+11.38)
SCALE: 1" = 40'-0"

STA. 2+45 TO STA. 3+10 CONTRACTOR TO LOCATE EXISTING BRIDGE PIER FOOTINGS VIA TEST PIT BEFORE BEGINNING WORK. USE EXTREME CAUTION TO PROTECT EXISTING BRIDGE PIERS DURING CONSTRUCTION. SEE CONSTRUCTION NOTES.

STA. 3+70 TO STA. 3+75 (APPROXIMATE) CONTRACTOR MAY ENCOUNTER ABANDONED 30 INCH SANITARY SEWER, REMOVE AS NECESSARY TO CONSTRUCT NEW WATER MAIN. SEE CONSTRUCTION NOTES.

STA. 3+75 TO STA. 4+25 CONTRACTOR TO LOCATE EXISTING TRANSMISSION TOWER FOOTINGS VIA TEST PIT BEFORE BEGINNING WORK. USE EXTREME CAUTION TO PROTECT EXISTING BGE TRANSMISSION TOWER DURING CONSTRUCTION. SEE CONSTRUCTION NOTES.



SOUTHWEST TRANSMISSION MAIN - PROFILE (STA. 0+00 TO STA. 12+11.38)
HORIZONTAL SCALE: 1" = 40'-0"
VERTICAL SCALE: 1" = 5'-0"

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Chief, Water & Wastewater Eng. Div. Bureau of Water and Wastewater <i>Ark T. Brown</i> DATE: 3/15/12	Chief, Utility Engineering DATE:	Chief, Water Engineering Section DATE:	Director, Dept. of Public Works DATE:	By: <i>SBM</i> Date: 1/23/12	P.W.A. No. R.O.W. No.
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013 ENGINEER: SYAM B. NAYER DESIGN BY: BBB BUREAU OF ENGINEERING AND CONSTRUCTION BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER AS-BUILT PER RECORD PRINT DRAWN BY: JCD REVIEWED BY: RBF CHECKED BY: SBN DATE REVIEWED: 1/23/12		DRAWING SCALE: PLAN SCALE: AS NOTED, PROFILE SCALE: AS NOTED DEPARTMENT OF PUBLIC WORKS APPROVED BY: <i>[Signature]</i> DATE: 1-24-12 APPROVED BY: <i>[Signature]</i> DATE: 1/23/12 CHIEF			

AS-BUILT JUNE 2016 CWO 51738

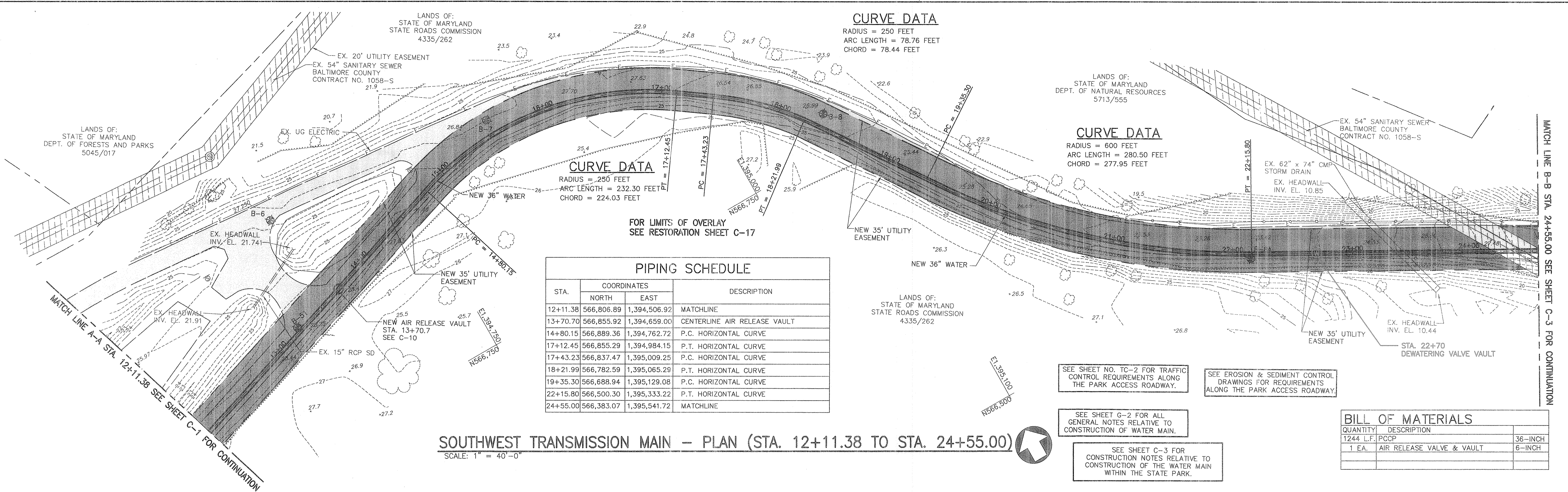
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

SOUTHWEST TRANSMISSION MAIN
PLAN AND PROFILE - STA. 0+00 TO STA. 12+11.38

SUBDIVISION: ST. DENIS ELECTION DISTRICT: 13

Hatch Mott MacDonald
11019 McCormick Road, Suite 260
Hunt Valley, Maryland 21081

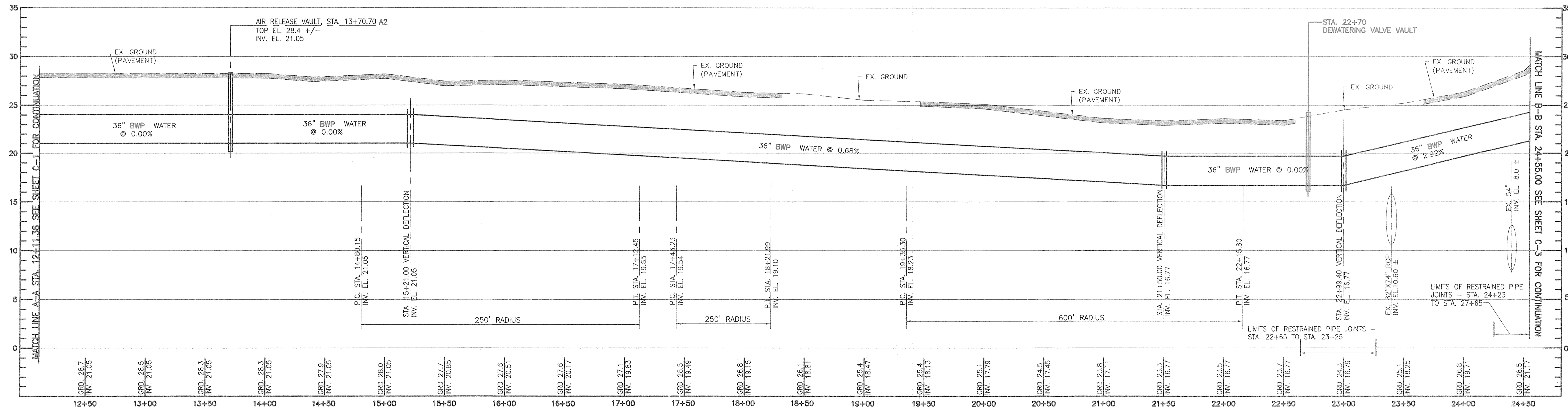
SHEET DESIGNATION: C-1	CONTRACT NO.: 44-4618
JOB ORDER NO.: 203-0067-0281	SHEET 3 OF 36
DRAWING NO.: 2009-3352	FILE NO. 55



PIPING SCHEDULE

STA.	COORDINATES		DESCRIPTION
	NORTH	EAST	
12+11.38	566,806.89	1,394,506.92	MATCHLINE
13+70.70	566,855.92	1,394,659.00	CENTERLINE AIR RELEASE VAULT
14+80.15	566,889.36	1,394,762.72	P.C. HORIZONTAL CURVE
17+12.45	566,855.29	1,394,984.15	P.T. HORIZONTAL CURVE
17+43.23	566,837.47	1,395,009.25	P.C. HORIZONTAL CURVE
18+21.99	566,782.59	1,395,065.29	P.T. HORIZONTAL CURVE
19+35.30	566,688.94	1,395,129.08	P.C. HORIZONTAL CURVE
22+15.80	566,500.30	1,395,333.22	P.T. HORIZONTAL CURVE
24+55.00	566,383.07	1,395,541.72	MATCHLINE

SOUTHWEST TRANSMISSION MAIN - PLAN (STA. 12+11.38 TO STA. 24+55.00)
 SCALE: 1" = 40'-0"



SOUTHWEST TRANSMISSION MAIN - PROFILE (STA. 12+11.38 TO STA. 24+55.00)
 HORIZONTAL SCALE: 1" = 40'-0"
 VERTICAL SCALE: 1" = 5'-0"

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Chief, Water & Wastewater Eng. Div. BUREAU OF WATER AND WASTEWATER DATE: <i>1/23/12</i>	Chief, Utility Engineering DATE: <i>1/23/12</i>	Director, Dept. of Public Works DATE: <i>1/23/12</i>			
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013 ENGINEER: <i>STAM B. NAYER</i> DESIGN BY: <i>BBB</i> AS-BUILT PER RECORD PRINT BY: <i>BBB</i> DATE: <i>1/23/12</i>		REVISION BY: <i>BBB</i> DATE: <i>1/23/12</i> P.W.A. NO. <i>1023/12</i> KEY SHEET <i>1/23/12</i> POSITION SHT <i>1/23/12</i> BUREAU OF ENGINEERING AND CONSTRUCTION BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER APPROVED BY: <i>BBB</i> DATE: <i>1/23/12</i> CHIEF			

AS-BUILT JUNE 2016 *CWO 51738*

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

SOUTHWEST TRANSMISSION MAIN
PLAN AND PROFILE - STA. 12+11.38 TO STA. 24+55.00

SUBDIVISION: ST. DENIS ELECTION DISTRICT: 13

HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
 11019 McCormick Road, Suite 260
 Hunt Valley, Maryland 21031

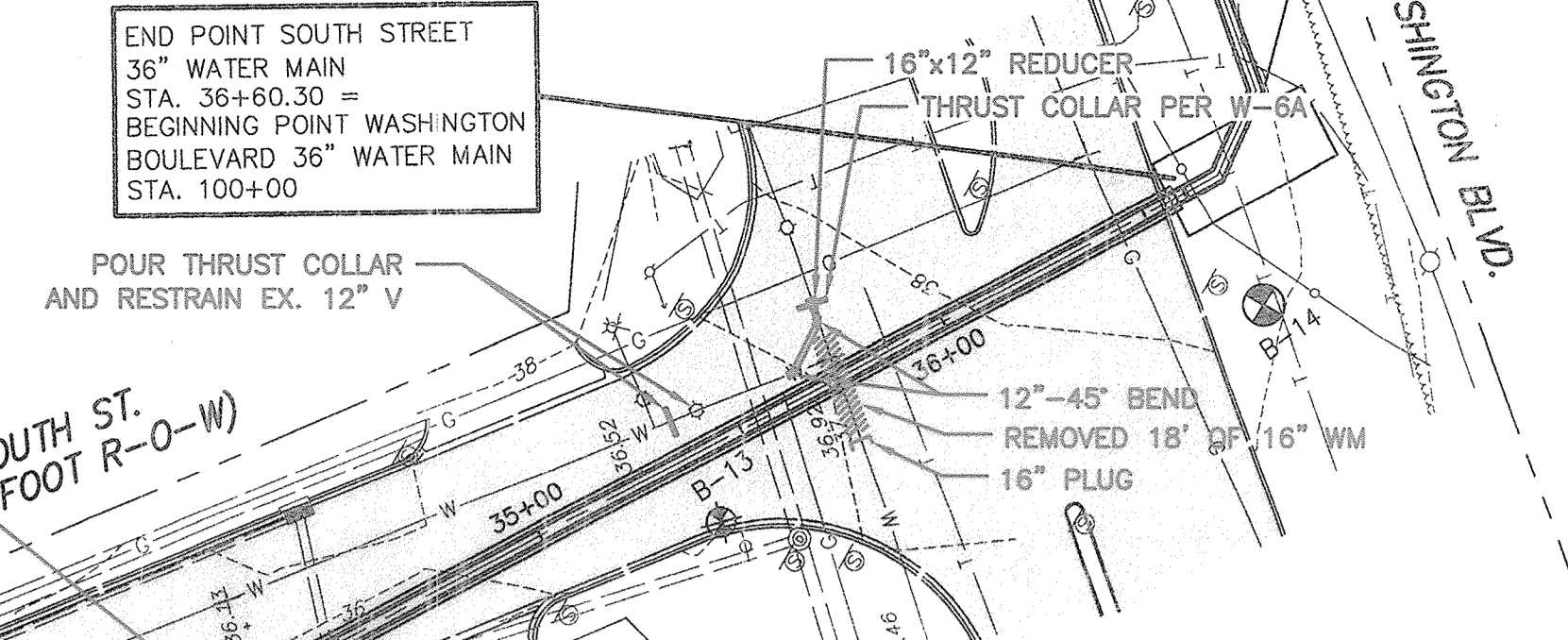
SHEET DESIGNATION	CONTRACT NO.
C-2	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 4 OF 36	DRAWING NO.
	2009-3353
	FILE NO.

PIPING SCHEDULE			
STA.	COORDINATES		DESCRIPTION
	NORTH	EAST	
24+55.00	566,383.07	1,395,541.72	MATCHLINE
24+60.46	566,380.39	1,395,546.48	11.25 HORIZONTAL BEND
25+49.28	566,322.59	1,395,613.92	22.5 HORIZONTAL BEND
27+08.62	566,180.50	1,395,686.02	22.5 HORIZONTAL BEND
28+45.35	566,044.18	1,395,696.51	P. C. HORIZONTAL CURVE
30+10.09	565,886.79	1,395,741.14	P. T. HORIZONTAL CURVE
30+46.58	565,854.47	1,395,758.06	45 HORIZONTAL BEND
30+54.19	565,852.15	1,395,765.32	CENTERLINE AIR RELEASE VAULT
31+69.99	565,816.95	1,395,875.63	14.7 HORIZONTAL BEND
31+93.38	565,804.37	1,395,895.36	36" X 8" WATER TEE CONNECTION
36+60.30	565,554.15	1,396,289.57	STATION EQUALITY = STATION 100+00

BILL OF MATERIALS		
QUANTITY	DESCRIPTION	SIZE
1205 L.F.	PCCP	36-INCH
1 EA.	AIR RELEASE VALVE & VAULT	36-INCH
46 L.F.	DIP	8-INCH
1 EA.	TAPPING SLEEVE & 8" VALVE	12"X8"
455 L.F.	STEEL CASING (JACK & BORE)	60-INCH

PATAPSCO VALLEY STATE PARK VAULT SCHEDULE:

- STA. 00+20.05 DEWATERING VAULT, TOP EL. 21.5
- STA. 00+35.62 TO STA. 00+48.62 VENTURI METER VAULT, TOP EL. 22.70
- STA. 01+60.00 AIR RELEASE VAULT, TOP EL. 22.6
- STA. 02+31.00 VALVE VAULT, TOP EL. 22.30
- STA. 03+26.00 VALVE VAULT, TOP EL. 22.00
- STA. 13+70.70 AIR RELEASE VAULT, TOP EL. 28.4
- STA. 30+54.19 AIR RELEASE VAULT, TOP EL. 34.5



STATION 25+25 TO STATION 26+80
REMOVE GUARD RAIL AS NECESSARY
SEE CONSTRUCTION NOTE 5

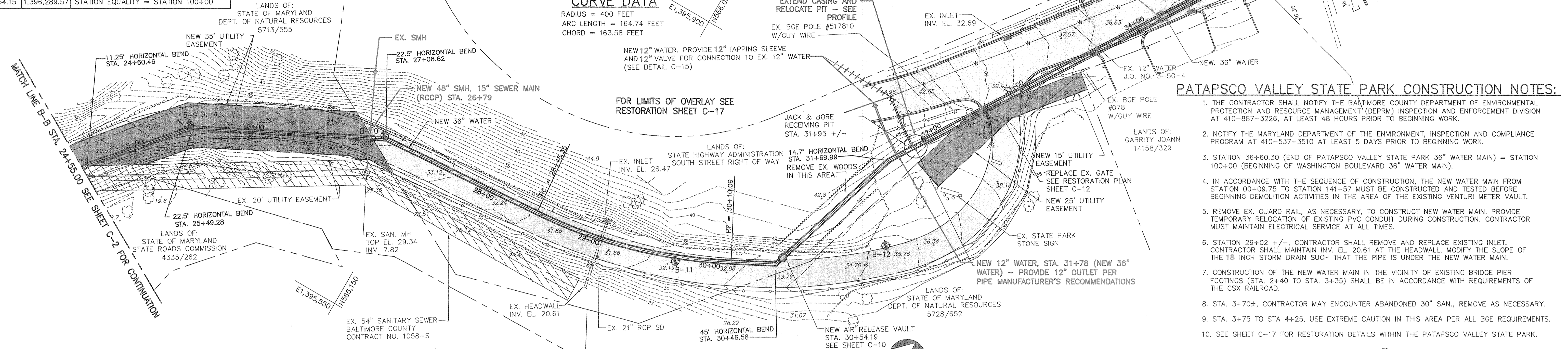
CURVE DATA

RADIUS = 400 FEET
ARC LENGTH = 164.74 FEET
CHORD = 163.58 FEET

FOR LIMITS OF OVERLAY SEE
RESTORATION SHEET C-17

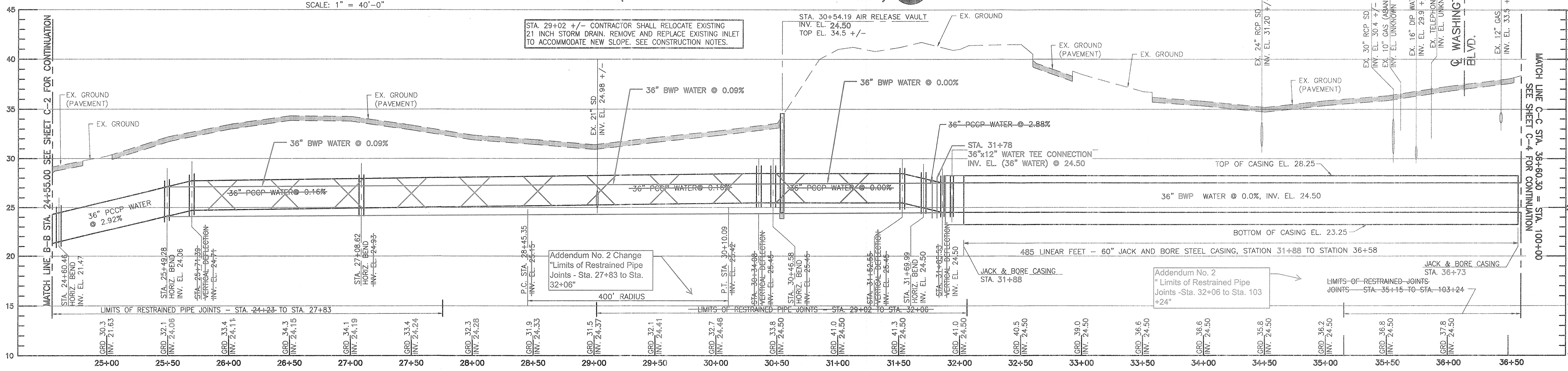
PATAPSCO VALLEY STATE PARK CONSTRUCTION NOTES:

- THE CONTRACTOR SHALL NOTIFY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT (DEPRM) INSPECTION AND ENFORCEMENT DIVISION AT 410-867-3226, AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
- NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, INSPECTION AND COMPLIANCE PROGRAM AT 410-537-3510 AT LEAST 5 DAYS PRIOR TO BEGINNING WORK.
- STATION 36+60.30 (END OF PATAPSCO VALLEY STATE PARK 36" WATER MAIN) = STATION 100+00 (BEGINNING OF WASHINGTON BOULEVARD 36" WATER MAIN).
- IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION, THE NEW WATER MAIN FROM STATION 00+09.75 TO STATION 141+57 MUST BE CONSTRUCTED AND TESTED BEFORE BEGINNING DEMOLITION ACTIVITIES IN THE AREA OF THE EXISTING VENTURI METER VAULT.
- REMOVE EX. GUARD RAIL, AS NECESSARY, TO CONSTRUCT NEW WATER MAIN. PROVIDE TEMPORARY RELOCATION OF EXISTING PVC CONDUIT DURING CONSTRUCTION. CONTRACTOR MUST MAINTAIN ELECTRICAL SERVICE AT ALL TIMES.
- STATION 29+02 +/-, CONTRACTOR SHALL REMOVE AND REPLACE EXISTING INLET. CONTRACTOR SHALL MAINTAIN INV. EL. 20.61 AT THE HEADWALL, MODIFY THE SLOPE OF THE 18 INCH STORM DRAIN SUCH THAT THE PIPE IS UNDER THE NEW WATER MAIN.
- CONSTRUCTION OF THE NEW WATER MAIN IN THE VICINITY OF EXISTING BRIDGE PIER FOOTINGS (STA. 2+40 TO STA. 3+35) SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE CSX RAILROAD.
- STA. 3+70±, CONTRACTOR MAY ENCOUNTER ABANDONED 30" SAN., REMOVE AS NECESSARY.
- STA. 3+75 TO STA. 4+25, USE EXTREME CAUTION IN THIS AREA PER ALL BGE REQUIREMENTS.
- SEE SHEET C-17 FOR RESTORATION DETAILS WITHIN THE PATAPSCO VALLEY STATE PARK.



SOUTHWEST TRANSMISSION MAIN -- PLAN (STA. 24+55.00 TO STA. 36+60.30)

SCALE: 1" = 40'-0"



SOUTHWEST TRANSMISSION MAIN -- PROFILE (STA. 24+55.00 TO STA. 36+60.30)

HORIZONTAL SCALE: 1" = 40'-0"
VERTICAL SCALE: 1" = 5'-0"

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER	CHIEF, UTILITY ENGINEERING	DIRECTOR, DEPT. OF PUBLIC WORKS
DATE: 3/15/12	DATE:	DATE:
SEAL: SYAM B. NAYER	DESIGN BY: BBB	BUREAU OF ENGINEERING AND CONSTRUCTION
AS-BUILT PER RECORD PRINT	DRAWN BY: JCD	REVIEWED BY: RZF
DATE: 11/23/12	CHECK BY: SEN	DATE REVIEWED: 11/23/12

REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHI

AS-BUILT JUNE 2016

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

SOUTHWEST TRANSMISSION MAIN
PLAN AND PROFILE - STA. 24+55.00 TO STA. 36+60.30

APPROVED BY: [Signature] DATE: 1-24-12

APPROVED BY: [Signature] DATE: 11/23/12

DATE: 11/23/12

CHIEF

SUBDIVISION: ST. DENIS

ELECTION DISTRICT: 13

HOWARD CO. PROJECT NO. W-9276

Scale: 40' 20' 0 40' 5' 2.5' 0 5'

HORIZ. SCALE: 1"=40' VERT. SCALE: 1"=5'

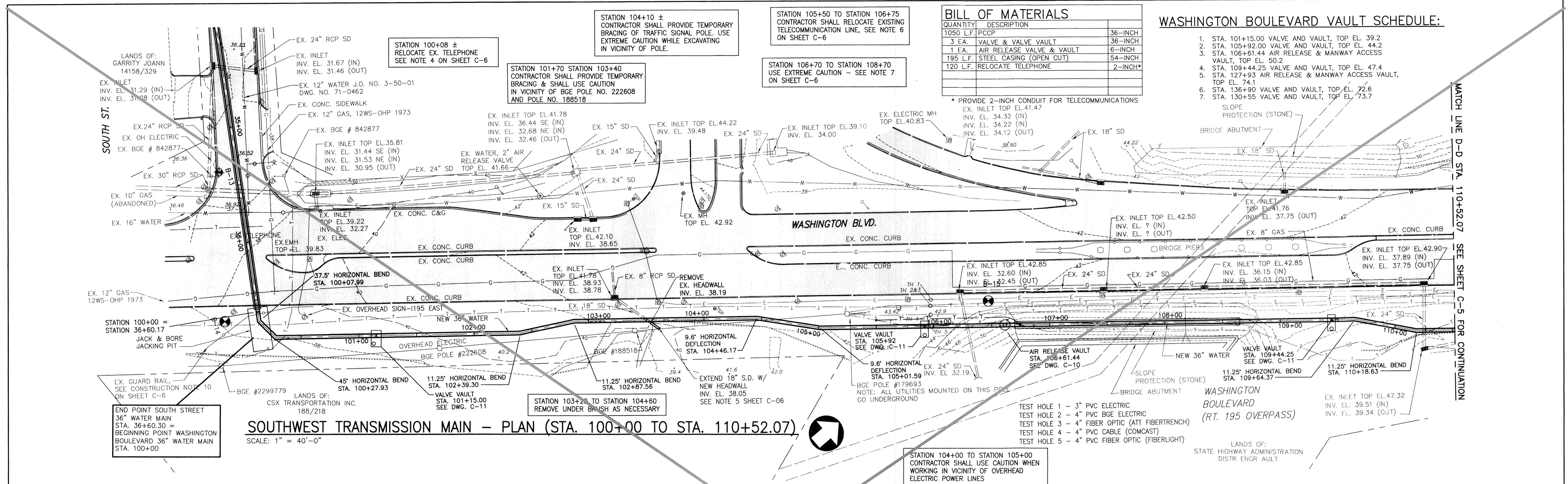
CWO.5738

Hatch Mott MacDonald

11019 McCormick Road, Suite 260
Hunt Valley, Maryland 21031

SHEET DESIGNATION	CONTRACT NO.
C-3	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 5 OF 36	DRAWING NO.
2009-3354	FILE NO.

BALTIMORE COUNTY MARYLAND



BILL OF MATERIALS

QUANTITY	DESCRIPTION	REMARKS
1050 L.F.	PCCP	36-INCH
3 EA.	VALVE & VALVE VAULT	36-INCH
1 EA.	AIR RELEASE VALVE & VAULT	6-INCH
195 L.F.	STEEL CASING (OPEN CUT)	54-INCH
120 L.F.	RELOCATE TELEPHONE	2-INCH*

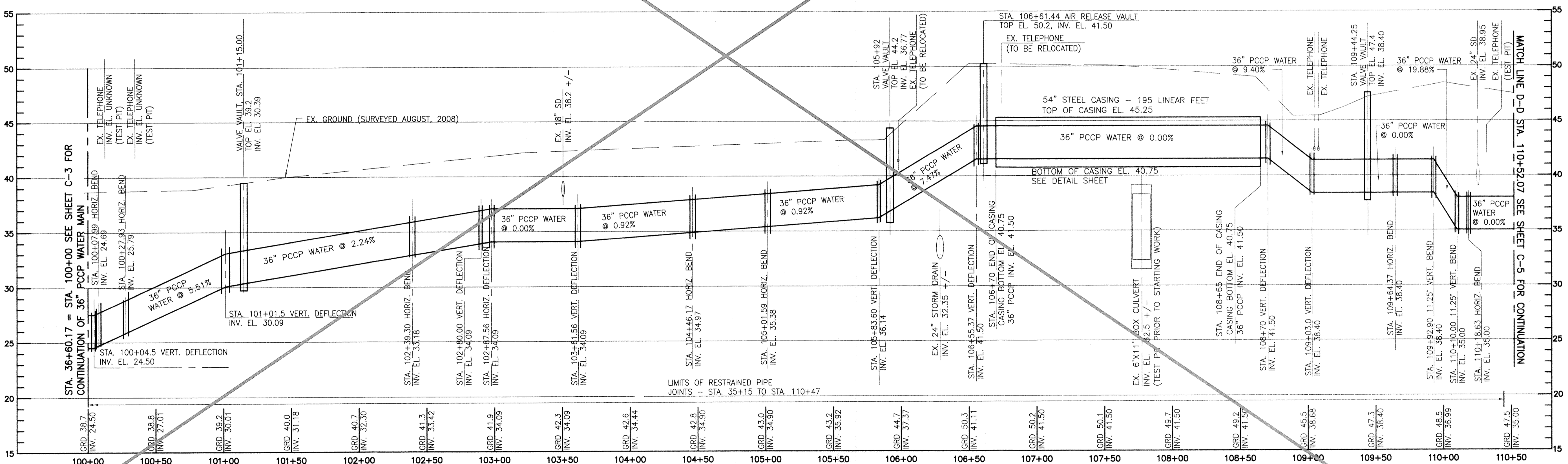
* PROVIDE 2-INCH CONDUIT FOR TELECOMMUNICATIONS

WASHINGTON BOULEVARD VAULT SCHEDULE:

1. STA. 101+15.00 VALVE AND VAULT, TOP EL. 39.2
2. STA. 105+92.00 VALVE AND VAULT, TOP EL. 44.2
3. STA. 106+61.44 AIR RELEASE & MANWAY ACCESS VAULT, TOP EL. 50.2
4. STA. 109+44.25 VALVE AND VAULT, TOP EL. 47.4
5. STA. 127+93 AIR RELEASE & MANWAY ACCESS VAULT, TOP EL. 74.1
6. STA. 136+90 VALVE AND VAULT, TOP EL. 72.6
7. STA. 130+55 VALVE AND VAULT, TOP EL. 73.7

SOUTHWEST TRANSMISSION MAIN - PLAN (STA. 100+00 TO STA. 110+52.07)

SCALE: 1" = 40'-0"



SOUTHWEST TRANSMISSION MAIN - PROFILE (STA. 100+00 TO STA. 110+52.07)

HORIZONTAL SCALE: 1" = 40'-0"
VERTICAL SCALE: 1" = 5'-0"

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Chief, Water & Wastewater Eng. Div. BUREAU OF WATER AND WASTEWATER		Chief, Water Engineering Section		Director, Dept. of Public Works	
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013		REVISION ENGINEER: STAM B. NAYER DESIGN BY: BBB DRAWN BY: JCD CHD BY: SBR		BY DATE P.W.A. NO. KEY SHEET POSITION SHT RBF 1/23/12 RLF 1/23/12 GAK 1/20/12 JJP 1/23/12	
AS-BUILT PER RECORD PRINT DATE:		BUREAU OF ENGINEERING AND CONSTRUCTION BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER		DEPARTMENT OF PUBLIC WORKS APPROVED BY: [Signature] DATE: 1-24-12 DIRECTOR APPROVED BY: [Signature] DATE: 1/17/12 CHIEF	

AS-BUILT JUNE 2016
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

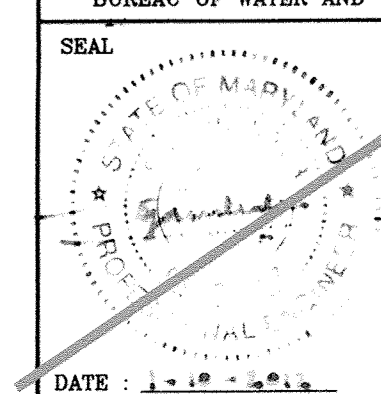
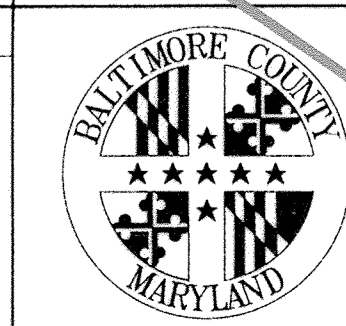
SOUTHWEST TRANSMISSION MAIN PLAN AND PROFILE - STA. 100+00 TO STA. 110+52.07

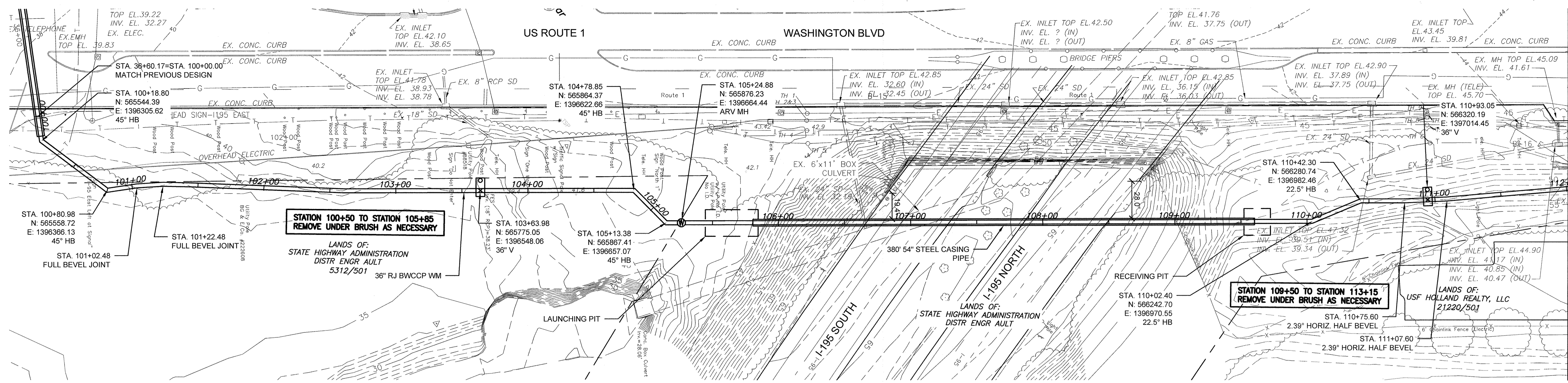
SUBDIVISION: ST. DENIS

ELECTION DISTRICT: 13

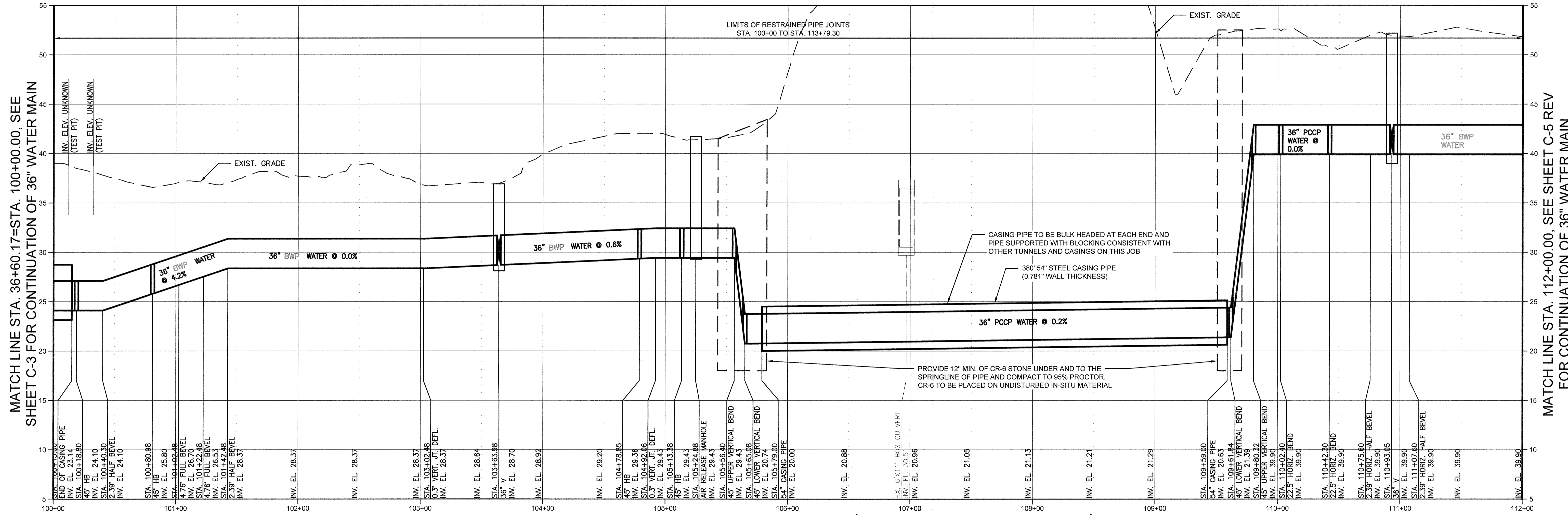
Hatch Mott MacDonald
11019 McCormick Road, Suite 280
B Hunt Valley, Maryland 21031

SHEET DESIGNATION: C-4
CONTRACT NO.: 44-4618
JOB ORDER NO.: 203-0067-0281
SHEET 6 OF 36
DRAWING NO.: 2009-3355
FILE NO.:





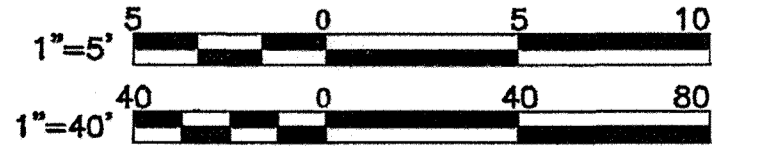
SOUTHWEST TRANSMISSION MAIN - PLAN (STA. 100+00 TO STA. 112+00)
 SCALE: 1" = 40'-0"



SOUTHWEST TRANSMISSION MAIN - PROFILE (STA. 100+00 TO STA. 112+00)
 HORIZONTAL SCALE: 1" = 40'-0"
 VERTICAL SCALE: 1" = 5'-0"

CITY OF BALTIMORE
 REVISION - CITY OF BALTIMORE
 4/15/14
 4/14/14

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, UTILITY ENGINEERING
 DATE: 3/2/14



AS-BUILT JUNE 2016

HOWARD CO. PROJECT NO. H-0874
OPEN'S CORP
 11800 BACKLICK ROAD,
 SUITE 100
 BERTHLETT VALLEY, MARYLAND 21034

PROFESSIONAL CERTIFICATION		REVISION		DRAWING SCALE		DEPARTMENT OF PUBLIC WORKS		
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. EXPIRES NO. 18000 EXPIRATION DATE DECEMBER 6, 2015		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SET	APPROVED BY:	DIRECTOR
ENGINEER: ROBERT J. DUNLAP	DRAWN BY: RFW	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER
AD-SCALE PER SECOND PRINT	DRAWN BY: RFW	REVIEWED BY:	RJF	MR	GM	QSO	JDP	APPROVED BY:
DATE:	CHECK BY: RJD	DATE REVIEWED:	3/24/14	3/24/14	3/24/14	3/24/14	3/21/14	DATE:

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

**SOUTHWEST TRANSMISSION MAIN
 PLAN AND PROFILE STA. 100+00 TO STA. 112+00**

SUBDIVISION: SAINT DENIS

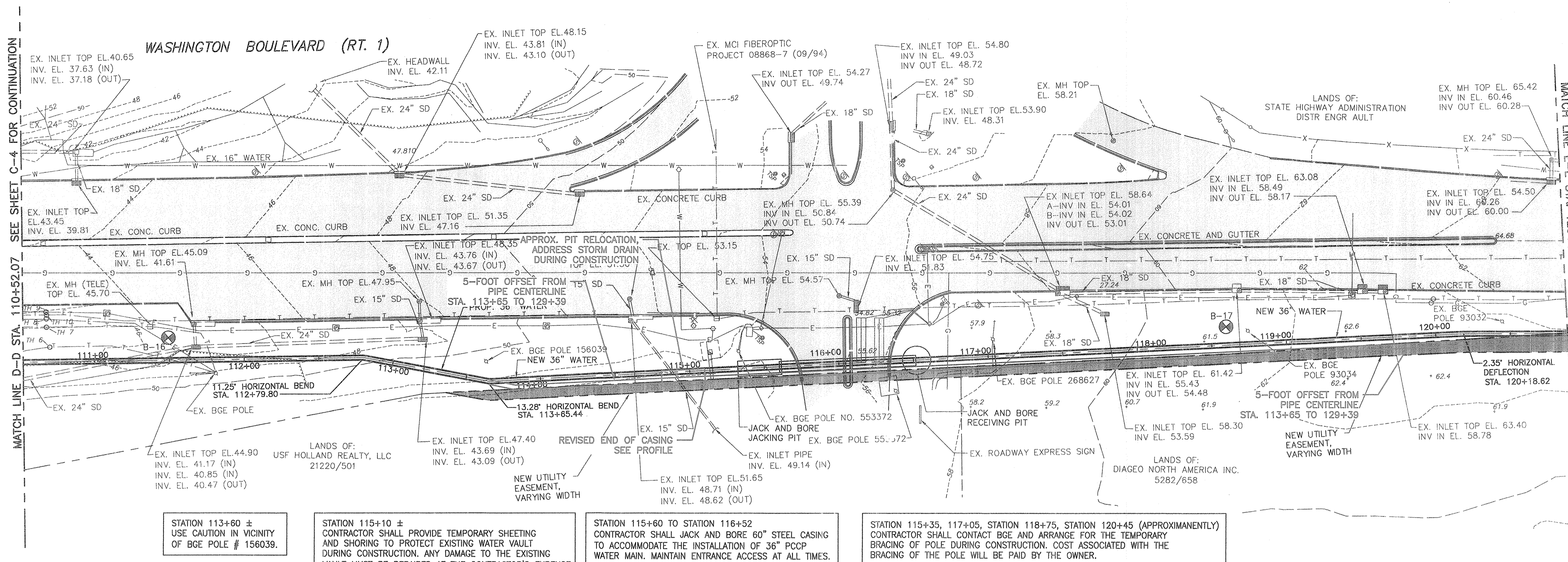
ELECTION DISTRICT: 13

SHEET DESIGNATION	CONTRACT NO.
C-4 REV	44-4816
	JOB ORDER NO.
	209-0087-0001
	SHEET 6A of 36
	DRAWING NO.
	2009-3386
	FILE NO.
	45

MATCH LINE STA. 112+00, SEE SHEET C-5 REV FOR CONTINUATION OF 36" WATER MAIN

MATCH LINE STA. 36+60.17=STA. 100+00.00, SEE SHEET C-3 FOR CONTINUATION OF 36" WATER MAIN

MATCH LINE STA. 112+00.00, SEE SHEET C-5 REV FOR CONTINUATION OF 36" WATER MAIN



PIPING SCHEDULE			
STA.	COORDINATES		DESCRIPTION
	NORTH	EAST	
100+00.00	565,530.19	1,396,298.26	BEGINNING POINT WASHINGTON BLVD.
100+28.90	565,552.37	1,396,316.79	ISOLATION VALVE VAULT
102+39.30	565,713.84	1,396,451.67	11.25\"/>

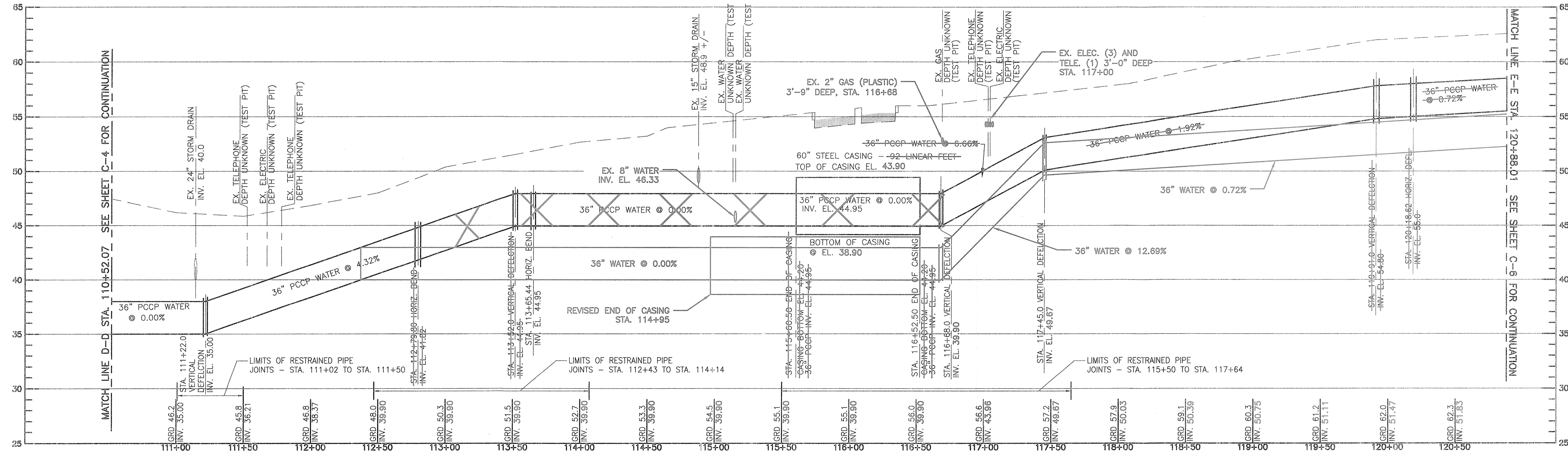
BILL OF MATERIALS		
QUANTITY	DESCRIPTION	
1036 L.F.	PCCP	36-INCH
92 L.F.	STEEL CASING (JACK & BORE)	60-INCH

STATION 113+60 ± USE CAUTION IN VICINITY OF BGE POLE # 156039.

STATION 115+10 ± CONTRACTOR SHALL PROVIDE TEMPORARY SHEETING AND SHORING TO PROTECT EXISTING WATER VAULT DURING CONSTRUCTION. ANY DAMAGE TO THE EXISTING VAULT MUST BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

STATION 115+60 TO STATION 116+52 CONTRACTOR SHALL JACK AND BORE 60\"/>

SOUTHWEST TRANSMISSION MAIN - PLAN (STA. 110+52.07 TO STA. 120+88.01)
 SCALE: 1" = 40'-0"



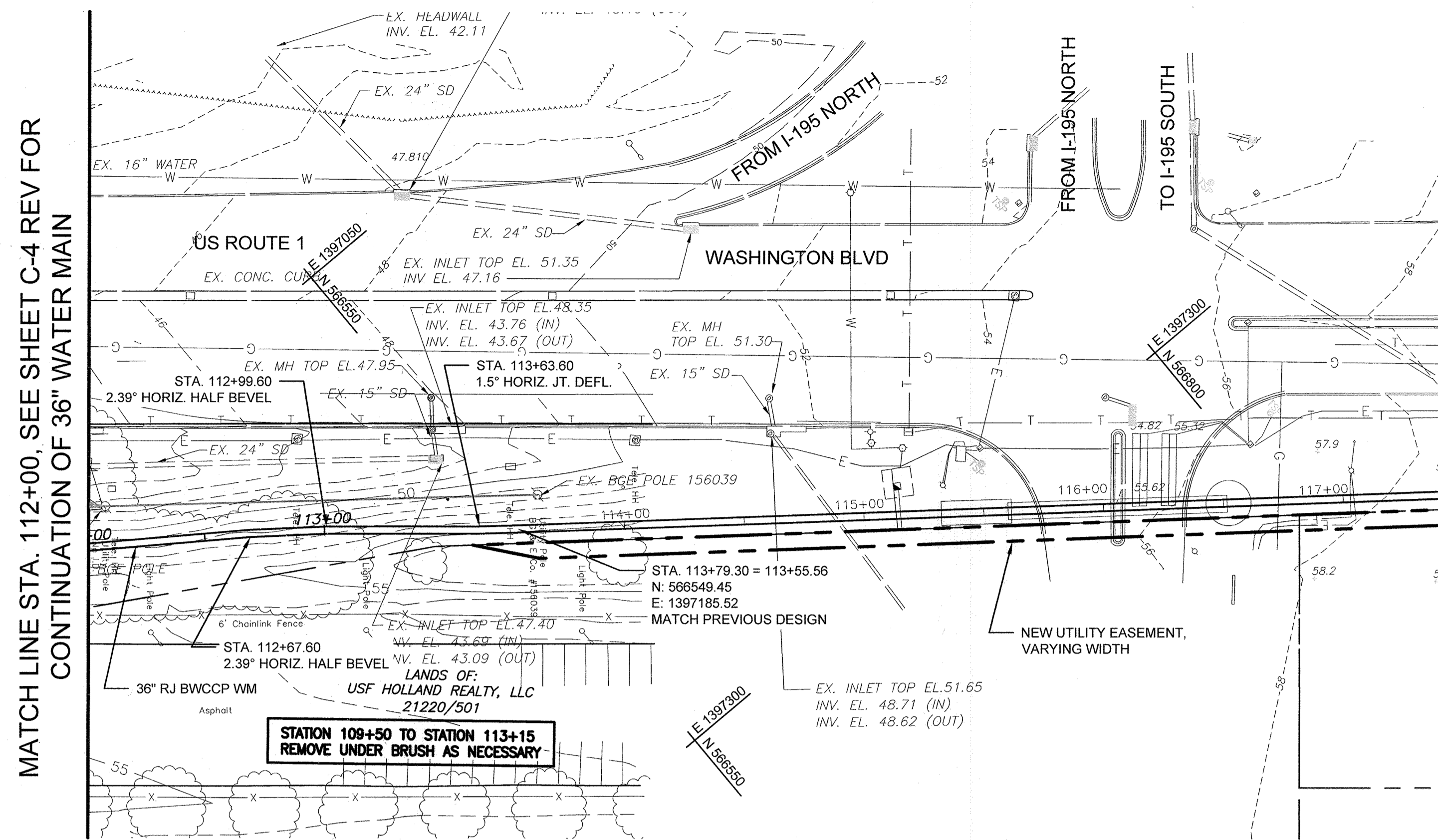
SOUTHWEST TRANSMISSION MAIN - PROFILE (STA. 110+52.07 TO STA. 120+88.01)
 HORIZONTAL SCALE: 1" = 40'-0"
 VERTICAL SCALE: 1" = 5'-0"

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Ailly T. N. Balas CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER DATE: 3/15/12		CHIEF, UTILITY ENGINEERING DATE:		DIRECTOR, DEPT. OF PUBLIC WORKS DATE:	
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013 ENGINEER: SYAM B. NAYER DESIGN BY: BBB AS-BUILT PER RECORD PRINT BY: JCD DATE:		REVISION BY: DATE: P.W.A. NO. KEY SHEET POSITION SHIT R.O.W. NO.		DRAWING SCALE PLAN SCALE: AS NOTED PROFILE SCALE: AS NOTED DEPARTMENT OF PUBLIC WORKS APPROVED BY: [Signature] DATE: 1-24-12 DIRECTOR APPROVED BY: [Signature] DATE: 1/17/12 CHIEF	
SEAL PROFESSIONAL ENGINEER LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013 ENGINEER: SYAM B. NAYER DESIGN BY: BBB AS-BUILT PER RECORD PRINT BY: JCD DATE:		BUREAU OF ENGINEERING AND CONSTRUCTION BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER BUR. OF ENGINEERING & CONSTRUCTION APPROVED BY: [Signature] DATE: 1/17/12 CHIEF		BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION AS-BUILT JUNE 2016 CWO.51738 SOUTHWEST TRANSMISSION MAIN PLAN AND PROFILE - STA. 110+52.07 TO STA. 120+88.01 SUBDIVISION: ST. DENIS ELECTION DISTRICT: 13	

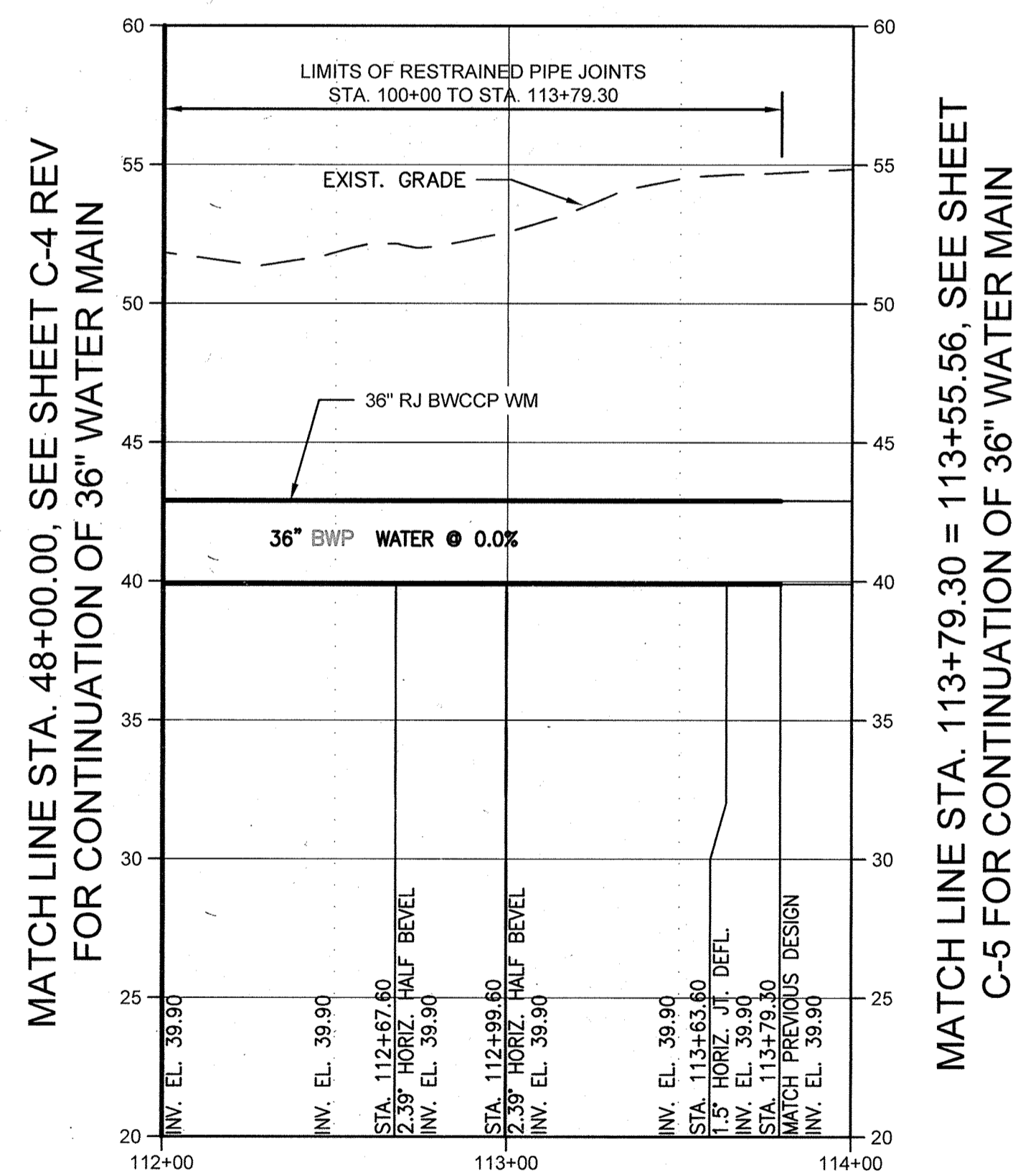
HOWARD CO. PROJECT NO. W-8278

Hatch Mott MacDonald
 11019 McCormick Road, Suite 280
 Hunt Valley, Maryland 21091

SHEET DESIGNATION	CONTRACT NO.
C-5	44-4818
JOB ORDER NO.	203-0067-0281
SHEET 7 OF 36	DRAWING NO.
	2009-3356
	FILE NO.



SOUTHWEST TRANSMISSION MAIN – PLAN (STA. 112+00 TO STA. 113+79.30)
 SCALE: 1" = 40'-0"



SOUTHWEST TRANSMISSION MAIN – PROFILE (STA. 112+00 TO STA. 113+79.30)
 HORIZONTAL SCALE: 1" = 40'-0"
 VERTICAL SCALE: 1" = 5'-0"

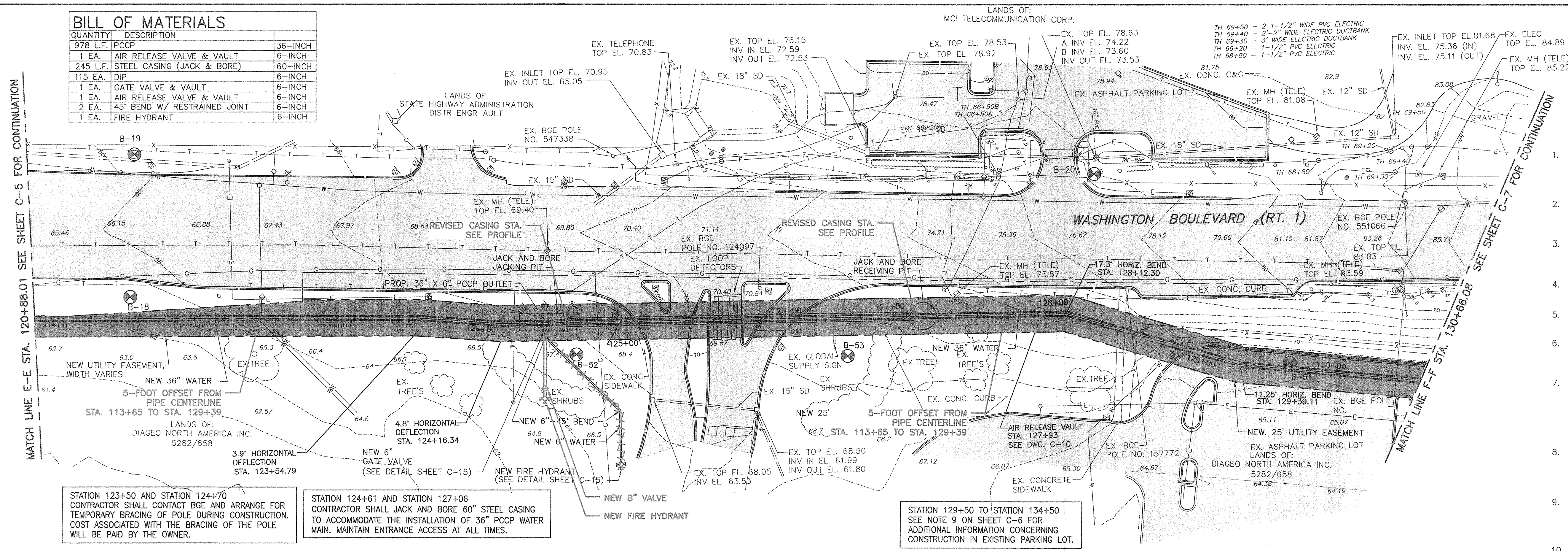
CITY OF BALTIMORE REVISION - CITY OF BALTIMORE CHIEF, UTILITY ENGINEERING DATE: 1/15/14		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CHIEF, WATER ENGINEERING SECTION DATE: 3/24/14	
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 10668 EXPIRATION DATE DECEMBER 8, 2015 ENGINEER: ROBERT J. FULLEY DESIGN BY: RFW DRAWN BY: RFW CHECK BY: RJD DATE: 3/24/14		REVISION BY: RFW DATE: 3/24/14 BY: RFW DATE: 3/24/14 BY: RFW DATE: 3/24/14	
DRAWING SCALE: 1"=40' PROFILE SCALE: 1"=5'		DEPARTMENT OF PUBLIC WORKS APPROVED BY: [Signature] DIRECTOR DATE: 3/24/14	
BUR. OF ENGINEERING & CONSTRUCTION BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER APPROVED BY: [Signature] CHIEF DATE: 3/24/14		AS-BUILT JUNE 2016 BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION SOUTHWEST TRANSMISSION MAIN PLAN AND PROFILE STA. 112+00 TO STA. 113+79.30 SUBDIVISION: SAINT DENIS ELECTION DISTRICT: 13	

HOWARD CO. PROJECT NO. W-0070

OTBEN'S CARE
 11200 McCORMICK ROAD,
 SUITE 204
 BOWY VILLAGE, MARYLAND 21041

SHEET DESIGNATION	CONTRACT NO.
C-5 REV	44-0010
JOB ORDER NO.	200-0007-0001
SHEET 7A OF 36	DRAWING NO.
2009-3387	FILE NO.

BILL OF MATERIALS		
QUANTITY	DESCRIPTION	
978 L.F.	PCCP	36-INCH
1 EA.	AIR RELEASE VALVE & VAULT	60-INCH
245 L.F.	STEEL CASING (JACK & BORE)	60-INCH
115 EA.	DIP	6-INCH
1 EA.	GATE VALVE & VAULT	6-INCH
1 EA.	AIR RELEASE VALVE & VAULT	6-INCH
2 EA.	45° BEND W/ RESTRAINED JOINT	6-INCH
1 EA.	FIRE HYDRANT	6-INCH

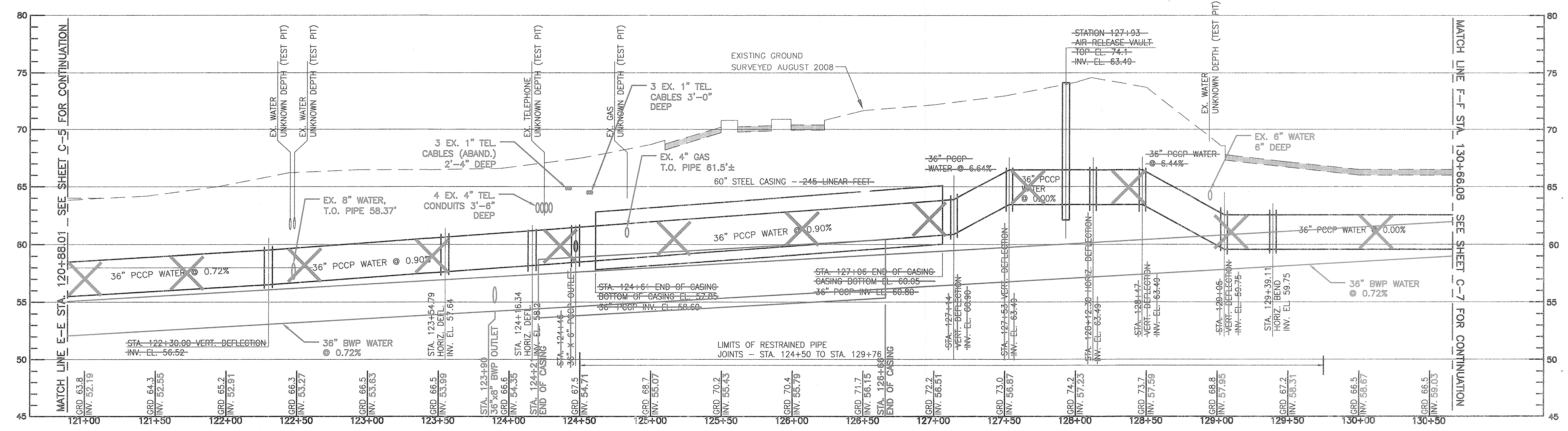


WASHINGTON BOULEVARD (ROUTE 1) CONSTRUCTION NOTES:

- THE CONTRACTOR SHALL NOTIFY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT (DEPRM) INSPECTION AND ENFORCEMENT DIVISION AT 410-887-3226, AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
- NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, INSPECTION AND COMPLIANCE PROGRAM AT 410-537-3510 AT LEAST 5 DAYS PRIOR TO BEGINNING WORK.
- STATION 100+00 BEGINNING OF WASHINGTON BOULEVARD 36" WATER MAIN = STATION 37+60 (END OF PATAPSCO VALLEY STATE PARK 36" WATER MAIN).
- STATION 100+08 ± RELOCATE EXISTING TELEPHONE PRIOR TO INITIATING CONSTRUCTION IN THIS AREA.
- STATION 103+50 ± EXTEND 18" STORM DRAIN 10 LINEAR FEET AND INSTALL NEW HEADWALL, SEE DETAIL SHEET C-15.
- STATION 105+50 TO STATION 106+75 - RELOCATE EXISTING TELECOMMUNICATION LINE TO FACILITATE THE CONSTRUCTION OF THE 36" MAIN.
- CONTRACTOR SHALL USE CAUTION WHEN CONSTRUCTING WATER MAIN UNDER THE ROUTE 195 OVERPASS. AT LEAST SEVEN (7) DAYS IN ADVANCE OF INITIATING WORK, NOTIFY THE STATE HIGHWAY ADMINISTRATION. THE 54" STEEL CASING AND 36" WATER MAIN SHALL BE INSTALLED BY OPEN CUT WITHOUT DISTURBING BRIDGE ABUTMENTS.
- CONTRACTOR SHALL CONTACT BALTIMORE GAS AND ELECTRIC AT 410-637-8713 TO ARRANGE FOR BGE TO PROVIDE TEMPORARY SUPPORT/BRACING OF POLES IN CLOSE PROXIMITY TO WATER MAIN CONSTRUCTION.
- CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT THERE IS AN EXISTING STORMWATER MANAGEMENT SYSTEM IN PLACE FOR THE PARKING LOT. CONTRACTOR MUST USE CAUTION SO AS NOT TO DISRUPT THE STORMWATER MANAGEMENT FACILITIES.
- REMOVE EXISTING GUARD RAIL AS NECESSARY TO CONSTRUCT THE NEW WATER MAIN AFTER ALL WORK IN THE VICINITY IS COMPLETE.
- CONTRACTOR SHALL LOCATE EXISTING WATER MAIN VIA TEST PIT. REMOVE EX. 8 INCH WATER AS NECESSARY TO INSTALL 8" X 8" TEST. PROVIDE CONCRETE BUTTRESS PER COUNTY STANDARD DETAILS.

SOUTHWEST TRANSMISSION MAIN - PLAN (STA. 120+88.01 TO STA. 130+66.08)

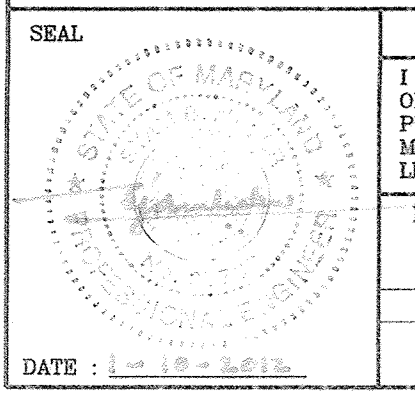
SCALE: 1" = 40'-0"



SOUTHWEST TRANSMISSION MAIN - PROFILE (STA. 120+88.01 TO STA. 130+66.08)

HORIZONTAL SCALE: 1" = 40'-0"
VERTICAL SCALE: 1" = 5'-0"

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS			
CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER	DATE	CHIEF, UTILITY ENGINEERING	DATE	DIRECTOR, DEPT. OF PUBLIC WORKS	DATE	KEY SHEET	POSITION
AS-BUILT PER RECORD PRINT	DATE	CHIEF, WATER ENGINEERING SECTION	DATE				
PROFESSIONAL CERTIFICATION		REVISION		DEPARTMENT OF PUBLIC WORKS			
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013				AS-BUILT			
ENGINEER: STAM B. NAYER	DESIGN BY: BBB	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER
AS-BUILT PER RECORD PRINT	DRAWN BY: JCD	REVIEWED BY:					
BY: DATE:	CHKD BY: SBN	DATE REVIEWED:					



AS-BUILT JUNE 2016 CWO 51738
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

**SOUTHWEST TRANSMISSION MAIN
PLAN AND PROFILE - STA. 120+88.01 TO 130+66.08**

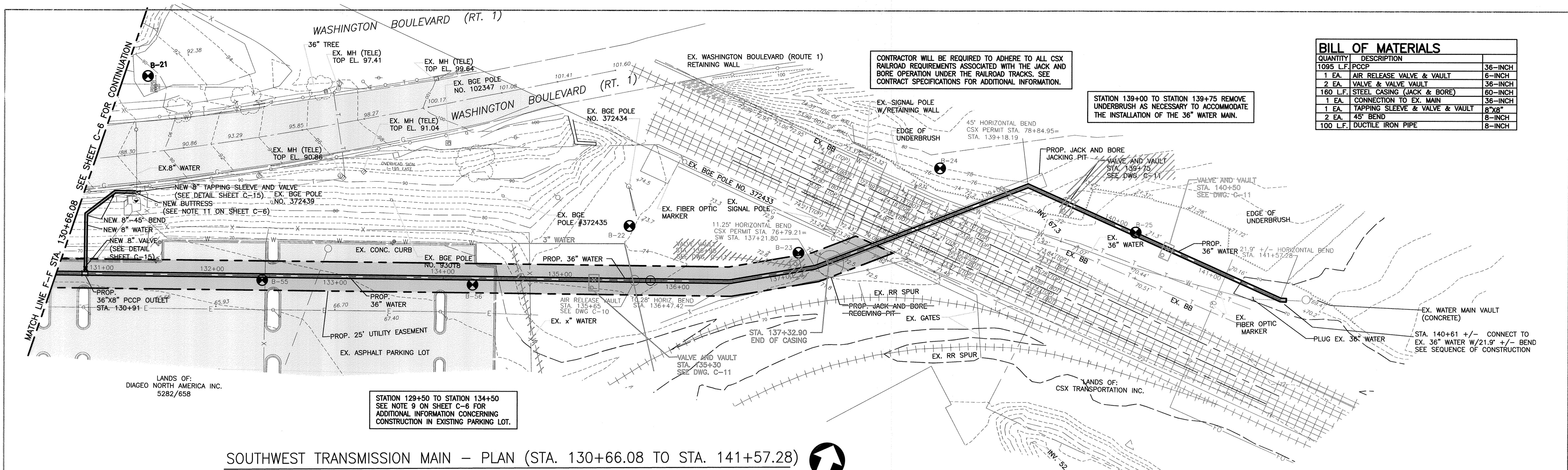
SUBDIVISION: ST. DENIS

ELECTION DISTRICT: 13

HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
11019 McCormick Road, Suite 200
Hunt Valley, Maryland 21091

SHEET DESIGNATION	CONTRACT NO.
C-6	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 8 OF 36	DRAWING NO.
	2009-3357
FILE NO.	

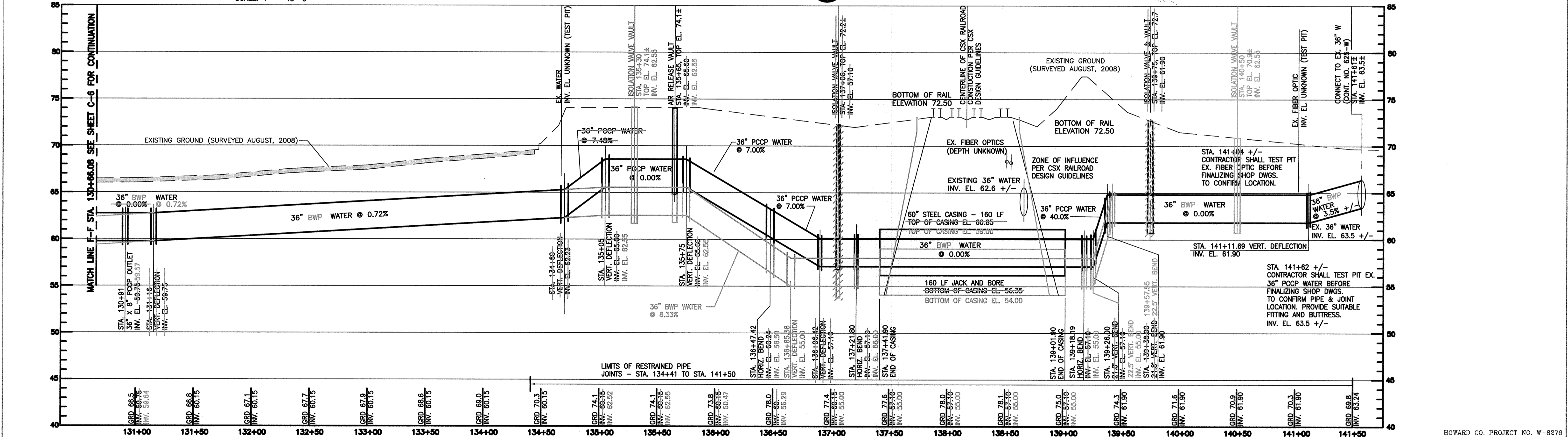


CONTRACTOR WILL BE REQUIRED TO ADHERE TO ALL CSX RAILROAD REQUIREMENTS ASSOCIATED WITH THE JACK AND BORE OPERATION UNDER THE RAILROAD TRACKS. SEE CONTRACT SPECIFICATIONS FOR ADDITIONAL INFORMATION.

STATION 139+00 TO STATION 139+75 REMOVE UNDERBRUSH AS NECESSARY TO ACCOMMODATE THE INSTALLATION OF THE 36" WATER MAIN.

BILL OF MATERIALS		
QUANTITY	DESCRIPTION	
1095 L.F.	PCCP	36-INCH
1 EA.	AIR RELEASE VALVE & VAULT	6-INCH
2 EA.	VALVE & VALVE VAULT	36-INCH
160 L.F.	STEEL CASING (JACK & BORE)	60-INCH
1 EA.	CONNECTION TO EX. MAIN	36-INCH
1 EA.	TAPPING SLEEVE & VALVE & VAULT	8"x8"
2 EA.	45° BEND	8-INCH
100 L.F.	DUCTILE IRON PIPE	8-INCH

SOUTHWEST TRANSMISSION MAIN - PLAN (STA. 130+66.08 TO STA. 141+57.28)



SOUTHWEST TRANSMISSION MAIN - PROFILE (STA. 130+66.08 TO STA. 141+57.28)

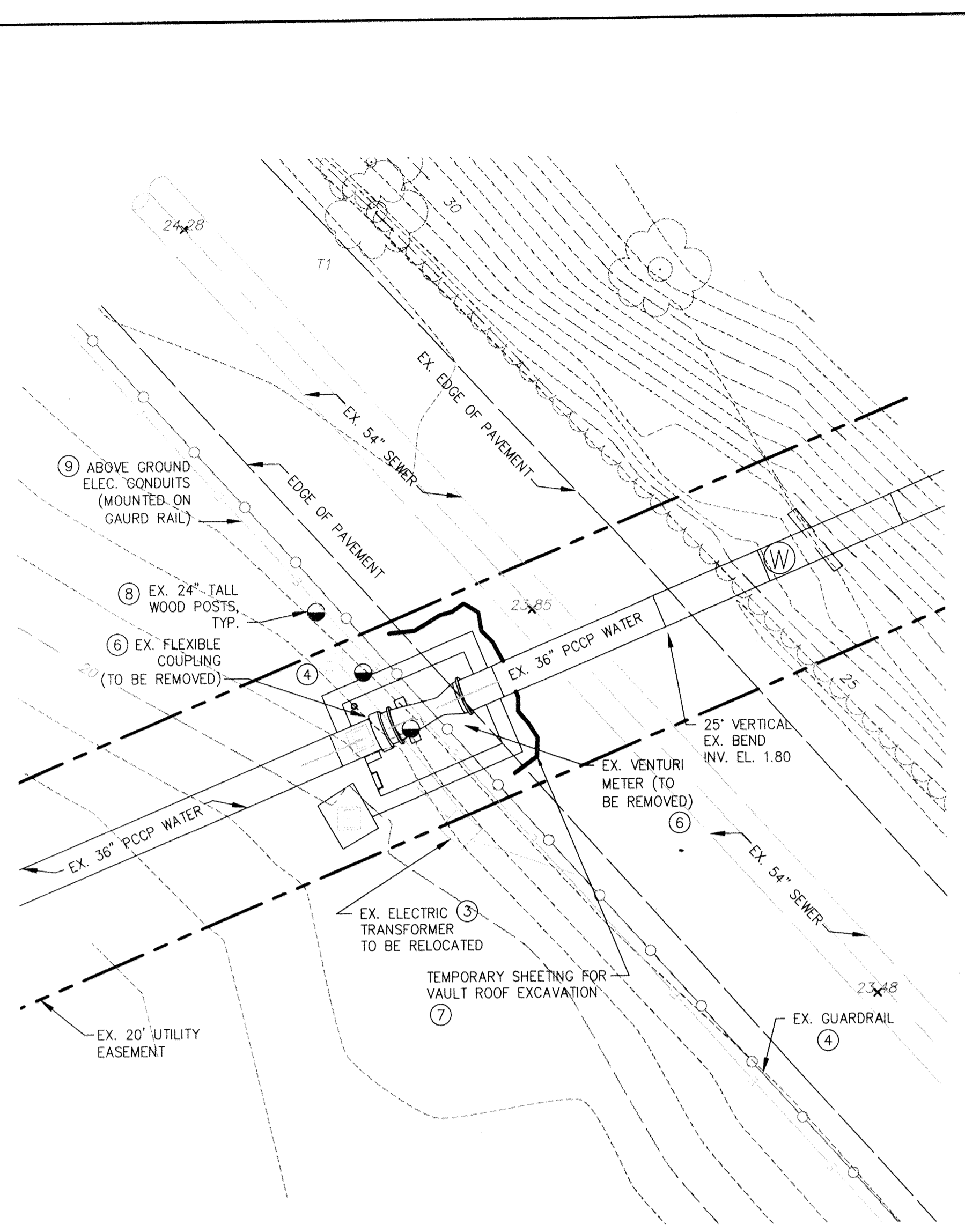
CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
ALLEN F. ... CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATERS	DATE: 4/12/12	CHIEF, UTILITY ENGINEERING	DATE:	DIRECTOR, DEPT OF PUBLIC WORKS	DATE:
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013.		REVISION		BY / DATE / P.W.A. NO. / KEY SHEET / POSITION SHT	
ENGINEER: STAM B. NAYER AS-BUILT PER RECORD PRINT	DESIGN BY: BBB DRAWN BY: JCD CHKD BY: SBN	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER	DEPARTMENT OF PUBLIC WORKS BUR. OF ENGINEERING & CONSTRUCTION CHIEF	
DATE: 1/23/12	DATE REVIEWED: 1/23/12	DATE: 1/23/12	DATE: 1/23/12	DATE: 1/23/12	DATE: 1/23/12

AS-BUILT JUNE 2016 C.W.O. 51738
 BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION
 SOUTHWEST TRANSMISSION MAIN
 PLAN AND PROFILE - STA. 130+27.03 TO 141+57.28
 SUBDIVISION: ST. DENIS ELECTION DISTRICT: 13

HOWARD CO. PROJECT NO. W-8276

11019 McCormick Road, Suite 260
 Hunt Valley, Maryland 21031

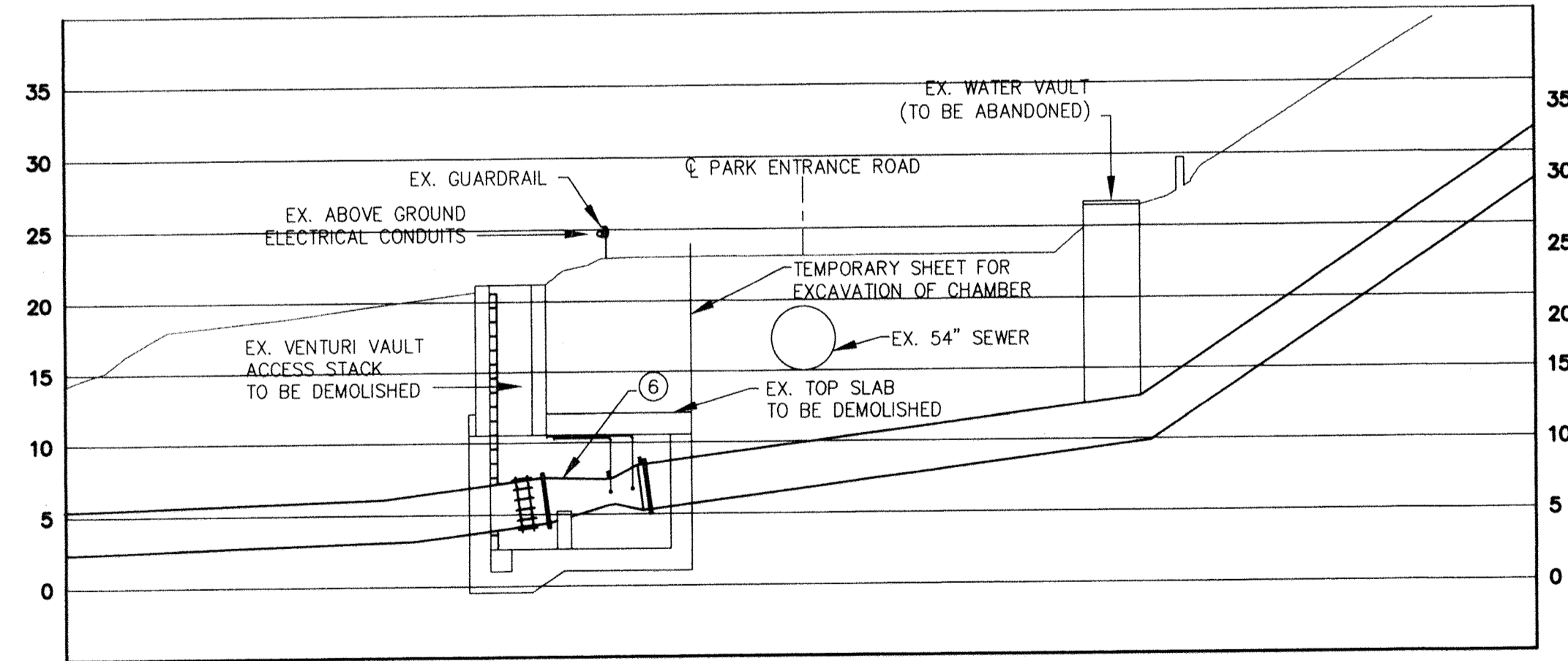
SHEET DESIGNATION	CONTRACT NO.
C-7	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 9 OF 36	DRAWING NO.
	2009-3358
	FILE NO.



EXISTING METER VAULT AREA - DEMOLITION PLAN

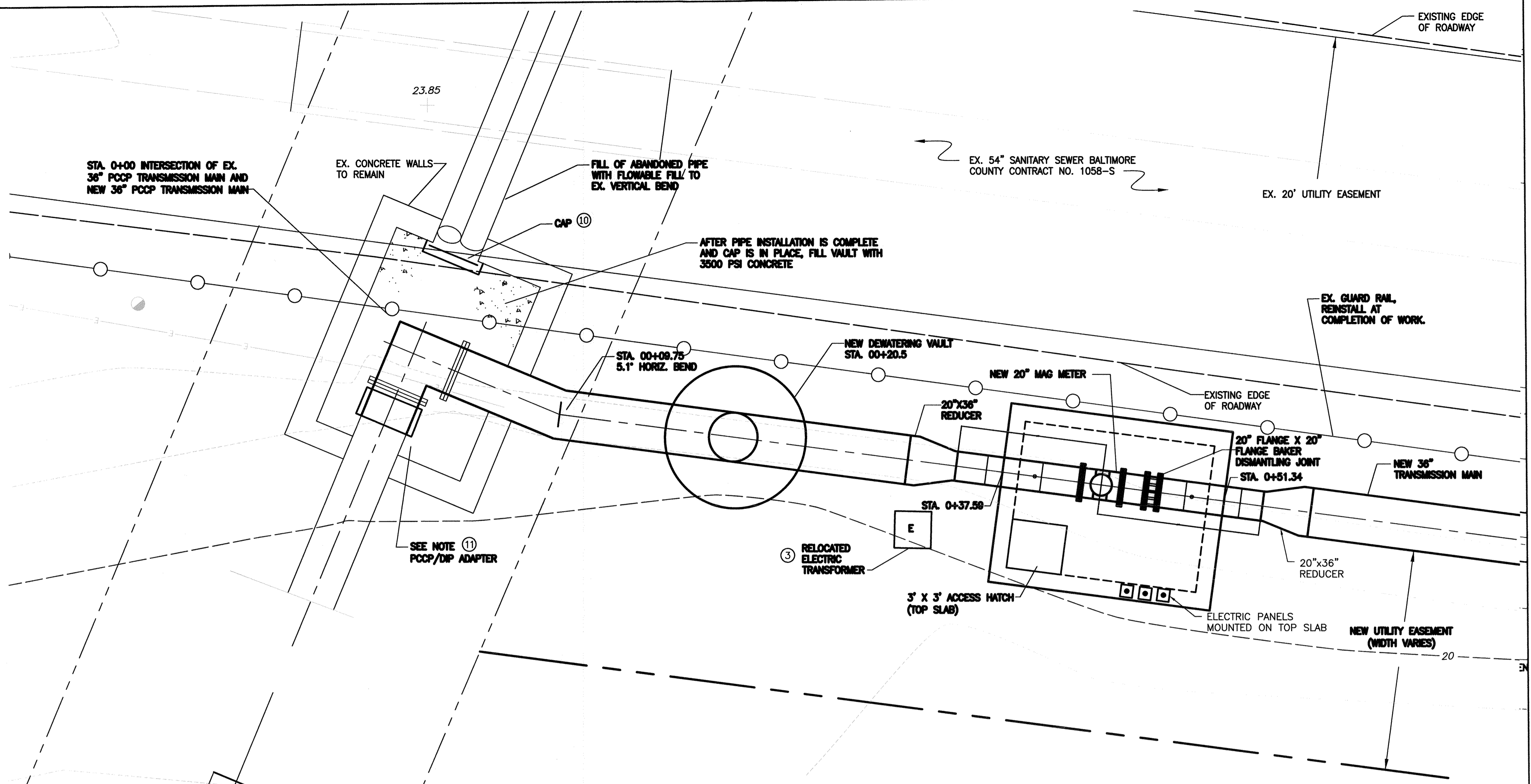
SCALE: 1" = 10'

PRIOR TO SUBMITTING SHOP DRAWINGS FOR THE PRESTRESSED CONCRETE CYLINDER PIPE, CONTRACTOR SHALL INSPECT THE PIPE INSIDE THE EXISTING VENTURI VAULT. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SUITABLE ADAPTER WHICH SHALL BE USED TO CONNECT THE 36" PRESTRESSED CONCRETE CYLINDER PIPE TO THE EXISTING PCCP WATER MAIN INSIDE THE VAULT.



EXISTING METER VAULT AREA - DEMOLITION PROFILE

HORIZONTAL SCALE: 1" = 10'-0"
VERTICAL SCALE: 1" = 10'-0"

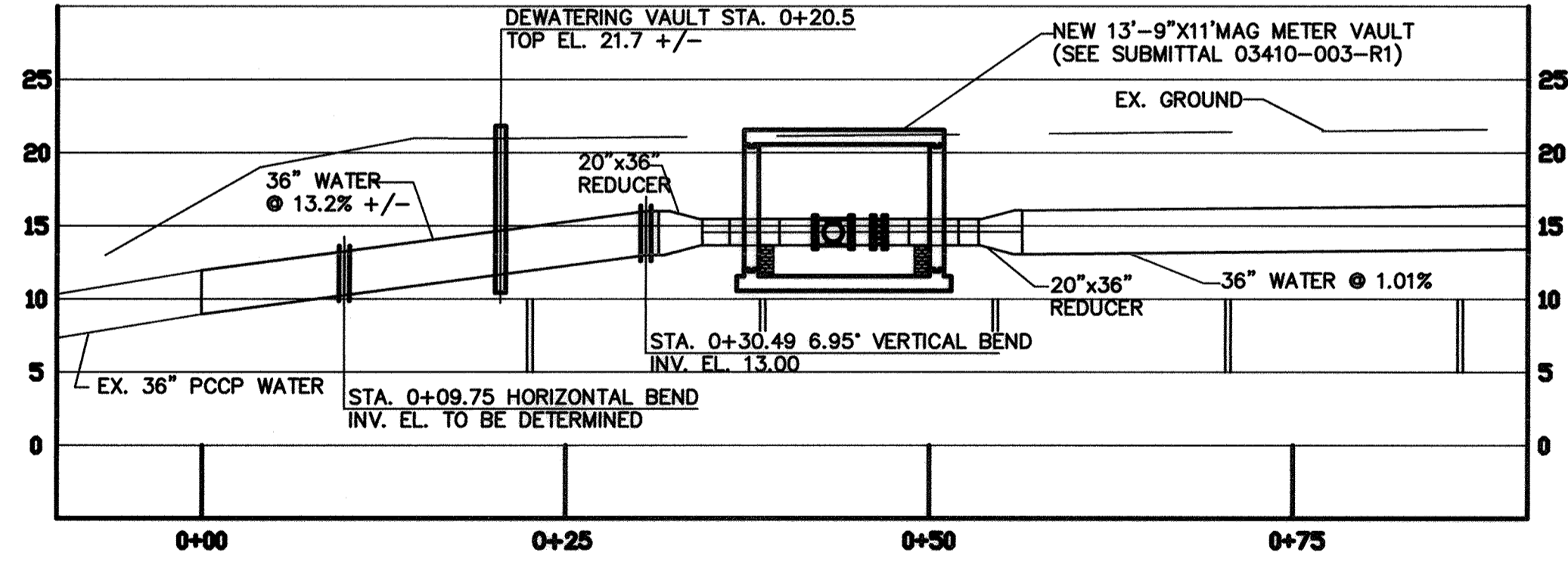


MAG METER VAULT AREA - NEW WORK PLAN

SCALE: 1/4" = 1'

DEMOLITION/CONSTRUCTION NOTES:

- ① IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION, DEMOLITION ACTIVITIES, WHICH CAUSE THE CONTRACTOR TO TAKE THE EXISTING MAIN OUT OF SERVICE, MAY NOT PROCEED UNTIL THE NEW WATER TRANSMISSION MAIN AND NEW MAG METER VAULT ARE CONSTRUCTED AND TESTED.
- ② EXISTING ELECTRIC SERVICE, ELECTRIC BOX, JUNCTION BOX, INSTRUMENTATION, AND OTHER POLE MOUNTED PANELS TO HAVE WIRING DISCONNECTED. REMOVE FROM MOUNTING SLAB AND RELOCATE, MOUNTING ON TOP OF NEW METER VAULT.
- ③ EXISTING ELECTRIC TRANSFORMER TO BE RELOCATED ADJACENT TO NEW METER VAULT. DISCONNECT FEED, EXTEND AND RECONNECT. PROVIDE CONCRETE PAD FOR RELOCATED TRANSFORMER.
- ④ REMOVE EXISTING GAUDDRAIL AS REQUIRED TO PERFORM WORK. REINSTALL AT COMPLETION OF THE WORK.
- ⑤ REMOVE EXISTING ACOUSTIC FIBER OPTIC CABLE JUNCTION BOX AND REINSTALL EXISTING CABLE UP TO JUNCTION BOX IN PUMP OUT MANHOLE. (TO BE DONE BY OTHERS)
- ⑥ REMOVE EXISTING VENTURI METER AND EXISTING FLEXIBLE COUPLING.
- ⑦ CONSTRUCT TEMPORARY SHEETING TO ALLOW FOR THE DEMOLITION OF THE EXISTING VENTURI ACCESS HATCH/VAULT ROOF.
- ⑧ DEMOLISH WOOD POSTS (TYP. OF 3).
- ⑨ MAINTAIN ABOVE GROUND ELECTRIC SERVICE DURING WORK. IF NEEDED, CONTRACTOR WILL BE REQUIRED TO PROVIDE TEMPORARY ELECTRIC LINES DURING CONSTRUCTION.
- ⑩ CAP EXISTING 36" PCCP WATER. PROVIDE CONCRETE 12" DEEP IN EXISTING 36" PCCP WATER. CONSTRUCT NEW METER VAULT. SEE SHEET C-9.
- ⑪ PROVIDE PCCP/DIP ADAPTER
- ⑫ RELOCATE EXISTING ELECTRIC SERVICE, INSTRUMENTATION AND OTHER PANELS. MOUNT USING EXISTING MOUNTING POSTS AND RACK. ANCHOR POSTS TOP WITH EXPANSION ANCHORS.



MAG METER VAULT AREA - NEW WORK PROFILE

HORIZONTAL SCALE: 1" = 10'-0"
VERTICAL SCALE: 1" = 10'-0"

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Chief, Water & Wastewater Eng. Div. Bureau of Water and Wastewater Date: 3/12/12		Chief, Utility Engineering Date: 1/22/12		Director, Dept. of Public Works Date: 1/22/12	
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013.		REVISION BY: DATE: P.W.A. NO. KEY SHEET POSITION SHIT		DRAWING SCALE PLAN SCALE: AS NOTED PROFILE SCALE: AS NOTED	
ENGINEER: SYAM B. NAYER DESIGN BY: BBB DRAWN BY: JCD CHECKED BY: SBN		BUREAU OF ENGINEERING AND CONSTRUCTION BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER		DEPARTMENT OF PUBL. WORKS APPROVED BY: [Signature] DIRECTOR DATE: 1-24-12	
AS-BUILT PER RECORD PRINT BY: DATE:		REVIEWED BY: R.J.F. DATE REVIEWED: 1/23/12		APPROVED BY: [Signature] CHIEF DATE: 1/27/12	

AS-BUILT JUNE 2016

CWO 51738

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

**SOUTHWEST TRANSMISSION MAIN
MAG METER VAULT - PLAN & PROFILE**

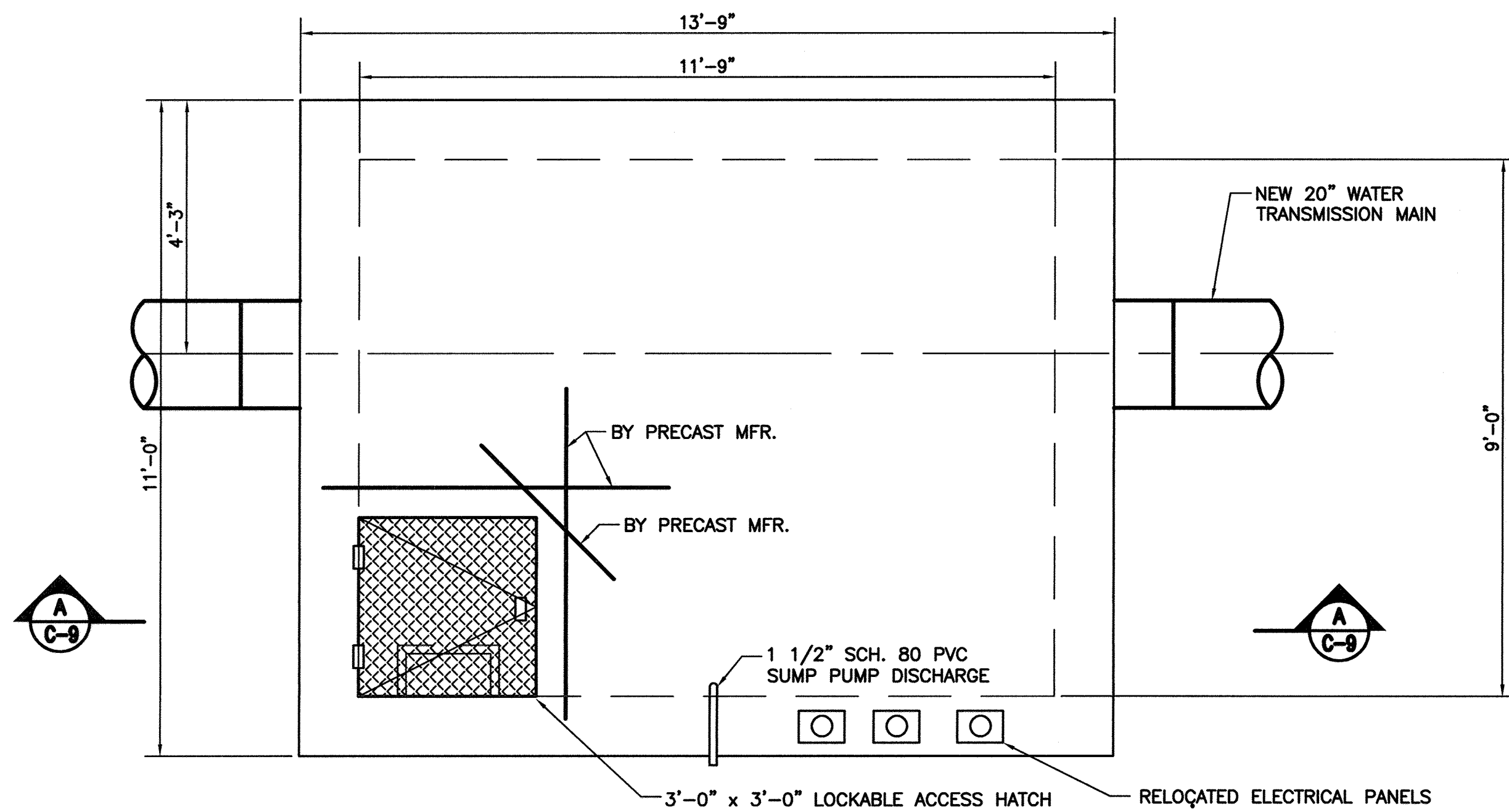
SUBDIVISION: ST. DENIS

ELECTION DISTRICT: 13

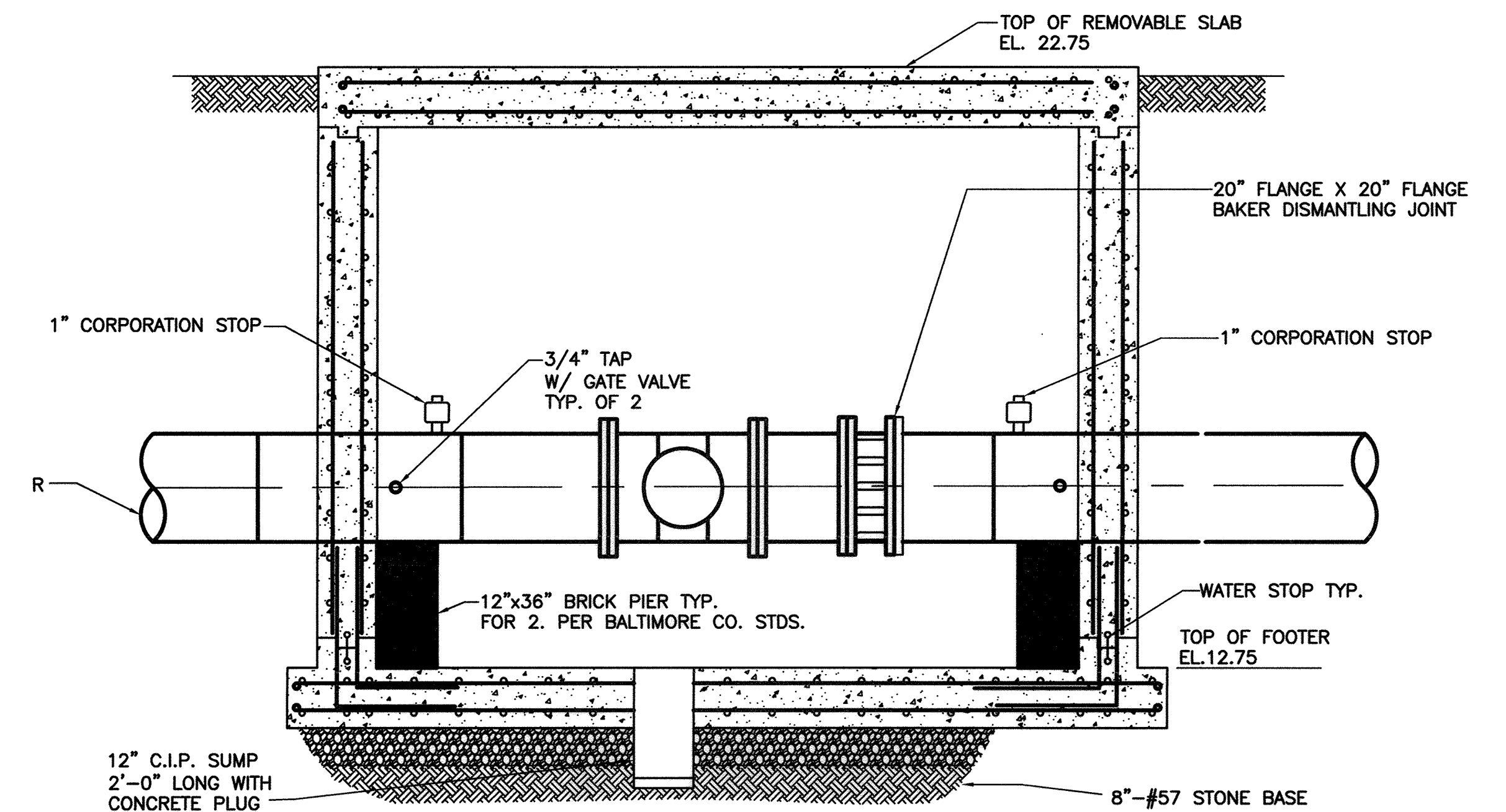
HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
11019 McCormick Road, Suite 260
Hunt Valley, Maryland 21031

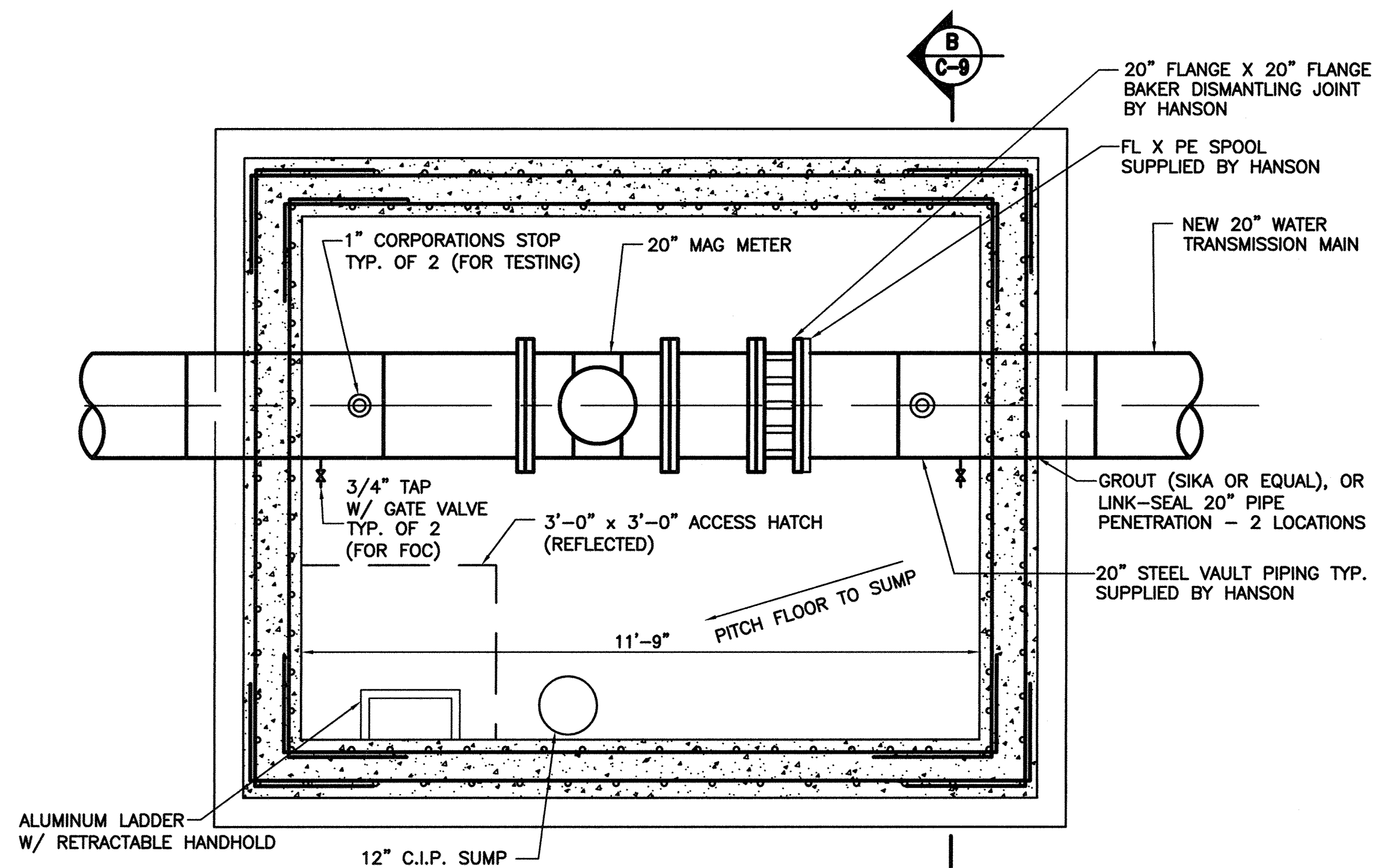
SHEET DESIGNATION C-8	CONTRACT NO. 44-4618
JOB ORDER NO. 203-0067-0281	SHEET 10 OF 36
DRAWING NO. 2009-3359	FILE NO.



NEW METERING VAULT @ STA. 0+37.59 - TOP SLAB PLAN
SCALE: 1/2" = 1'-0"



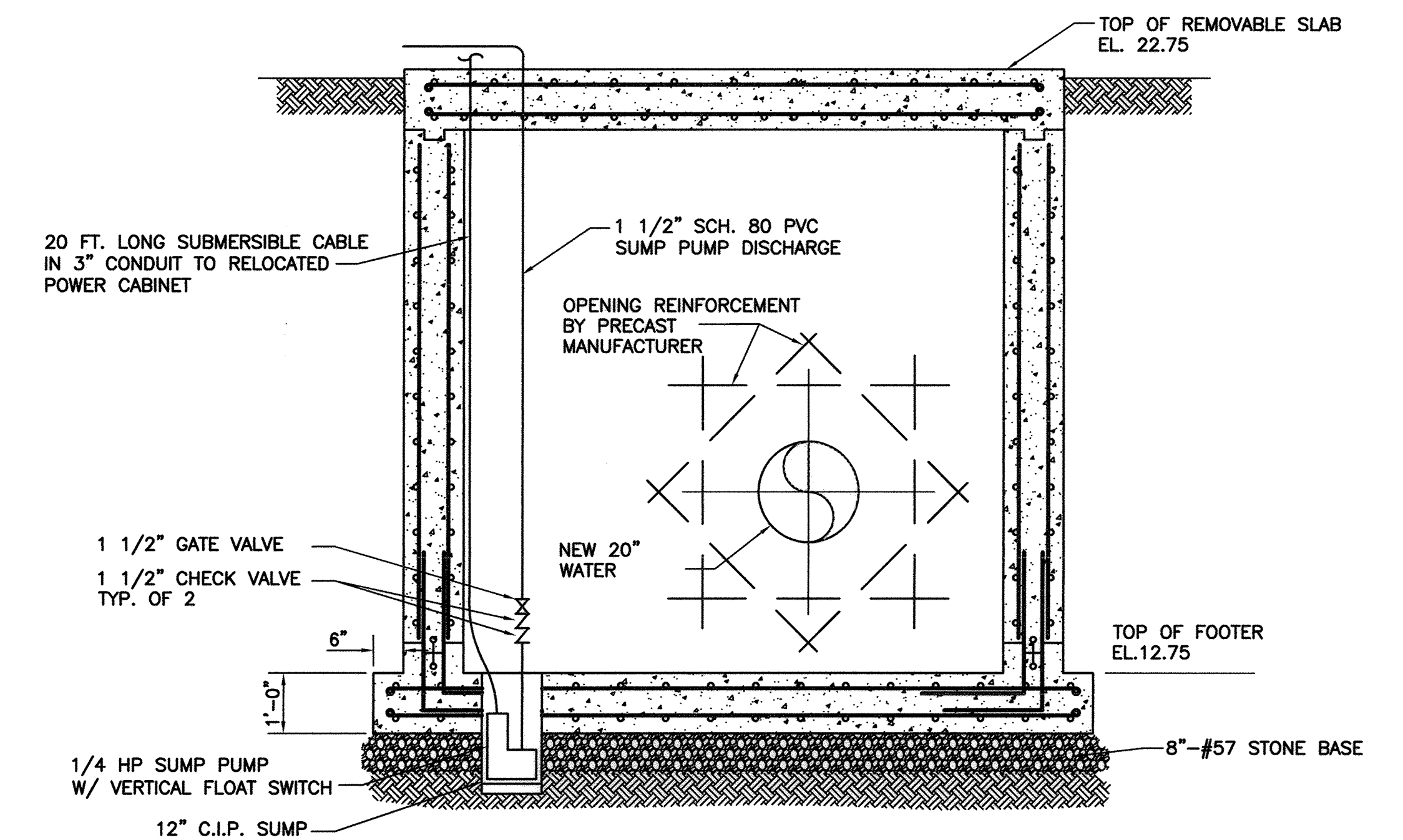
SECTION METERING VAULT @ STA. 0+37.59 - SECTION A-A
SCALE: 1/2" = 1'-0"



NEW METERING VAULT @ STA. 0+37.59 - LOWER LEVEL PLAN
SCALE: 1/2" = 1'-0"

VENTURI METER VAULT GENERAL NOTES

- CONTRACTOR SHALL HAVE THE OPTION OF PROVIDING PRE-CAST CONCRETE VAULTS OR UTILIZE CAST-IN-PLACE.
- ALL PRE-CAST CONCRETE SHALL BE 4,500 PSI.
- ALL CAST-IN-PLACE CONCRETE SHALL BE 3,500 PSI.
- ALL STEEL REBAR SHALL CONFORM TO ASTM A-615, GRADE 60
- CONTRACTOR SHALL NOT BACKFILL OR INSTALL THE PRECAST SECTIONS OF THE VAULT FOR AT LEAST 5 DAYS AFTER POURING THE CAST-IN-PLACE BASE SLAB.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF REBAR IN PRE-CAST SECTIONS OF THE VAULT. THE REBAR FOR PRE-CAST SECTIONS ARE NOT SHOWN IN THIS PLAN.
- THE CONTRACTOR SHALL PROVIDE LIFTING DEVICES FOR PRE-CAST SECTIONS OF THE VAULT (NOT SHOWN IN THIS PLAN). DESIGN AND CONSTRUCTION OF THE LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.



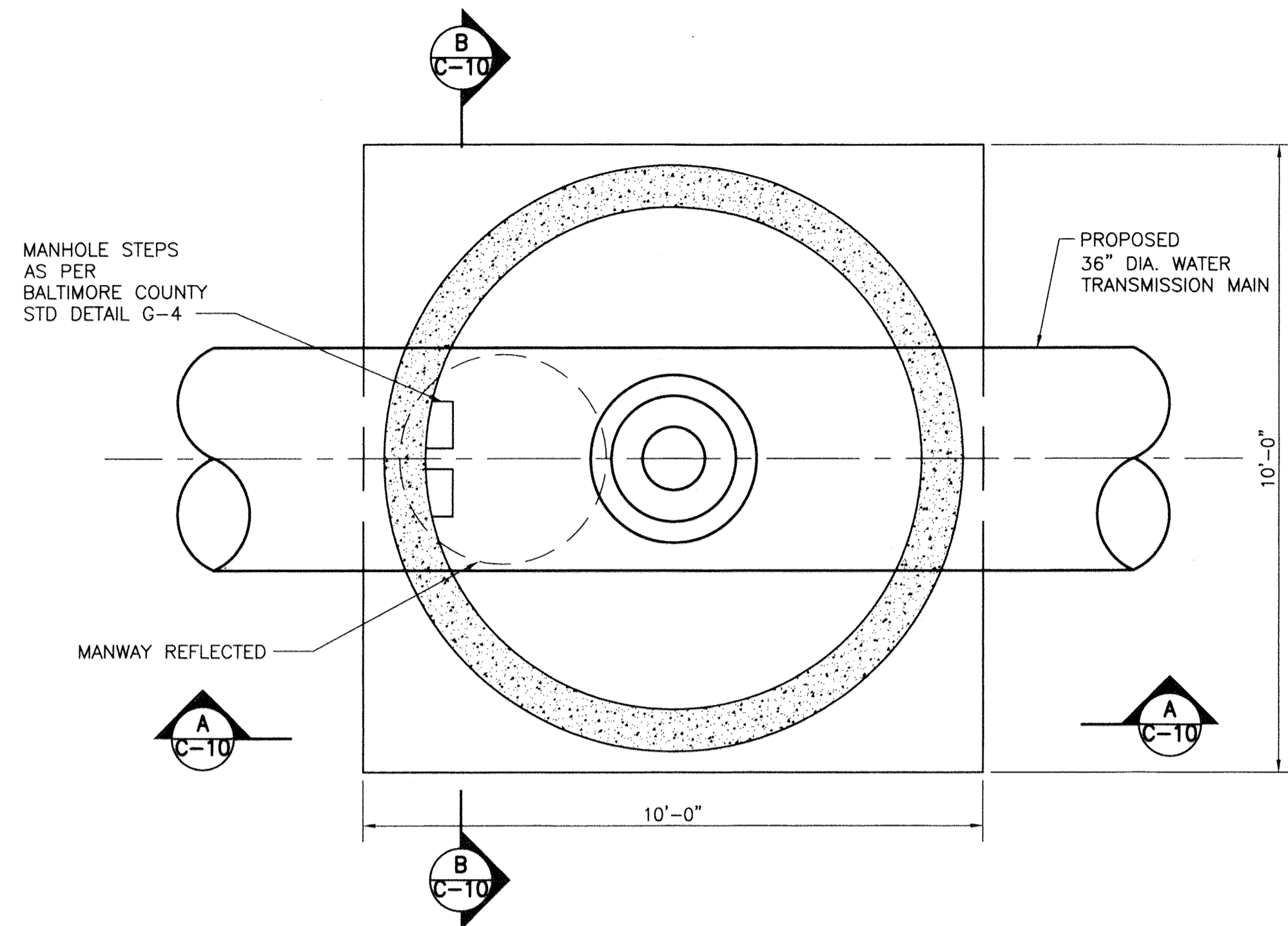
SECTION METERING VAULT @ STA. 0+37.59 - SECTION B-B
SCALE: 1/2" = 1'-0"

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Acting Eng. 3/15/12		CHIEF, UTILITY ENGINEERING		Director, DEPT OF PUBLIC WORKS	
CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER		CHIEF, WATER ENGINEERING SECTION		DIRECTOR, DEPT OF PUBLIC WORKS	
DATE		DATE		DATE	
PROFESSIONAL CERTIFICATION		REVISION		BY DATE P.W.A. NO. KEY SHEET POSITION SHIT	
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A JULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013				R.O.W. NO.	
ENGINEER: STAM B. NAYER		DESIGN BY: BBB		BUREAU OF ENGINEERING AND CONSTRUCTION	
AS-BUILT PER RECORD PRINT		DRAWN BY: JCD		REVIEWED BY: RBF	
BY: DATE:		CHKD BY: SBN		DATE REVIEWED: 1/23/12	
DATE: 1-18-2012				1/27/12 1/20/12 1/24/12 1/23/12	
DRAWING SCALE		DEPARTMENT OF PUBLIC WORKS		AS-BUILT JUNE 2016	
PLAN SCALE: AS NOTED		APPROVED BY: [Signature]		DIRECTOR	
PROFILE SCALE: AS NOTED		DATE: 1-24-12			
BUR. OF ENGINEERING & CONSTRUCTION		APPROVED BY: [Signature]		CHIEF	
SUBDIVISION: ST. DENIS		ELECTION DISTRICT: 13			

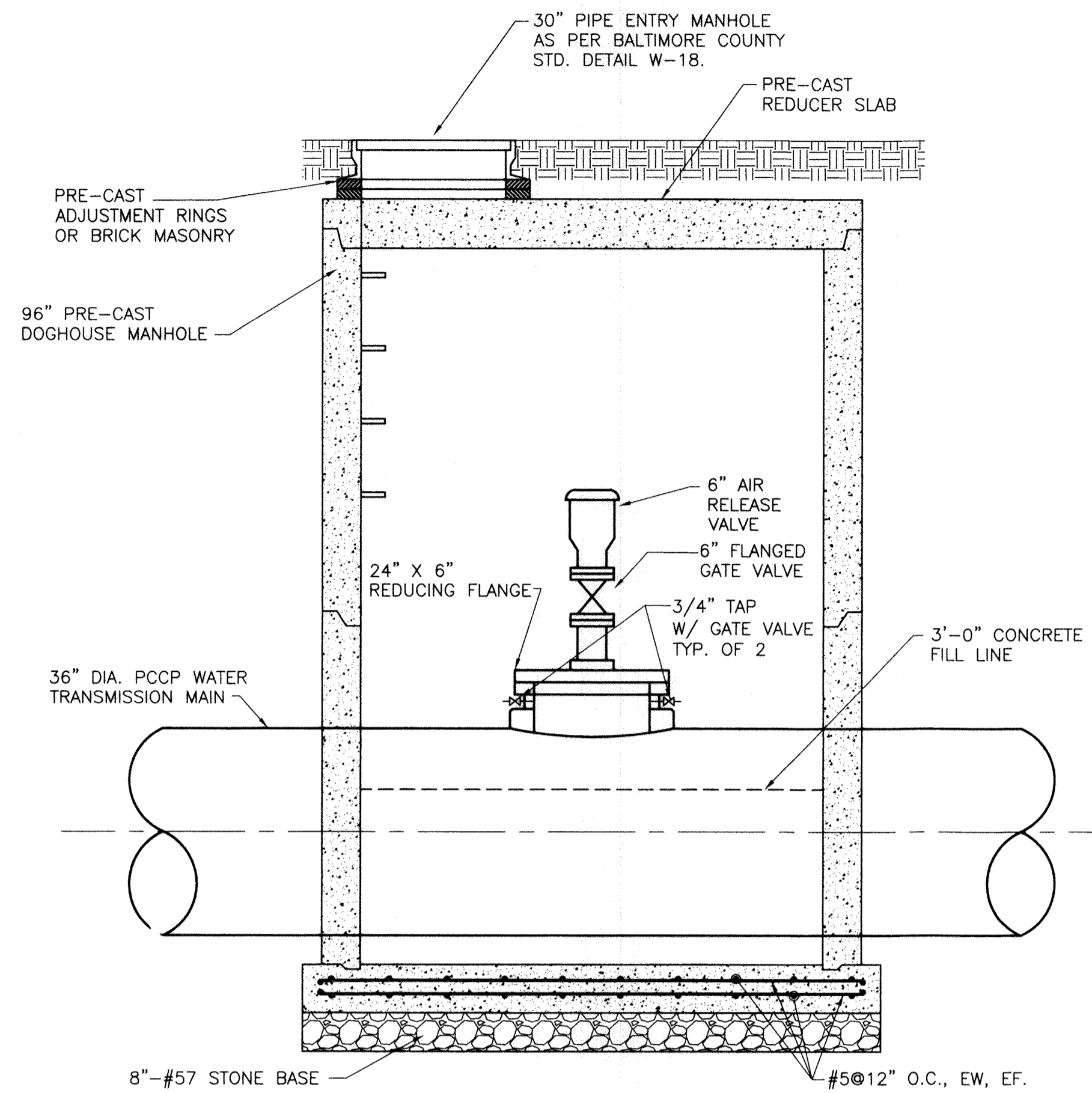
HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
11019 McCormick Road, Suite 200
Hunt Valley, Maryland 21031

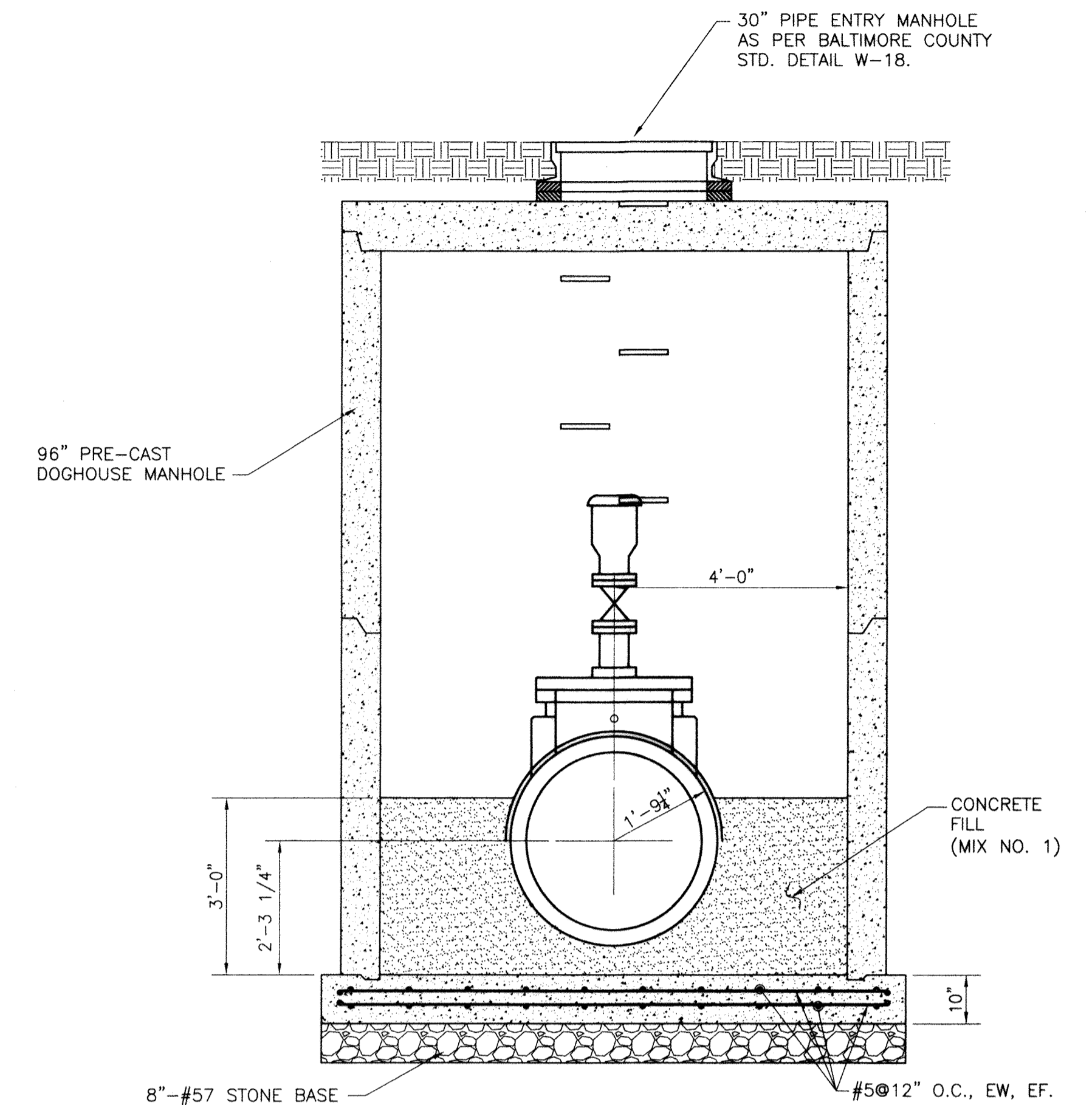
SHEET DESIGNATION	CONTRACT NO.
C-9	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 11 OF 36	DRAWING NO.
2009-3360	FILE NO.



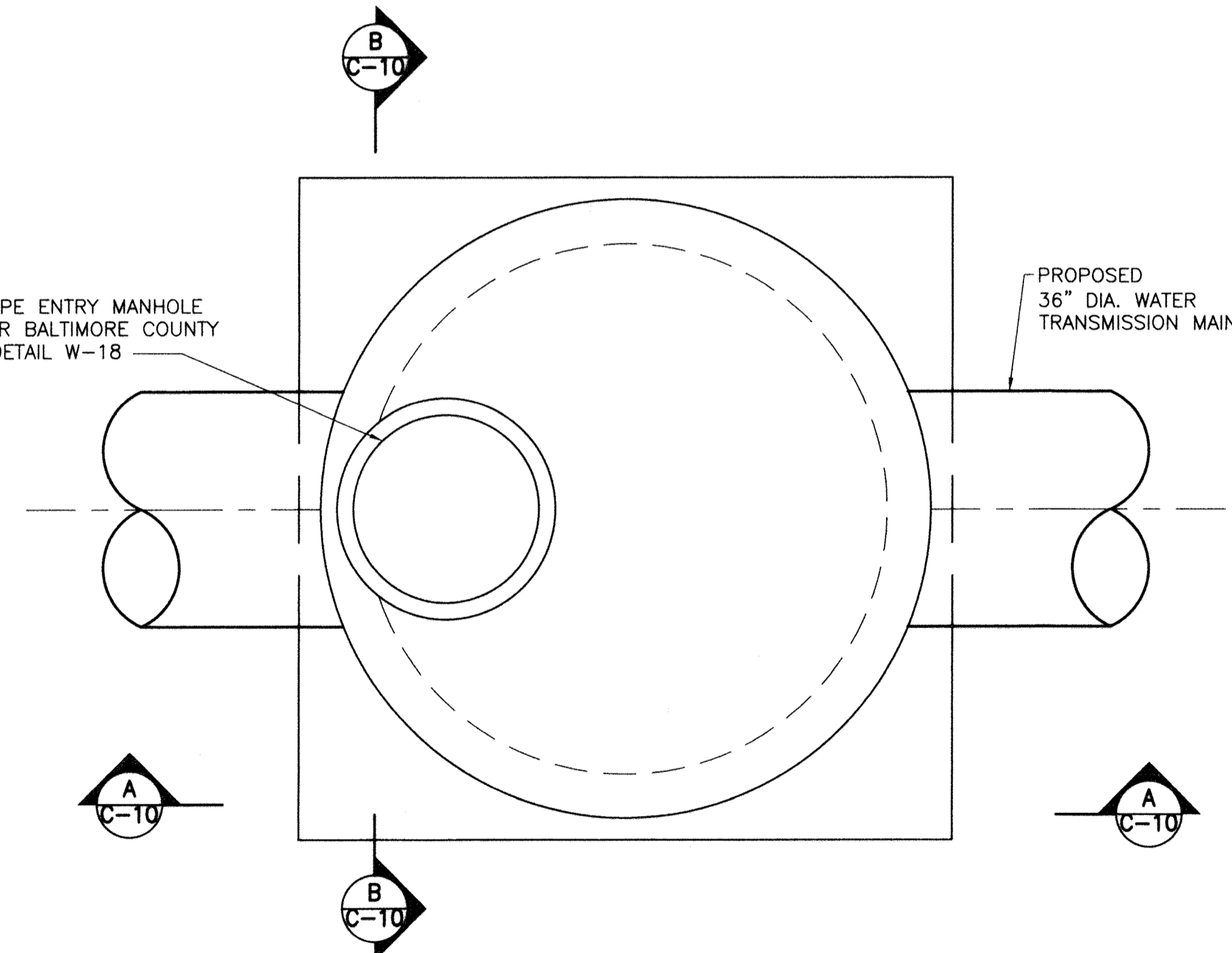
AIR RELEASE & MANWAY ACCESS VAULT - LOWER LEVEL
SCALE: 1/2" = 1'-0"



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



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



AIR RELEASE & MANWAY ACCESS VAULT - TOP SLAB PLAN
SCALE: 1/2" = 1'-0"

AIR RELEASE AND MANWAY ACCESS VAULT GENERAL NOTES:

1. CONTRACTOR SHALL HAVE THE OPTION OF USING CAST-IN-PLACE CONCRETE OR PROVIDING PRECAST CONCRETE VAULTS.
2. ALL PRE-CAST CONCRETE SHALL BE 4,500 PSI.
3. ALL CAST-IN-PLACE CONCRETE SHALL BE 3,500 PSI.
4. ALL STEEL REBAR SHALL CONFORM TO ASTM A-615, GRADE 60.
5. CONTRACTOR SHALL NOT BACKFILL OR INSTALL THE PRECAST SECTIONS OF THE VAULT FOR AT LEAST 5 DAYS AFTER POURING THE CAST-IN-PLACE BASE SLAB.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF REBAR IN PRE-CAST SECTIONS OF THE VAULT. THE REBAR FOR PRE-CAST SECTIONS ARE NOT SHOWN IN THIS PLAN.
7. THE CONTRACTOR SHALL PROVIDE LIFTING DEVICES FOR PRE-CAST SECTIONS OF THE VAULT (NOT SHOWN IN THIS PLAN). DESIGN AND CONSTRUCTION OF THE LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
<i>Act Imbol</i> CHIEF WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER	DATE: 5/15/12 CHIEF, WATER ENGINEERING SECTION	<i>Jack K...</i> DIRECTOR, DEPT. OF PUBLIC WORKS

SEAL	PROFESSIONAL CERTIFICATION	REVISION	NO.	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	DEPARTMENT OF PUBLIC WORKS	
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013								PLAN SCALE: AS NOTED	APPROVED BY: <i>[Signature]</i> DIRECTOR
	ENGINEER: STAM B. NAYER	DESIGN BY: BBB	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	AS-BUILT PER RECORD PRINT	DRAWN BY: JCD	REVIEWED BY:	<i>RJF</i>	<i>JK</i>	<i>GA</i>	<i>h/m</i>	<i>JDP</i>	APPROVED BY: <i>[Signature]</i> CHIEF	DATE: 1-24-12
	BY: DATE:	CHKD BY: SBN	DATE REVIEWED:	1/23/12	1/23/12	1/20/12	1/28/12	1/23/12	DATE: 1/17/12	

AS-BUILT JUNE 2016

SOUTHWEST TRANSMISSION MAIN
AIR RELEASE & MANWAY ACCESS VAULT DETAIL

SUBDIVISION: ST. DENIS

ELECTION DISTRICT: 13

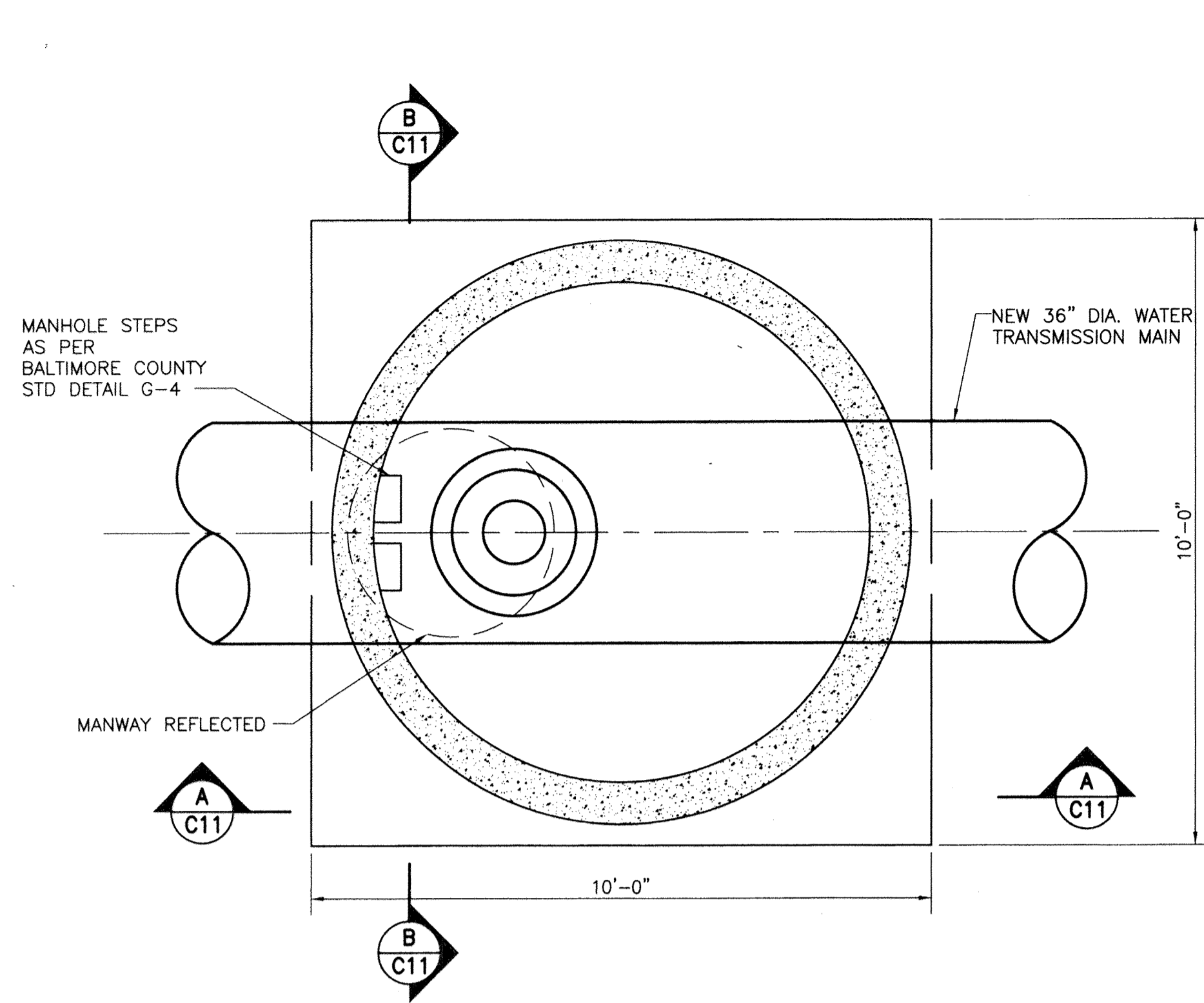
HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
11019 McCormick Road, Suite 200
Hunt Valley, Maryland 21031

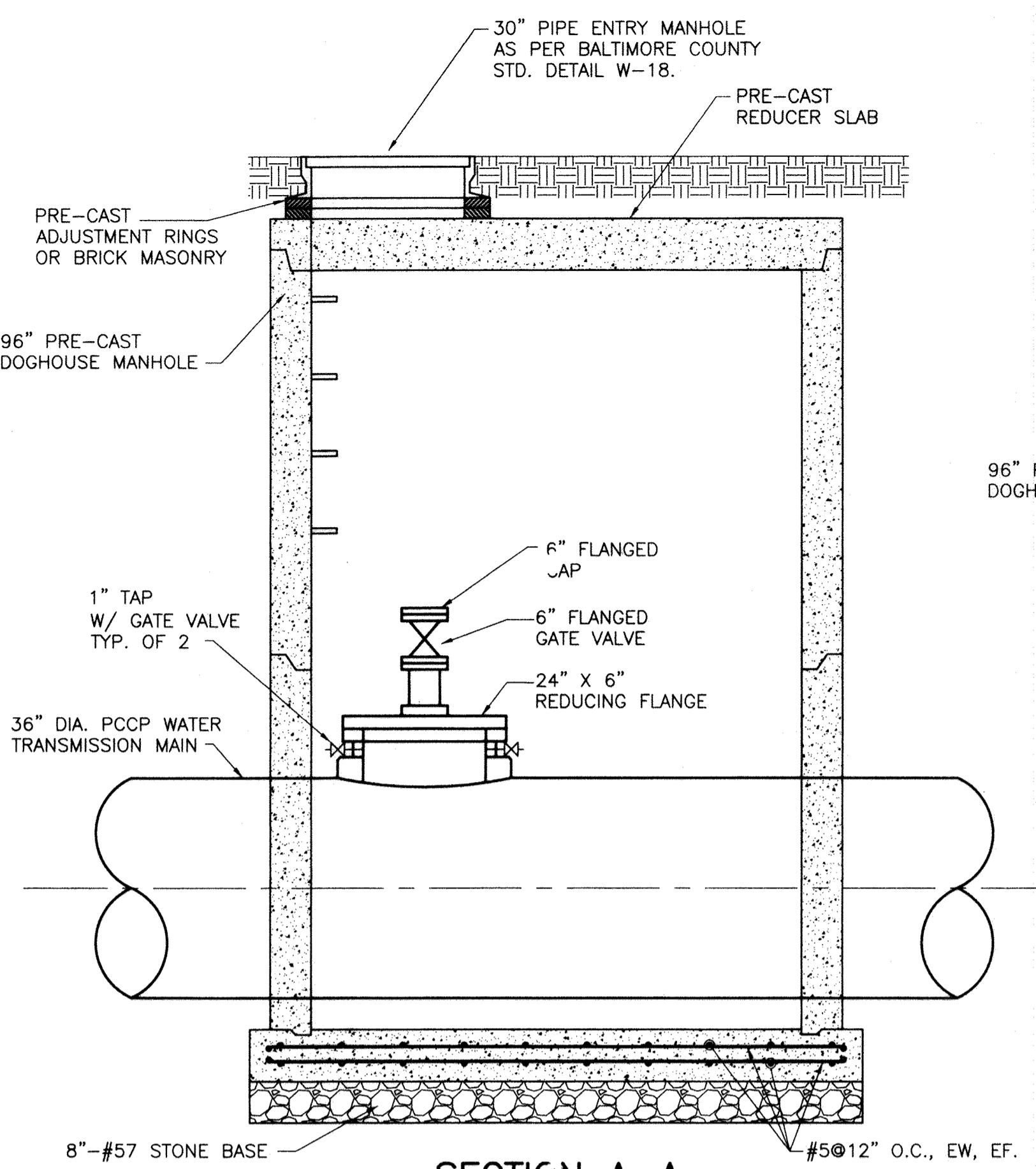
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C-10	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 12 OF 36	DRAWING NO.
2009-3361	FILE NO.



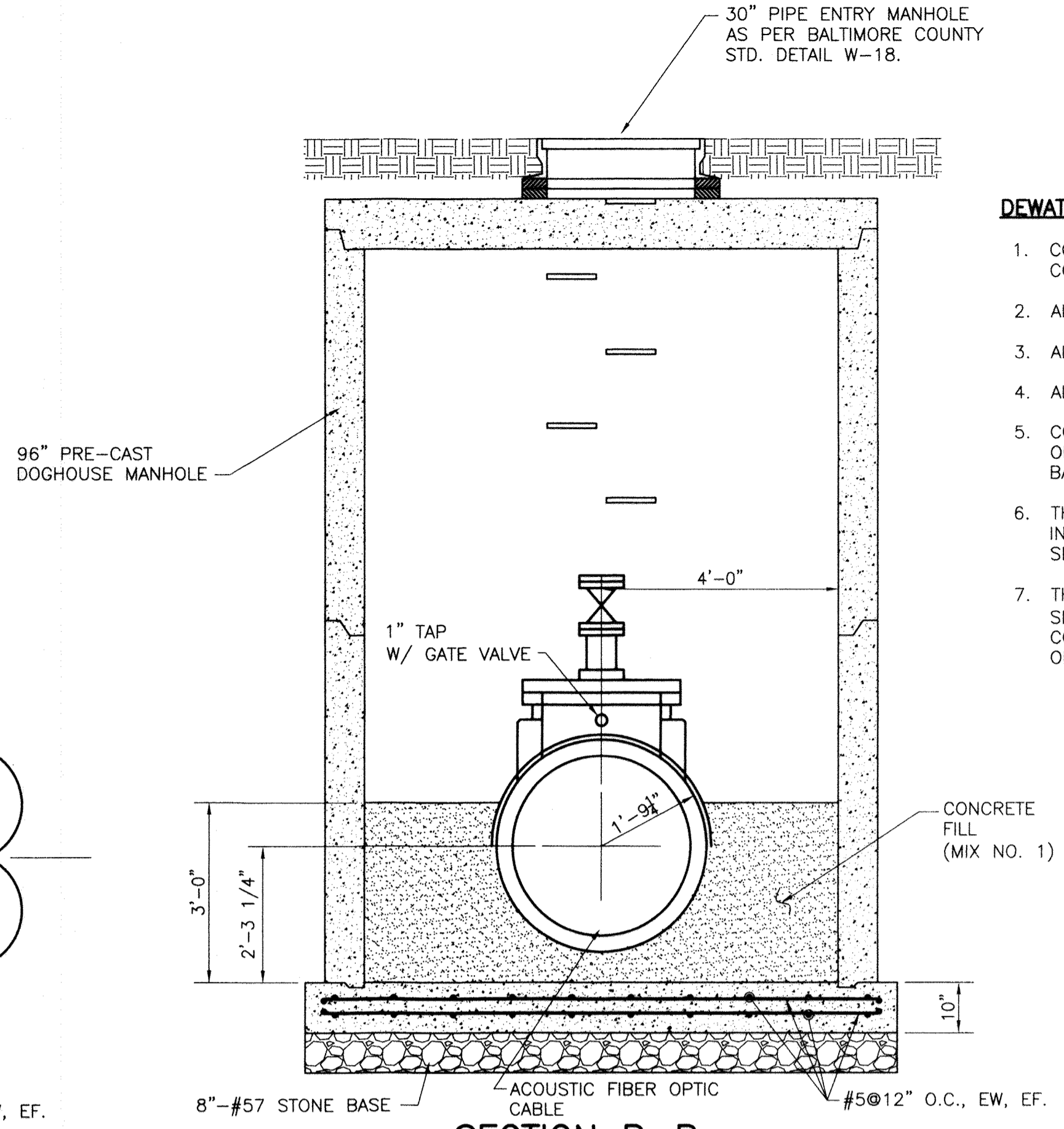
DWG FILENAME:



DEWATERING VALVE & VAULT - LOWER LEVEL
SCALE: 1/2" = 1'-0"

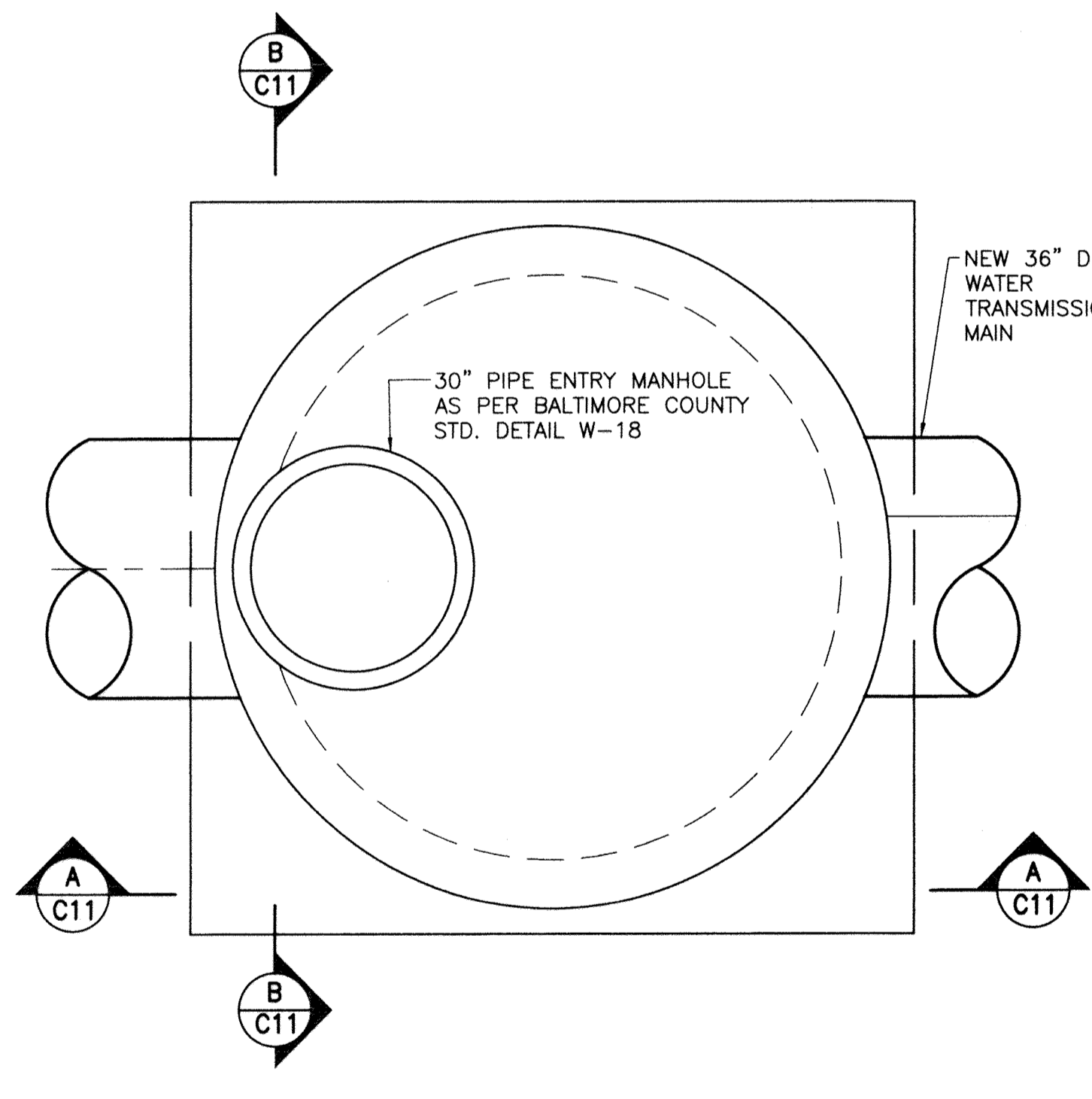


SECTION A-A
SCALE: 1/2" = 1'-0"

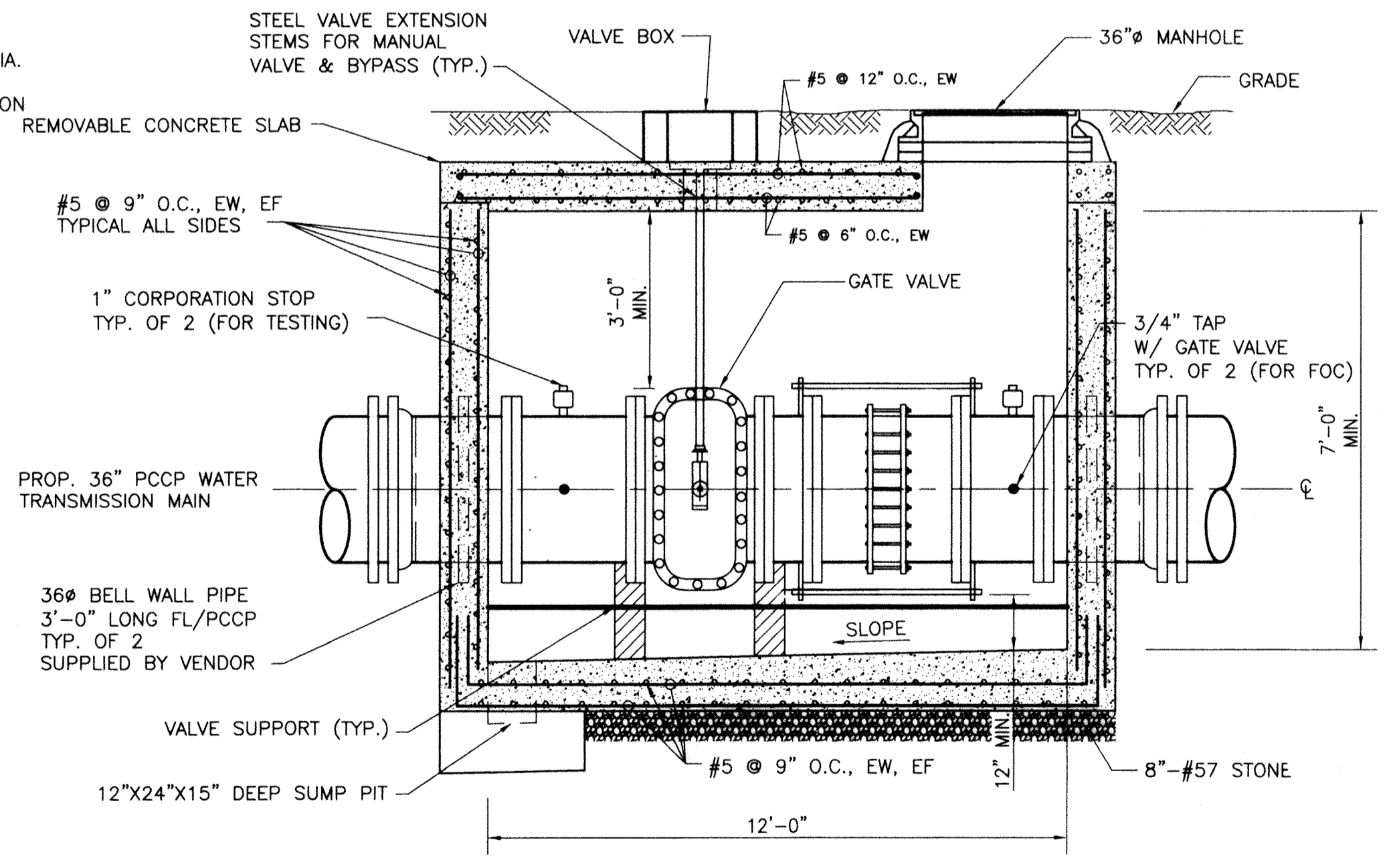


SECTION B-B
SCALE: 1/2" = 1'-0"

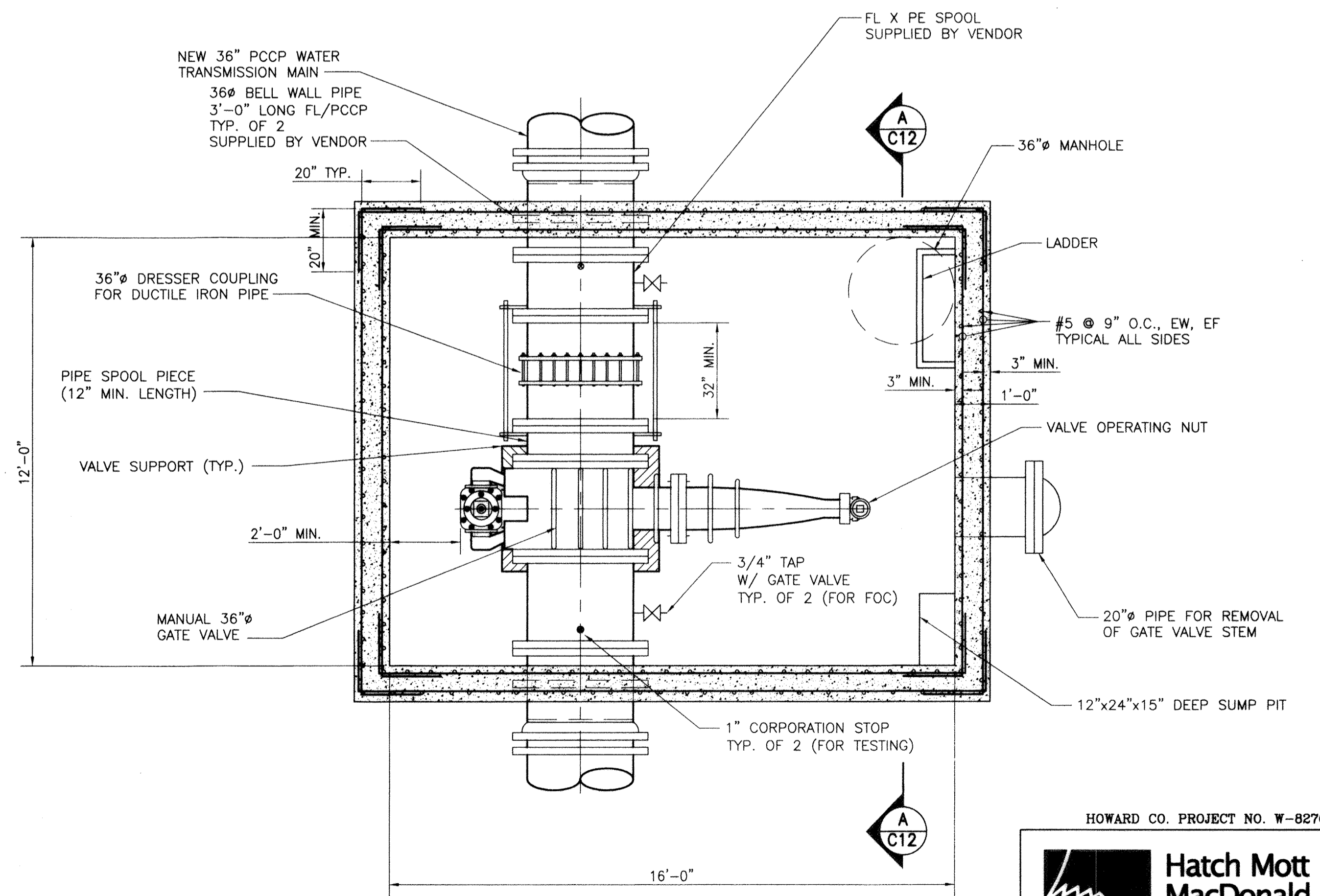
- DEWATERING VALVE AND VAULT GENERAL NOTES:**
1. CONTRACTOR SHALL HAVE THE OPTION OF FURNISHING PRE-CAST CONCRETE VAULTS OR USING CAST-IN-PLACE CONCRETE.
 2. ALL PRE-CAST CONCRETE SHALL BE 4,500 PSI.
 3. ALL CAST-IN-PLACE CONCRETE SHALL BE 3,500 PSI.
 4. ALL STEEL REBAR SHALL CONFORM TO ASTM A-615, GRADE 60.
 5. CONTRACTOR SHALL NOT BACKFILL OR INSTALL THE PRECAST SECTIONS OF THE VAULT FOR AT LEAST 5 DAYS AFTER POURING THE CAST-IN-PLACE BASE SLAB.
 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF REBAR IN PRE-CAST SECTIONS OF THE VAULT. THE REBAR FOR PRE-CAST SECTIONS ARE NOT SHOWN IN THIS PLAN.
 7. THE CONTRACTOR SHALL PROVIDE LIFTING DEVICES FOR PRE-CAST SECTIONS OF THE VAULT (NOT SHOWN IN THIS PLAN). DESIGN AND CONSTRUCTION OF THE LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.



DEWATERING VALVE & VAULT - TOP SLAB PLAN
SCALE: 1/2" = 1'-0"



IN LINE VALVE DETAIL - SECTION A-A
SCALE: 3/8" = 1'-0"



IN LINE VALVE DETAIL - PLAN
SCALE: 3/8" = 1'-0"

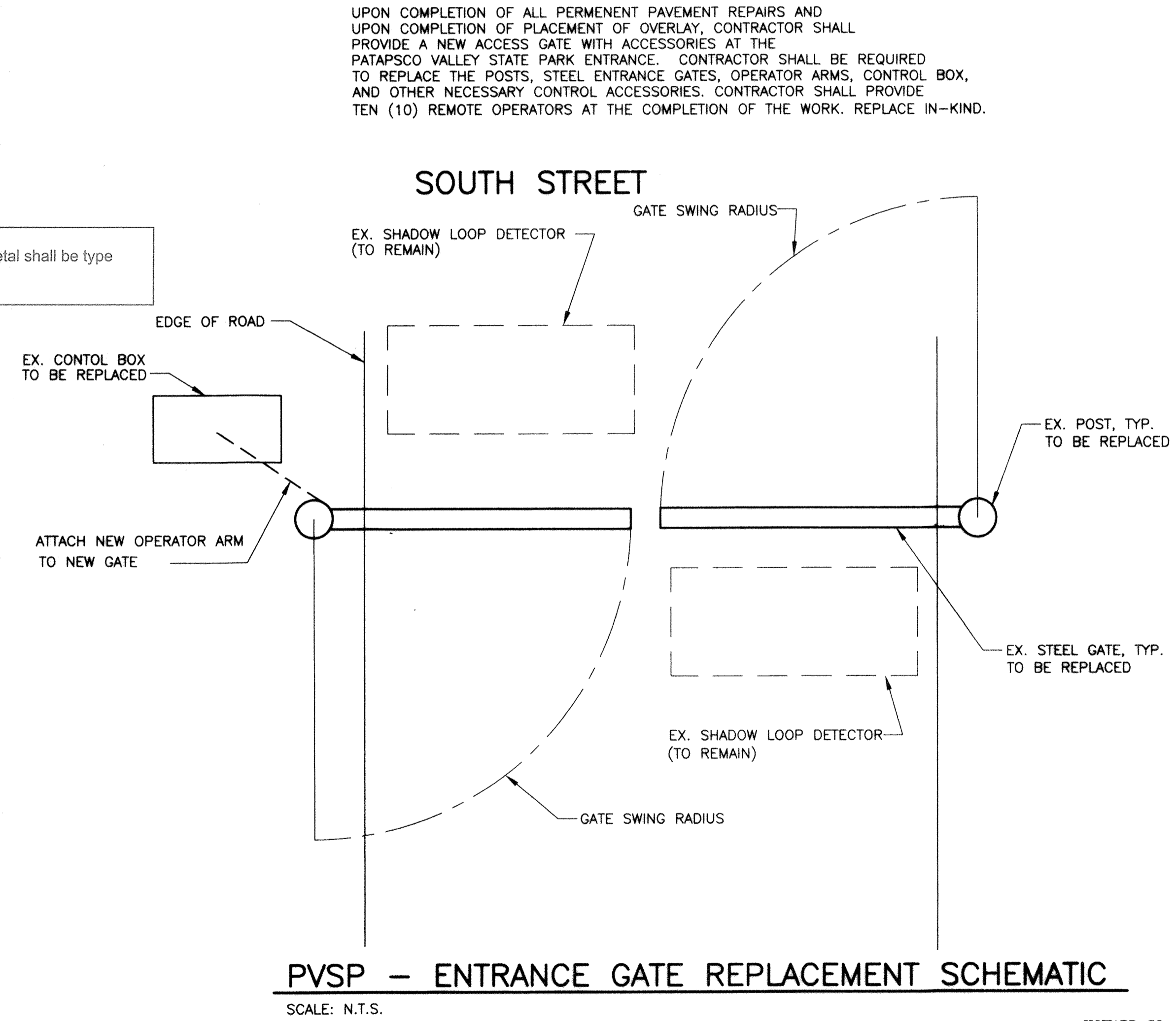
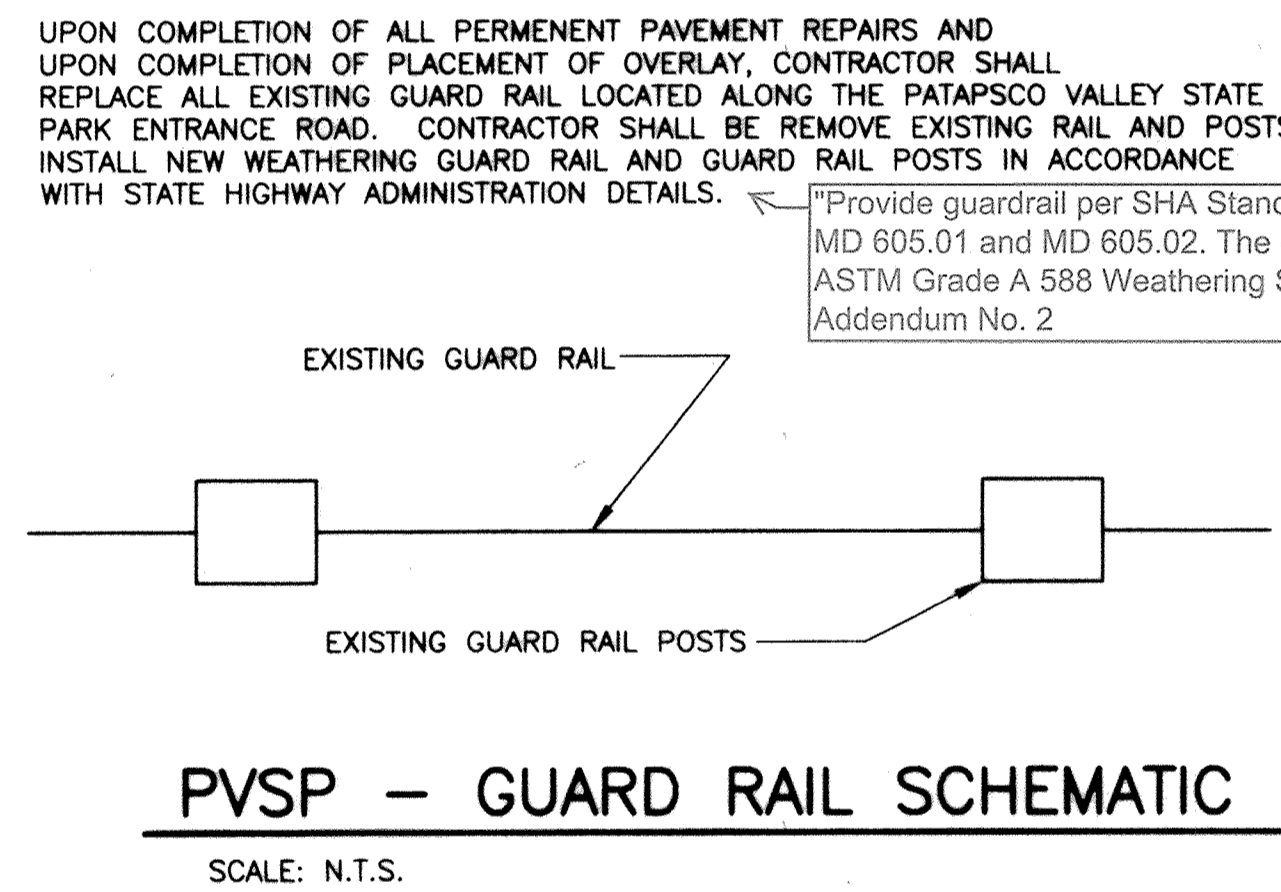
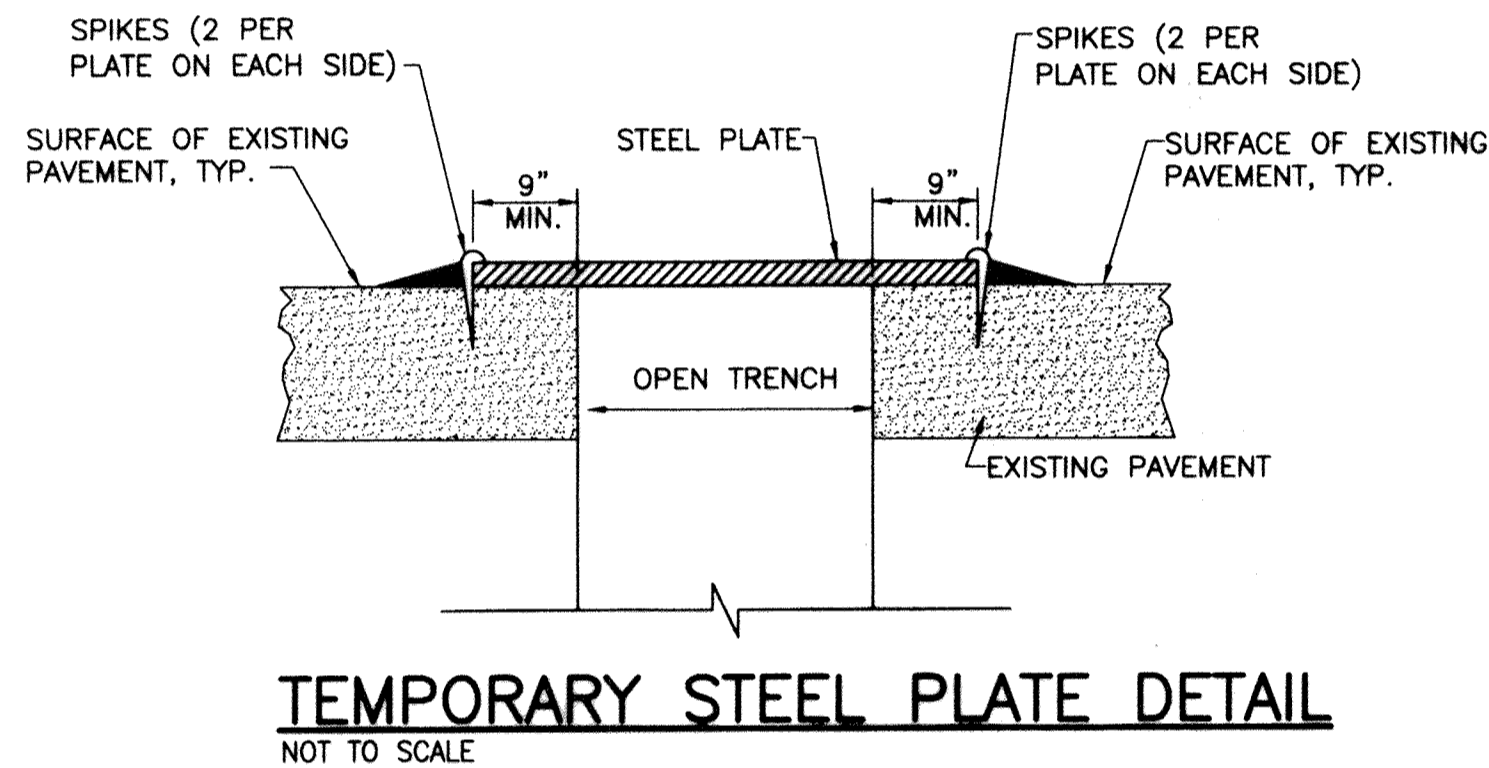
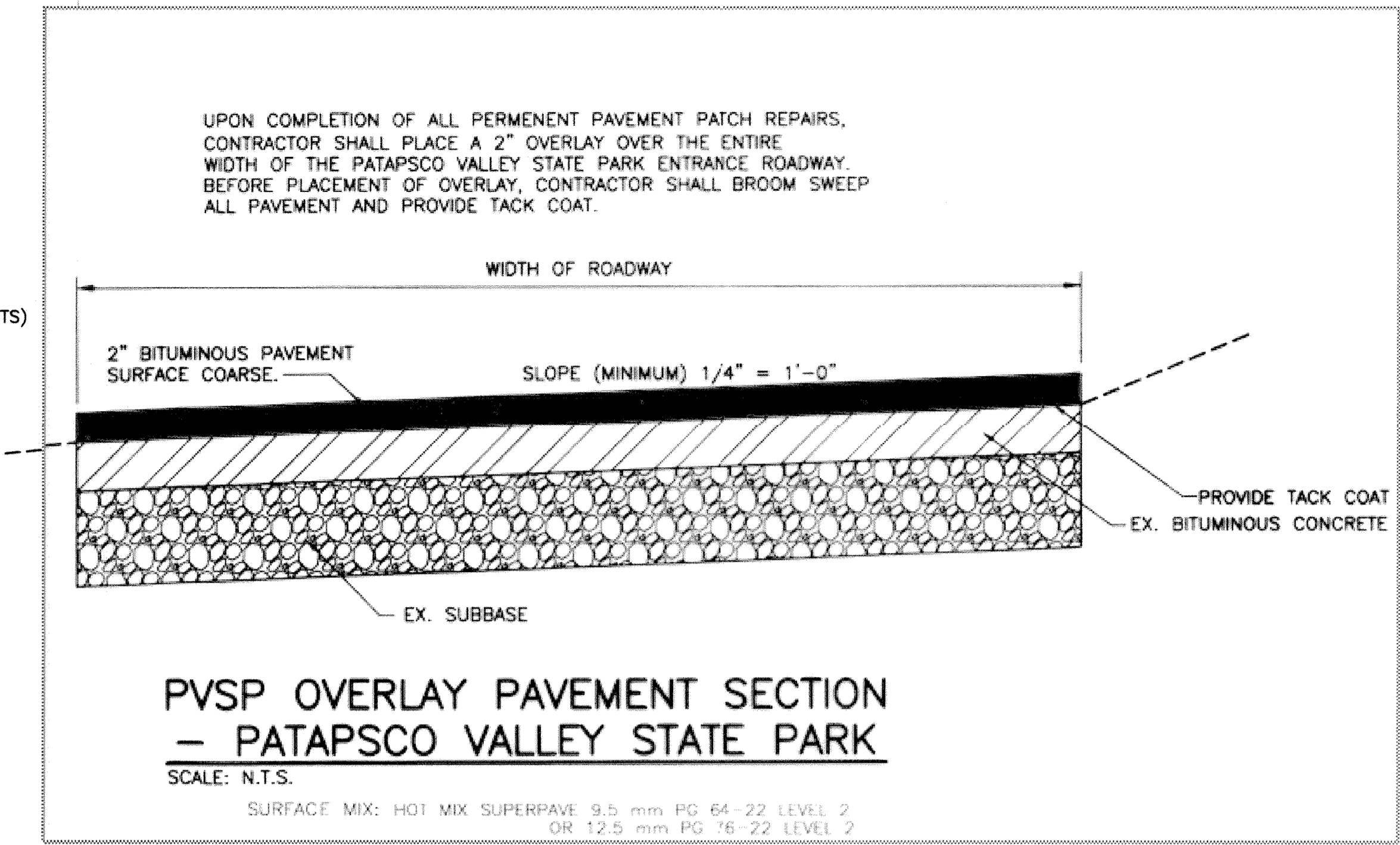
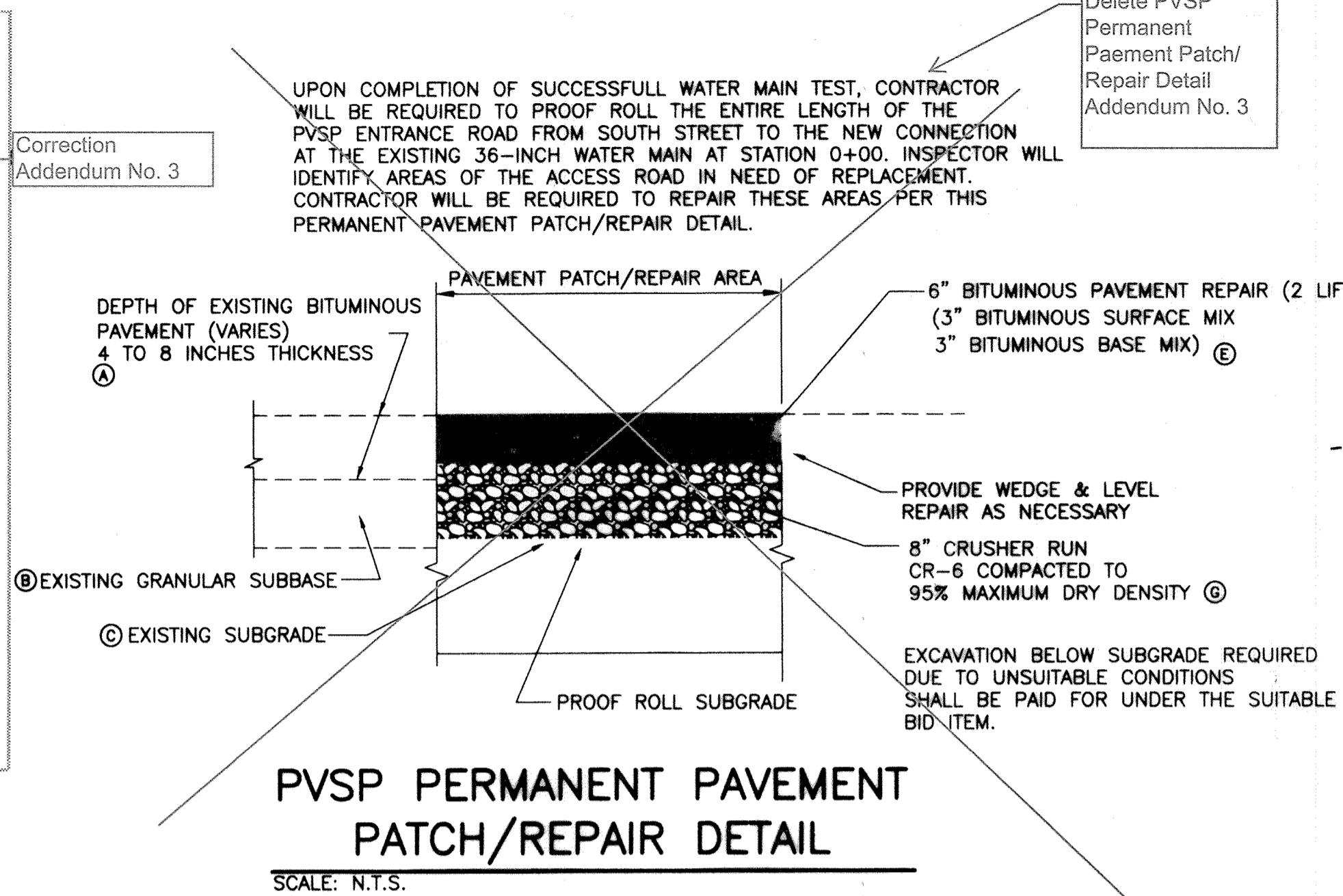
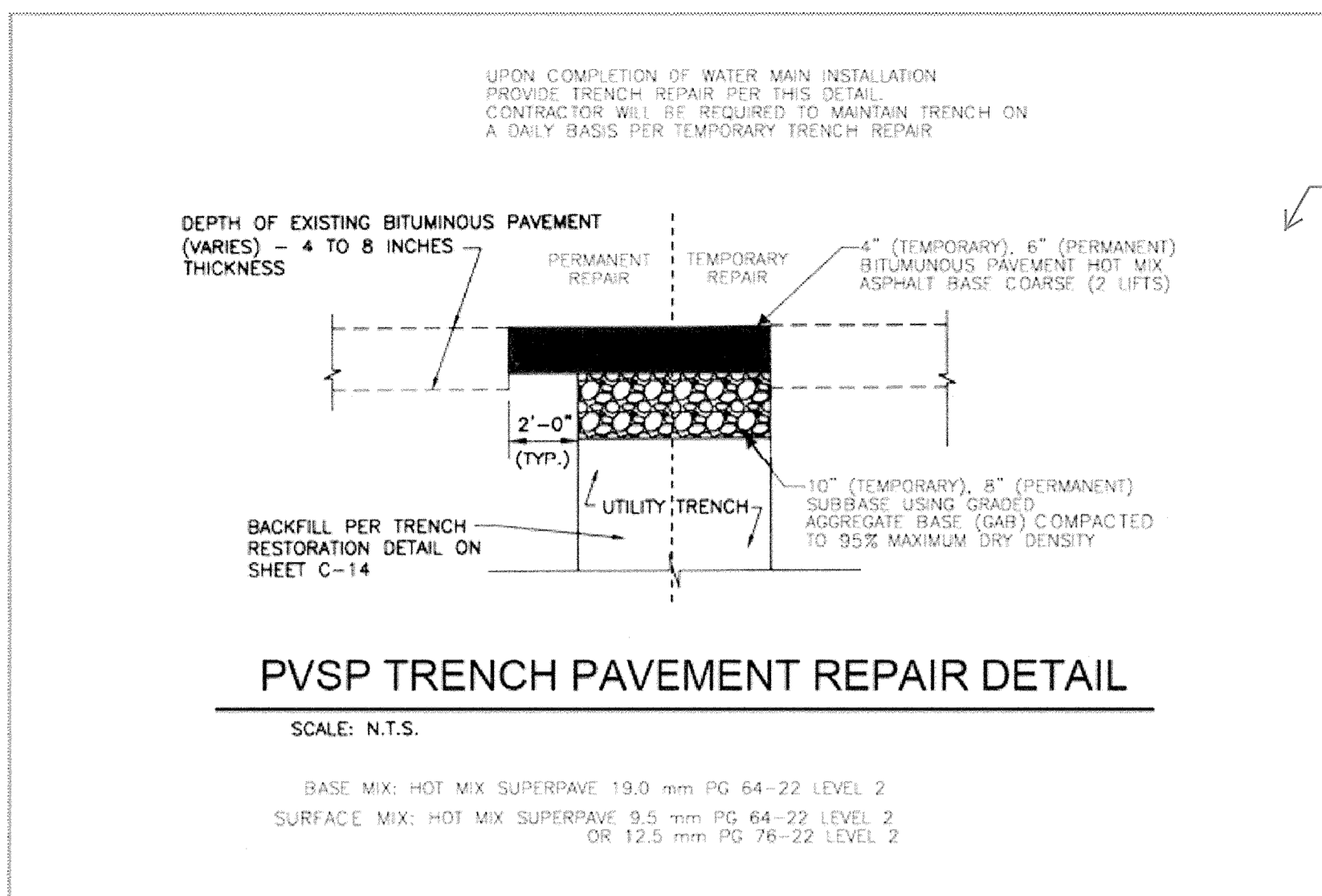
CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
CHIEF WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER	DATE	CHIEF UTILITY ENGINEERING	DATE	DIRECTOR, DEPT. OF PUBLIC WORKS	DATE
BY: <i>[Signature]</i>	DATE: 1/23/12	BY: <i>[Signature]</i>	DATE: 1/23/12	BY: <i>[Signature]</i>	DATE: 1/23/12
PROFESSIONAL CERTIFICATION		REVISION		DRAWING SCALE	
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013.				DEPARTMENT OF PUBLIC WORKS	
ENGINEER: STAM B. NAYER	DESIGN BY: BBB	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES
AS-BUILT PER RECORD PRINT	DRAWN BY: JCD	REVIEWED BY:	RJF	LHQ	GAK
BY: <i>[Signature]</i>	DATE: 1-18-2012	DATE REVIEWED:	1/23/12	1/23/12	1/23/12

AS-BUILT JUNE 2016
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION
SUBDIVISION: ST. DENIS
ELECTION DISTRICT: 13

HOWARD CO. PROJECT NO. W-8278

Hatch Mott MacDonald
11019 McCormick Road, Suite 260
Hunt Valley, Maryland 21031

SHEET DESIGNATION	CONTRACT NO.
C-11	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 13 OF 36	DRAWING NO.
	2009-3362
	FILE NO.



PATAPSCO VALLEY STATE PARK PROPERTY PAVEMENT DETAIL NOTES:

- Ⓐ EXISTING BITUMINOUS PAVEMENT, APPROXIMATE THICKNESS OF BITUMINOUS PAVEMENT IS 6 INCHES.
- Ⓑ EXISTING GRANULAR BASE COURSE APPROXIMATE THICKNESS OF 5 TO 6 INCHES.
- Ⓒ EXISTING SUBGRADE
- Ⓓ PROVIDE 4" TO 6" BITUMINOUS PAVEMENT, BASE MIX. (2 LIFTS) MATCH NEW PAVEMENT OVERLAY.
- Ⓔ PROVIDE 6" BITUMINOUS PAVEMENT (2 LIFTS), 3" BITUMINOUS SURFACE MIX AND 3" BITUMINOUS BASE MIX.
- Ⓕ 6" CRUSHER RUN CR-6 COMPACTED TO 95% MAXIMUM DRY DENSITY.
- Ⓖ 8" CRUSHER RUN CR-6 COMPACTED TO 95% MAXIMUM DRY DENSITY.
- Ⓗ PROVIDE 2" TO 3" BITUMINOUS SURFACE MIX.

Delete Addendum No. 3

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
A. J. T. B. B. 3/15/12		CHIEF, UTILITY ENGINEERING		J. P. B. 1/23/12	
CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER		CHIEF, WATER ENGINEERING SECTION		DIRECTOR, DEPT. OF PUBLIC WORKS	
DATE		DATE		DATE	
PROFESSIONAL CERTIFICATION		REVISION		BY	
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013		BY		DATE	
ENGINEER: SYAM B. NAYER		DESIGN BY: BBB		BUREAU OF ENGINEERING AND CONSTRUCTION	
AS-BUILT PER RECORD PRINT		DRAWN BY: JCD		REVIEWED BY: RJB	
BY: DATE:		CHECK BY: SEN		DATE REVIEWED: 1/23/12	
SEAL		STATE OF MARYLAND		PROFESSIONAL ENGINEER	
DATE: 1-18-2012		NO. 37797		EXPIRES 8/9/2013	

AS-BUILT JUNE 2016

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

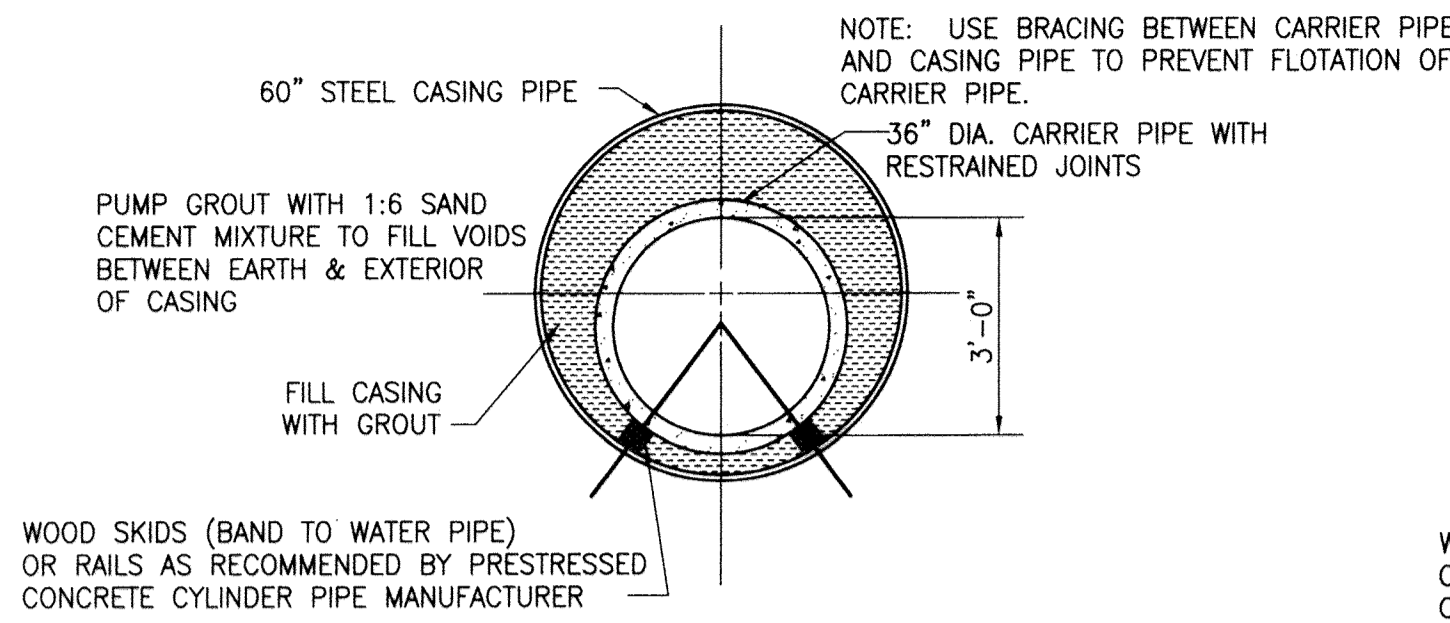
SUBDIVISION: ST. DENIS

ELECTION DISTRICT: 13

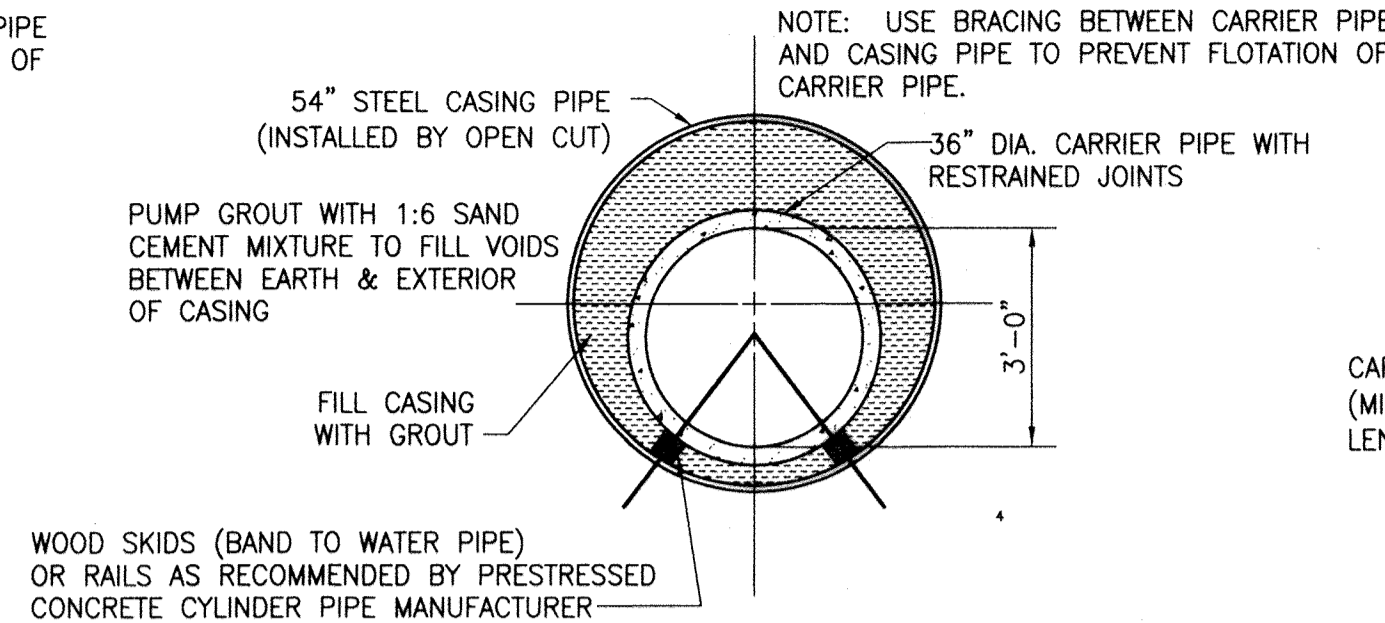
HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
11019 McCormick Road, Suite 280
Hunt Valley, Maryland 21081

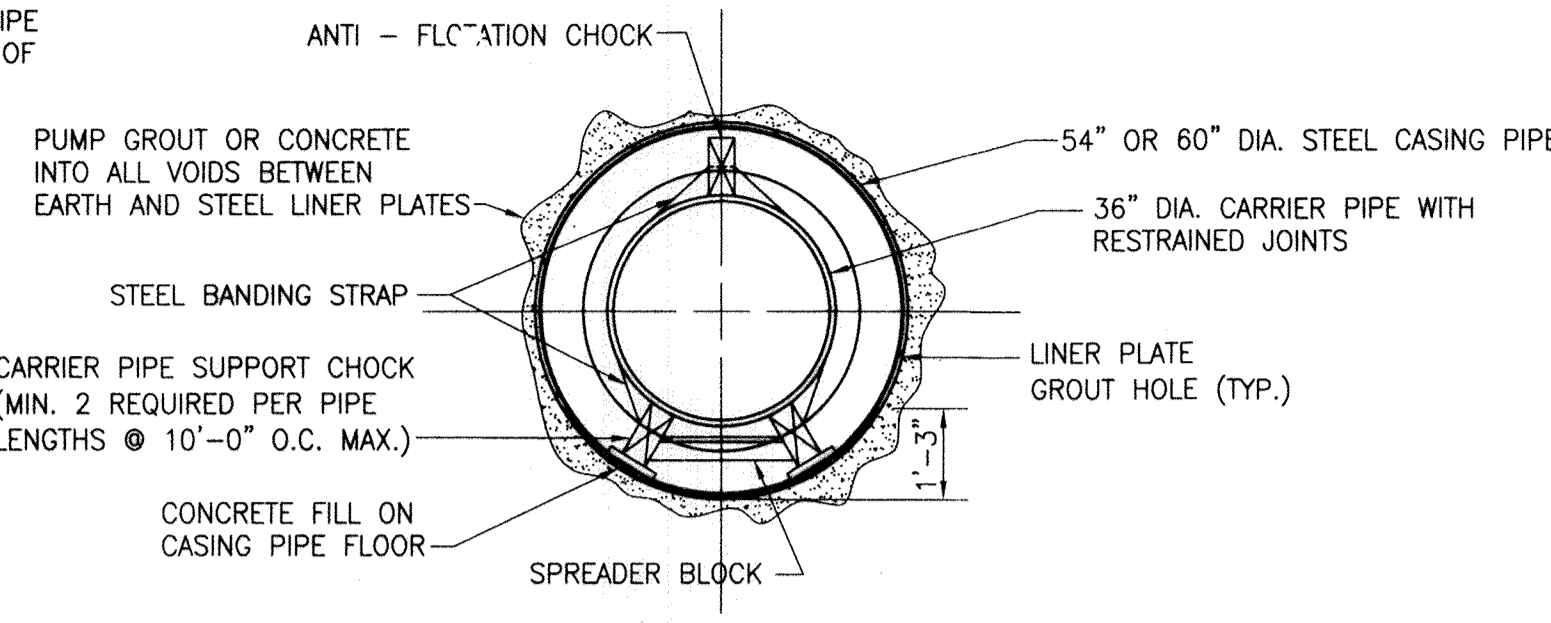
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C-12	W-8276
JOB ORDER NO.	203-0087-0281
SHEET 14 OF 36	DRAWING NO.
2009-3363	FILE NO.



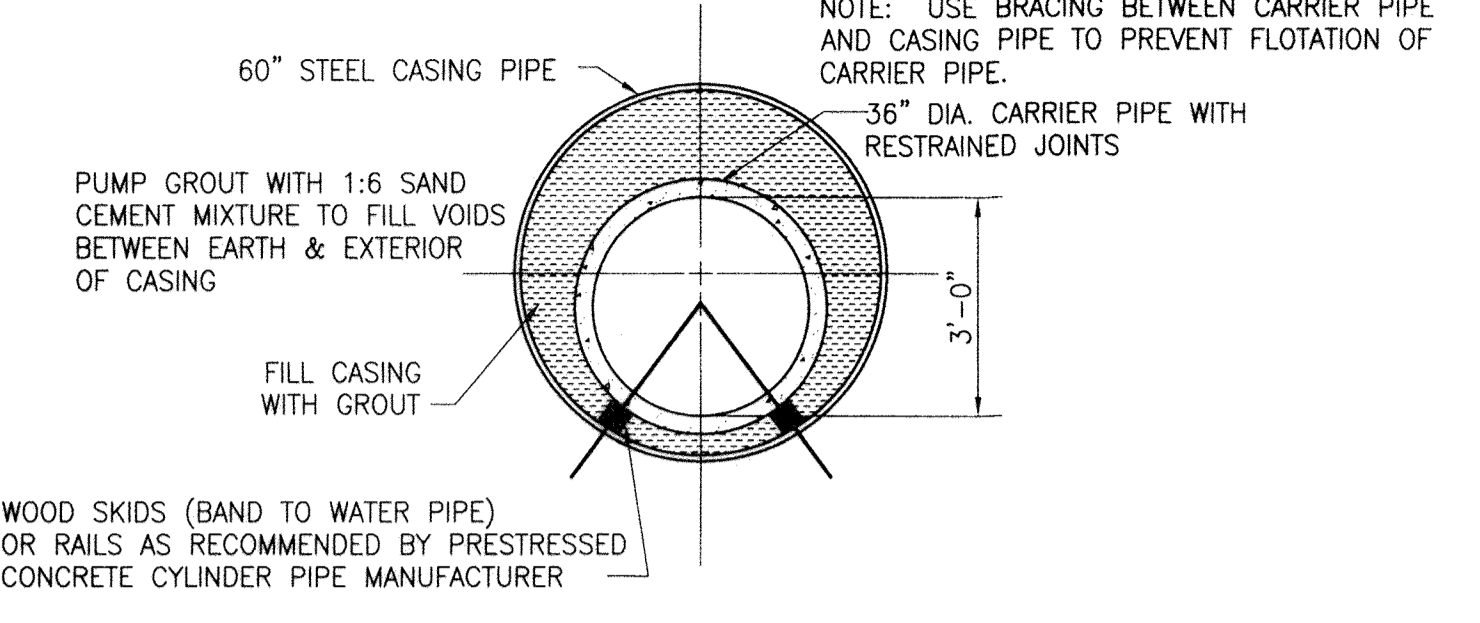
**STATION 137+50 to STATION 139+00
CSX RAILROAD CROSSING DETAIL**
SCALE: N.T.S.



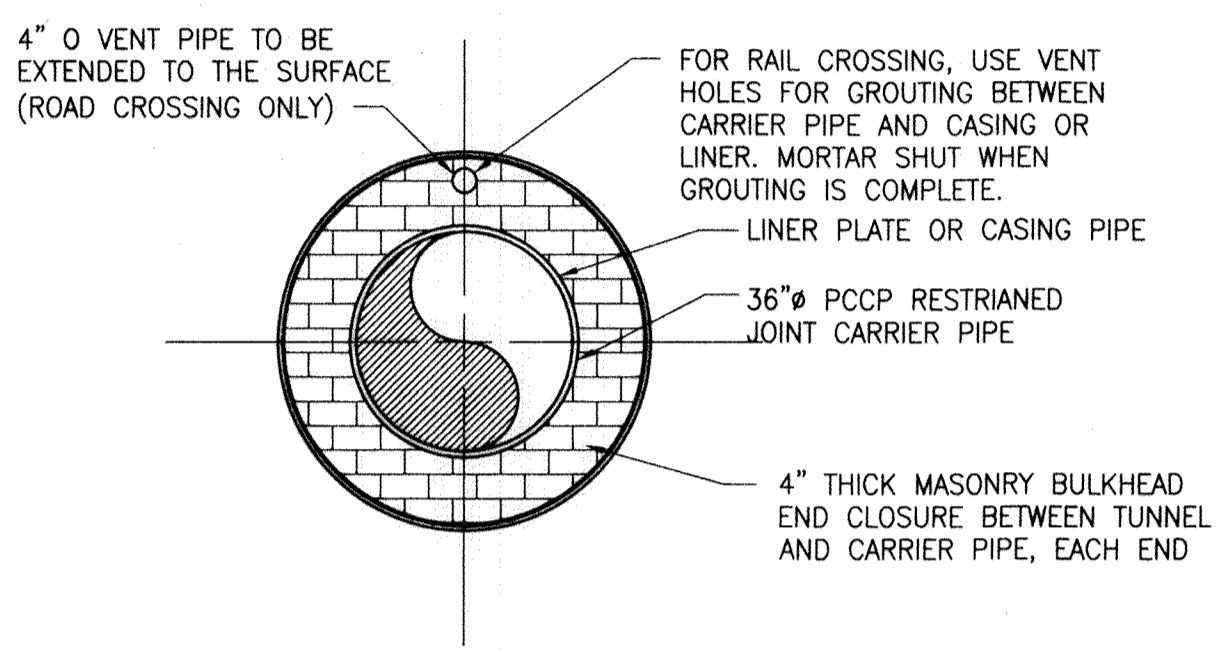
**STATION 2+42 TO STATION 3+12
CSX BRIDGE CROSSING DETAIL**
SCALE: N.T.S.



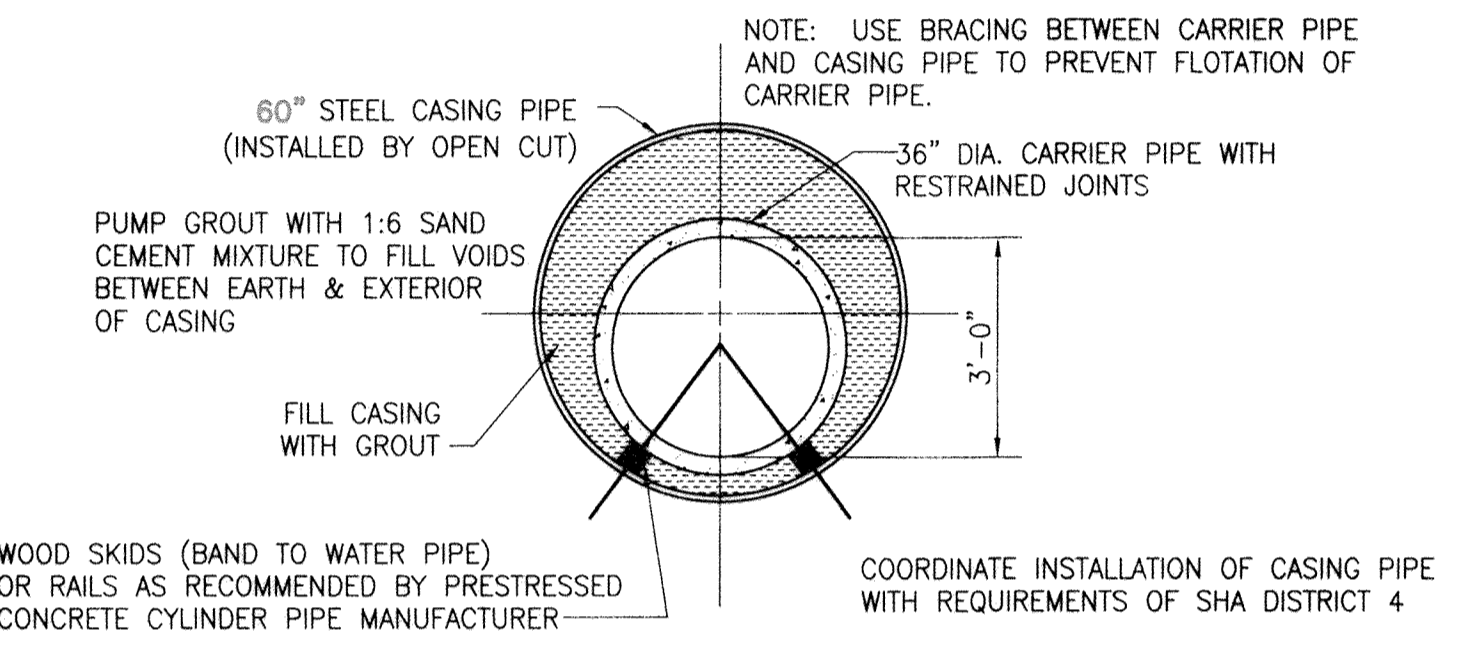
JACK AND BORE CROSSING DETAIL
SCALE: N.T.S.



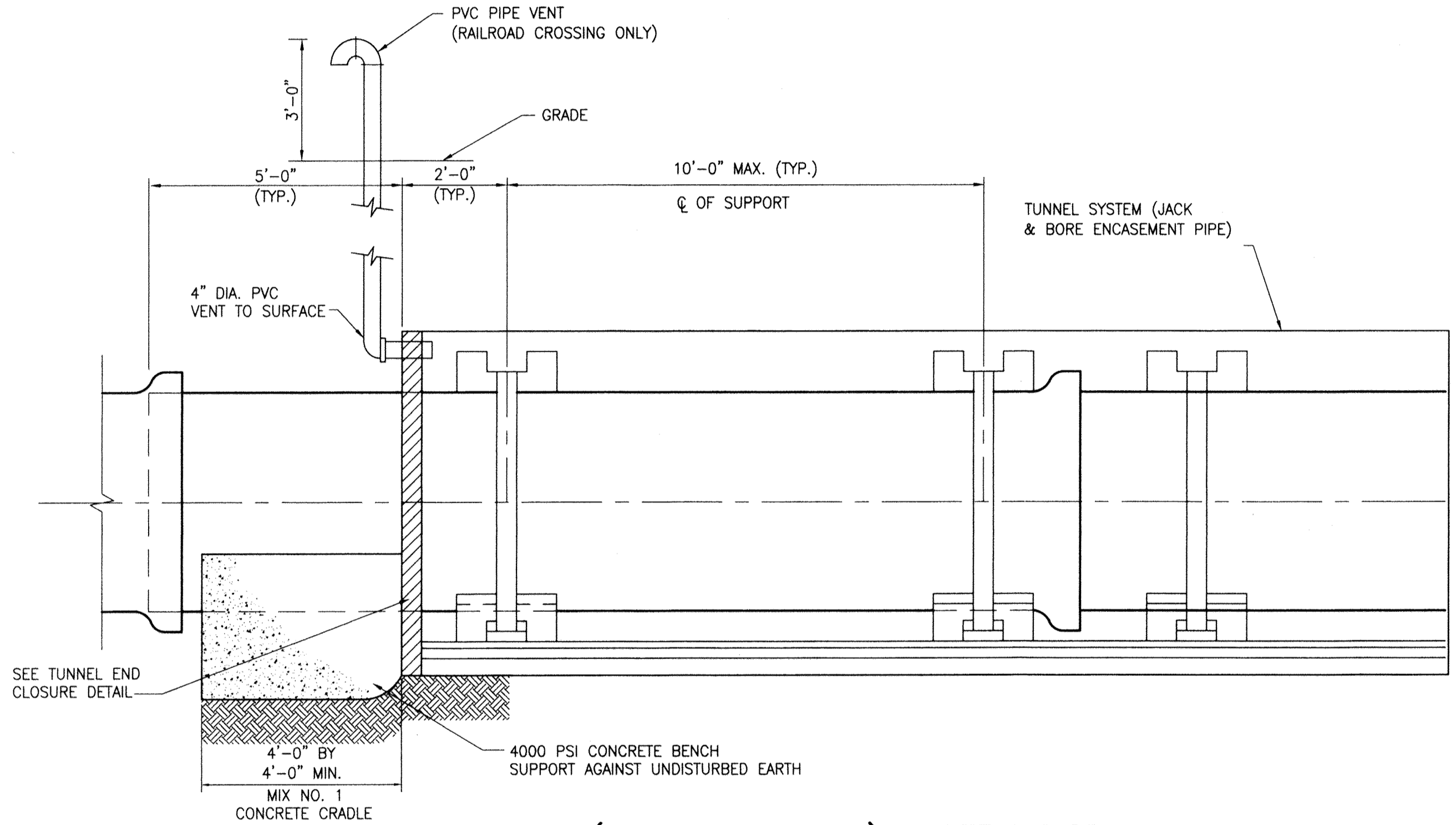
**STATION 32+00 TO STATION 36+00
STATION 115+60 TO STATION 116+60
STATION 124+60 TO STATION 127+10
ROADWAY/DRIVEWAY CROSSING DETAIL**
SCALE: N.T.S.



TYPICAL TUNNEL END CLOSURE
SCALE: N.T.S.



**STATION 105+79 TO STATION 109+59
SHA ROUTE 195 CROSSING DETAIL**
SCALE: N.T.S.



TUNNEL (JACK AND BORE) SYSTEM DETAIL
SCALE: N.T.S.

JACK AND BORE GENERAL NOTES:

- JACK AND BORE ENCASEMENT PIPE**
- JACK AND BORE CONSTRUCTION SHALL CONFORM TO SPECIFICATIONS.
 - THE JACK & BORE ENCASEMENT PIPE SHALL BE MADE FROM STEEL (MINIMUM AWWA C206), WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI.
 - JOINTS BETWEEN SECTIONS SHALL ALLOW FOR EASY BUTT-WELDED CONNECTIONS AND SHALL BE FULLY WELDED AROUND THE COMPLETE CIRCUMFERENCE OF THE PIPE.
 - STEEL CASING PIPE (60 INCH) SHALL HAVE A MINIMUM WALL THICKNESS OF 0.844"
 - STEEL CASING PIPE (54 INCH) SHALL HAVE A MINIMUM WALL THICKNESS OF 0.781"
 - STEEL CASING PIPE SHALL BE ROUND WITH SMOOTH EVEN INTERIOR AND EXTERIOR SURFACES.
 - CASING PIPE JOINTS - WELDED.
 - CASING PIPE TYPE OF SEAM - HELICAL.
 - ENCASEMENT PIPE INTERIOR SHALL ONLY BE LINED WITH BITUMASTIC MATERIAL.
 - A PIPE JOINT SHALL BE PROVIDED ON CARRIER PIPE 5'-0" BEYOND EACH END OF TUNNEL.
 - CONTRACTOR SHALL PROVIDE MASONRY BULKHEADS AT BOTH ENDS OF THE TUNNEL.
 - PROVIDE SKIDS OR RAILS, AS SHOWN, TO PREVENT CARRIER PIPE DAMAGE DURING INSTALLATION AND TO PREVENT CARRIER PIPE FLOTATION.
 - SEE PLAN AND PROFILES FOR LENGTH AND LOCATIONS.

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS			
[Signature] CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER DATE: 3/15/12		CHIEF, UTILITY ENGINEERING DATE:		[Signature] DIRECTOR, DEPT. OF PUBLIC WORKS DATE: 1/23/12			
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013 ENGINEER: SYAM B. NAYAR DESIGN BY: BBB AS-BUILT PER RECORD PRINT BY: JCD DATE:		REVISION NO. DATE P.W.A. NO. KEY SHEET POSITION SHT		DRAWING SCALE PLAN SCALE: AS NOTED PROFILE SCALE: AS NOTED		DEPARTMENT OF PUBLIC WORKS APPROVED BY: [Signature] DATE: 1-24-12 DIRECTOR	
BUREAU OF ENGINEERING AND CONSTRUCTION BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER		REVIEWED BY: RJE DATE REVIEWED: 1/23/12		BUR. OF ENGINEERING & CONSTRUCTION APPROVED BY: [Signature] DATE: 1/17/12 CHIEF		AS-BUILT JUNE 2016 BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION	

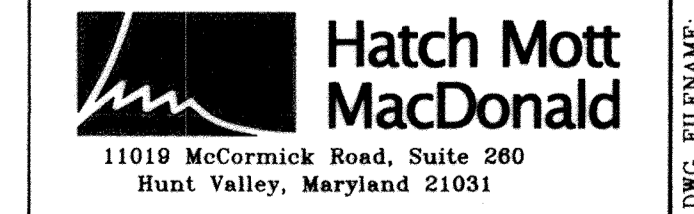
AS-BUILT JUNE 2016

SOUTHWEST TRANSMISSION MAIN
CSX RAILROAD AND WASHINGTON BLVD. JACK & BORE DETAILS

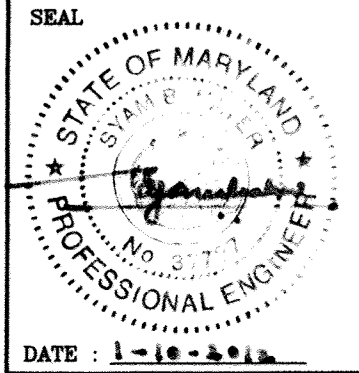
SUBDIVISION: ST. DENIS

ELECTION DISTRICT: 13

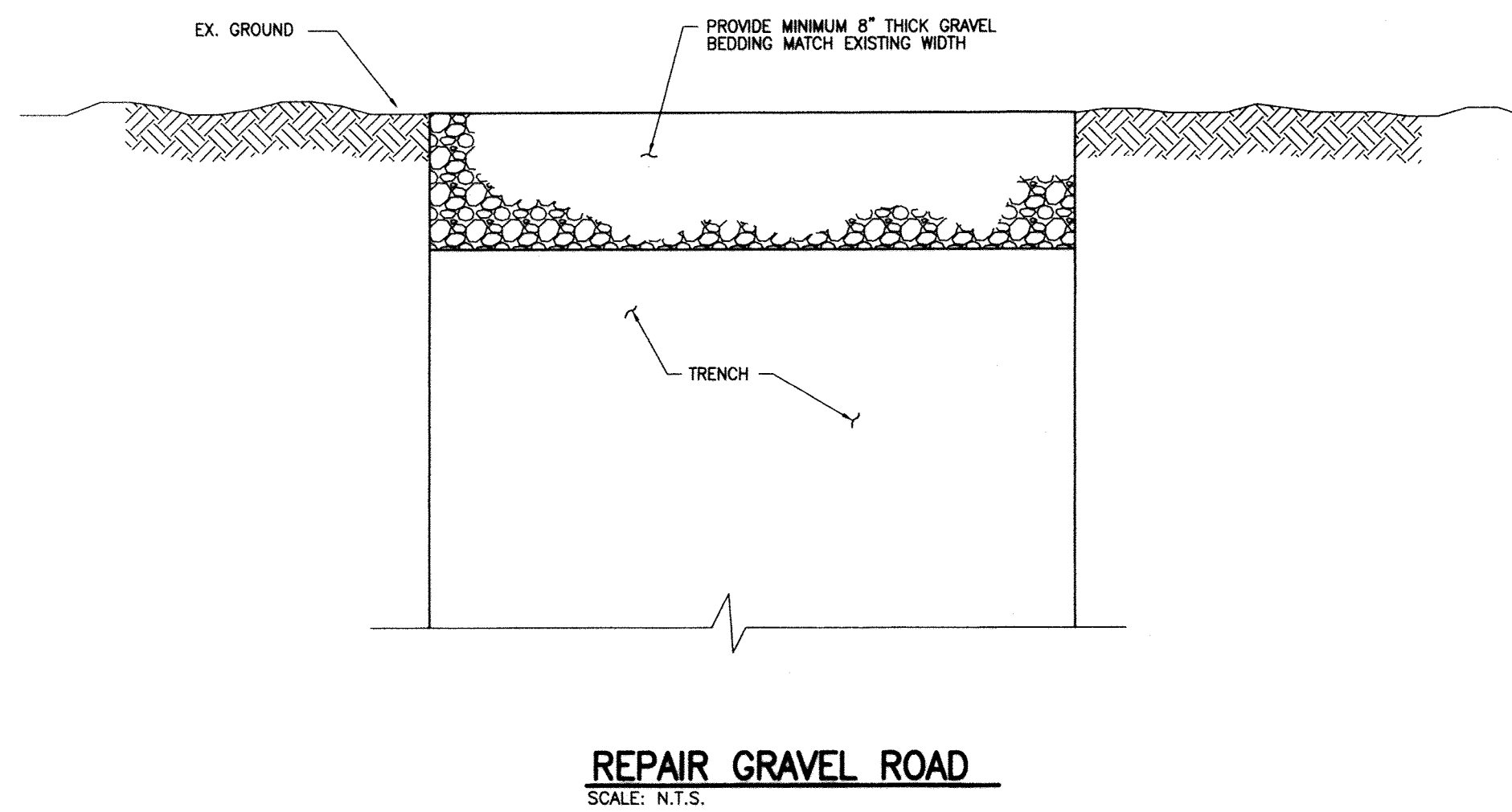
HOWARD CO. PROJECT NO. W-8278



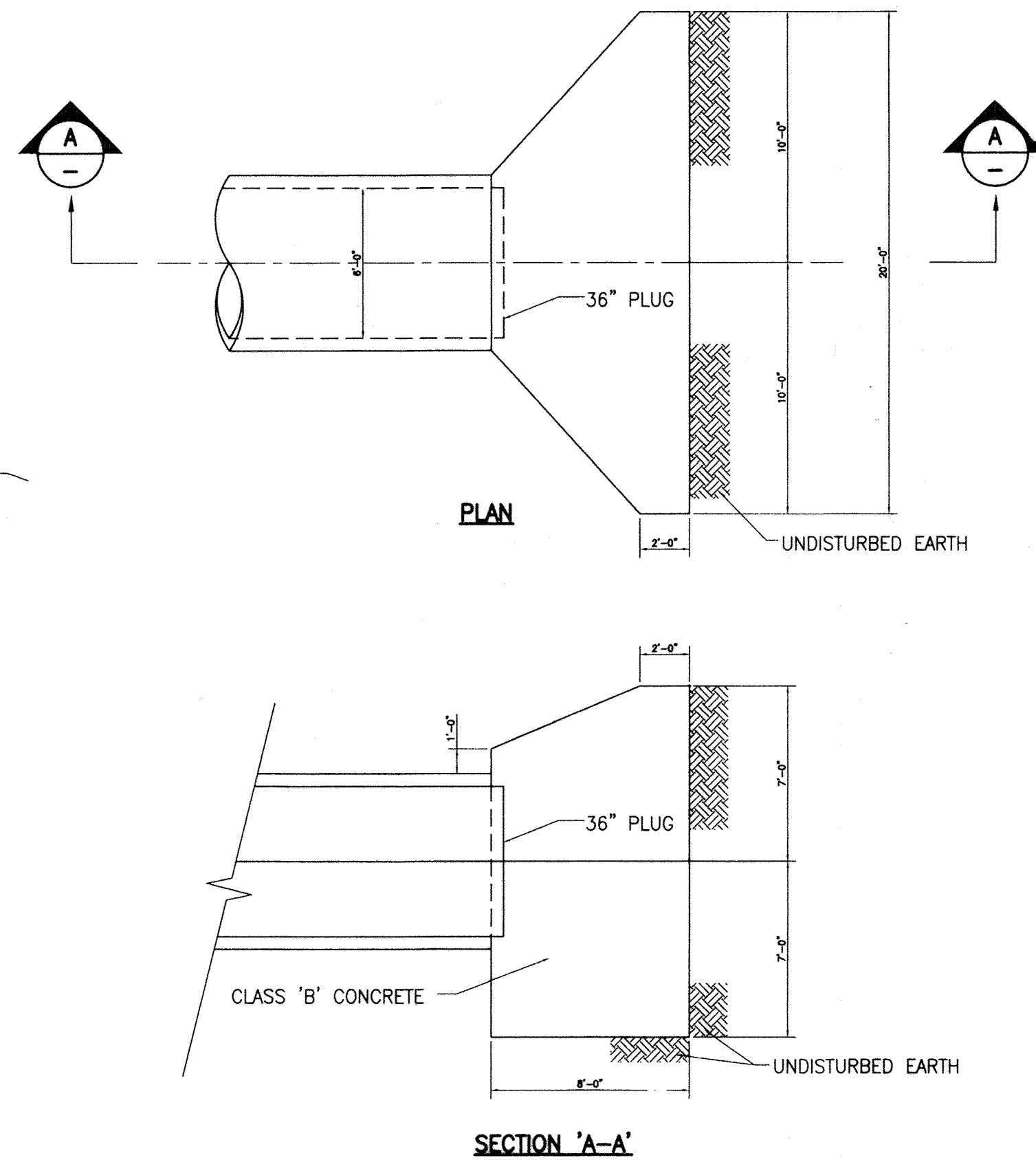
SHEET DESIGNATION	CONTRACT NO.
C-13	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 15 OF 36	DRAWING NO.
	2009-3364
	FILE NO.



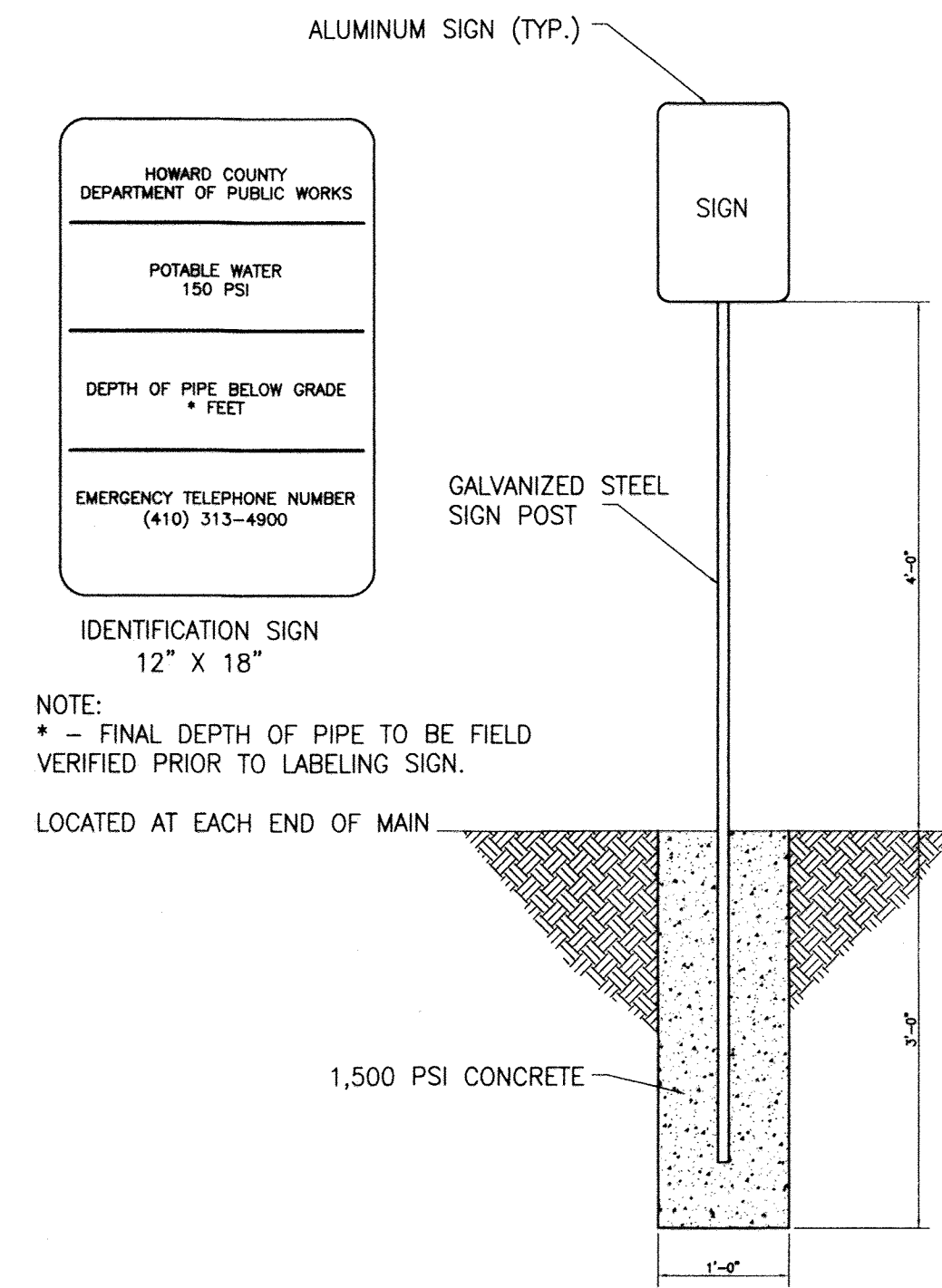
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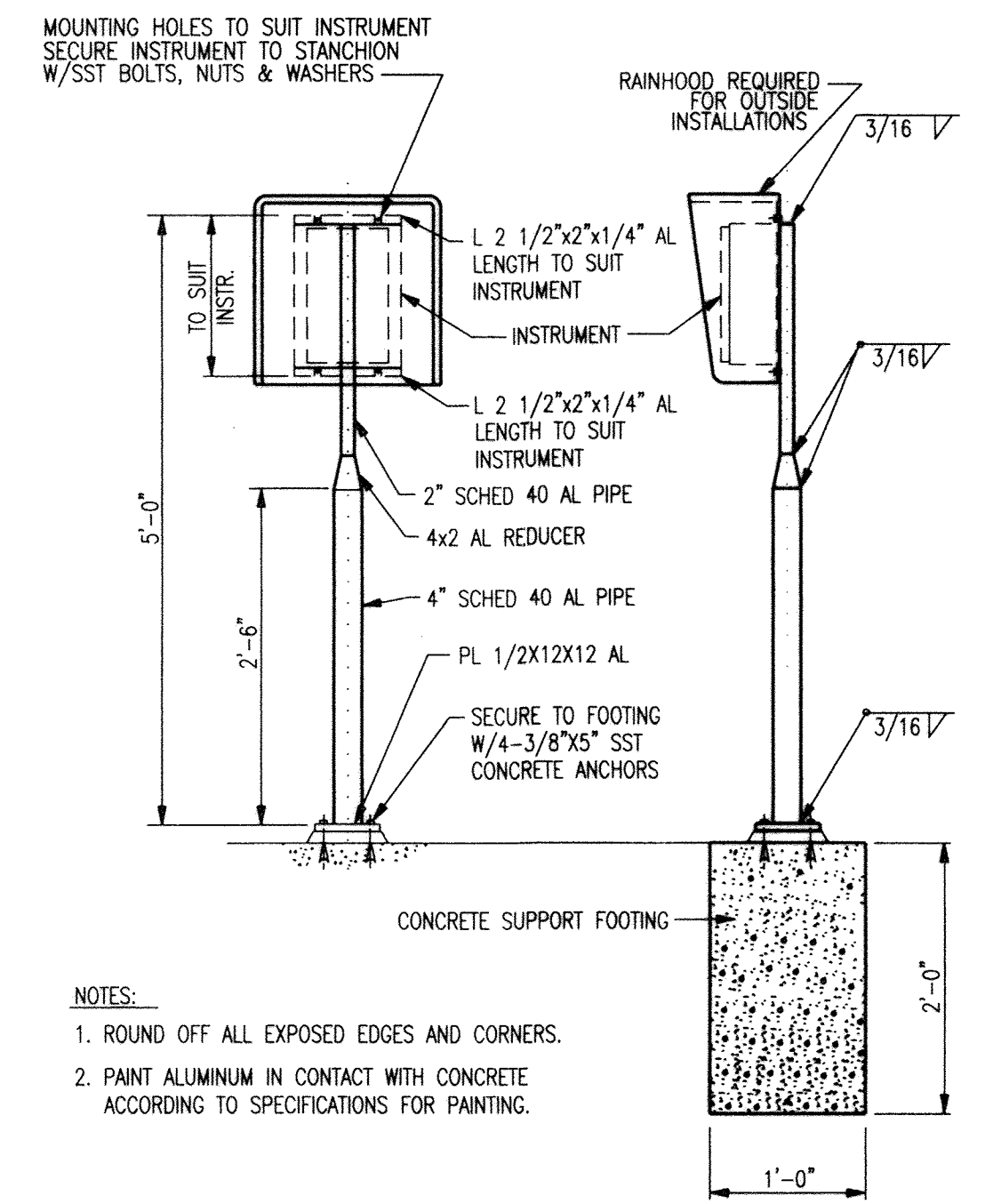
REPAIR GRAVEL ROAD
SCALE: N.T.S.



BUTTRESS DETAIL FOR 36" PLUG
SCALE: N.T.S.



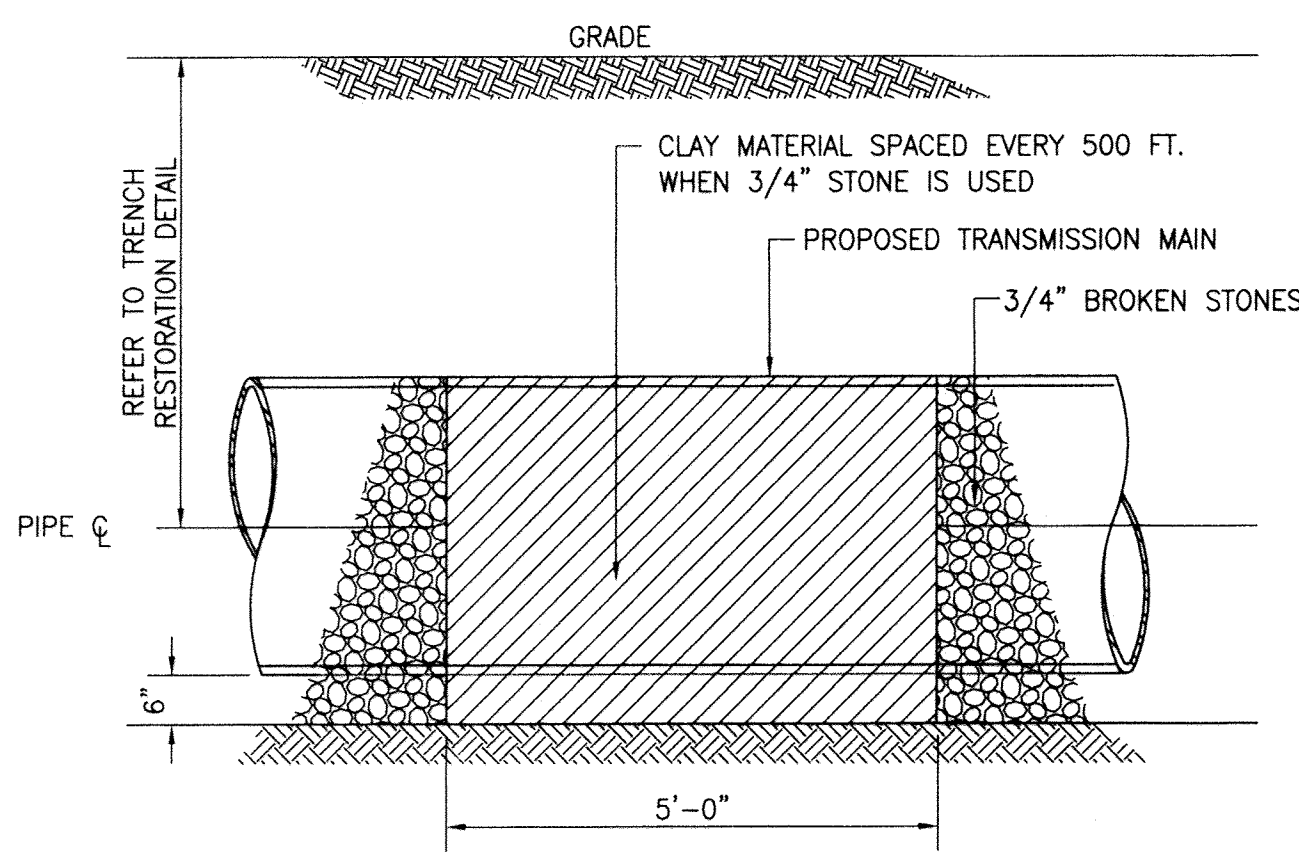
SIGN POST DETAIL
SCALE: N.T.S.



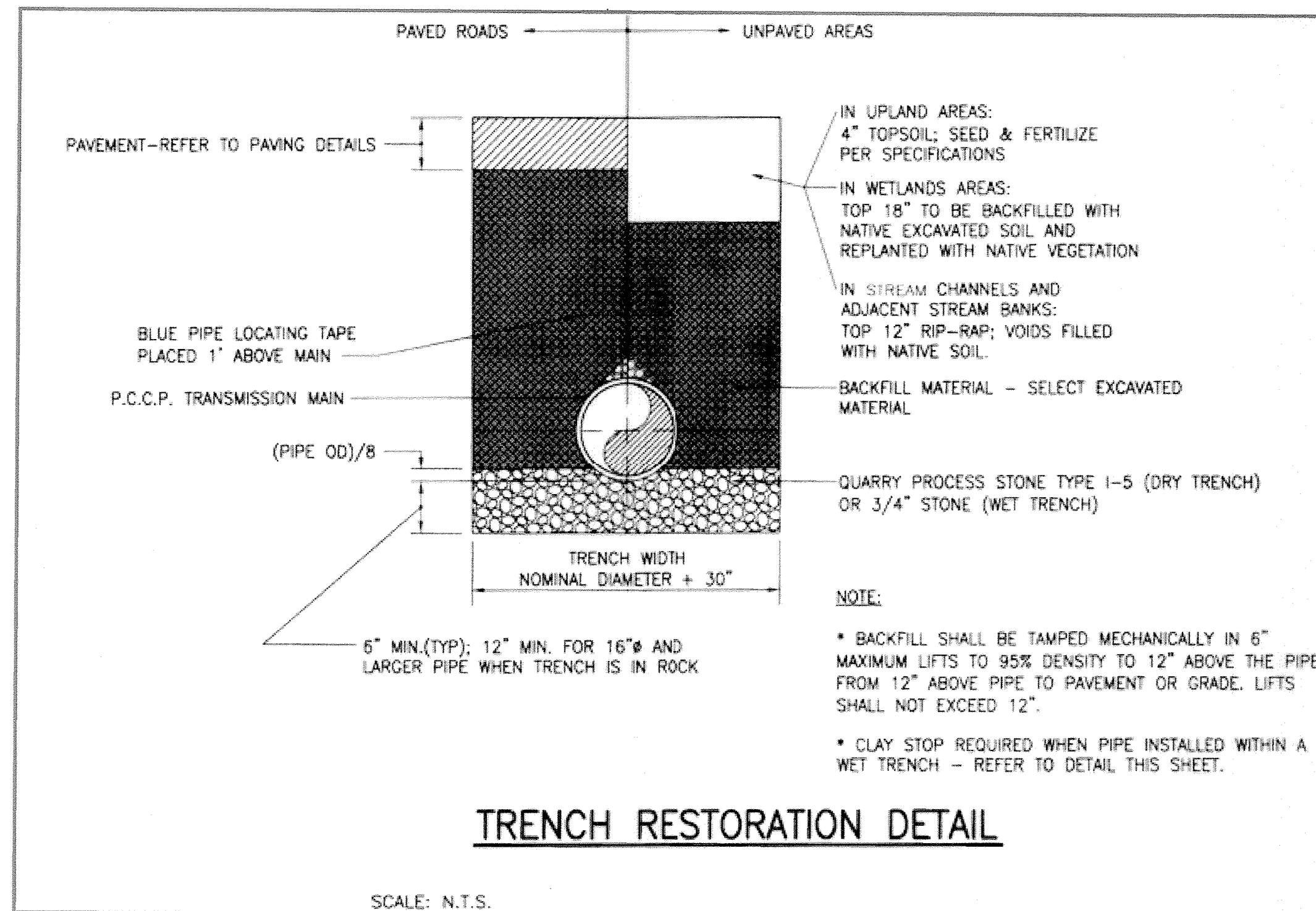
- NOTES:
1. ROUND OFF ALL EXPOSED EDGES AND CORNERS.
 2. PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

STANCHION SUPPORT FOR CASE MOUNTED INSTRUMENTS
SCALE: N.T.S.

Correction Addendum No. 3



CLAY STOP DETAIL - WET TRENCH
SCALE: N.T.S.

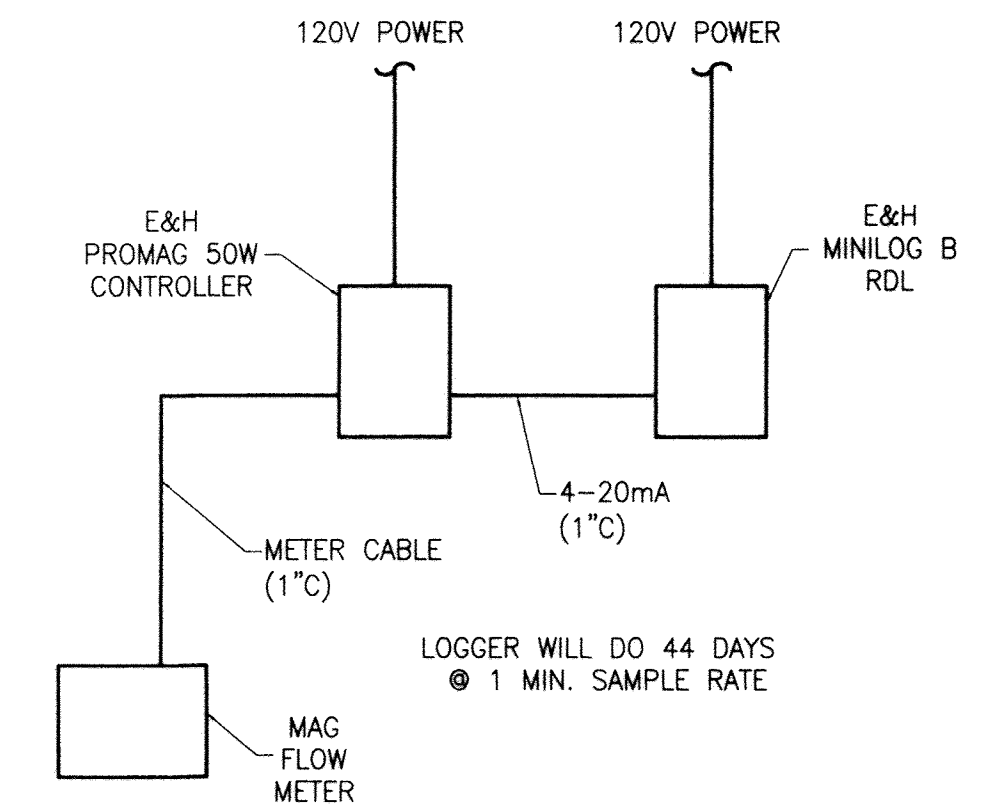


TRENCH RESTORATION DETAIL
SCALE: N.T.S.

FITTING	MINIMUM LENGTH OF RESTRAINED JOINTS ON EACH SIDE OF FITTINGS (225 PSI TEST PRESSURE)		
	36" P.C.C.P.		
	COVER TO TOP OF PIPE		
	3 1/2'-7'	7'-12'	> 12'
90° BEND, VALVES, CAPS, PLUGS	378'	246'	164'
TEES (BRANCH)	378'	246'	164'
75° BENDS	280'	183'	122'
60° BENDS	189'	123'	82'
45° BENDS	145'	94'	63'
30° BENDS	98'	64'	43'
22 1/2° BENDS	74'	48'	32'
15° BENDS	49'	32'	21'
11 1/4° BENDS	37'	24'	16'
5 5/8° BENDS	19'	12'	8'

NOTE:
CONTRACTOR SHALL USE THE ABOVE SCHEDULE AND THE CONTRACT PLAN AND PROFILE SHEETS TO DETERMINE ACTUAL RESTRAINED LENGTHS REQUIRED. FITTINGS IN CLOSE PROXIMITY TO ONE ANOTHER MAY REQUIRE ADDITIONAL RESTRAINT. FOR EXAMPLE, TWO (2) 22 1/2° LOCATED WITHIN SEVERAL FEET OF EACH OTHER WILL HAVE THE SAME REACTION AS A 45° BEND AND, AS SUCH, WILL REQUIRE THE LENGTHS OF RESTRAINT SHOWN FOR A 45° BEND.

RESTRAINING LENGTH SCHEDULE
SCALE: N.T.S.



MAG METER WIRING SCHEMATIC
SCALE: N.T.S.

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER		CHIEF, UTILITY ENGINEERING		DIRECTOR, DEPT. OF PUBLIC WORKS	
DATE: 3/15/12		DATE: 3/15/12		DATE: 1/23/12	
SEAL		PROFESSIONAL CERTIFICATION		REVISION	
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ENGINEER: SYAM B. NAYER		DRAWN BY: JCD		DATE REVIEWED: 1/23/12	
AS-BUILT PER RECORD PRINT		CHECKED BY: SBN		DATE REVIEWED: 1/23/12	
BY: DATE:		BY: DATE:		BY: DATE:	
DATE: 1-18-2012		DATE: 1/23/12		DATE: 1/23/12	
DRAWING SCALE		DEPARTMENT OF PUBLIC WORKS		DRAWING SCALE	
PLAN SCALE: AS NOTED		APPROVED BY: [Signature]		DATE: 1-24-12	
PROFILE SCALE: AS NOTED		DIRECTOR		DATE: 1-24-12	
BUR. OF ENGINEERING & CONSTRUCTION		BUR. OF ENGINEERING & CONSTRUCTION		BUR. OF ENGINEERING & CONSTRUCTION	
APPROVED BY: [Signature]		APPROVED BY: [Signature]		APPROVED BY: [Signature]	
DATE: 1/17/12		DATE: 1/17/12		DATE: 1/17/12	

AS-BUILT JUNE 2016

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

**SOUTHWEST TRANSMISSION MAIN
MISCELLANEOUS CIVIL DETAILS**

SUBDIVISION: ST. DENIS

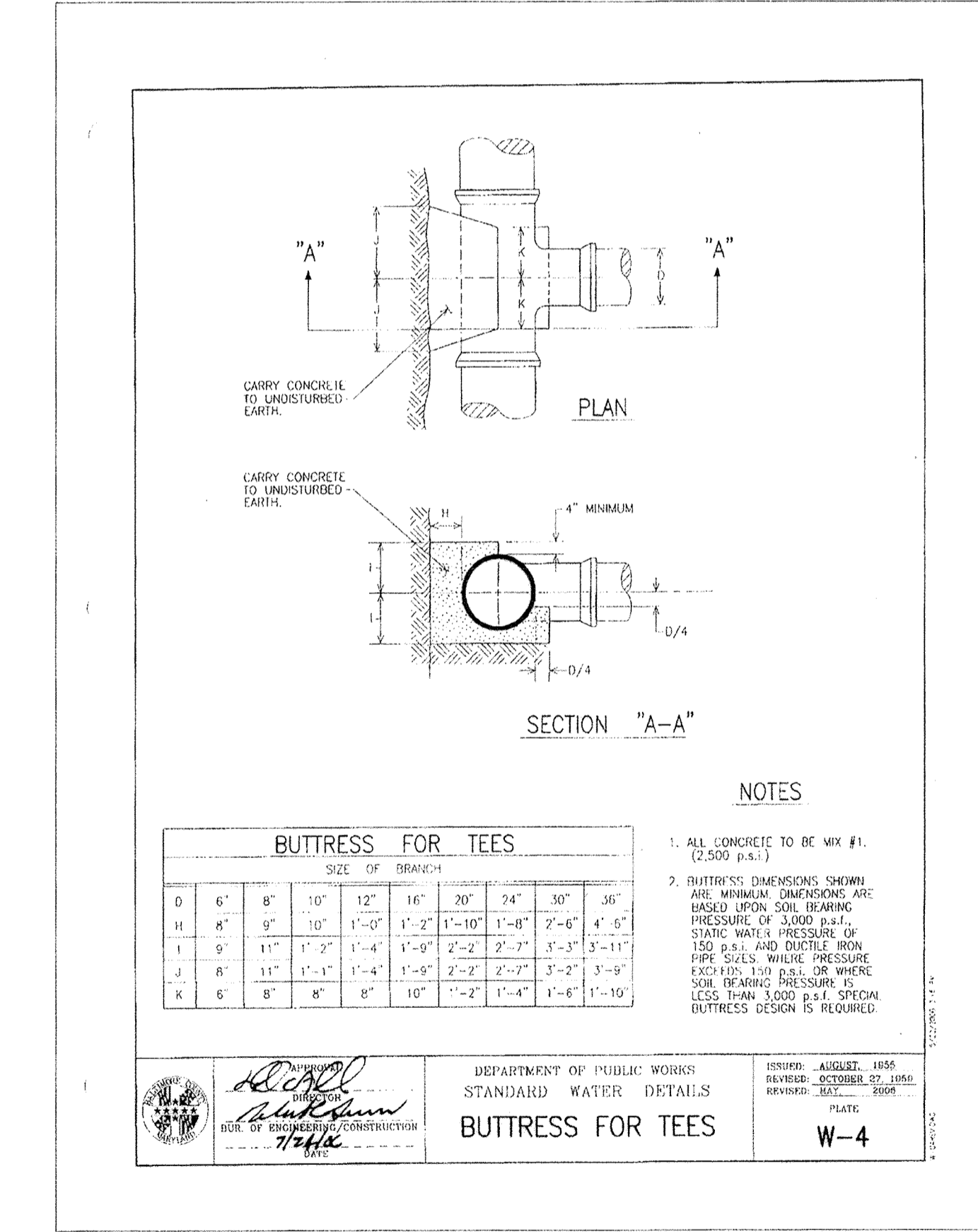
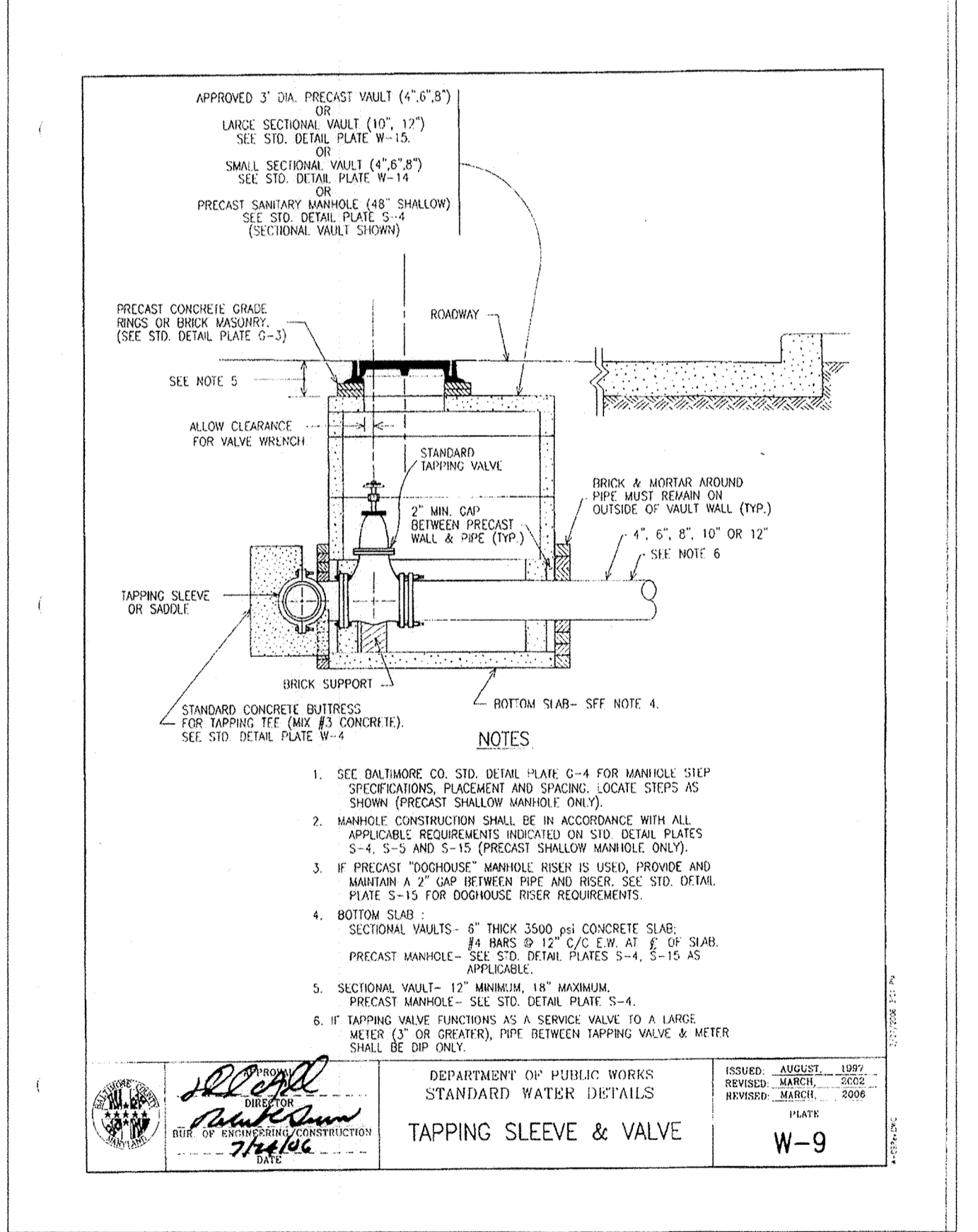
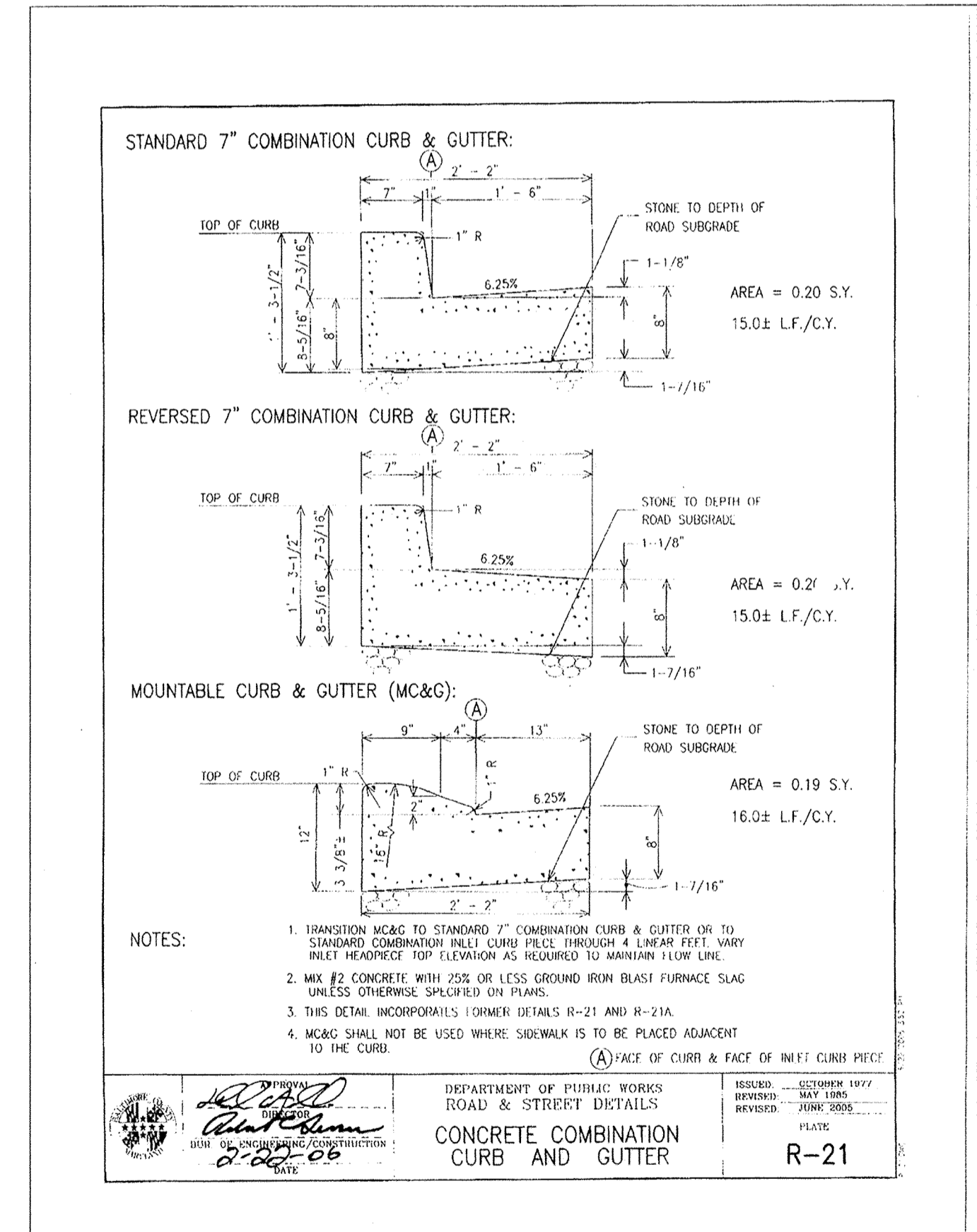
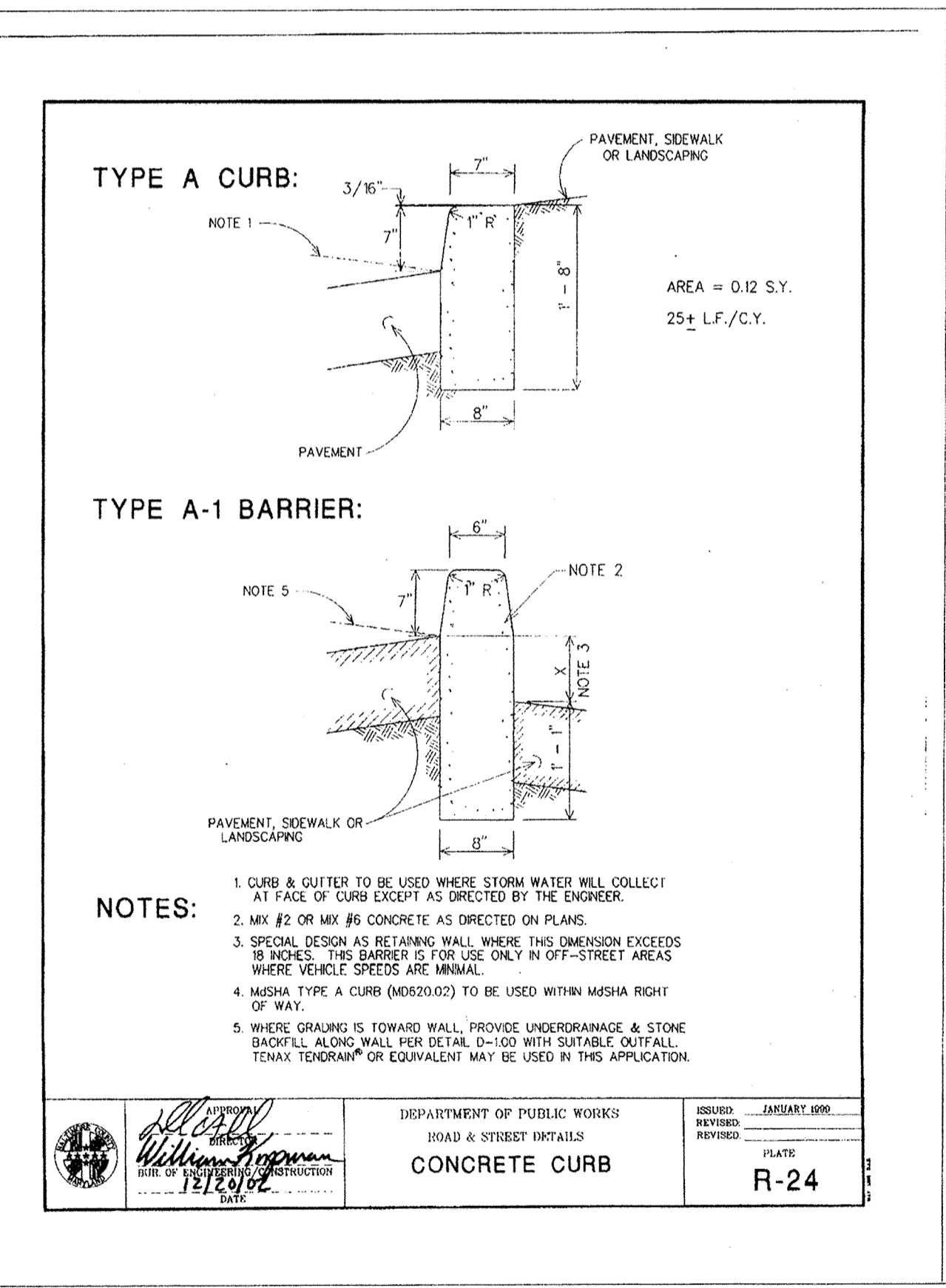
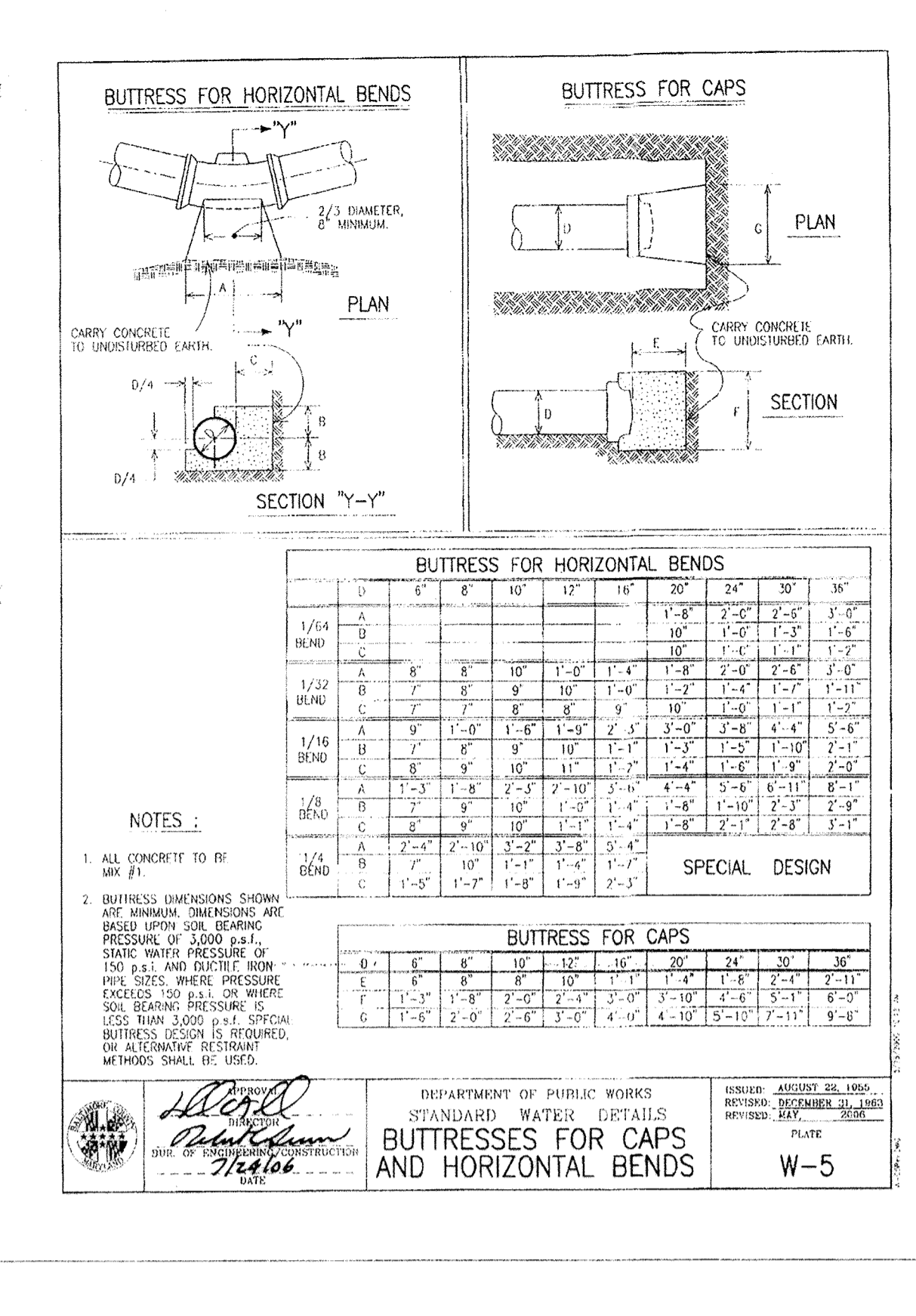
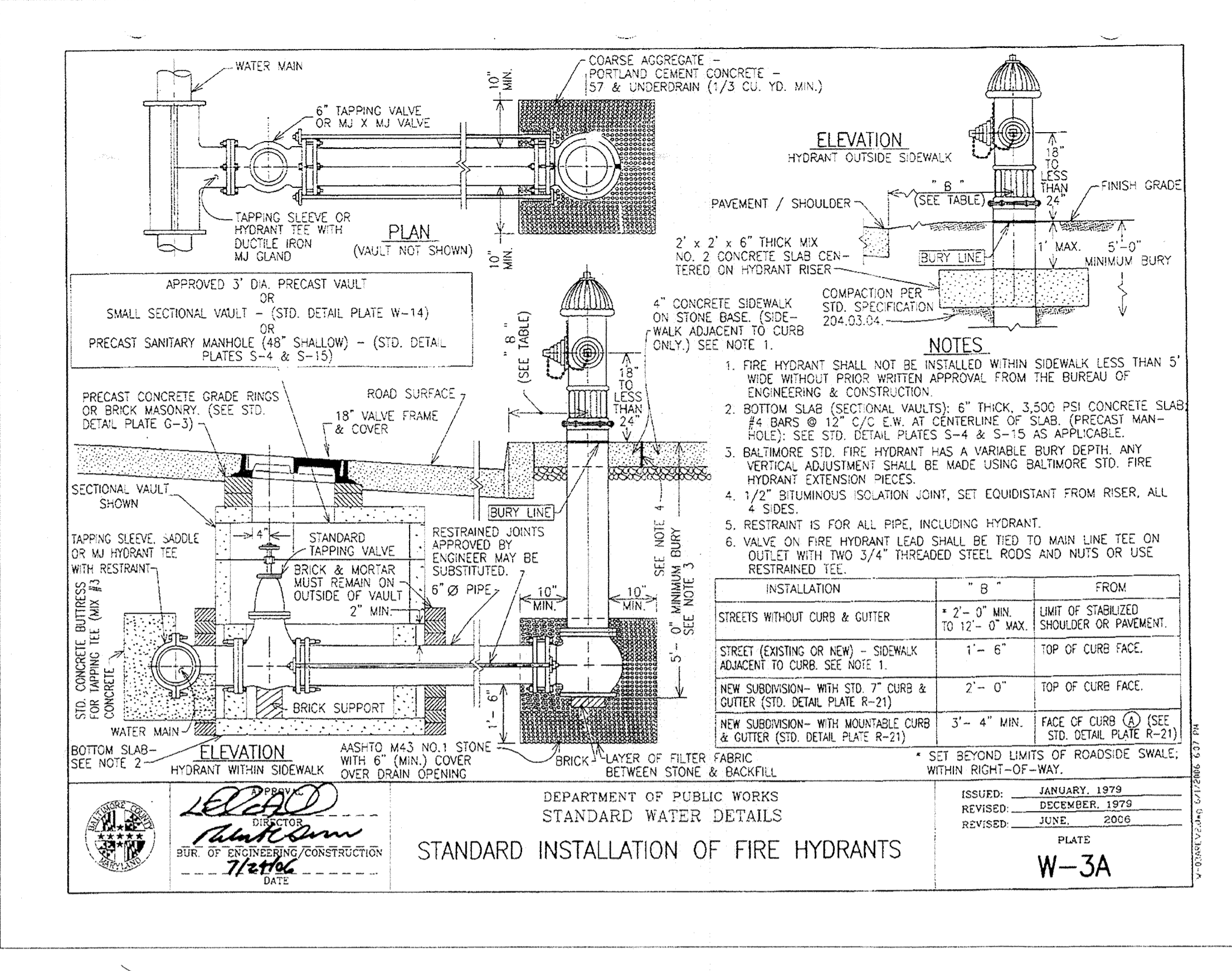
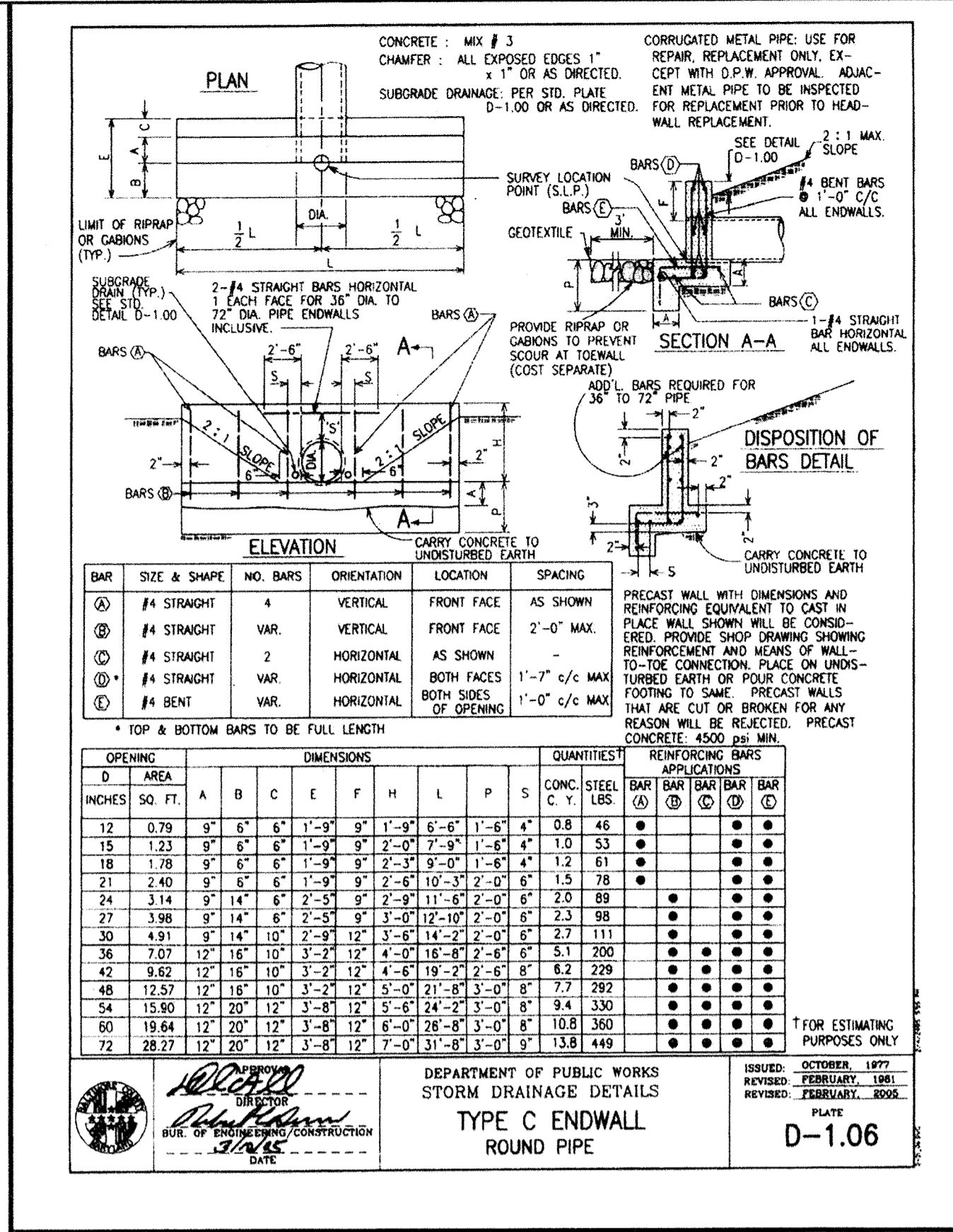
ELECTION DISTRICT: 13

HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
11019 McCormick Road, Suite 260
Hunt Valley, Maryland 21031

SHEET DESIGNATION	CONTRACT NO.
C-14	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 16 OF 36	DRAWING NO.
2009-3365	FILE NO.

DWG. FILENAME:



CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS				
CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER	DATE: 3/15/14	CHIEF, UTILITY ENGINEERING	DATE:	DIRECTOR, DEPT. OF PUBLIC WORKS	DATE:	DATE:	DATE:	
PROFESSIONAL CERTIFICATION		REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013		BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER
ENGINEER: SYAM B. NAYER	DESIGN BY: BBB	REVIEWED BY: RBF	DATE REVIEWED: 1/23/12					
AS-BUILT PER RECORD PRINT	DRAWN BY: JCD	DATE REVIEWED: 1/23/12						
BY: DATE:	CHKD BY: SBN	DATE REVIEWED: 1/23/12						

DRAWING SCALE		DEPARTMENT OF PUBLIC WORKS	
PLAN SCALE: AS NOTED	APPROVED BY: [Signature]	DATE: 1-24-12	DIRECTOR
PROFILE SCALE: AS NOTED			
	APPROVED BY: [Signature]	DATE: 1/12/12	CHIEF

AS-BUILT JUNE 2016
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

SOUTHWEST TRANSMISSION MAIN
MISCELLANEOUS CIVIL DETAILS

SUBDIVISION: ST. DENIS

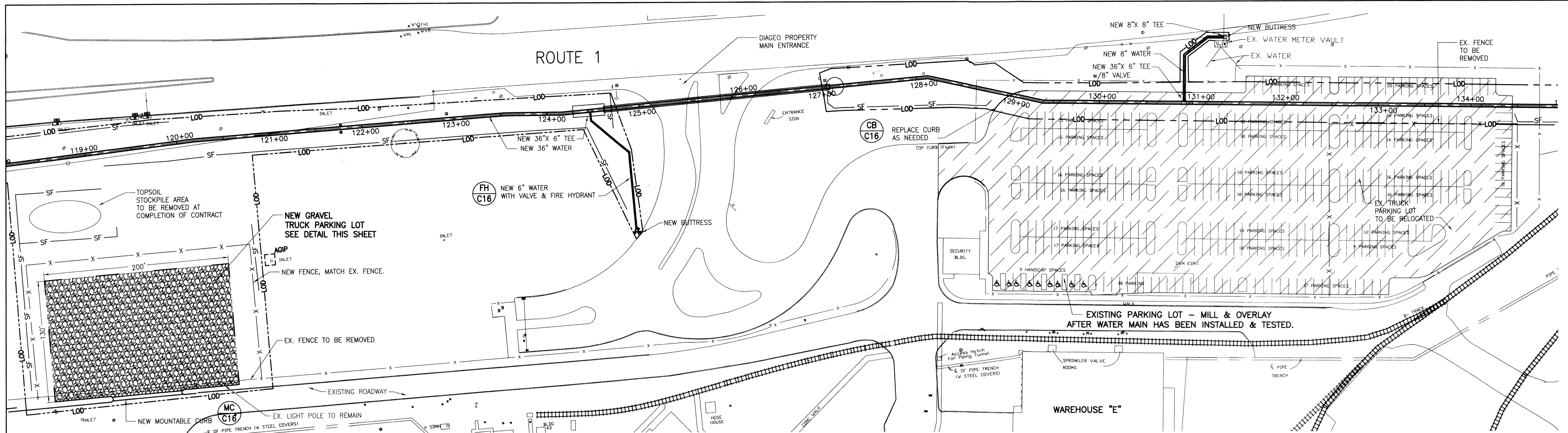
ELECTION DISTRICT: 13

HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
11019 McCormick Road, Suite 260
Hunt Valley, Maryland 21031

SHEET DESIGNATION	CONTRACT NO.
C-15	44-4618
	JOB ORDER NO. 203-0067-0281
	SHEET 17 OF 36
	DRAWING NO. 2009-3366
	FILE NO.

DWG FILENAME:



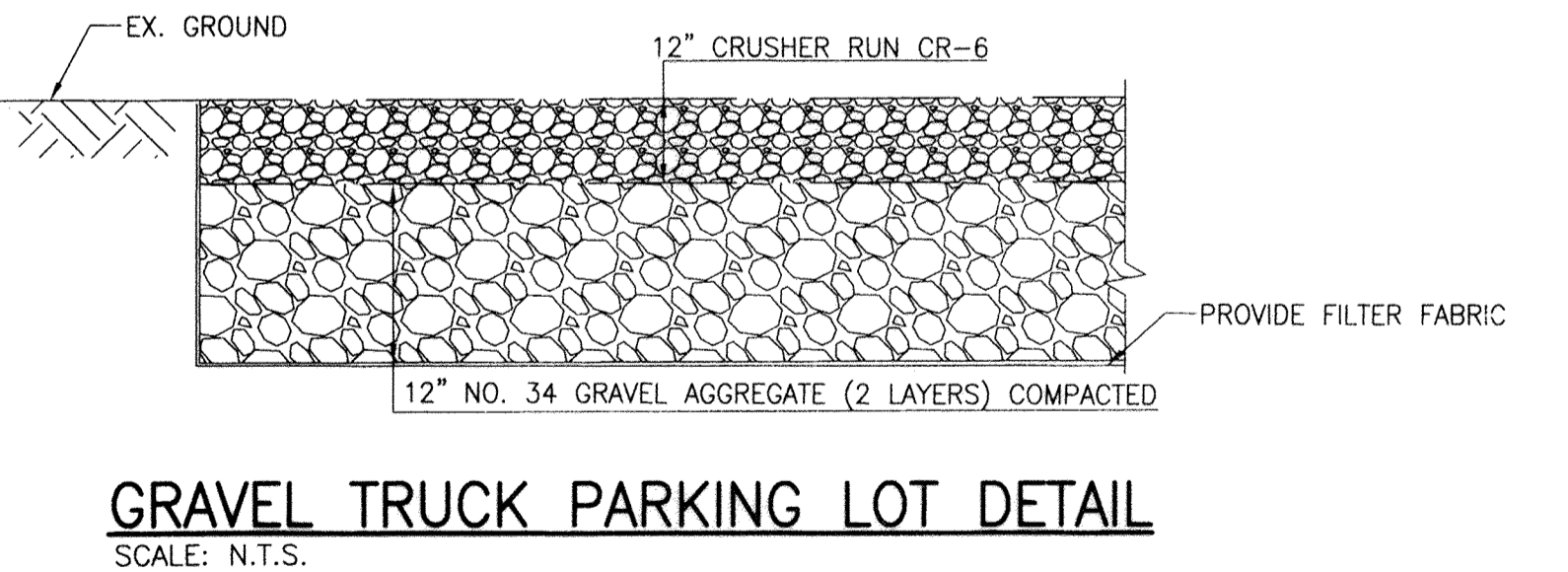
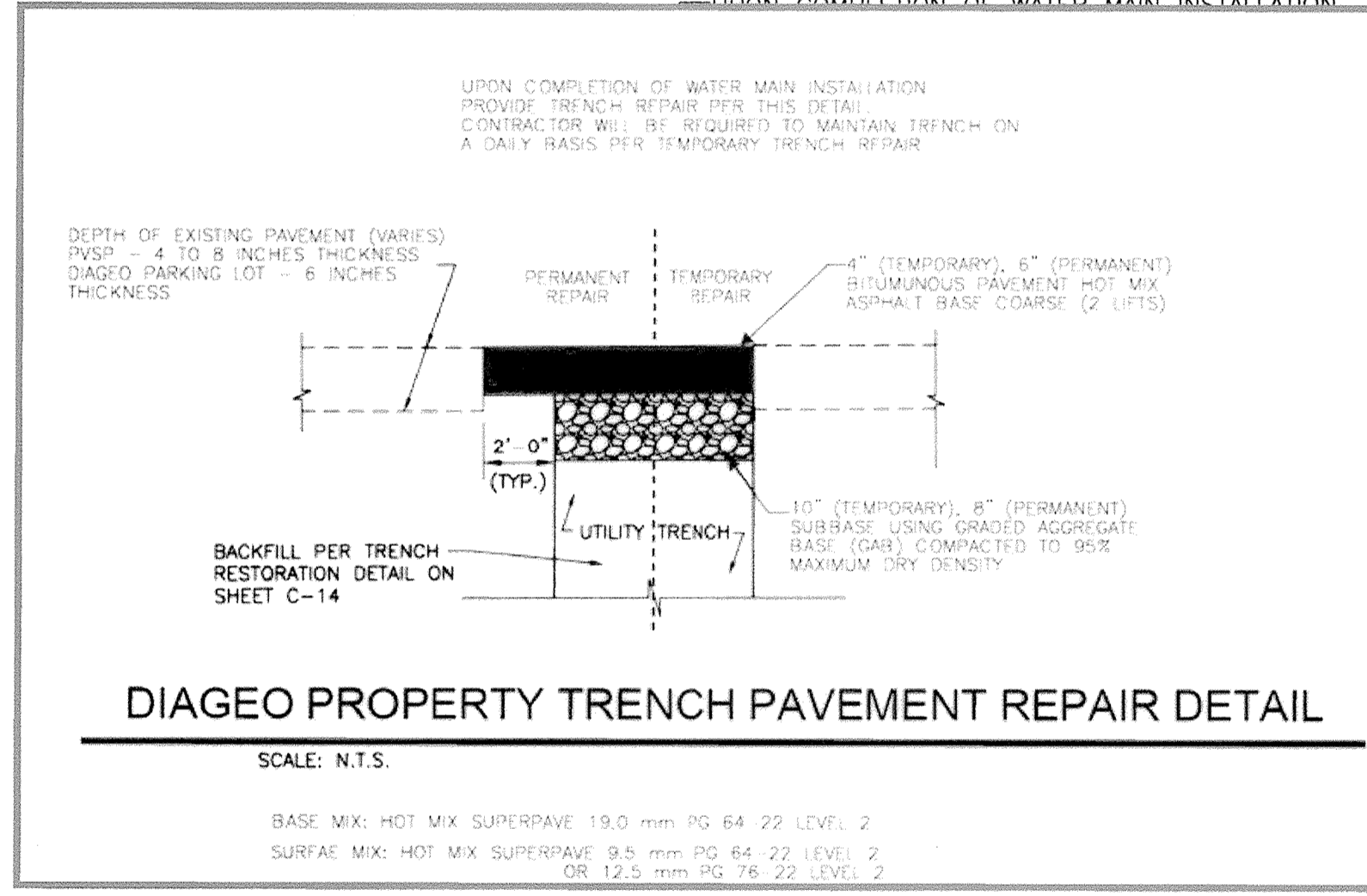
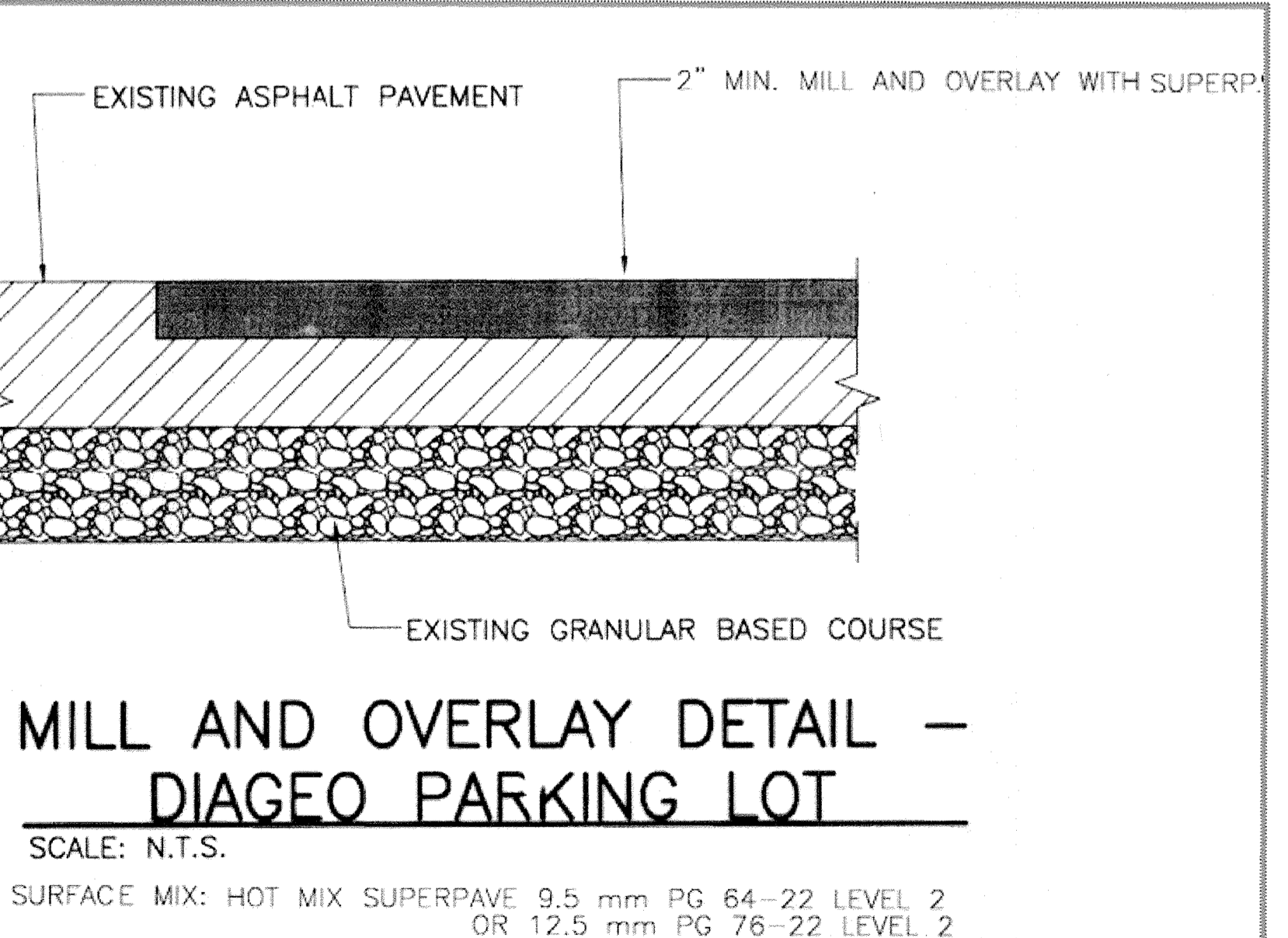
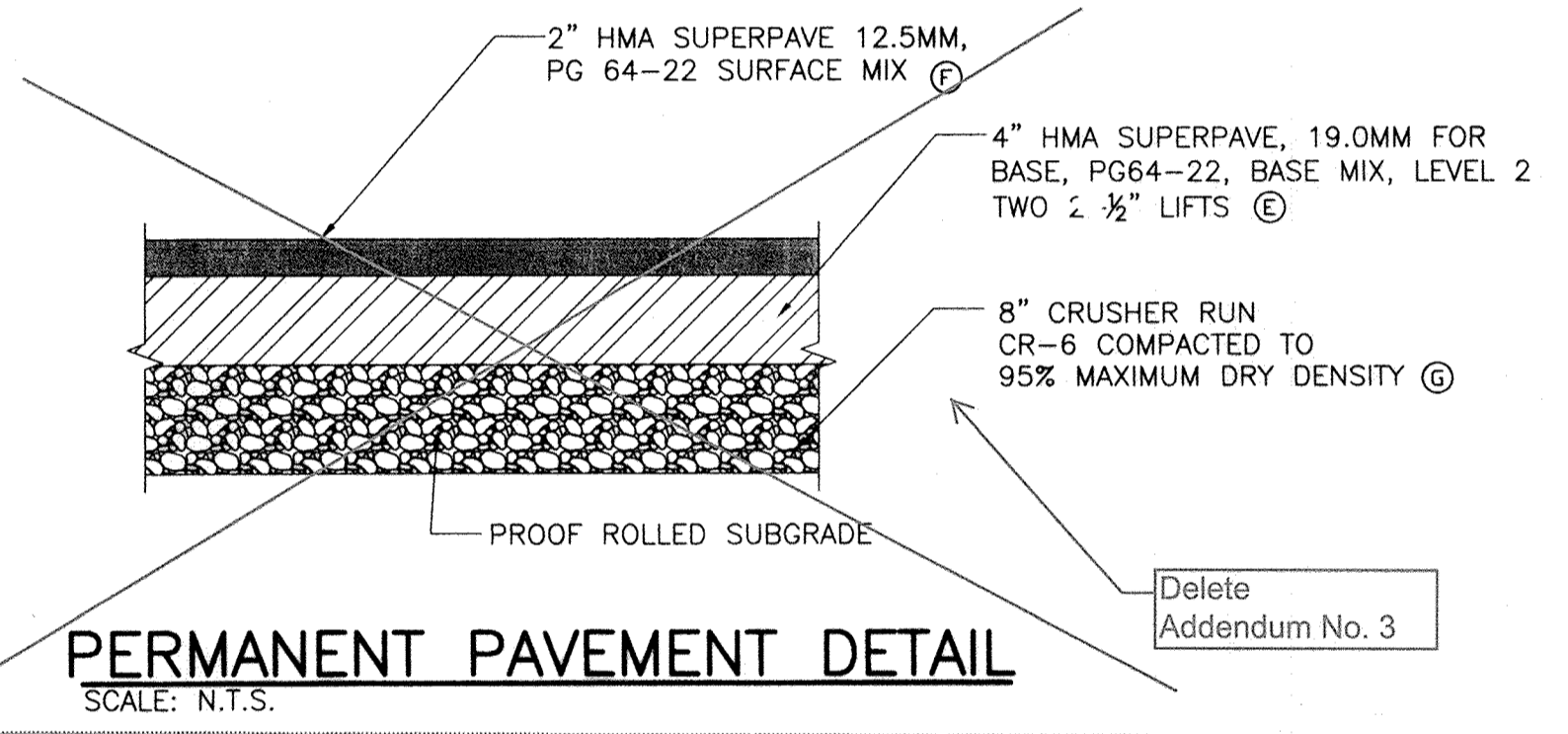
DIAGEO PROPERTY SEQUENCE OF CONSTRUCTION

1. CONTRACTOR MUST CONTACT DIAGEO PROPERTY PLANT MANAGER AT 410-247-6009 BEFORE INITIATING ANY WORK ON THE PROPERTY. AT NOT TIME WILL THE CONTRACTOR BE PERMITTED TO DISRUPT THE FLOW OF TRAFFIC AT THE MAIN ENTRANCE.
2. INSTALL PROPOSED WATER MAIN FROM STATION 121+00 +/- TO STATION 129+00 +/-.
3. INSTALL 6" WATER MAIN AND FIRE HYDRANT AS SHOWN AND INSTALL 8" WATER MAIN INTER CONNECTION TO DIAGEO METER VAULT AS SHOWN.
4. CONSTRUCT GRAVEL TRUCK PARKING LOT IN ACCORDANCE WITH THE FOLLOWING:
 - A. BEFORE BEGINNING CONSTRUCTION ON PROPOSED WATER MAIN FROM STATION 129+00 TO STATION 134+50, CONTRACTOR MUST CONSTRUCT PROPOSED GRAVEL PARKING LOT AS SHOWN.
 - B. INSTALL SILT FENCE AT TEMPORARY PARKING LOT LOCATION.
 - C. INSTALL 200 FEET X 130 FEET GRAVEL TRUCK PARKING LOT PER DETAIL THIS SHEET.
 - D. PROVIDE MOUNTABLE CURB ACROSS ENTRANCE.
 - E. INSTALL APPROXIMATELY 530 LINEAR FEET OF SECURITY FENCE AROUND NEW GRAVEL PARKING LOT. CONTRACTOR SHALL MATCH EXISTING FENCE AND HAVE THE OPTION TO REUSE EXISTING FENCE IN COMBINATION WITH NEW FENCING OR PROVIDE ALL NEW FENCING.
 - F. TOPSOIL, SEED, AND MULCH DISTURBED AREAS.
 - G. REMOVE SILT FENCE.
5. EXISTING TRUCK PARKING LOT - RELOCATE IN ACCORDANCE WITH THE FOLLOWING:
 - A. REMOVE EXISTING FENCE FROM THE PARKING LOT.
 - B. ALLOW TWO (2) WEEKS FOR OWNER TO RELOCATE EXISTING TRAILORS.
 - C. RELOCATION OF EXISTING TRUCK PARKING LOT CANNOT OCCUR UNTIL PROPOSED TEMPORARY GRAVEL TRUCK PARKING LOT IS READY FOR OCCUPANCY.
6. CONSTRUCT NEW WATER LINE BETWEEN STATION 128+50 AND STATION 134+50. PROVIDE TEMPORARY PAVEMENT REPAIR IN ACCORDANCE WITH THE DETAIL ON SHEET C-14.
7. REPAIR DAMAGED AREAS WITHIN PARKING LOT. (AN ALLOWANCE OF \$10,000 SHOULD BE INCLUDED IN CONTRACTOR'S BID FOR REPAIRS TO THE EXISTING LOT).
8. AFTER WATER MAIN HAS BEEN TESTED, REMOVE TEMPORARY PAVEMENT AND PROVIDE PERMANENT PAVEMENT REPAIR.
9. MILL AND OVERLAY ENTIRE PARKING LOT TO THE LIMITS SHOWN. PROVIDE STRIPPING.
10. PLACE PARKING LOT BACK IN SERVICE.

Delete Addendum No. 2

"detail this sheet." Correction Addendum No. 3

"After water main has been tested, remove temporary trench pavement and provide permanent trench pavement repair. See details this sheet." Correction Addendum No. 3



Updated Addendum No. 3

Updated Addendum No. 3

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Chief, Water & Wastewater Eng. Div. <i>Ad T. Kab</i> DATE: 3/15/12	Chief, Utility Engineering DATE:	Chief, Water Engineering Section DATE:	Director, Dept. of Public Works <i>[Signature]</i> DATE: 1/23/12	P.W.A. NO. KEY SHEET POSITION SHT	DRAWING SCALE DEPARTMENT OF PUBLIC WORKS
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013					
ENGINEER: SYAM B. NAYER DESIGN BY: BBB DRAWN BY: JCD AS-BUILT PER RECORD PRINT BY: [Signature] DATE:	BUREAU OF ENGINEERING AND CONSTRUCTION BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER BUR. OF ENGINEERING & CONSTRUCTION DATE REVIEWED: 1/23/12	REVIEWED BY: [Signature] DATE REVIEWED: 1/23/12	APPROVED BY: [Signature] DATE: 1/23/12	APPROVED BY: [Signature] DATE: 1/23/12	APPROVED BY: [Signature] DATE: 1/23/12

AS-BUILT JUNE 2016

**SOUTHWEST TRANSMISSION MAIN
DIAGEO PROPERTY IMPROVEMENTS PLAN**

SUBDIVISION: ST. DENIS

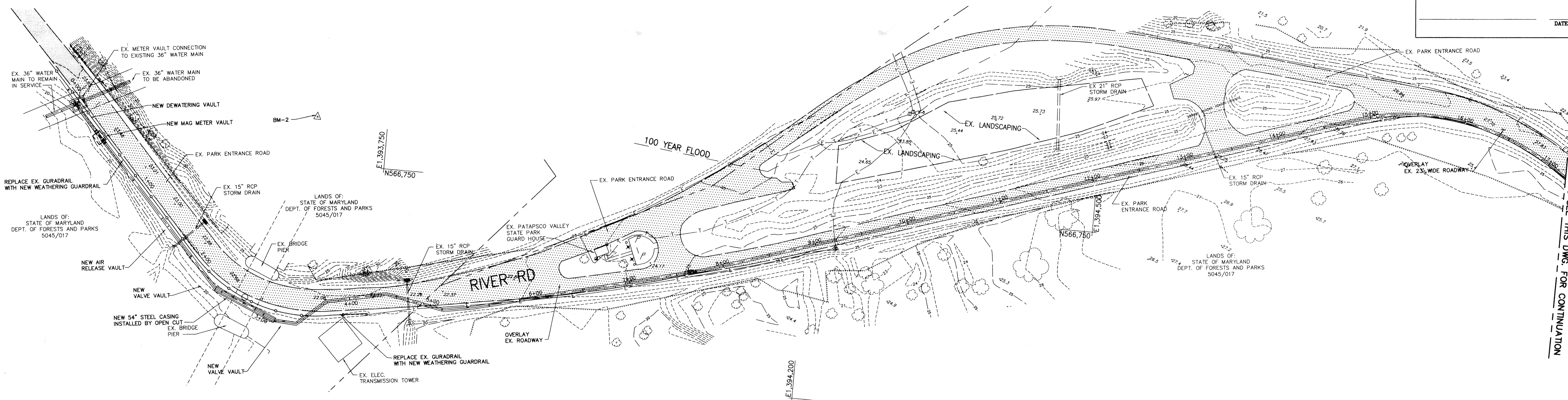
ELECTION DISTRICT: 13

HOWARD CO. PROJECT NO. W-8276

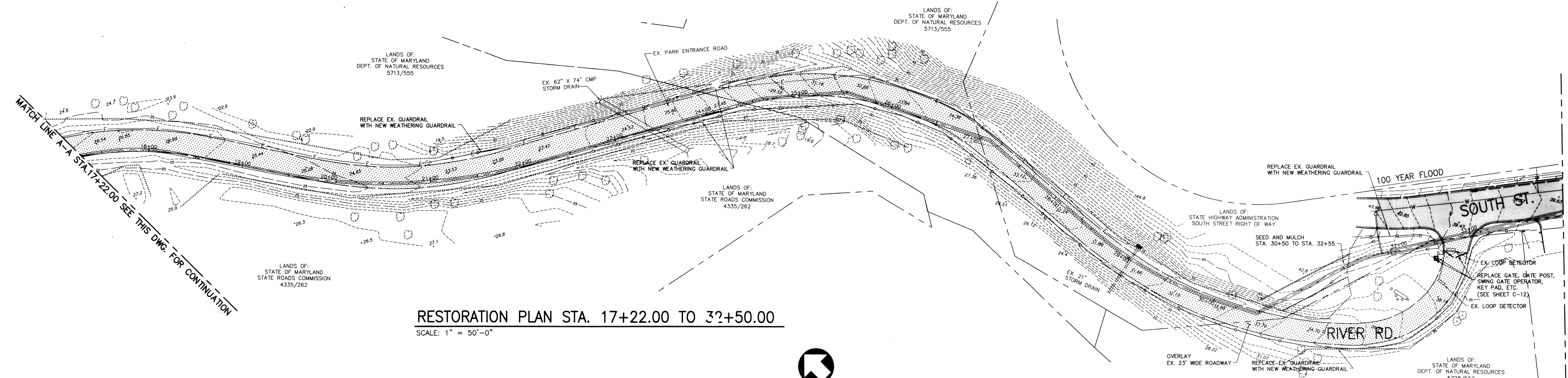
Hatch Mott MacDonald
11019 McCormick Road, Suite 260
Hunt Valley, Maryland 21031

SHEET DESIGNATION	CONTRACT NO.
C-16	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 18 OF 36	DRAWING NO.
	2009-3367
	FILE NO.

DWG FILENAME:



RESTORATION PLAN STA. 0+00 TO 17+22.00
 SCALE: 1" = 50'-0"



RESTORATION PLAN STA. 17+22.00 TO 32+50.00
 SCALE: 1" = 50'-0"

CITY OF BALTIMORE 2/15/12 CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER		REVISION - CITY OF BALTIMORE CHIEF, UTILITY ENGINEERING CHIEF, WATER ENGINEERING SECTION		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS DIRECTOR, DEPT. OF PUBLIC WORKS	
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37787 EXPIRATION DATE AUGUST 9, 2013		REVISION		DRAWING SCALE	
ENGINEER: STAM B. NAYLOR	DESIGN BY: BBB	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES
AS-BUILT PER RECORD PRINT	DRAWN BY: JCD	REVIEWED BY: RJE	STORM DRAINS	SEWER	WATER
BY: DATE:	CHKD BY: SBN	DATE REVIEWED: 1/23/12	FIELD ENGINEER	APPROVED BY: [Signature]	DATE: 1/17/12

DESIGN AND DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM HORIZONTAL - NAD 83/91 AND ELEVATIONS SHOWN HEREON ARE REFERRED TO NAVD 88 DATUM USING NGS MONUMENTS GIS 86 (PID AE2450), ELEVATION = 57.13 AND GIS 87 (PID AE2451), ELEVATION 68.97.

AREA OF DISTURBANCE PATAPSCO VALLEY STATE PARK - 2.90 ACRES (126,239 SQUARE FEET)
 AREA OF DISTURBANCE ALONG ROUTE 1 CORRIDOR - 7.57 ACRES (329,562 SQUARE FEET)
 TOTAL AREA OF DISTURBANCE - 10.46 ACRES (455,801 SQUARE FEET)

AS-BUILT JUNE 2016
 BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

**SOUTHWEST TRANSMISSION MAIN
 RESTORATION PLAN STA. 0+00 TO STA 33+89.00**

SUBDIVISION: ST. DENIS

ELECTION DISTRICT: 13

HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
 11019 McCormick Road, Suite 260
 Hunt Valley, Maryland 21081

SHEET DESIGNATION	CONTRACT NO.
C-17	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 19 OF 36	DRAWING NO.
2009-3368	FILE NO.

MATCH LINE A-A STA. 17+22.00 SEE THIS DWG. FOR CONTINUATION

MATCH LINE A-A STA. 17+22.00 SEE THIS DWG. FOR CONTINUATION

EROSION & SEDIMENT CONTROL

SOUTHWEST TRANSMISSION MAIN

CONTRACT NO. W-8276

JOB ORDER NO. 203-0067-0281

SEDIMENT CONTROL

OWNER'S/DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THIS CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE ALSO CERTIFY THAT THE SITE WILL BE INSPECTED AT THE END OF EACH WORKING DAY, AND THAT ANY NEEDED MAINTENANCE WILL BE COMPLETED SO AS TO INSURE THAT ALL SEDIMENT CONTROL PRACTICES ARE LEFT IN OPERATIONAL CONDITION. I/WE AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS.

[Signature] *D. Adams* *7-27-10*
 SIGNATURE OWNER/DEVELOPER TITLE DATE
 EDWARD C. ADAMS, JR.
 PRINT NAME

CONSULTANT'S CERTIFICATION:

I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT AND THE CURRENT STATE OF MARYLAND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

[Signature] *7/21/10*
 SIGNATURE DATE
 JAMES E. HAVY
 PRINT NAME *26035*
 MD LICENSE NO.

OWNER'S GRADING CERTIFICATION:

I/WE CERTIFY THAT ALL GRADING ON THIS SITE WILL BE DONE IN ACCORDANCE WITH THE CURRENT GRADING REQUIREMENTS AS SET FORTH BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT AND WITH THE REQUIREMENTS SPECIFIED IN ARTICLE 33, TITLE 5 OF THE BALTIMORE COUNTY CODE.

[Signature] *D. Adams* *7-27-10*
 SIGNATURE OWNER/DEVELOPER TITLE DATE
 EDWARD C. ADAMS, JR.
 PRINT NAME

OWNER'S CERTIFICATION-AIR QUALITY:

I ACKNOWLEDGE THAT I AM RESPONSIBLE UNDER THE CODE OF MARYLAND REGULATIONS (26.11.06.03) TO PREVENT PARTICULATE MATTER FROM BECOMING AIRBORNE DUE TO GRADING, LAND CLEARING, EXCAVATING, CONSTRUCTION OR OTHER RELATED ACTIVITIES. I HAVE RECEIVED A COPY OF "GUIDELINES TO THE AIR POLLUTION REGULATIONS FOR CONTROLLING EXCESSIVE ABP (DUST) ON ACTIVITY SITES" WHICH INCLUDES A COPY OF COMAR 26.11.06.03. I WILL CONTACT THE ENVIRONMENTAL HEALTH SECTION AT (410- 887-4065) AT LEAST THREE DAYS PRIOR TO BEGINNING WORK.

[Signature] *D. Adams* *7-27-10*
 SIGNATURE OWNER/DEVELOPER TITLE DATE
 EDWARD C. ADAMS, JR.
 PRINT NAME

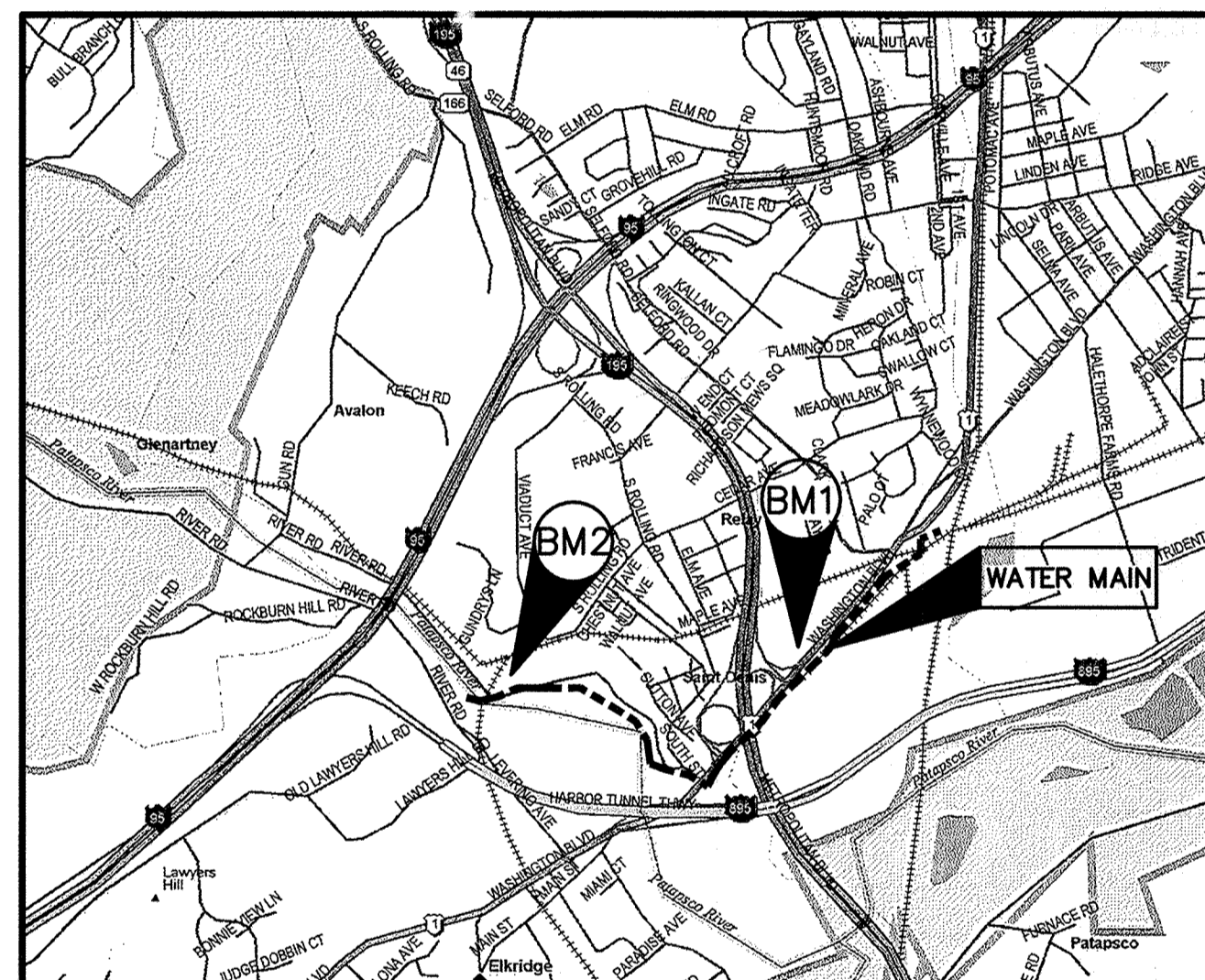
THE PROPOSED GRADING SHOWN ON THIS PLAN MEETS THE REQUIREMENTS SET FORTH BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT AND COMPLIES WITH ARTICLE 33, TITLE 5 OF THE BALTIMORE COUNTY CODE. HOWEVER, DUE TO BUILDING TYPES AND LAYOUT, SOME FIELD ADJUSTMENTS MAY BE REQUIRED. ALL CHANGES MUST COMPLY WITH THE ABOVE MENTIONED REQUIREMENTS.

LIST OF DRAWINGS

Sheet No.	Dwg.	DESCRIPTION
20	SC-1	EROSION & SEDIMENT CONTROL TITLE SHEET
21	SC-2	EROSION & SEDIMENT CONTROL NOTES 1
22	SC-3	EROSION & SEDIMENT CONTROL NOTES 2
23	SC-4	EROSION & SEDIMENT CONTROL NOTES 3
24	SC-5	EROSION & SEDIMENT CONTROL DETAILS
25	SC-6	EROSION & SEDIMENT CONTROL PLAN STA 0+00 TO STA 34+58.00
26	SC-7	EROSION & SEDIMENT CONTROL PLAN STA 34+58.00 TO STA 126+89.00
27	SC-8	EROSION & SEDIMENT CONTROL PLAN STA 126+89.00 TO STA 141+57.28

NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH BALTIMORE COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION DATED 2000 AND AMENDED.
- NOTIFY BALTIMORE CITY BUREAU OF WATER AND WASTEWATER AT 410-396-7870 72 HOURS BEFORE STARTING CONSTRUCTION.
- NOTIFY BALTIMORE CITY WATER & WASTEWATER MAINTENANCE DIVISION AT 410-396-7807 AT LEAST 3 DAYS PRIOR TO STARTING CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 4 DAYS PRIOR TO BEGINNING OF WORK.
- ONLY BALTIMORE CITY SHALL OPERATE EXISTING VALVES. CONTRACTOR SHALL NOTIFY THE BALTIMORE COUNTY INSPECTOR TO ARRANGE A SHUTDOWN WITH THE CITY AT LEAST 4 DAYS PRIOR TO PROPOSED SHUTDOWN. IF THE INSPECTOR IN THE FIELD IS UNAVAILABLE, CALL THE BALTIMORE COUNTY AREA ENGINEER AT 410-887-3531.
- ONLY THAT SECTION OF THE TRENCH SHALL BE OPENED WHICH CAN BE BACKFILLED AND STABILIZED IN ONE DAY. THE END OF THE PIPE SHALL BE PLATED OVER AT THE END OF EACH WORK DAY.
- WHEN EXCAVATING FOR UTILITIES, ALL SPOIL MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
- FULL COMPACTION IS REQUIRED FOR ALL TRENCHES.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE BALTIMORE COUNTY SOIL CONSERVATION PERMIT NO. 290-COUNTY-05.
- MAIN SHALL HAVE A MINIMUM OF FOUR FEET OF COVER EXCEPT WHERE SPECIFIED.
- THE COST OF CONSTRUCTING UNDER OR OVER ANY EXISTING UTILITY OR CABLE SHOWN ON THIS PLAN AND ALL EXISTING SERVICE CONNECTIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE 36-INCH WATER MAIN.
- WHEN CROSSING EXISTING UTILITIES THE CONTRACTOR IS TO SUPPORT BRACE AND PROTECT SUCH UTILITIES DURING CONSTRUCTION. (COST TO BE INCLUDED IN THE PRICE BID FOR THE 36-INCH WATER MAIN).
- CONTRACTOR IS TO TEST PIT EXISTING UTILITIES PRIOR TO LAYING PIPE TO WITHIN 3-LENGTHS OF PIPE SO INVERTS CAN BE ADJUSTED. WHERE SPECIFIED ON THESE DRAWINGS, CONTRACTOR IS REQUIRED TO TEST PIT PRIOR TO FABRICATING PIPE SEGMENTS.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES TO HIS OWN SATISFACTION PRIOR TO STARTING ANY WORK.
- HIGHLY CHLORINATED WATER TO BE DISPOSED OF IN A SANITARY SEWER AT A RATE NOT TO EXCEED 100 GAL/MIN.



LOCATION MAP
 SCALE: 1" = 2,000'

SURVEY CONTROL NOTES

- THE ELEVATIONS SHOWN HEREON ARE REFERRED TO NAVD 88 DATUM USING NGS MONUMENTS GIS 86 (PID AE2450), ELEVATION = 57.13 AND GIS 87 (PID AE2451), ELEVATION = 68.97.
- THE COORDINATES SHOWN HEREON ARE REFERRED TO THE MARYLAND STATE PLANE DATUM NAD 83/91 USING NGS MONUMENTS BM-1 GIS 86 (PID AE 2450), N. 566928.28 E. 1397313.26 AND BM-2 GIS 87 (PID AE2451), N. 566798.08 E. 1393675.58.
- GIS 86 AND GIS 87 ARE SURVEY DUMPS SET IN TOP OF CONCRETE MONUMENTS.

DESIGN AND DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM HORIZONTAL - NAD 83/91 AND ELEVATIONS SHOWN HEREON ARE REFERRED TO NAVD 88 DATUM USING NGS MONUMENTS GIS 86 (PID AE2450), ELEVATION = 57.13 AND GIS 87 (PID AE2451), ELEVATION 68.97.

APPROVAL

STORMWATER MANAGEMENT PERMIT NOT REQUIRED

[Signature] *9-17-10*
 BALTIMORE COUNTY
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 & RESOURCE MANAGEMENT
 APPROVED FOR GRADING *9-17-10*
 DATE

BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
 APPROVED FOR SEDIMENT CONTROL *9-1-10*
 DATE
[Signature] *312-41, K11-10*
 DISTRICT OFFICIAL PLAN NO.

TECHNICAL REVIEW FOR THE DISTRICT BY:
[Signature]
 IF A GRADING PERMIT HAS NOT BEEN OBTAINED WITHIN TWO YEARS OF THIS APPROVAL, THIS PLAN SHALL BE RE-SUBMITTED TO THE DISTRICT

R-1 2-19-13 Recertification
 R-2, 1-28-14, Revised L&D and SF near station 30+00
 R-3, 7-17-14, Changes made between station 33+99 - 35+00 to 18345 Sheets 7A+7B added. JRW

Hatch Mott MacDonald
 11019 McCormick Road, Suite 280
 Hunt Valley, Maryland 21081

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
SIGNATURES SEE DWG. NO 2009-3350	SIGNATURES SEE DWG. NO 2009-3350	SIGNATURES SEE DWG. NO 2009-3350

AS-BUILT PER RECORD PRINT	REVISION	DATE	BY	P. W. A. NO.	KEY SHEETS	POSITION SHEETS	DRAWING SCALE	DEPARTMENT OF PUBLIC WORKS
DRAFTSMAN							PLAN : PROFILE :	SIGNATURES SEE DWG. NO 2009-3350
ENGINEER: JAMES E. HAVY	DSGN BY: BBB							SIGNATURES SEE DWG. NO 2009-3350
DATE: 7-10 LIC. NO.: 26035	DWN BY: JCD							
	CHKD BY: BBB							

AS-BUILT JUNE 2016

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

SOUTHWEST TRANSMISSION MAIN
EROSION & SEDIMENT CONTROL TITLE SHEET

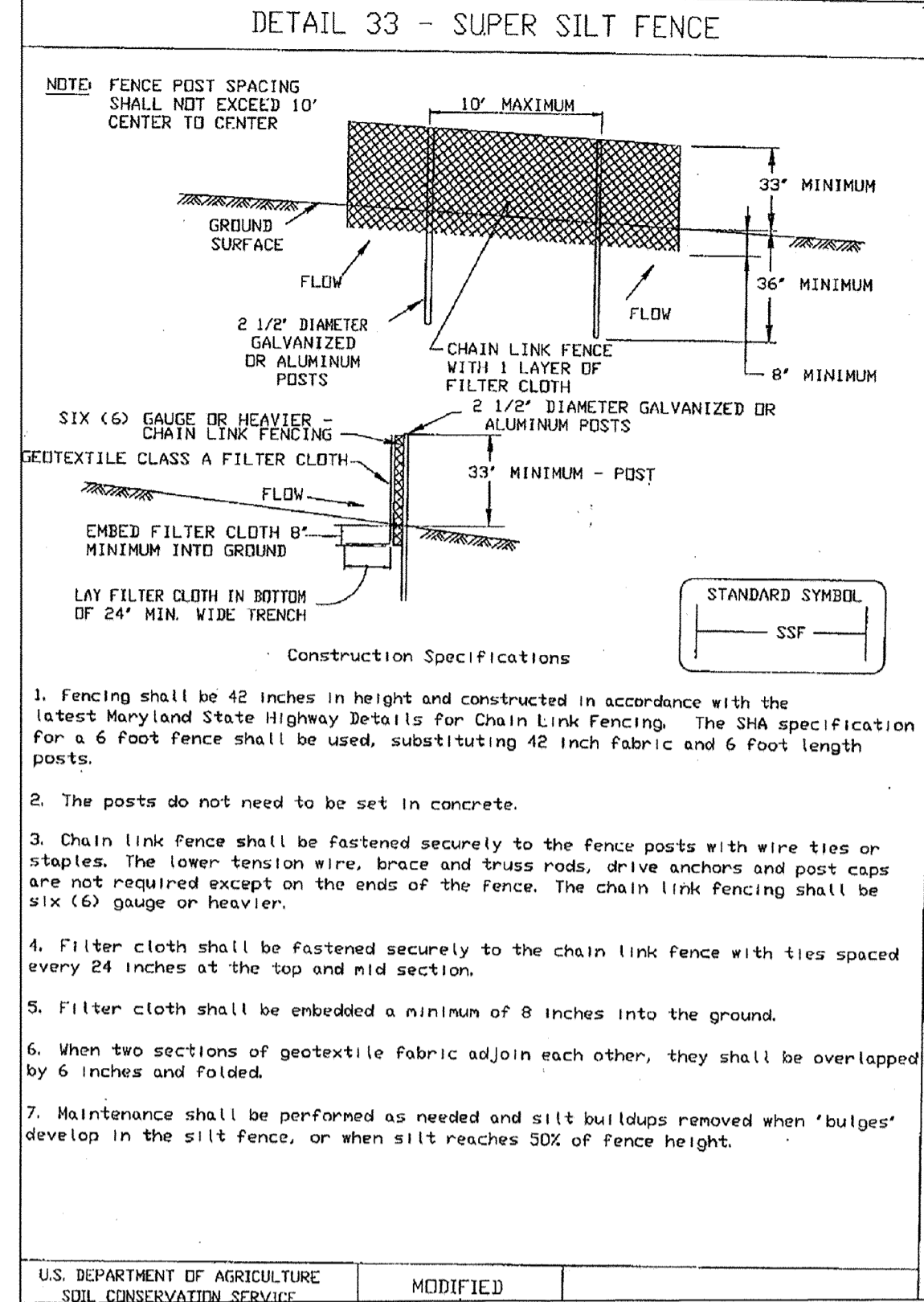
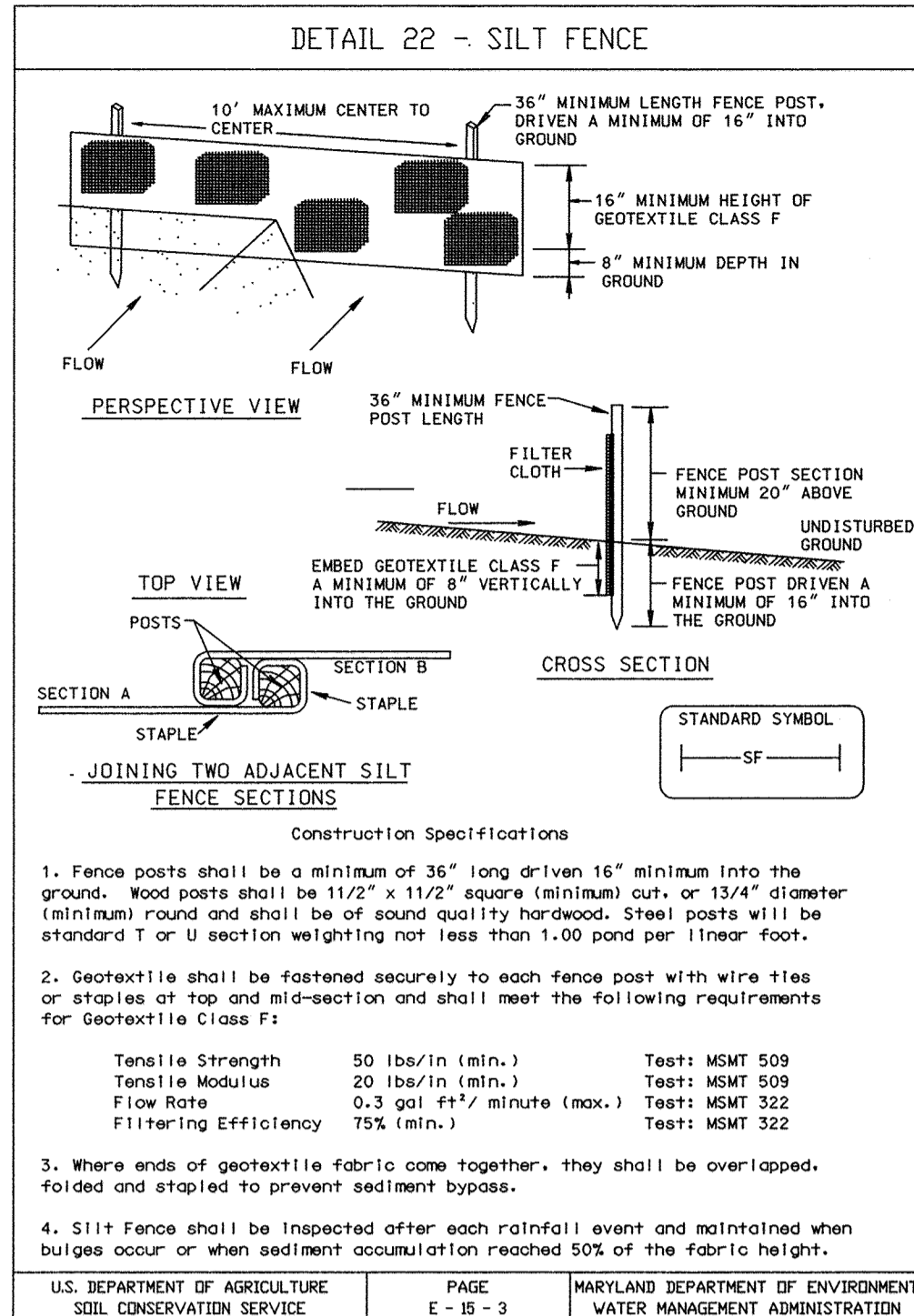
SUBDIVISION: LANSDOWNE

SHEET DESIGNATION	CONTRACT NO.
SC-1	W-8276
	JOB ORDER NO. 203-0067-0281
	SHEET 20 OF 36
	DRAWING NO. 2009-3369
	FILE NO.



Jeffrey P. West 9-1-10
DATE

R-1 2-19-13
R-2 1-28-14
R-3 7-17-14



24.0 MATERIALS SPECIFICATIONS

Table 27 Geotextile Fabrics

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI. MIN.
A	0.30**	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40 - 0.80*	90	190

*US Std Sieve CW-02215 **0.50 mm. max. for Super Silt Fence

The properties shall be determined in accordance with the following procedures:

- Apparent opening size: MSMT 323
- Grab tensile strength: ASTM D 1682; 4x8" specimen, 1x2" clamps, 12"/min. strain rate in both principal directions of geotextile fabric.
- Burst strength: ASTM D 3786

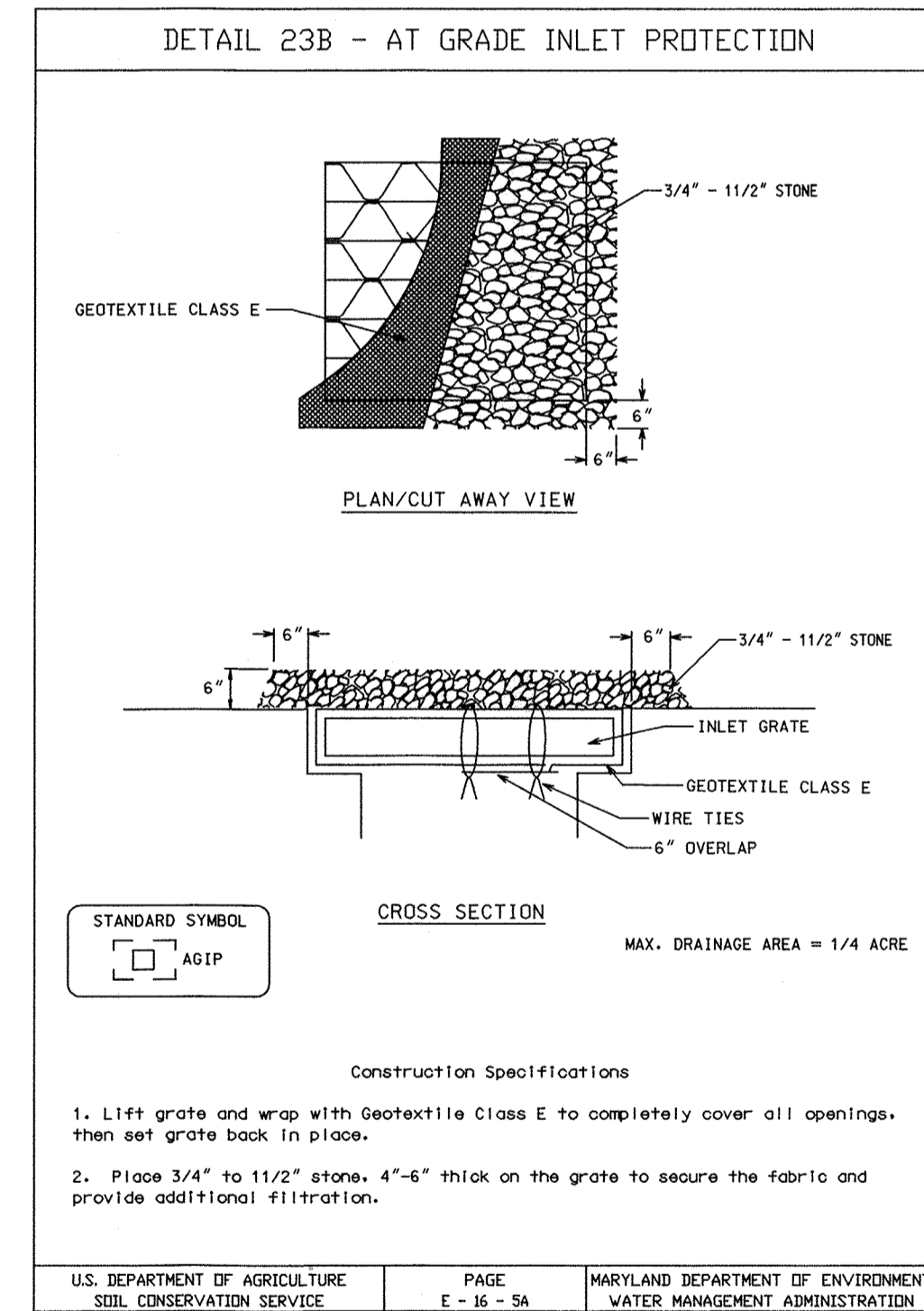
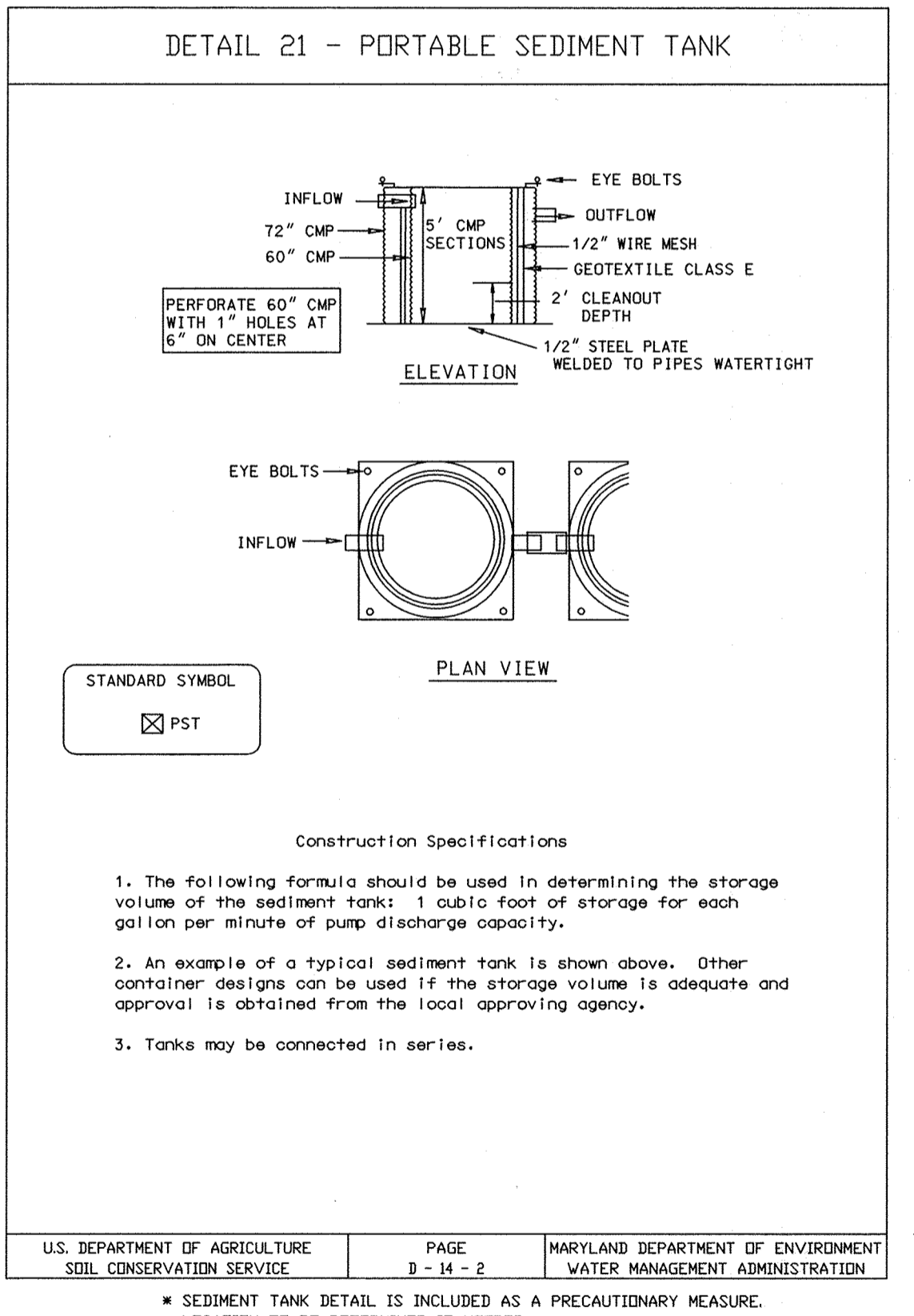
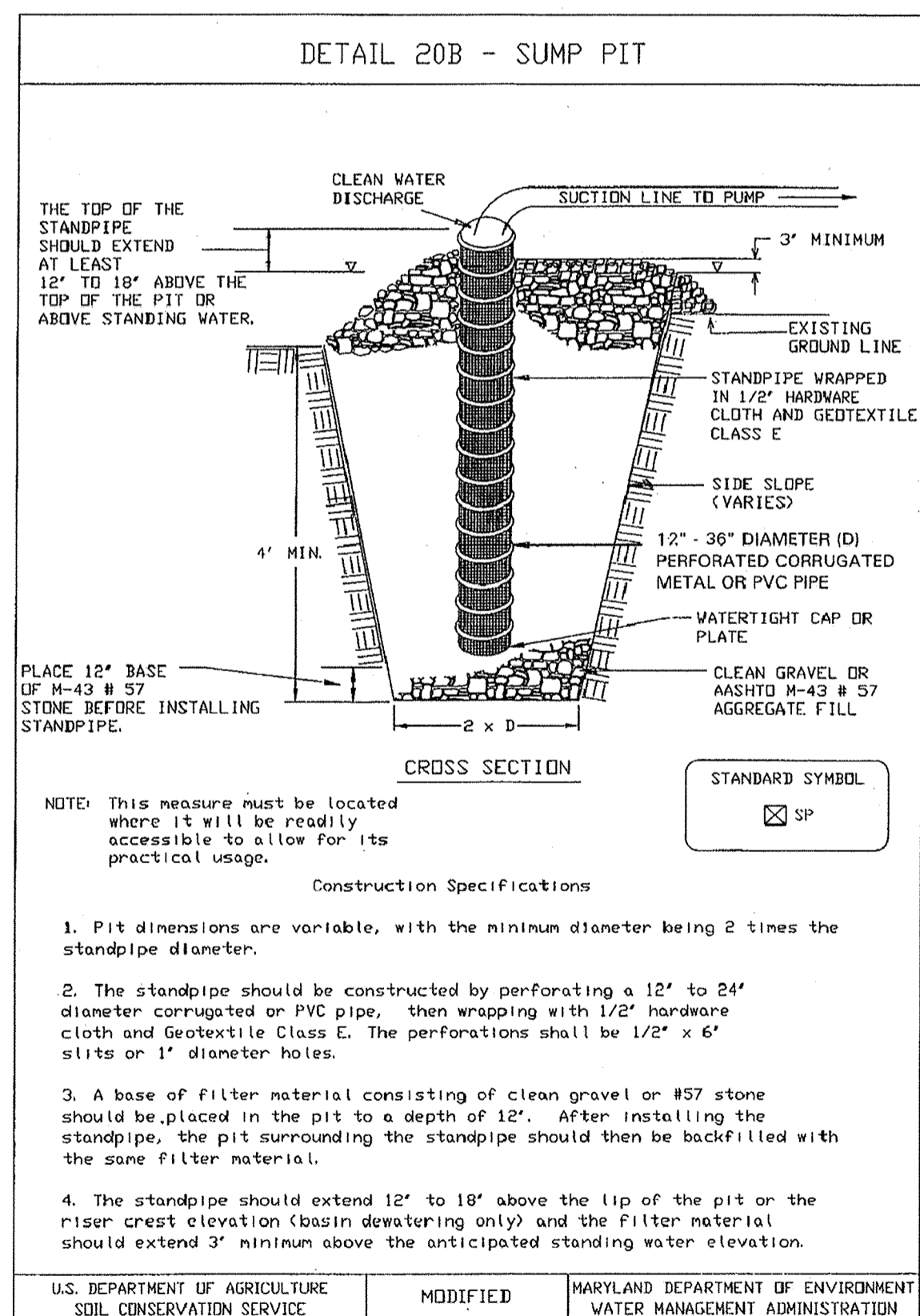
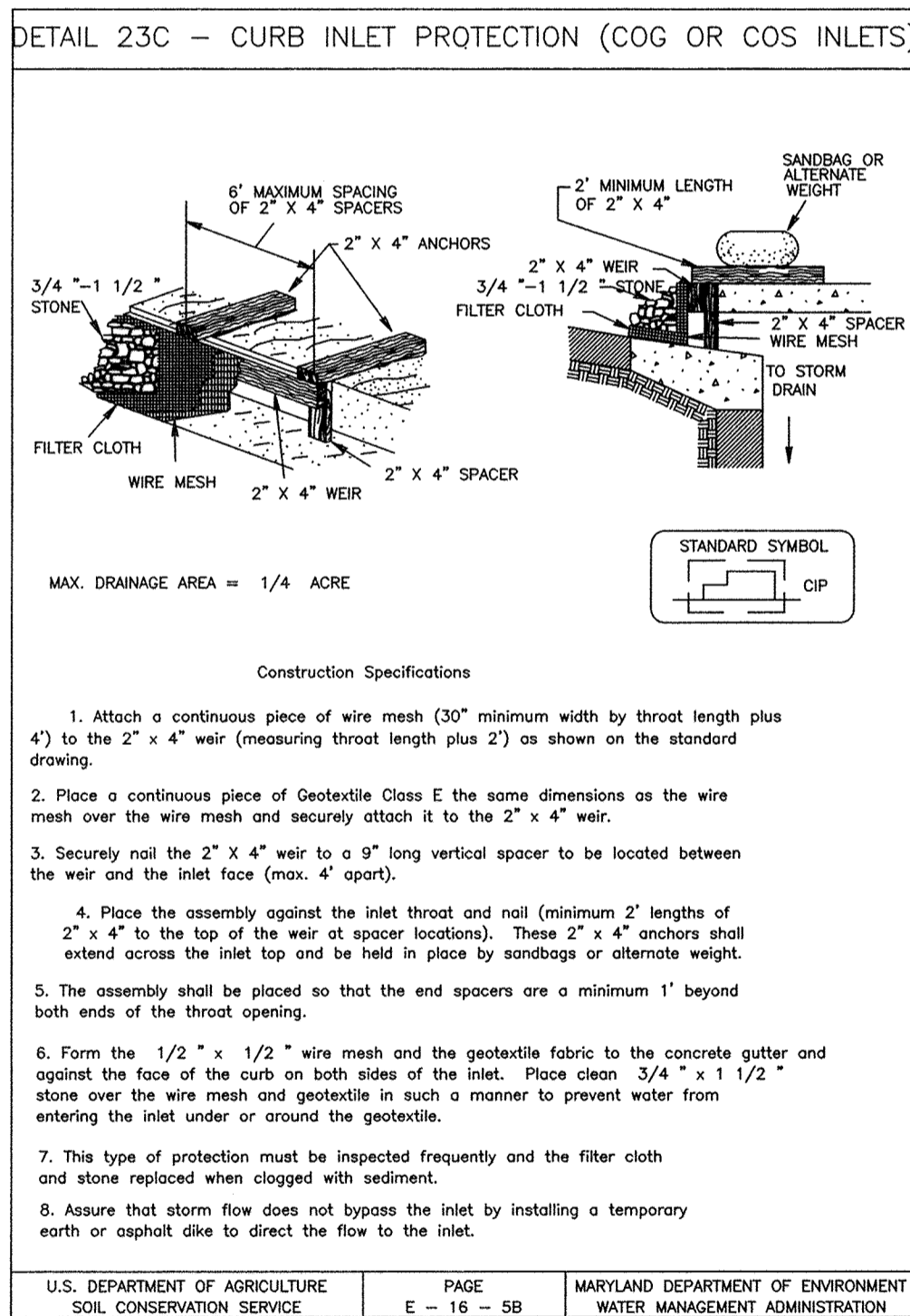
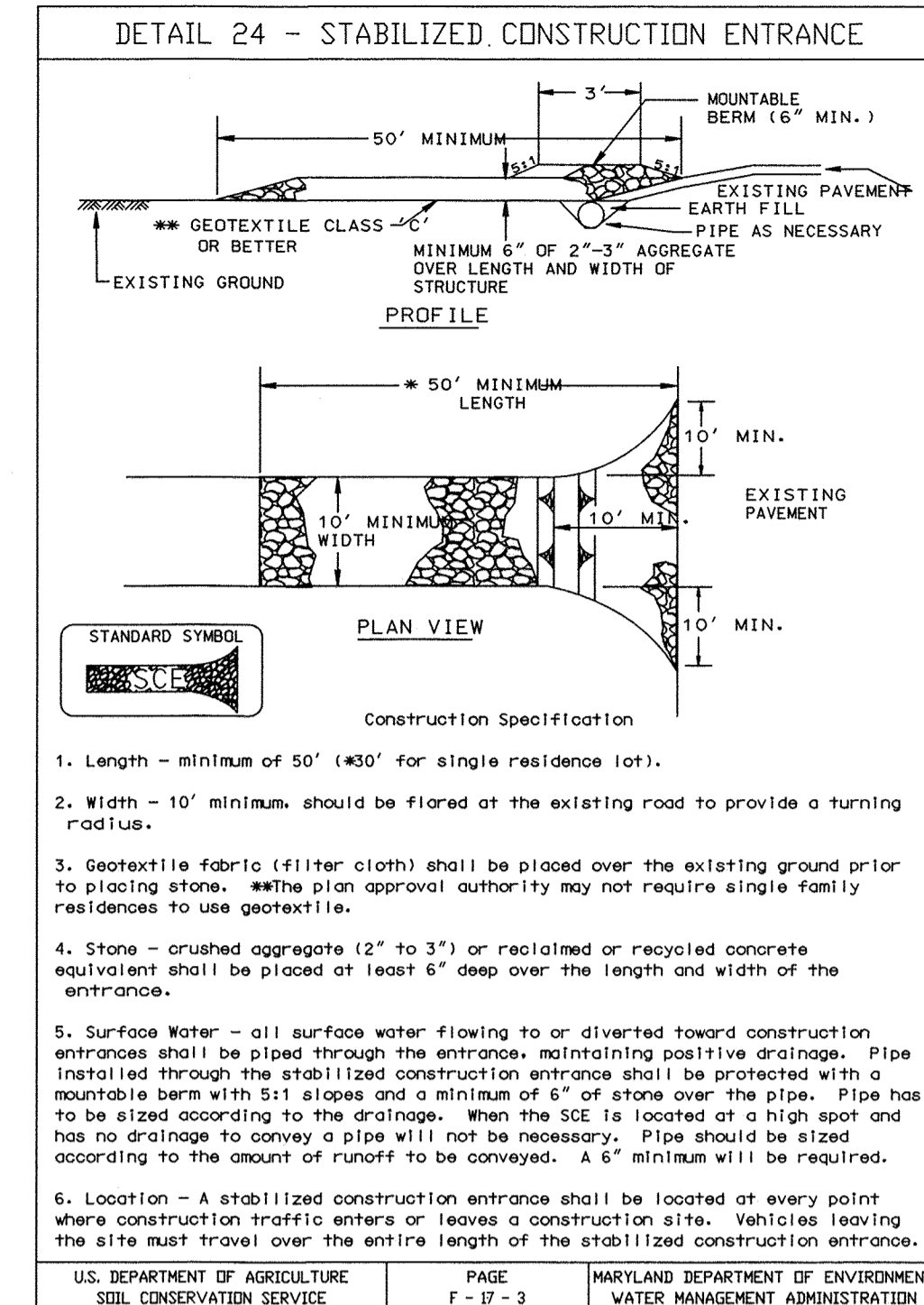
The fabric shall be inert to commonly encountered chemicals and hydrocarbons, and will be rot and mildew resistant. It shall be manufactured from fibers consisting of long chain synthetic polymers, and composed of a minimum of 85% by weight of polyolefins, polyesters, or polyamides. The geotextile fabric shall resist deterioration from ultraviolet exposure.

In addition, Classes A through E shall have a 0.01 cm./sec. minimum permeability when tested in accordance with MSMT 507, and an apparent minimum elongation of 20 percent (20%) when tested in accordance with the grab tensile strength requirements listed above.

Silt Fence
Class F geotextile fabrics for silt fence shall have a 50 lb./in. minimum tensile strength and a 20 lb./in. minimum tensile modulus when tested in accordance with MSMT 509. The material shall also have a 0.3 gal./ft./min. flow rate and seventy-five percent (75%) minimum filtering efficiency when tested in accordance with MSMT 322.

Geotextile fabrics used in the construction of silt fence shall resist deterioration from ultraviolet exposure. The fabric shall contain sufficient amounts of ultraviolet ray inhibitors and stabilizers to provide a minimum of 13 months of expected useful construction life at a temperature range of 0 to 120 degrees F.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE II-24-1 Modified APPENDIX 10



APPROVAL

 11019 McCormick Road, Suite 260 Hunt Valley, Maryland 21031	CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
	SIGNATURES SEE DWG. NO 2009-3350		SIGNATURES SEE DWG. NO 2009-3350		SIGNATURES SEE DWG. NO 2009-3350	
AS-BUILT PER RECORD PRINT	REVISION	DATE	BY	P. W. A. NO.	KEY SHEETS	POSITION SHEETS
DRAFTSMAN	DATE					
ENGINEER: JAMES E. HAYEY	DESIGN BY: BBB	REVIEWED				
DATE: 7-10 LIC. NO.: 28035	DWN BY: JCD	DATE				
SEAL	CHKD BY: BBB					

FOR REVIEW AND APPROVAL ORIGINAL SIGNATURES AND DATES, SEE DWG. NO 2009-3350

AS-BUILT JUNE 2016

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

SOUTHWEST TRANSMISSION MAIN
EROSION & SEDIMENT CONTROL DETAILS

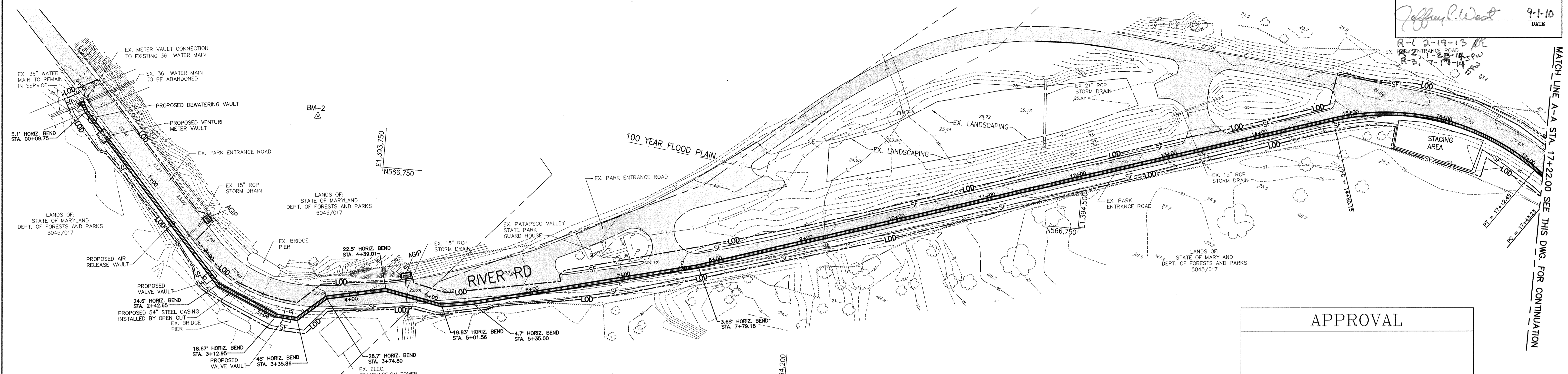
SUBDIVISION: LANSDOWNE

SHEET DESIGNATION	CONTRACT NO.
SC-5	W-8276
	JOB ORDER NO.
	203-0067-0281
	SHEET 24 OF 36
	DRAWING NO.
	2009-3373
	FILE NO.

DWG FILENAME:

Jeffrey West 9-1-10
DATE

R-1 2-19-13
R-2 1-28-14
R-3 7-18-14

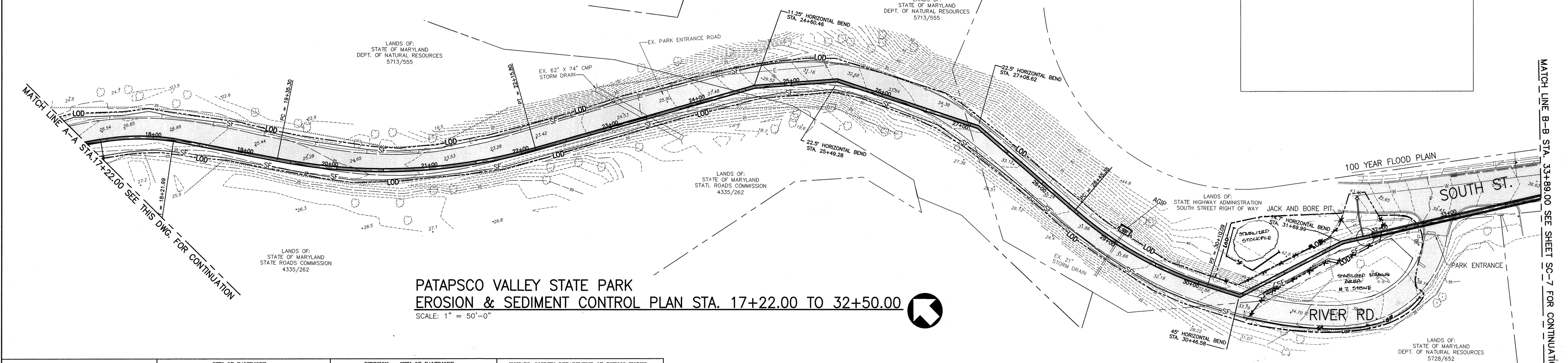
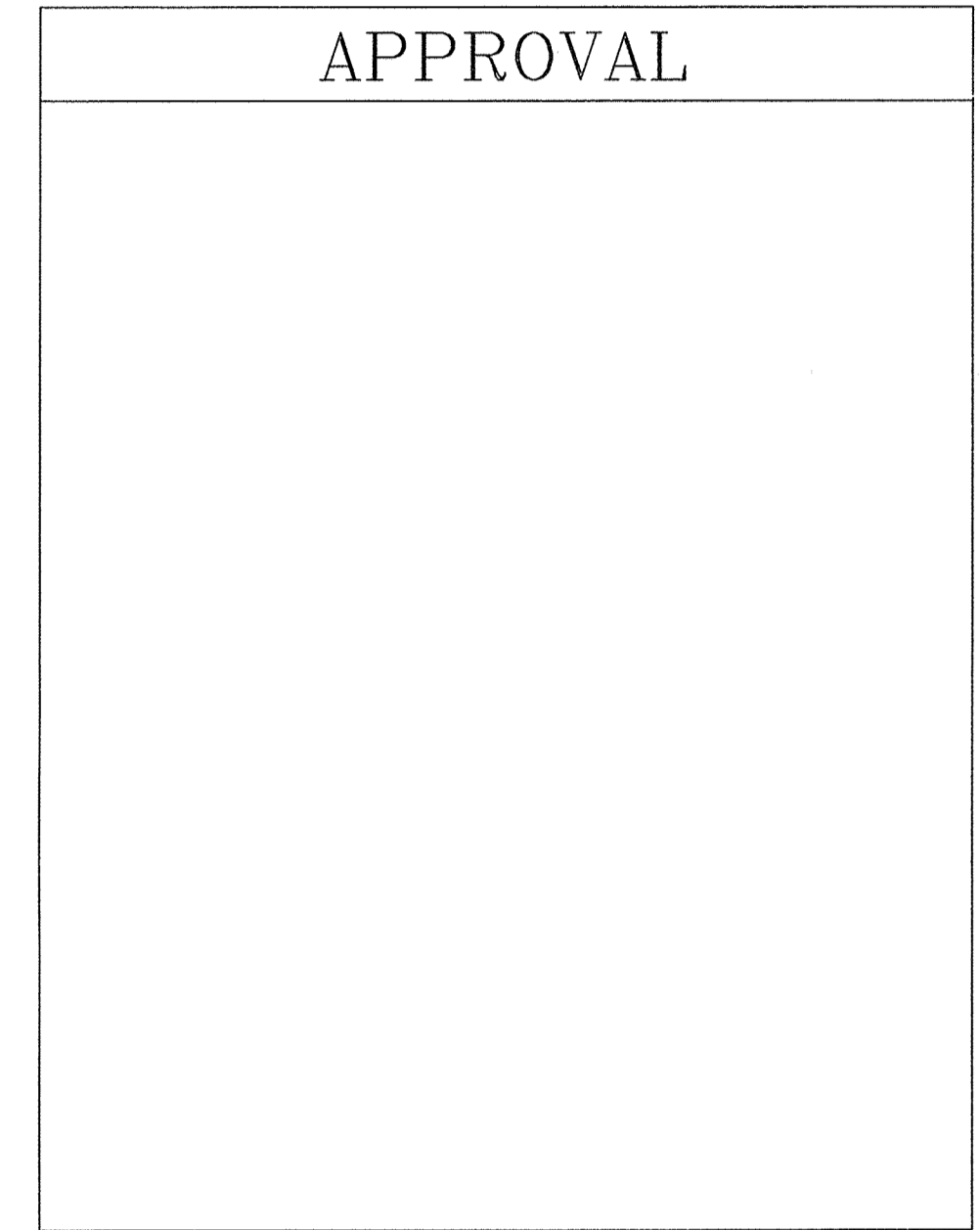


**PATAPSCO VALLEY STATE PARK
EROSION & SEDIMENT CONTROL PLAN STA. 0+00 TO 17+22.00**
SCALE: 1" = 50'-0"

CONSULTANT'S CERTIFICATION:

I certify that this plan of erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site, and this plan was prepared in accordance with the requirements of the Baltimore County Soil Conservation District and the current State of Maryland Specifications for Soil Erosion and Sediment Control. I have reviewed this erosion and sediment control plan with the owner/developer.

Signature: *Jeffrey Scott Peuso* Date: 4/24/14
Print Name: Jeffrey Scott Peuso MD License Number: 34684



**PATAPSCO VALLEY STATE PARK
EROSION & SEDIMENT CONTROL PLAN STA. 17+22.00 TO 32+50.00**
SCALE: 1" = 50'-0"

	CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
SIGNATURES SEE DWG. NO 2009-3350	SIGNATURES SEE DWG. NO 2009-3350	SIGNATURES SEE DWG. NO 2009-3350	

AS-BUILT PER RECORD PRINT	REVISION	DATE	BY	P. W. A. NO.	KEY SHEETS	POSITION SHEETS	DRAWING SCALE	DEPARTMENT OF PUBLIC WORKS
DRAFTSMAN	Revised Jacking Pit Area	1/24/14	JCP				PLAN : PROFILE :	SIGNATURES SEE DWG. NO 2009-3350
ENGINEER: JAMES E. HAYEY	DESIGN BY: BBB				BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS
DATE: 7-10 LIC. NO.: 26035	DOWN BY: JCD				SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
	CHECKED BY: BBB							FOR REVIEW AND APPROVAL ORIGINAL SIGNATURES AND DATES, SEE DWG. NO 2009-3350
								SIGNATURES SEE DWG. NO 2009-3350

DESIGN AND DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM HORIZONTAL - NAD 83/91 AND ELEVATIONS SHOWN HEREON ARE REFERRED TO NAVD 88 DATUM USING NGS MONUMENTS GIS 86 (PID AE2450), ELEVATION = 57.13 AND GIS 87 (PID AE2451), ELEVATION 68.97.

AS-BUILT JUNE 2016

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

**SOUTHWEST TRANSMISSION MAIN
EROSION & SEDIMENT CONTROL PLAN STA. 0+00 TO STA 33+89.00**

SUBDIVISION: LANSDOWNE

AREA OF DISTURBANCE PATAPSCO VALLEY STATE PARK - 2.72 ACRES (118,471.81 SQUARE FEET)
AREA OF DISTURBANCE ALONG ROUTE 1 CORRIDOR - 4.93 ACRES (214,739.70 SQUARE FEET)
TOTAL AREA OF DISTURBANCE - 7.65 ACRES (333,211.51 SQUARE FEET)

SHEET DESIGNATION SC-6	CONTRACT NO. W-8276
	JOB ORDER NO. 203-0067-0281
	SHEET 25 OF 36
	DRAWING NO. 2009-3374
	FILE NO.



MATCH LINE A-A STA. 17+22.00 SEE THIS DWG. FOR CONTINUATION

MATCH LINE B-B STA. 33+89.00 SEE SHEET SC-7 FOR CONTINUATION

DWG. FILENAME:

MATCH LINE B-B STA. 33+89.00 SEE DWG. SC-6 FOR CONTINUATION

BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
APPROVED FOR SEDIMENT CONTROL

Jeffrey P. West 9-1-10
DATE

R-1 2-19-13
R-2 1-23-14
R-3 7-17-14

SEE SHEET SC-7A FOR REVISED
PLAN VIEW (STA. 33+89 TO STA. 113+45)

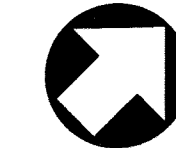
MATCH LINE C-C STA. 113+45.00 SEE THIS DWG. FOR CONTINUATION

MATCH LINE C-C STA. 113+45.00 SEE THIS DWG. FOR CONTINUATION

MATCH LINE D-D STA. 126+89.00 SEE DWG. SC-9 FOR CONTINUATION

EROSION & SEDIMENT CONTROL PLAN STA. 100+00.00 TO 113+45.00

SCALE: 1" = 50'-0"



APPROVAL

EROSION & SEDIMENT CONTROL PLAN STA. 113+45.00 TO 126+89.00

EROSION & SEDIMENT CONTROL PLAN STA. 113+45.00 TO 126+89.00

SCALE: 1" = 50'-0"



**SEQUENCE OF CONSTRUCTION -
TEMPORARY GRAVEL PARKING LOT**

1. INSTALL SILT FENCE WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR
2. REMOVE TOP SOIL AND STORE AT TOPSOIL STOCKPILE AREA. INSTALL FILTER FABRIC AND STONE TO TEMPORARY PARKING AREA PER CIVIL DRAWINGS. CONTRACTOR SHALL PERFORM ALL WORK PER DAILY STABILIZATION. STABILIZATION SHALL BE AS FOLLOWS: FOR PARKING AREA THE APPLICATION OF STONE; FOR ALL OTHER AREAS THE APPLICATION OF PERMANENT SEED AND MULCH.
3. INSTALL TEMPORARY SECURITY FENCE
4. COORDINATE RELOCATION OF TRACTOR TRAILERS FROM EXISTING PARKING AREA
5. COMPLETE ALL WORK BETWEEN STATIONS 129+00 AND 134+50
6. REMOVE STONE, FENCE AND REPLACE TOP SOIL, GRADE AND STABILIZE WITH PERMANENT SEED AND MULCH.
7. UPON STABILIZATION OF THE AREA WITH ESTABLISHED VEGETATION AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE THE SILT FENCE AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

DESIGN AND DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM HORIZONTAL - NAD 83/91 AND ELEVATIONS SHOWN HEREON ARE REFERRED TO NAVD 88 DATUM USING NGS MONUMENTS GIS 86 (PID AE2450), ELEVATION = 57.13 AND GIS 87 (PID AE2451), ELEVATION 68.97.

AREA OF DISTURBANCE PATAPSCO VALLEY STATE PARK - 2.72 ACRES (118,471.81 SQUARE FEET)
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TOTAL AREA OF DISTURBANCE - 7.65 ACRES (333,211.51 SQUARE FEET)

AS-BUILT JUNE 2016

 11019 McCormick Road, Suite 260 Hunt Valley, Maryland 21031		CITY OF BALTIMORE SIGNATURES SEE DWG. NO 2009-3350		REVISION - CITY OF BALTIMORE SIGNATURES SEE DWG. NO 2009-3350		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SIGNATURES SEE DWG. NO 2009-3350	
AS-BUILT PER RECORD PRINT	REVISION	DATE	BY	P. W. A. NO.	KEY SHEETS	POSITION SHEETS	DRAWING SCALE
DRAFTSMAN							DEPARTMENT OF PUBLIC WORKS
ENGINEER: JAMES E. HAVY	DGN BY: BBB	REVIEWED	DATE	RIGHT OF WAY	BUILDINGS	HIGHWAYS	STRUCTURES
DATE: 7-10 LIC. NO.: 26035	DWN BY: JCD				STORM DRAINS	SEWER	WATER
CHD BY: BBB					FIELD ENGINEER		
FOR REVIEW AND APPROVAL ORIGINAL SIGNATURES AND DATES, SEE DWG. NO 2009-3350				SIGNATURES SEE DWG. NO 2009-3350			

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

SOUTHWEST TRANSMISSION MAIN
EROSION & SEDIMENT CONTROL PLAN STA 33+89.00 TO STA 126+89.00

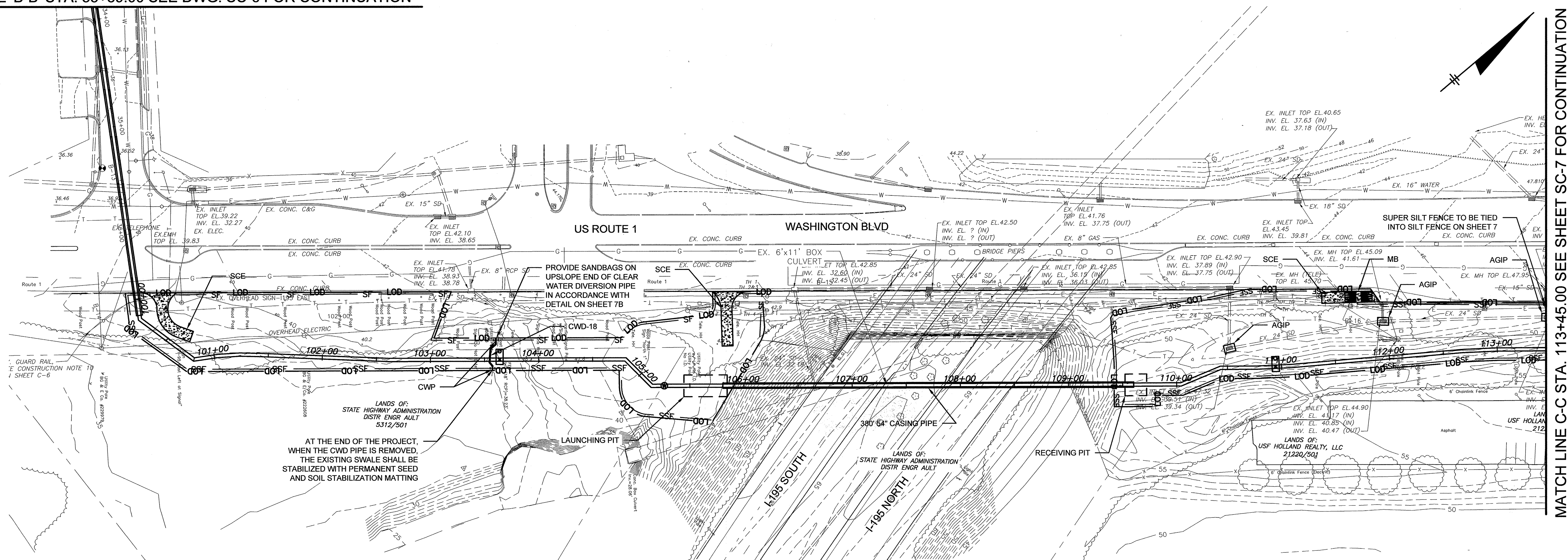
SUBDIVISION: LANSDOWNE

SHEET DESIGNATION	CONTRACT NO.
SC-7	W-8276
JOB ORDER NO.	203-0067-0281
SHEET 26 OF 36	DRAWING NO.
	2009-3375
	FILE NO.



DWG FILENAME:

MATCH LINE 'B-B' STA. 33+89.00 SEE DWG. SC-6 FOR CONTINUATION



MATCH LINE C-C STA. 113+45.00 SEE SHEET SC-7 FOR CONTINUATION

LEGEND

- LOD — LIMIT OF DISTURBANCE
- SF — SF — SILT FENCE
- SSF — SUPER SILT FENCE
- SCE [Symbol] STABILIZED CONSTRUCTION ENTRANCE
- AGIP [Symbol] AT GRADE INLET PROTECTION
- MB [Symbol] MOUNTABLE BERM
- CWP [Symbol] CLEAR WATER PIPE THROUGH SILT FENCE OR SUPER SILT FENCE
- CWD-18 [Symbol] CLEAR WATER DIVERSION PIPE

CONSULTANT'S CERTIFICATION:

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT AND THE CURRENT STATE OF MARYLAND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

[Signature] 6/18/14
 SIGNATURE DATE
Robert J. Dudley 18523
 PRINT NAME MD LICENSE NUMBER

APPROVED FOR SEDIMENT CONTROL

7-17-14
 DATE
[Signature]
 PRINT NAME

HOWARD CO. PROJECT NO. W-8276

O'BRIEN & GERE

11850 McCORMICK ROAD,
 SUITE 304
 HUNT VALLEY, MARYLAND 21081

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER	DATE	CHIEF, UTILITY ENGINEERING	DATE	CHIEF, WATER ENGINEERING SECTION	DATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19889 EXPIRATION DATE DECEMBER 8, 2015 ENGINEER: ROBERT J. DUDLEY AS-BUILT FOR RECORD PRINT BY: [Signature] DATE: 6/27/14		DESIGN BY: RPW DRAWN BY: RPW CHECK BY: RPD		REVISION BY/DATE P.W.A. NO. R.O.W. NO. KEY SHEET POSITION SHEET DRAWING SCALE PLAN SCALE: 1"=40' PROFILE SCALE: NA DEPARTMENT OF PUBLIC WORKS APPROVED BY: <i>[Signature]</i> DATE: 6/30/14 DIRECTOR BUR. OF ENGINEERING & CONSTRUCTION APPROVED BY: <i>[Signature]</i> DATE: 6/30/14 CHIEF	
BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER

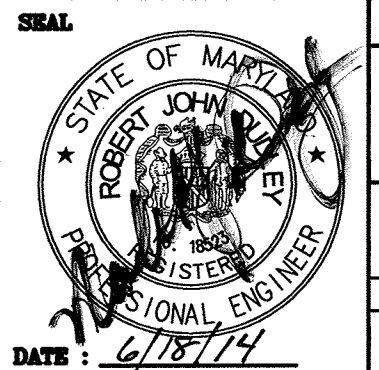
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

**SOUTHWEST TRANSMISSION MAIN
 SEDIMENT AND EROSION CONTROL PLAN**

SUBDIVISION: SAINT DENIS

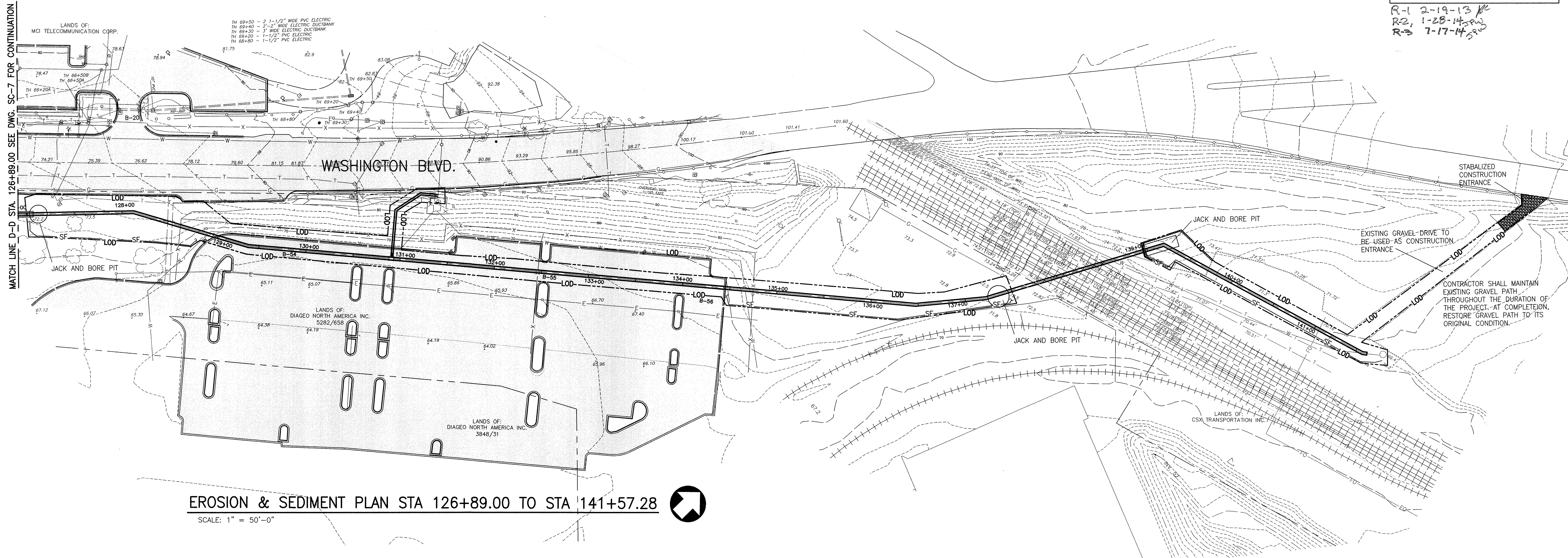
ELECTION DISTRICT: 13C1

SHEET DESIGNATION	CONTRACT NO.
SC-7A	44-4618
JOB ORDER NO.	
203-0067-0281	
SHEET 26A OF 36	
DRAWING NO.	
2009-3388	
FILE NO.	

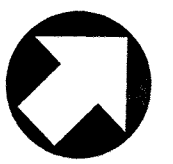


BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
 APPROVED FOR SEDIMENT CONTROL
Jeffrey P. West 9-1-10
 DATE

R-1 2-19-13
 R-2 1-28-14
 R-3 7-17-14



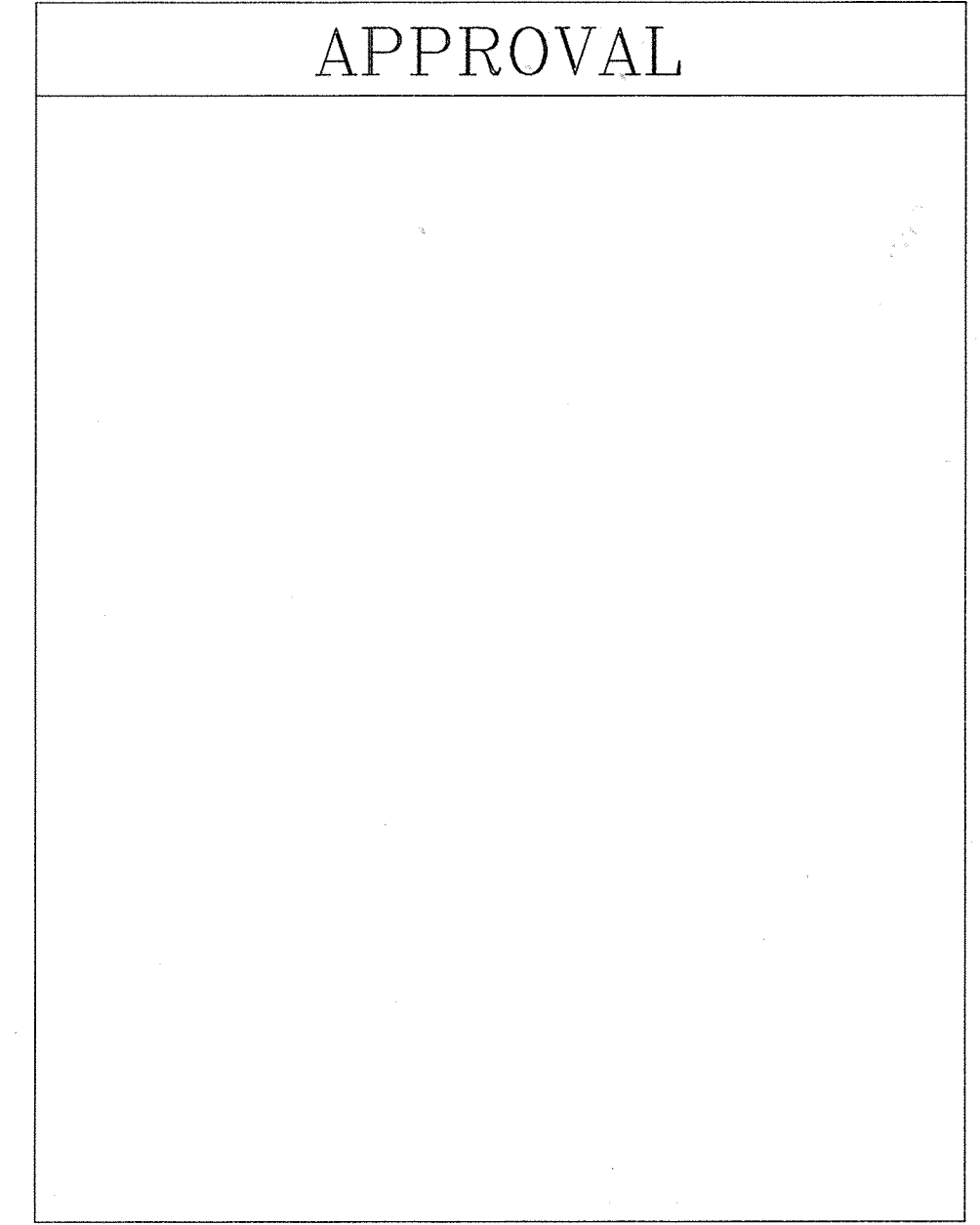
EROSION & SEDIMENT PLAN STA 126+89.00 TO STA 141+57.28
 SCALE: 1" = 50'-0"



DESIGN AND DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM HORIZONTAL - NAD 83/91 AND ELEVATIONS SHOWN HEREON ARE REFERRED TO NAVD 88 DATUM USING NGS MONUMENTS GIS 86 (PID AE2450), ELEVATION = 57.13 AND GIS 87 (PID AE2451), ELEVATION 68.97.

AREA OF DISTURBANCE PATAPSCO VALLEY STATE PARK - 2.72 ACRES (118,471.81 SQUARE FEET)
 AREA OF DISTURBANCE ALONG ROUTE 1 CORRIDOR - 4.93 ACRES (214,739.70 SQUARE FEET)
 TOTAL AREA OF DISTURBANCE - 7.65 ACRES (333,211.51 SQUARE FEET)

APPROVAL



Hatch Mott MacDonald
 11019 McCormick Road, Suite 280
 Hunt Valley, Maryland 21031

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
SIGNATURES SEE DWG. NO 2009-3350	SIGNATURES SEE DWG. NO 2009-3350	SIGNATURES SEE DWG. NO 2009-3350

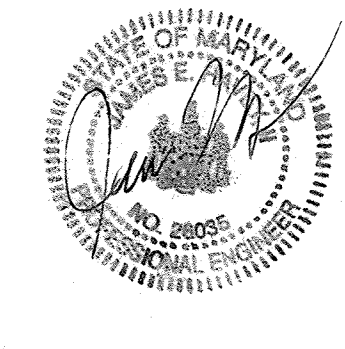
AS-BUILT PER RECORD PRINT	REVISION	DATE	BY	P. W. A. NO.	KEY SHEETS	POSITION SHEETS	DRAWING SCALE	DEPARTMENT OF PUBLIC WORKS				
DRAFTSMAN							PLAN : PROFILE :	SIGNATURES SEE DWG. NO 2009-3350				
BUREAU OF ENGINEERING AND CONSTRUCTION					BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION
ENGINEER: JAMES E. HAYEY	DWN BY: JCD	DATE	FOR REVIEW AND APPROVAL ORIGINAL SIGNATURES AND DATES, SEE DWG. NO 2009-3350					SIGNATURES SEE DWG. NO 2009-3350				
DATE: 7-10 LIC. NO.: 26095	CHKD BY: BBB							SUBDIVISION: LANSDOWNE				

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

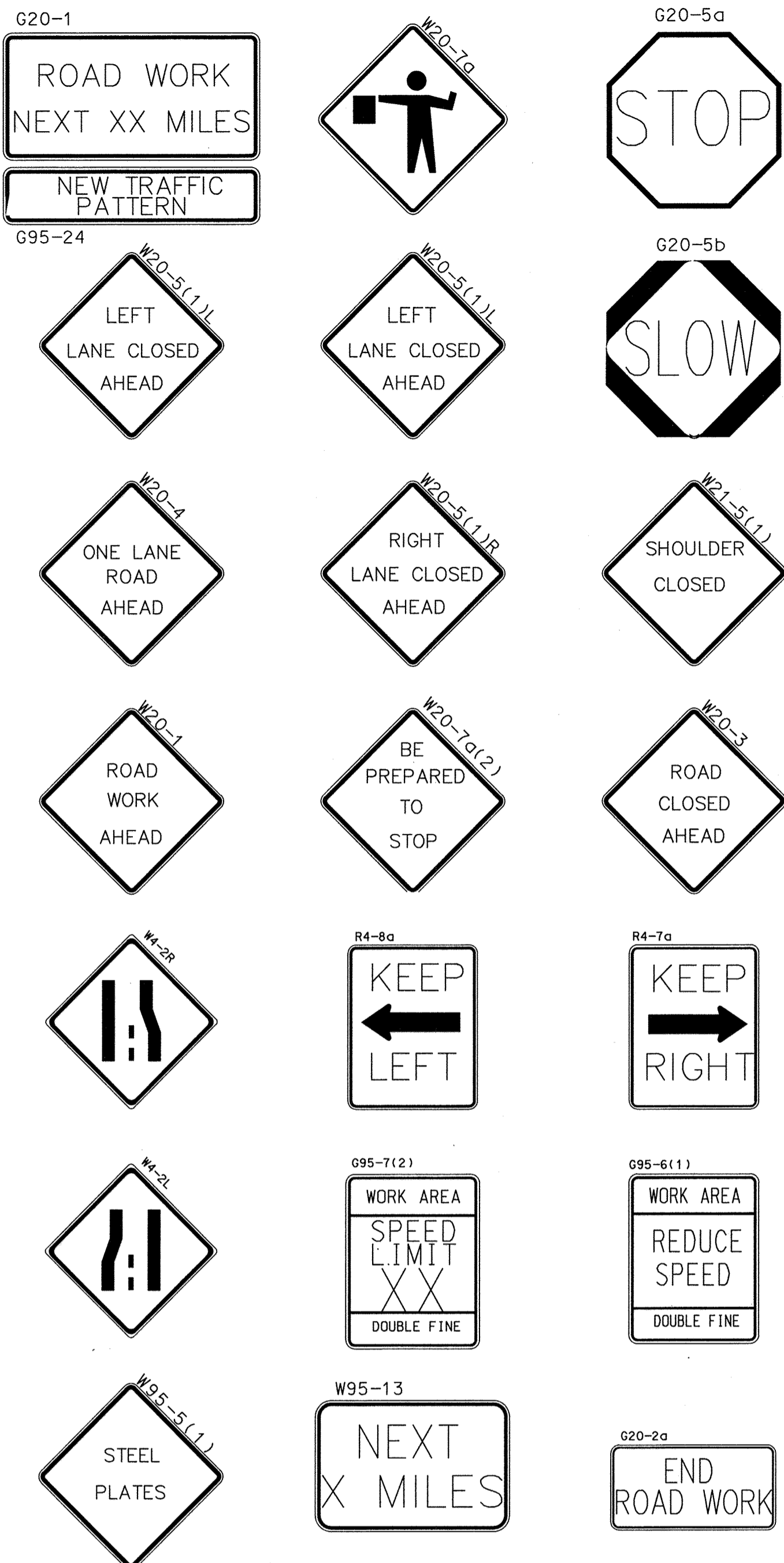
SOUTHWEST TRANSMISSION MAIN
EROSION & SEDIMENT CONTROL PLAN STA 126+89.00 TO STA 141+57.28

SHEET DESIGNATION	CONTRACT NO.
SC-8	W-8276
JOB ORDER NO.	203-0067-0281
SHEET 27 OF 36	DRAWING NO.
2009-3376	FILE NO.

AS-BUILT JUNE 2016



DWG. FILENAME:



NOTE: ALL REGULATORY, WARNING AND SPECIAL SIGNS ARE TO BE USED IN ACCORDANCE WITH MARYLAND STATE LAWS.

MAINTENANCE OF TRAFFIC WASHINGTON BLVD. (ROUTE 1)

PHASE 1 - STATION 100+35 TO STATION 106+50 (APPROXIMATELY) PHASE 4 - STATION 128+20 TO STATION 134+50 (APPROXIMATELY)

- PHASE 1 TRAFFIC CONTROL WILL PROVIDE FOR THE INSTALLATION OF WATER MAIN FROM STATION 100+35 TO STATION 106+50 (APPROXIMATELY) INCLUDING VALVE VAULTS AND AIR RELEASE VAULTS.
- PLACE TRAFFIC CONTROL SIGNS (ROAD WORK AHEAD, TEMPORARY LANE CLOSURE, AND END ROAD WORK) ALONG THE RIGHT LANE OF WASHINGTON BOULEVARD TO FACILITATE ACCESS TO THE WORK AREA.
- INSTALL SEDIMENT CONTROL DEVICES AS REQUIRED.
- CONSTRUCT 36-INCH WATER MAIN AND APPURTENANCES ALONG THIS PORTION OF WASHINGTON BOULEVARD.
- LIMIT LANE CLOSURES TO TIMES SPECIFIED UNDER THE GENERAL NOTES. AT THE END OF EACH WORKDAY, RESTORE TWO LANES OF TRAFFIC.

PHASE 2 - STATION 106+50 TO STATION 108+50 (APPROXIMATELY)

- PHASE 2 TRAFFIC CONTROL WILL PROVIDE FOR THE INSTALLATION OF WATER MAIN FROM STATION 106+50 TO STATION 108+50 WHICH INCLUDES THE INSTALLATION OF THE 54" STEEL CASING UNDER THE ROUTE 195 OVERPASS.
- PROVIDE TRAFFIC CONTROL SIGNS (ROAD WORK AHEAD, TEMPORARY LANE CLOSURE, AND END ROAD WORK) ALONG THE RIGHT LANE OF WASHINGTON BOULEVARD TO FACILITATE ACCESS TO THE WORK AREA.
- INSTALL SEDIMENT CONTROL DEVICES AS REQUIRED.
- CONSTRUCT 36-INCH WATER MAIN AND APPURTENANCES.
- LIMIT LANE CLOSURES TO TIMES SPECIFIED UNDER THE GENERAL NOTES. AT THE END OF EACH WORKDAY, RESTORE TWO LANES OF TRAFFIC.

PHASE 3 - STATION 108+50 TO STATION 128+20 (APPROXIMATELY)

- PHASE 3 TRAFFIC CONTROL WILL PROVIDE FOR THE INSTALLATION OF WATER MAIN FROM STATION 108+50 TO STATION 128+20 INCLUDING JACK AND BORE OPERATIONS UNDER ROADWAY EXPRESS ENTRANCE AND DIAGEO PROPERTY ENTRANCE.
- PROVIDE TRAFFIC CONTROL SIGNS (ROAD WORK AHEAD, TEMPORARY LANE CLOSURE, AND END ROAD WORK) ALONG THE RIGHT LANE OF WASHINGTON BOULEVARD TO FACILITATE ACCESS TO THE WORK AREA.
- INSTALL SEDIMENT CONTROL DEVICES AS REQUIRED.
- CONSTRUCT 36-INCH WATER MAIN AND APPURTENANCES.
- LIMIT LANE CLOSURES TO TIMES SPECIFIED UNDER THE GENERAL NOTES. AT THE END OF EACH WORKDAY, RESTORE TWO LANES OF TRAFFIC.

WASHINGTON BOULEVARD (ROUTE 1) TRAFFIC CONTROL GENERAL NOTES

- THE CONTRACTOR MUST CONTACT THE SHA DISTRICT 4 ENGINEER AT (410) 229-2300 TWO (2) WEEKS BEFORE CONSTRUCTION BEGINS AND ONE (1) WEEK PRIOR TO ANY CHANGES TO THE MAINTENANCE OF TRAFFIC (MOT) PLAN.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY, INSTALL AND MAINTAIN ALL TRAFFIC CONTROL EQUIPMENT FOR THE DURATION OF THE PROJECT.
- THE CONTRACTOR SHALL HAVE ALL CONSTRUCTION SIGNS IN PLACE PRIOR TO ANY WORK BEGINNING.
- ALL TRAFFIC CONTROL MUST BE IN ACCORDANCE WITH THE CURRENT EDITION AND REVISIONS OF THE FEDERAL HIGHWAY M.U.T.C.D., AND THE REQUIREMENTS OF BALTIMORE COUNTY.
- AT LEAST ONE LANE MUST BE MAINTAINED AT ALL TIMES. LANE CLOSURES WILL NOT BE PERMITTED BETWEEN THE HOURS OF 7:00 AM AND 9:00 AM AND 3:30 PM AND 6:00 PM MONDAY THRU FRIDAY.
- THE LOCATION OF THE CONSTRUCTION SIGNS AS SHOWN HEREON ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR SHALL COORDINATE SIGN INSTALLATION WITH THE INSPECTOR AND THE STATE HIGHWAY ADMINISTRATION.
- IMMEDIATELY UPON COMPLETION OF RELATED WORK, REMOVE THE TRAFFIC CONTROL DEVICES.
- COVER OR REMOVE ALL PERMANENT AND TEMPORARY SIGNS NOT IN USE.
- AT THE END OF EACH WORK DAY, REMOVE TRAFFIC CHANNELING DEVICES. COVER OR REMOVE TEMPORARY SIGNS AND INSTALL STEEL PLATE COVERS OVER ALL OPEN EXCAVATIONS AND OPEN ROAD TO TRAFFIC.
- STEEL PLATES FOR COVERING TRENCH EXCAVATIONS SHALL HAVE 1-INCH MINIMUM THICKNESS AND EXTEND 1-FOOT TO THE OUTSIDE OF THE EXCAVATION. THE PLACEMENT OF THE PLATES SHALL CONFORM TO TEMPORARY STEEL PLATE DETAIL SHOWN ON CIVIL DETAIL SHEETS. "STEEL PLATE AHEAD" WARNING SIGNAGE MUST BE DISPLAYED IN ADVANCE OF THE PLATE(S).
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL TEMPORARY REGULATORY SIGNS NECESSARY TO COMPLETE THIS PROJECT.
- NO WORK ALONG PVSP ENTRANCE ROAD WILL BE PERMITTED BETWEEN THE HOURS OF 10AM AND 5PM (JUNE 01 THROUGH SEPT 15). ANY WORK DURING THESE SUMMER HOURS MUST BE ACCOMPLISHED DURING TRAFFIC HOURS.

MAINTENANCE OF TRAFFIC PATAPSCO VALLEY STATE PARK

PHASE 1 - STATION 0+25 TO STATION 6+00 (APPROXIMATELY)

- PHASE 1 TRAFFIC CONTROL WILL PROVIDE FOR THE INSTALLATION OF WATER MAIN FROM STATION 0+25 (DO NOT MAKE THE CONNECTION) TO STATION 6+00, INCLUDING DEWATERING VAULT, VENTURI METER VAULT, AIR RELEASE VAULT, VALVE VAULTS, AND THE STEEL CASING UNDER THE CSX VIADUCT.
- PLACE TRAFFIC CONTROL SIGNS (ROAD WORK AHEAD, ONE LANE ROAD AHEAD, FLAGMAN, AND END ROAD WORK) ALONG THE PARK ACCESS ROAD APPROACHING THE WORK AREA FROM EACH DIRECTION.
- REMOVE GUARD RAIL ALONG THIS AREA AND SET UP TRAFFIC BARRELS TO ESTABLISH ONE LANE OF TRAFFIC.
- PROVIDE FLAGMEN DURING ONE LANE OPERATION.
- AT THE END OF EACH WORK DAY, PROVIDE STEEL PLATES AND REMOVE TRAFFIC BARRELS. RE-ESTABLISH TWO LANES OF TRAFFIC.
- FROM APPROXIMATELY STATION 3+75 TO STATION 4+60, PROVIDE TEMPORARY PAVEMENT ALONG NORTH EDGE OF ROADWAY TO MAINTAIN A MINIMUM ONE LANE OF TRAFFIC. COST OF ADDITIONAL PAVEMENT SHALL BE INCLUDED IN THE TRAFFIC CONTROL BID ITEM.

PHASE 2 - STATION 6+00 TO STATION 7+60 (APPROXIMATELY)

- PHASE 2 TRAFFIC CONTROL WILL PROVIDE FOR THE INSTALLATION OF WATER MAIN FROM STATION 6+00 TO STATION 7+60.
- PROVIDE TRAFFIC CONTROL SIGNS (ROAD WORK AHEAD, ONE LANE ROAD AHEAD, FLAGMAN, AND END ROAD WORK) ALONG THE PARK ACCESS ROAD APPROACHING THE WORK AREA FROM EACH DIRECTION.
- SET UP TRAFFIC BARRELS TO DIRECT TRAFFIC AROUND THE WORK AREA.
- PROVIDE FLAGMEN DURING ONE LANE OPERATION.
- AT THE END OF EACH WORK DAY, PROVIDE STEEL PLATES AND REMOVE TRAFFIC BARRELS. RE-ESTABLISH TWO LANES OF TRAFFIC.

PHASE 3 - STATION 7+60 TO STATION 15+50 (APPROXIMATELY)

- PHASE 3 TRAFFIC CONTROL WILL PROVIDE FOR THE INSTALLATION OF WATER MAIN FROM STATION 7+60 TO STATION 15+50 AND THE RE-CONSTRUCTION OF THE ACCESS ROAD IN THIS AREA.
- PROVIDE TRAFFIC CONTROL SIGNS (ROAD WORK AHEAD, ONE LANE ROAD AHEAD, FLAGMAN, AND END ROAD WORK) ALONG THE PARK ACCESS ROAD APPROACHING THE WORK AREA FROM EACH DIRECTION.
- SET UP TRAFFIC BARRELS (AT STATION 7+50± AND STATION 14+00±).
- PLACE SIGNS STATING TWO WAY TRAFFIC.
- PROVIDE TEMPORARY PAVEMENT ALONG NORTH SIDE OF ROADWAY, IF NECESSARY, TO MAINTAIN SUFFICIENT WIDTH FOR TWO WAY TRAFFIC. THE COST OF THE ADDITIONAL PAVEMENT SHALL BE INCLUDED IN THE TRAFFIC CONTROL BID ITEM.

PATAPSCO VALLEY STATE PARK TRAFFIC CONTROL GENERAL NOTES

- THE CONTRACTOR MUST CONTACT THE PARK MANAGER (ROBIN MELTON) AT (410) 461-5005 TWO (2) WEEKS BEFORE CONSTRUCTION BEGINS AND ONE (1) WEEK PRIOR TO ANY CHANGES TO THE MAINTENANCE OF TRAFFIC (MOT) PLAN.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY, INSTALL AND MAINTAIN ALL TRAFFIC CONTROL EQUIPMENT FOR THE DURATION OF THE PROJECT.
- THE CONTRACTOR SHALL HAVE ALL CONSTRUCTION SIGNS IN PLACE PRIOR TO ANY WORK BEGINNING.
- ALL TRAFFIC CONTROL MUST BE IN ACCORDANCE WITH THE CURRENT EDITION AND REVISIONS OF THE FEDERAL HIGHWAY M.U.T.C.D., ADDITIONAL REQUIREMENTS OF BALTIMORE COUNTY, AND ADDITIONAL REQUIREMENTS OF THE PARK MANAGER.
- AT NO TIME WILL THE CONTRACTOR BE PERMITTED TO DISRUPT TWO WAY TRAFFIC UNLESS FLAGMEN ARE PRESENT. WHEN FLAGMEN ARE PRESENT, ONE (1) 10' LANE MUST BE MAINTAINED.
- THE LOCATION OF THE CONSTRUCTION SIGNS AS SHOWN HEREON ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR SHALL COORDINATE SIGN INSTALLATION WITH THE PARK MANAGER.
- IMMEDIATELY UPON COMPLETION OF THE RELATED WORK, REMOVE THE TRAFFIC CONTROL DEVICES.
- COVER OR REMOVE ALL PERMANENT AND TEMPORARY SIGNS NOT IN USE.
- AT THE END OF EACH WORK DAY, REMOVE TRAFFIC CHANNELING DEVICES. COVER OR REMOVE TEMPORARY SIGNS AND INSTALL STEEL PLATE COVERS OVER ALL OPEN EXCAVATIONS AND OPEN ROAD TO TRAFFIC.
- STEEL PLATES FOR COVERING TRENCH EXCAVATIONS SHALL HAVE 1-INCH MINIMUM THICKNESS AND EXTEND 1-FOOT TO THE OUTSIDE OF THE EXCAVATION. THE PLACEMENT OF THE PLATES SHALL CONFORM TO TEMPORARY STEEL PLATE DETAIL SHOWN ON CIVIL DETAIL SHEETS. "STEEL PLATE AHEAD" WARNING SIGNAGE MUST BE DISPLAYED IN ADVANCE OF THE PLATE(S).
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL TEMPORARY REGULATORY SIGNS NECESSARY TO COMPLETE THIS PROJECT.
- NO WORK ALONG PARK ENTRANCE ROAD WILL BE PERMITTED BETWEEN THE HOURS OF 9AM AND 5PM (MARCH 15 THROUGH JUNE 01 AND SEPT. 01 THRU OCT. 30). ANY WORK DURING THESE TIME PERIODS MUST BE ACCOMPLISHED DURING LOW TRAFFIC HOURS AFTER THE PARK IS CLOSED.
- AT THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL PROVIDE FOR THE RE-PAVEMENT OF ACCESS ROAD AS SHOWN ELSEWHERE ON THESE DRAWINGS. MAINTAIN ONE (1) LANE OF TRAFFIC AT ALL TIMES (WITH FLAGMEN) DURING PAVING OPERATIONS.
- SEE DETAILS SHOWING TEMPORARY/PERMANENT PAVEMENT REPAIR REQUIRED ALONG THE PARK ACCESS ROADWAY.

PHASE 4 - STATION 15+50 TO STATION 27+25 (APPROXIMATELY)

- PHASE 4 TRAFFIC CONTROL WILL PROVIDE FOR INSTALLATION OF WATER MAINS FROM STATION 15+50 TO STATION 27+25 AND THE INSTALLATION OF AIR RELEASE VAULT.
- PROVIDE TRAFFIC CONTROL SIGNS (ROAD WORK AHEAD, ONE LANE ROAD AHEAD, FLAGMAN, AND END ROAD WORK) ALONG THE PARK ACCESS ROAD APPROACHING THE WORK AREA FROM EACH DIRECTION.
- SET UP TRAFFIC BARRELS TO MAINTAIN ONE LANE OF TRAFFIC THROUGH THE WORK AREA.
- AT THE END OF EACH WORK DAY, PROVIDE STEEL PLATES AND REMOVE TRAFFIC BARRELS. RE-ESTABLISH TWO LANES OF TRAFFIC.
- REMOVE GUARD RAIL AS NECESSARY FROM STATION 23+00 TO STATION 24+00. DURING INSTALLATION OF WATER MAIN.
- PROVIDE FLAGMEN DURING ONE LANE OF OPERATION.
- INSTALL NEW WEATHERPROOF GUARD RAIL IMMEDIATELY AFTER WATER MAIN CONSTRUCTION IS COMPLETE IN THIS AREA.

PHASE 5 - STATION 27+25 TO STATION 30+75 (APPROXIMATELY)

- PHASE 5 TRAFFIC CONTROL WILL PROVIDE FOR INSTALLATION OF WATER MAINS FROM STATION 27+25 TO STATION 30+75.
- PROVIDE TRAFFIC CONTROL SIGNS (ROAD WORK AHEAD, ONE LANE ROAD AHEAD, FLAGMAN, AND END ROAD WORK) ALONG THE PARK ACCESS ROAD APPROACHING THE WORK AREA FROM EACH DIRECTION.
- SET UP TRAFFIC BARRELS TO MAINTAIN ONE LANE OF TRAFFIC THROUGH THE WORK AREA.
- AT THE END OF EACH WORK DAY, PROVIDE STEEL PLATES AND REMOVE TRAFFIC BARRELS. RE-ESTABLISH TWO LANES OF TRAFFIC.
- PROVIDE FLAGMEN DURING ONE LANE OF OPERATION.

PHASE 6 - STATION 31+90 (APPROXIMATELY)

- PHASE 6 TRAFFIC CONTROL WILL PROVIDE FOR THE CONNECTION OF THE NEW WATER MAIN TO THE EXISTING 12-INCH MAIN.

BETWEEN MARCH 15 AND OCTOBER 15, THE CONTRACTOR SHALL HAVE THE OPTION TO ACCOMPLISH ALL CONSTRUCTION DURING OVERNIGHT HOURS BETWEEN 9 PM AND 8 AM WITHOUT THE USE OF FLAGMEN. IF THIS OPTION IS CHOSEN BY THE CONTRACTOR, HE MUST COORDINATE WITH THE LOCAL RESIDENTS THAT ARE REQUIRED TO USE THE ACCESS ROAD TO REACH THEIR HOMES.

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
 CHIEF, UTILITY ENGINEERING DATE: 3/15/12		 CHIEF, WATER ENGINEERING SECTION DATE: 3/15/12		 DIRECTOR, DEPT OF PUBLIC WORKS DATE: 1/23/12	
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013		REVISION BY: _____ DATE: _____		DRAWING SCALE PLAN SCALE: AS NOTED PROFILE SCALE: AS NOTED	
ENGINEER: SYAM B. NAYER DESIGN BY: BBB DRAWN BY: JCD CHECK BY: SEN		BUREAU OF ENGINEERING AND CONSTRUCTION BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER		DEPARTMENT OF PUBLIC WORKS DIRECTOR: _____ DATE: 1-24-12	
AS-BUILT PER RECORD PRINT DATE: 1-18-2012		REVIEWED BY: R8F DATE REVIEWED: 1/23/12		APPROVED BY: _____ DATE: 1/23/12	

AS-BUILT JUNE 2016

SOUTHWEST TRANSMISSION MAIN TRAFFIC CONTROL GENERAL NOTES

SUBDIVISION: ST. DENIS

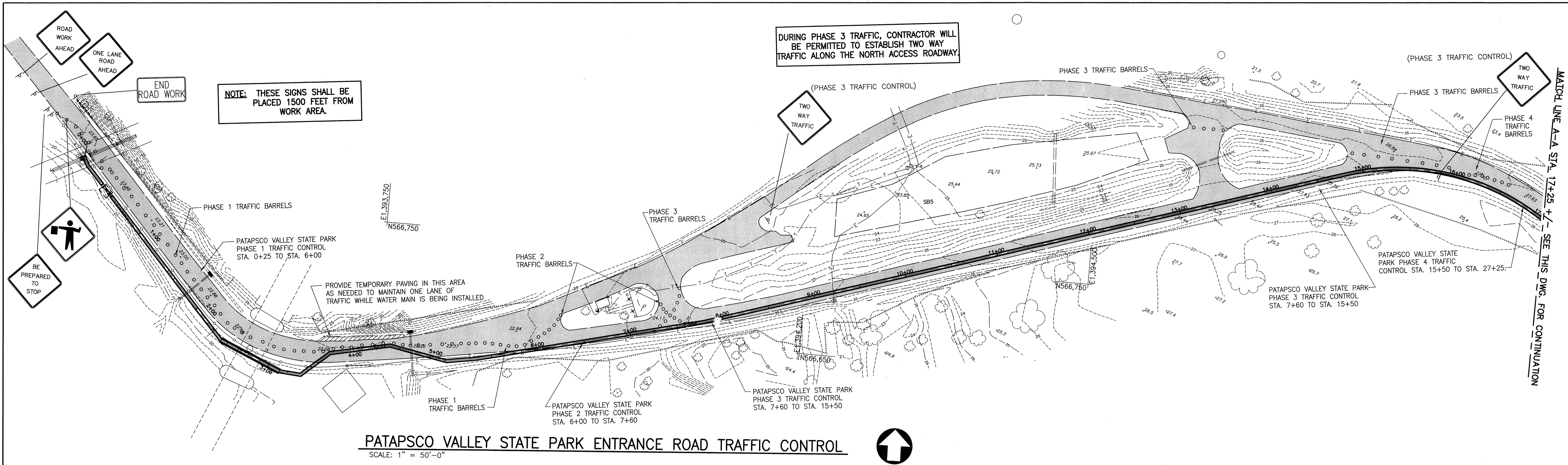
ELECTION DISTRICT: 13

HOWARD CO. PROJECT NO. W-8276

11019 McCormick Road, Suite 260
 Hunt Valley, Maryland 21031

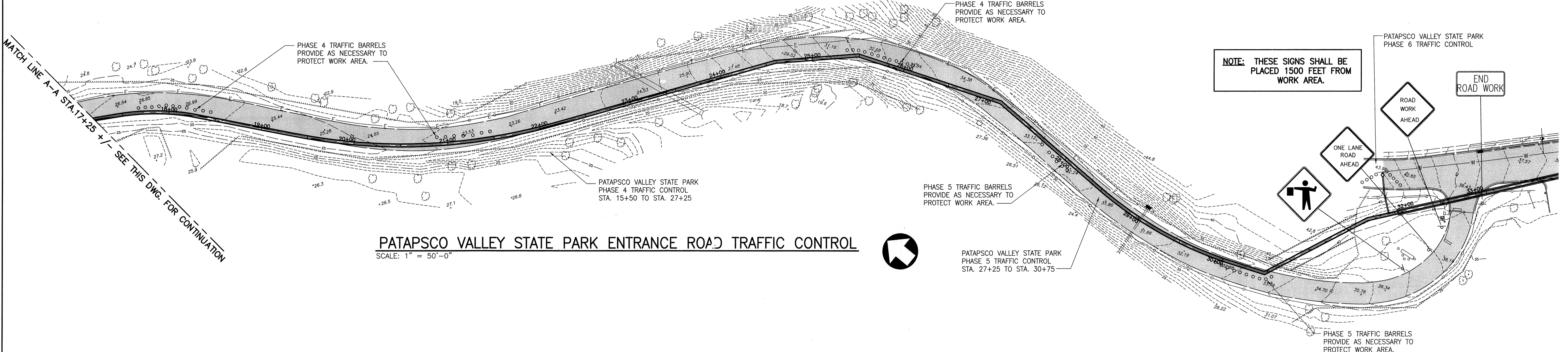
SHEET DESIGNATION	CONTRACT NO.
TC-1	44-4618
JOB ORDER NO.	
203-0067-0281	
SHEET 28 OF 36	
DRAWING NO.	
2009-3377	
FILE NO.	

DWG FILENAME:



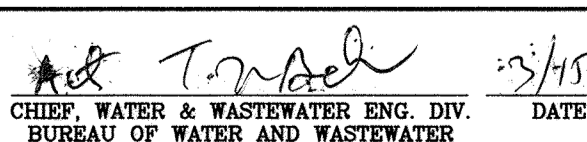

PATAPSCO VALLEY STATE PARK ENTRANCE ROAD TRAFFIC CONTROL

SCALE: 1" = 50'-0"



PATAPSCO VALLEY STATE PARK ENTRANCE ROAD TRAFFIC CONTROL

SCALE: 1" = 50'-0"

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
 CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER		CHIEF, UTILITY ENGINEERING DATE: 3/15/12		 DIRECTOR, DEPT. OF PUBLIC WORKS DATE: 1/12/12	
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013.		REVISION BY: [] DATE: [] P.W.A. NO. [] KEY SHEET [] POSITION SH# []		DRAWING SCALE PLAN SCALE: AS NOTED PROFILE SCALE: AS NOTED	
ENGINEER: SYAM B. NAYER DESIGN BY: BBB DRAWN BY: JCD CHECKED BY: SBN		BUREAU OF ENGINEERING AND CONSTRUCTION BUILDINGS HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER		DEPARTMENT OF PUBLIC WORKS BUR. OF ENGINEERING & CONSTRUCTION APPROVED BY: [] DATE: 1-24-12	
AS-BUILT PER RECORD PRINT DATE: 1-24-12		REVIEWED BY: RIF DATE REVIEWED: 1/23/12		APPROVED BY: [] DATE: 1/24/12	


AS-BUILT JUNE 2016

**SOUTHWEST TRANSMISSION MAIN
PATAPSCO VALLEY STATE PARK ENTRANCE ROAD TRAFFIC CONTROL**

SUBDIVISION: ST. DENIS


ELECTION DISTRICT: 13

HOWARD CO. PROJECT NO. W-8276

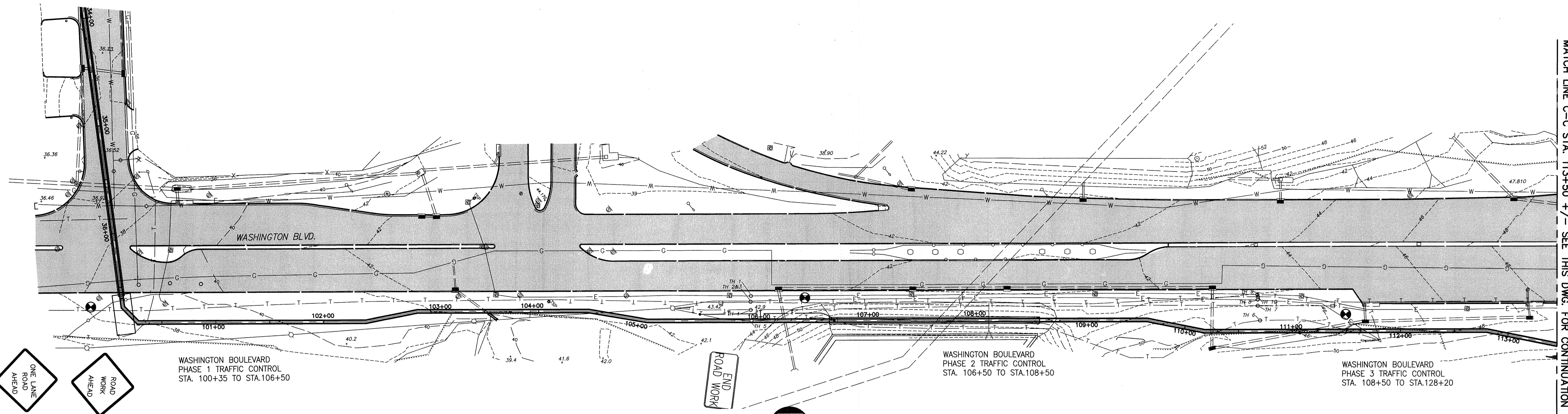


Hatch Mott MacDonald
11019 McCormick Road, Suite 280
Hunt Valley, Maryland 21031

SHEET DESIGNATION	CONTRACT NO.
TC-2	44-4618
JOB ORDER NO.	203-067-0281
SHEET 29 OF 36	DRAWING NO.
2009-3378	FILE NO.



DWG FILENAME:



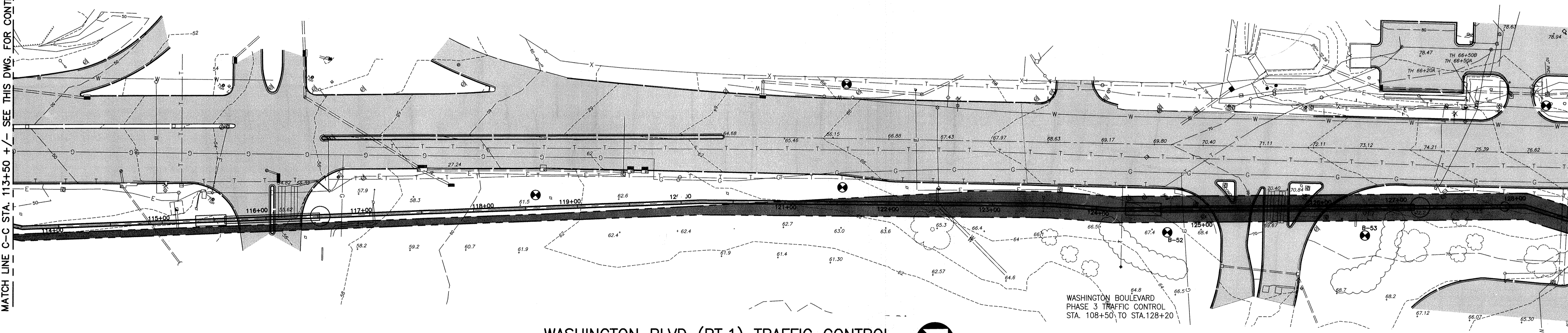
WASHINGTON BLVD (RT.1) TRAFFIC CONTROL

SCALE: 1" = 50'-0"



MATCH LINE C-C STA. 113+50 +/- SEE THIS DWG. FOR CONTINUATION

MATCH LINE C-C STA. 113+50 +/- SEE THIS DWG. FOR CONTINUATION



WASHINGTON BLVD (RT.1) TRAFFIC CONTROL

SCALE: 1" = 50'-0"

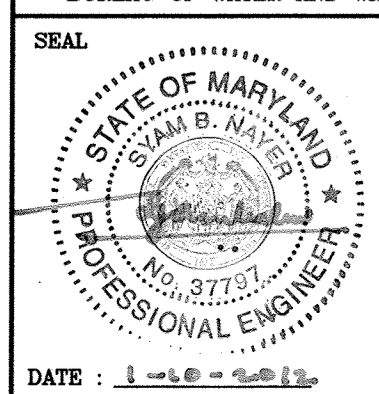


WASHINGTON BOULEVARD
PHASE 3 TRAFFIC CONTROL
STA. 108+50 TO STA. 128+20

HOWARD CO. PROJECT NO. W-8276

Hatch Mott MacDonald
11019 McCormick Road, Suite 260
Hunt Valley, Maryland 21081

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS				
AS-BUILT PER RECORD PRINT DATE: 1/24/12		CHIEF, UTILITY ENGINEERING DATE: 3/15/12		DIRECTOR, DEPT. OF PUBLIC WORKS DATE: 1/24/12				
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 37797 EXPIRATION DATE AUGUST 9, 2013		REVISION BY: <i>BBB</i> DATE:		BY: <i>RJF</i>	DATE: <i>1/23/12</i>	P.W.A. NO.	KEY SHEET	POSITION SH#
ENGINEER: SYAM B. NAYER	DESIGN BY: BBB	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER
AS-BUILT PER RECORD PRINT	DRAWN BY: JCD	REVIEWED BY: <i>RJF</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BY: <i>SEN</i>	CHKD BY: <i>SEN</i>	DATE REVIEWED: <i>1/23/12</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



AS-BUILT JUNE 2016

**SOUTHWEST TRANSMISSION MAIN
TRAFFIC CONTROL PLAN 2 - STA. 100+00.00 TO 128+20**

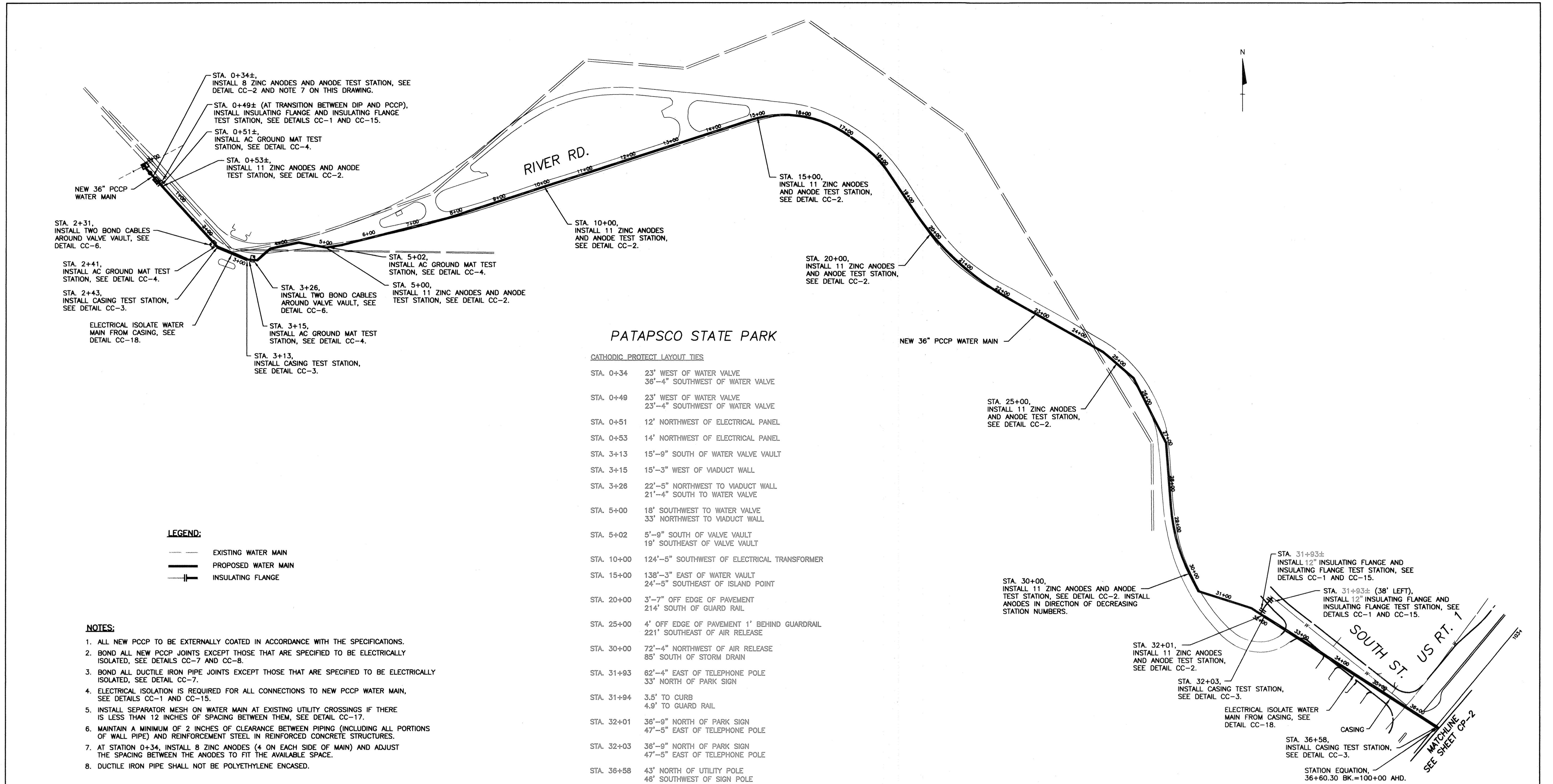
SUBDIVISION: ST. DENIS

ELECTION DISTRICT: 13

SHEET DESIGNATION	CONTRACT NO.
TC-3	44-4618
JOB ORDER NO.	203-0067-0281
SHEET 30 OF 36	
DRAWING NO.	2009-3379
FILE NO.	



DWG FILENAME:



PATAPSCO STATE PARK

CATHODIC PROTECT LAYOUT TIES

STA. 0+34	23' WEST OF WATER VALVE 36'-4" SOUTHWEST OF WATER VALVE
STA. 0+49	23' WEST OF WATER VALVE 23'-4" SOUTHWEST OF WATER VALVE
STA. 0+51	12' NORTHWEST OF ELECTRICAL PANEL
STA. 0+53	14' NORTHWEST OF ELECTRICAL PANEL
STA. 3+13	15'-9" SOUTH OF WATER VALVE VAULT
STA. 3+15	15'-3" WEST OF VIADUCT WALL
STA. 3+26	22'-5" NORTHWEST TO VIADUCT WALL 21'-4" SOUTH TO WATER VALVE
STA. 5+00	18' SOUTHWEST TO WATER VALVE 33' NORTHWEST TO VIADUCT WALL
STA. 5+02	5'-9" SOUTH OF VALVE VAULT 19' SOUTHEAST OF VALVE VAULT
STA. 10+00	124'-5" SOUTHWEST OF ELECTRICAL TRANSFORMER
STA. 15+00	138'-3" EAST OF WATER VAULT 24'-5" SOUTHEAST OF ISLAND POINT
STA. 20+00	3'-7" OFF EDGE OF PAVEMENT 214' SOUTH OF GUARD RAIL
STA. 25+00	4' OFF EDGE OF PAVEMENT 1' BEHIND GUARDRAIL 221' SOUTHEAST OF AIR RELEASE
STA. 30+00	72'-4" NORTHWEST OF AIR RELEASE 85' SOUTH OF STORM DRAIN
STA. 31+93	62'-4" EAST OF TELEPHONE POLE 33' NORTH OF PARK SIGN
STA. 31+94	3.5' TO CURB 4.9' TO GUARD RAIL
STA. 32+01	36'-9" NORTH OF PARK SIGN 47'-5" EAST OF TELEPHONE POLE
STA. 32+03	36'-9" NORTH OF PARK SIGN 47'-5" EAST OF TELEPHONE POLE
STA. 36+58	43' NORTH OF UTILITY POLE 46' SOUTHWEST OF SIGN POLE

CORROSION CONTROL LAYOUT

Scale: 1" = 100'

- NOTES:**
- ALL NEW PCCP TO BE EXTERNALLY COATED IN ACCORDANCE WITH THE SPECIFICATIONS.
 - BOND ALL NEW PCCP JOINTS EXCEPT THOSE THAT ARE SPECIFIED TO BE ELECTRICALLY ISOLATED. SEE DETAILS CC-7 AND CC-8.
 - BOND ALL DUCTILE IRON PIPE JOINTS EXCEPT THOSE THAT ARE SPECIFIED TO BE ELECTRICALLY ISOLATED. SEE DETAIL CC-7.
 - ELECTRICAL ISOLATION IS REQUIRED FOR ALL CONNECTIONS TO NEW PCCP WATER MAIN, SEE DETAILS CC-1 AND CC-15.
 - INSTALL SEPARATOR MESH ON WATER MAIN AT EXISTING UTILITY CROSSINGS IF THERE IS LESS THAN 12 INCHES OF SPACING BETWEEN THEM, SEE DETAIL CC-17.
 - MAINTAIN A MINIMUM OF 2 INCHES OF CLEARANCE BETWEEN PIPING (INCLUDING ALL PORTIONS OF WALL PIPE) AND REINFORCEMENT STEEL IN REINFORCED CONCRETE STRUCTURES.
 - AT STATION 0+34, INSTALL 8 ZINC ANODES (4 ON EACH SIDE OF MAIN) AND ADJUST THE SPACING BETWEEN THE ANODES TO FIT THE AVAILABLE SPACE.
 - DUCTILE IRON PIPE SHALL NOT BE POLYETHYLENE ENCASED.

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIATIONS IN SOIL CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

CITY OF BALTIMORE		REVISION - CITY OF BALTIMORE		HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
AC 9/2/12	3/15/12	CHIEF, UTILITY ENGINEERING	DATE	DIRECTOR, DEPT. OF PUBLIC WORKS	DATE
CHIEF, WATER & WASTEWATER ENG. DIV.	BUREAU OF WATER AND WASTEWATER	CHIEF, WATER ENGINEERING SECTION			
SEAL	PROFESSIONAL CERTIFICATION	REVISION	BY	DATE	P.W.A. NO. KEY SHEET POSITION SH1
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.				
	ENGINEER: MICHAEL J. SZELIGA	DESIGN BY: MIS	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS
	RUSSELL CORROSION CONSULTANTS, INC.	DRAWN BY: DJD	REVIEWED BY:	STRUCTURES	STORM DRAINS
	AS-BUILT PER RECORD PRINT	CHD BY: MIS	DATE REVIEWED:	SEWER	WATER
DATE: 1/19/2012					

AS-BUILT JUNE 2016

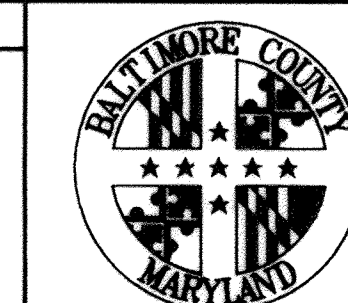
**SOUTHWEST TRANSMISSION MAIN
CATHODIC PROTECTION LAYOUT (STA. 0+00 TO STA. 36+60.30)**

SUBDIVISION: ST. DENIS

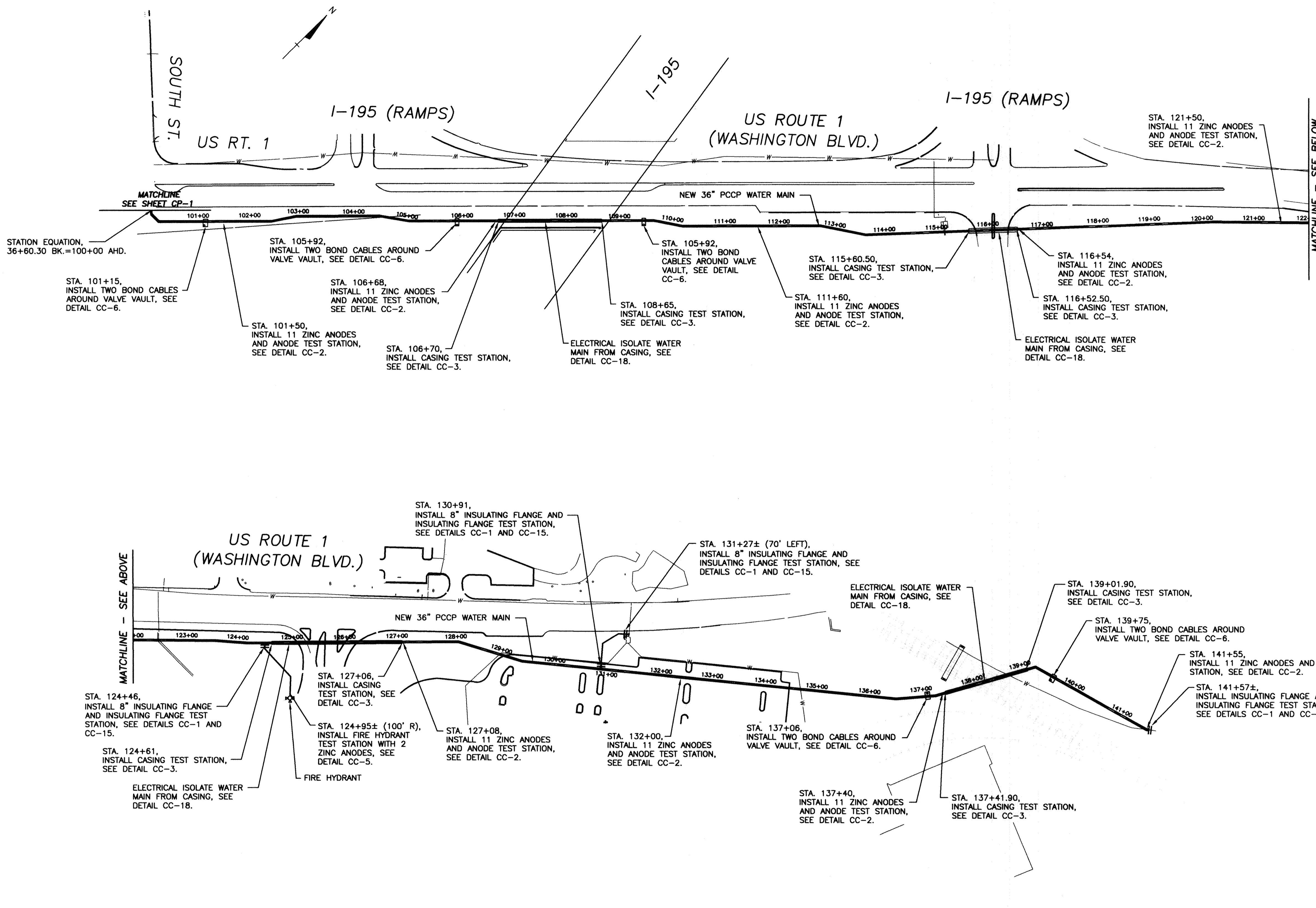
ELECTION DIST. NO.: 13



SHEET DESIGNATION	CONTRACT NUMBER
CP-1	44-4618
JOB ORDER NUMBER	203-0067-0281
SHEET 31 OF 36	DRAWING NUMBER
2009-3380	FILE NO.:



DWG. FILENAME:



LEGEND:

- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- INSULATING FLANGE

- NOTES:**
- ALL NEW PCCP TO BE EXTERNALLY COATED IN ACCORDANCE WITH THE SPECIFICATIONS.
 - BOND ALL NEW PCCP JOINTS EXCEPT THOSE THAT ARE SPECIFIED TO BE ELECTRICALLY ISOLATED, SEE DETAILS CC-7 AND CC-8.
 - BOND ALL DUCTILE IRON PIPE JOINTS EXCEPT THOSE THAT ARE SPECIFIED TO BE ELECTRICALLY ISOLATED, SEE DETAIL CC-7.
 - ELECTRICAL ISOLATION IS REQUIRED FOR ALL CONNECTIONS TO NEW PCCP WATER MAIN, SEE DETAILS CC-1 AND CC-15.
 - INSTALL SEPARATOR MESH ON WATER MAIN AT EXISTING UTILITY CROSSINGS IF THERE IS LESS THAN 12 INCHES OF SPACING BETWEEN THEM, SEE DETAIL CC-17.
 - MAINTAIN A MINIMUM OF 2 INCHES OF CLEARANCE BETWEEN PIPING (INCLUDING ALL PORTIONS OF WALL PIPE) AND REINFORCEMENT STEEL IN REINFORCED CONCRETE STRUCTURES.
 - DUCTILE IRON PIPE SHALL NOT BE POLYETHYLENE ENCASED.

CATHODIC PROTECT LAYOUT TIES

STA. 101+15	38' SOUTHWEST OF UTILITY POLE 86' EAST OF SIGN POLE
STA. 105+70	52'-4" NORTHEAST OF VALVE 78' SOUTHWEST OF UTILITY POLE
STA. 105+92	37'-5" NORTHEAST OF VALVE 82'-5" WEST OF UTILITY POLE
STA. 106+70	75' SOUTHWEST OF SHA CONDUIT
STA. 111+60	138'-4" NORTHEAST OF VALVE 24'-5" EAST OF UTILITY POLE
STA. 115+60	41' SOUTH OF HYDRANT
STA. 116+52	59'-5" SOUTHWEST OF UTILITY POLE
STA. 116+54	53' SOUTHWEST OF SIGNAL POLE
STA. 121+50	89'-6" TO POLE #93032 89' TO POLE #157769
STA. 124+46 (HYDRANT)	3' TO HYDRANT 93' TO POLE
STA. 124+46 (6" VALVE)	4'-5" TO VALVE 46' TO POLE
STA. 124+51	75' TO POLE 48'-5" TO POLE
STA. 127+06	68'-5" TO POLE 10' TO SIGN
STA. 127+08	68' TO POLE 11' TO SIGN
STA. 130+91	6'-9" TO VALVE 19' TO ISLAND
STA. 132+00	47' TO ISLAND LEFT 44'-4" TO ISLAND RIGHT
STA. 137+40	43' TO RAIL LIGHT POLE 5'-4" TO FENCE
STA. 137+41	33'-7" TO RAIL LIGHT POLE 37' TO FENCE
STA. 139+01	28'-6" TO TRACK 150' TO VALVE VAULT
STA. 141+55	97' TO VALVE VAULT 32' TO VAULT
STA. 141+57	114' TO VAULT 17' TO VAULT

CORROSION CONTROL LAYOUT
Scale: 1" = 100'

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIOUS CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE REPRODUCED IN ANY WAY FOR OTHER PROJECTS OR INCORPORATED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

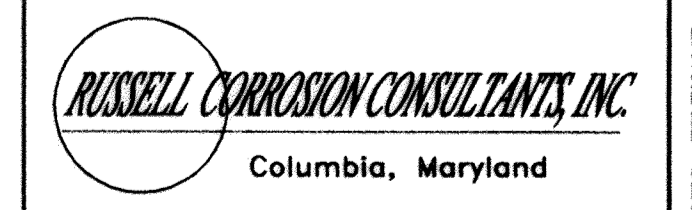
CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS																																	
CHIEF, WATER & WASTEWATER ENG. DIV.	CHIEF, UTILITY ENGINEERING	DIRECTOR, DEPT. OF PUBLIC WORKS																																	
DATE: 1/18/2012	DATE: 1/23/12	DATE: 1/23/12																																	
<table border="1"> <tr> <th>BY</th> <th>DATE</th> <th>P.W.A. NO.</th> <th>KEY SHEET</th> <th>POSITION SHI</th> </tr> <tr> <td>RJF</td> <td>1/23/12</td> <td></td> <td>1/23/12</td> <td></td> </tr> </table>			BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHI	RJF	1/23/12		1/23/12																								
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<table border="1"> <tr> <th>ENGINEER</th> <th>DESIGN BY</th> <th>BUREAU OF ENGINEERING AND CONSTRUCTION</th> <th>BUILDINGS</th> <th>HIGHWAYS</th> <th>STRUCTURES</th> <th>STORM DRAINS</th> <th>SEWER</th> <th>WATER</th> <th>FIELD ENGINEER</th> <th>BUR. OF ENGINEERING & CONSTRUCTION</th> </tr> <tr> <td>MICHAEL J. SZELIGA</td> <td>MJS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DATE: 1/18/2012</td> <td>DATE: 1/23/12</td> <td>DATE: 1/20/12</td> <td>DATE: 1/20/12</td> <td>DATE: 1/20/12</td> <td>DATE: 1/20/12</td> <td>DATE: 1/20/12</td> <td>DATE: 1/20/12</td> <td>DATE: 1/20/12</td> <td>DATE: 1/20/12</td> <td>DATE: 1/20/12</td> </tr> </table>			ENGINEER	DESIGN BY	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION	MICHAEL J. SZELIGA	MJS										DATE: 1/18/2012	DATE: 1/23/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12
ENGINEER	DESIGN BY	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	BUR. OF ENGINEERING & CONSTRUCTION																									
MICHAEL J. SZELIGA	MJS																																		
DATE: 1/18/2012	DATE: 1/23/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12	DATE: 1/20/12																									

AS-BUILT JUNE 2016

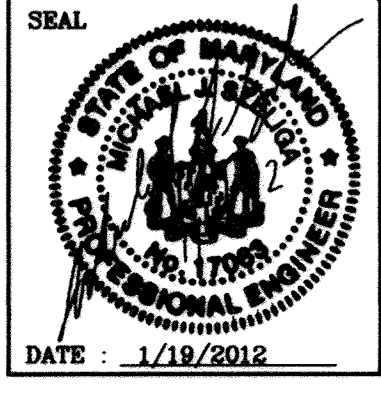
**SOUTHWEST TRANSMISSION MAIN
CATHODIC PROTECTION LAYOUT (STA. 100+00 TO STA. 141+60±)**

SUBDIVISION: ST. DENIS

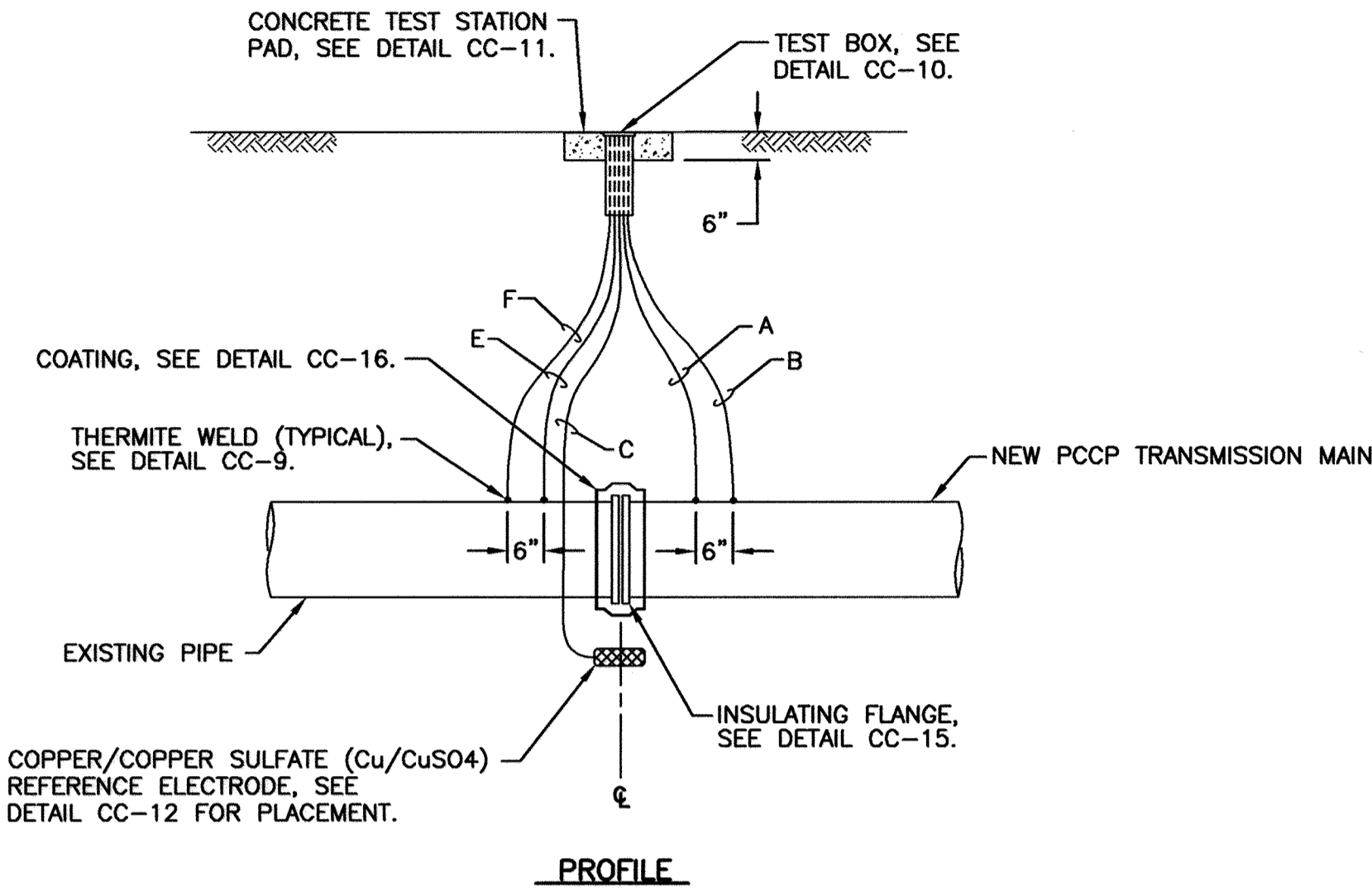
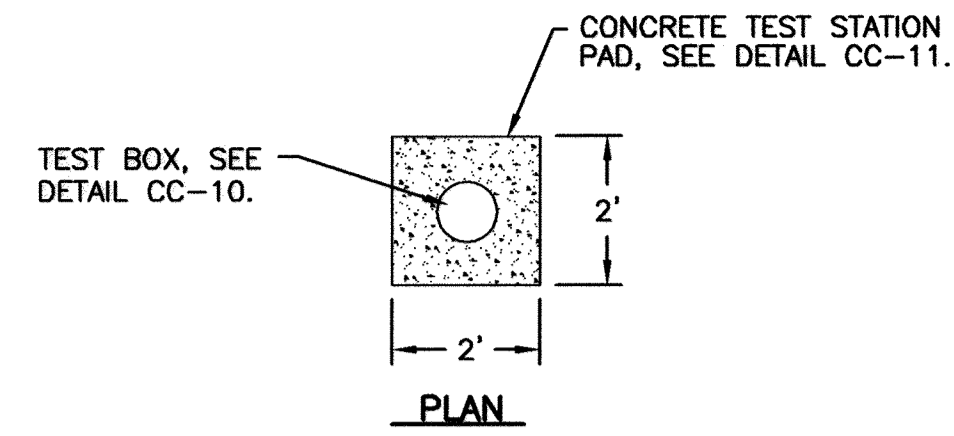
ELECTION DIST. NO.: 13



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CP-2	44-4618
JOB ORDER NUMBER	203-0087-0281
SHEET 32 OF 36	DRAWING NUMBER
2009-3381	FILE NO.:



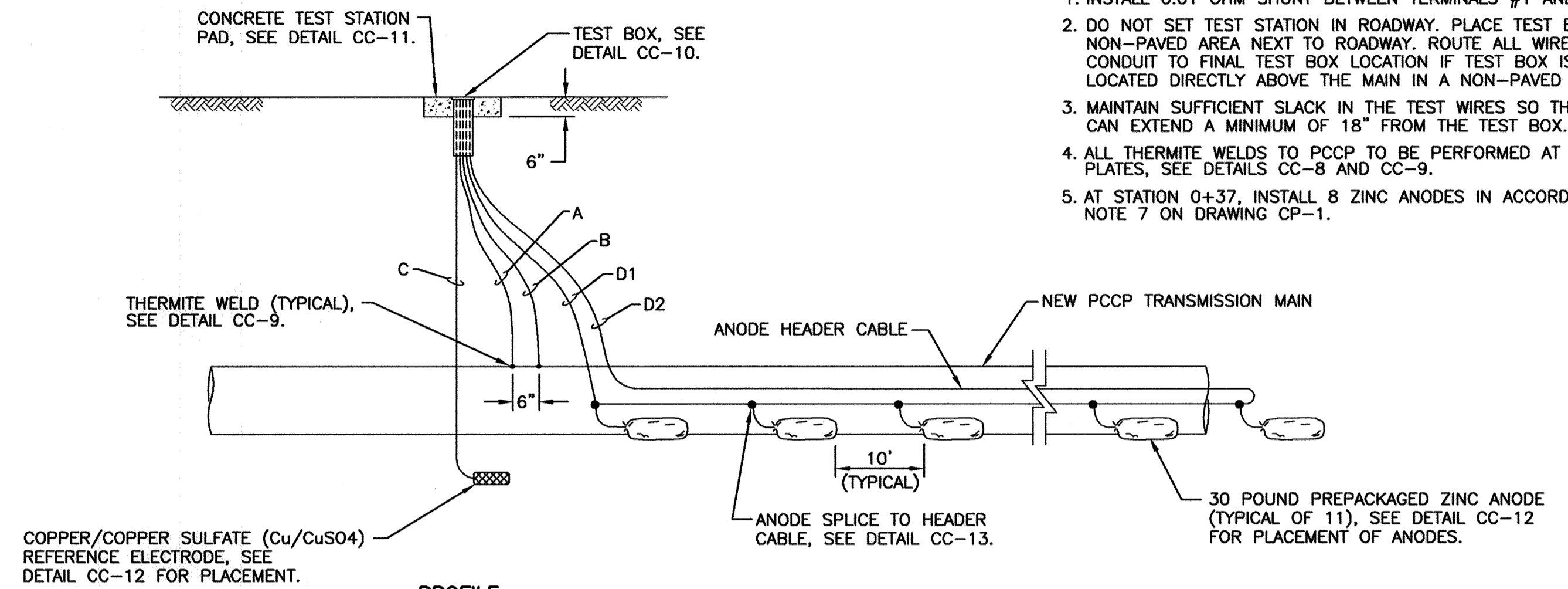
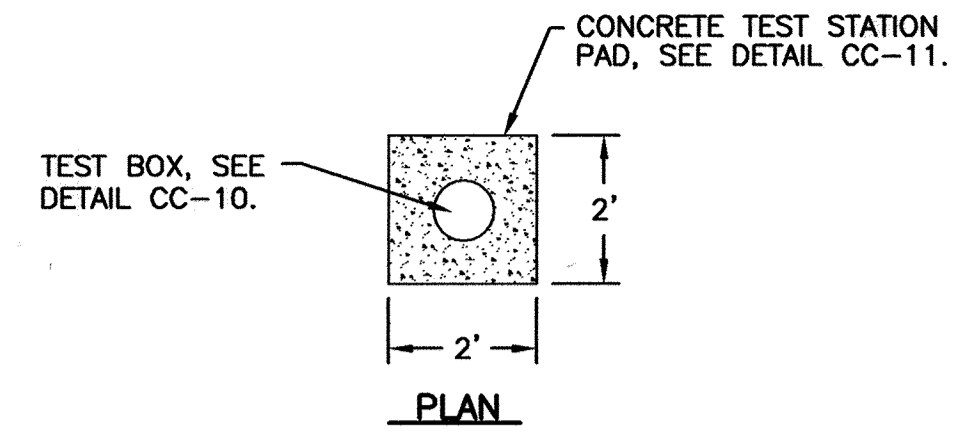
DWG. FILENAME:



CC-1: INSULATING FLANGE TEST STATION

WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE OF INSULATION	COLOR OF INSULATION
NEW TRANSMISSION MAIN	A B	1 3	#8 #10	THWN THWN	BLUE BLUE
PERMANENT REFERENCE ELECTRODE	C	6	#14	HMWPE	BLACK
EXISTING PIPE	E F	2 5	#8 #10	THWN THWN	WHITE WHITE

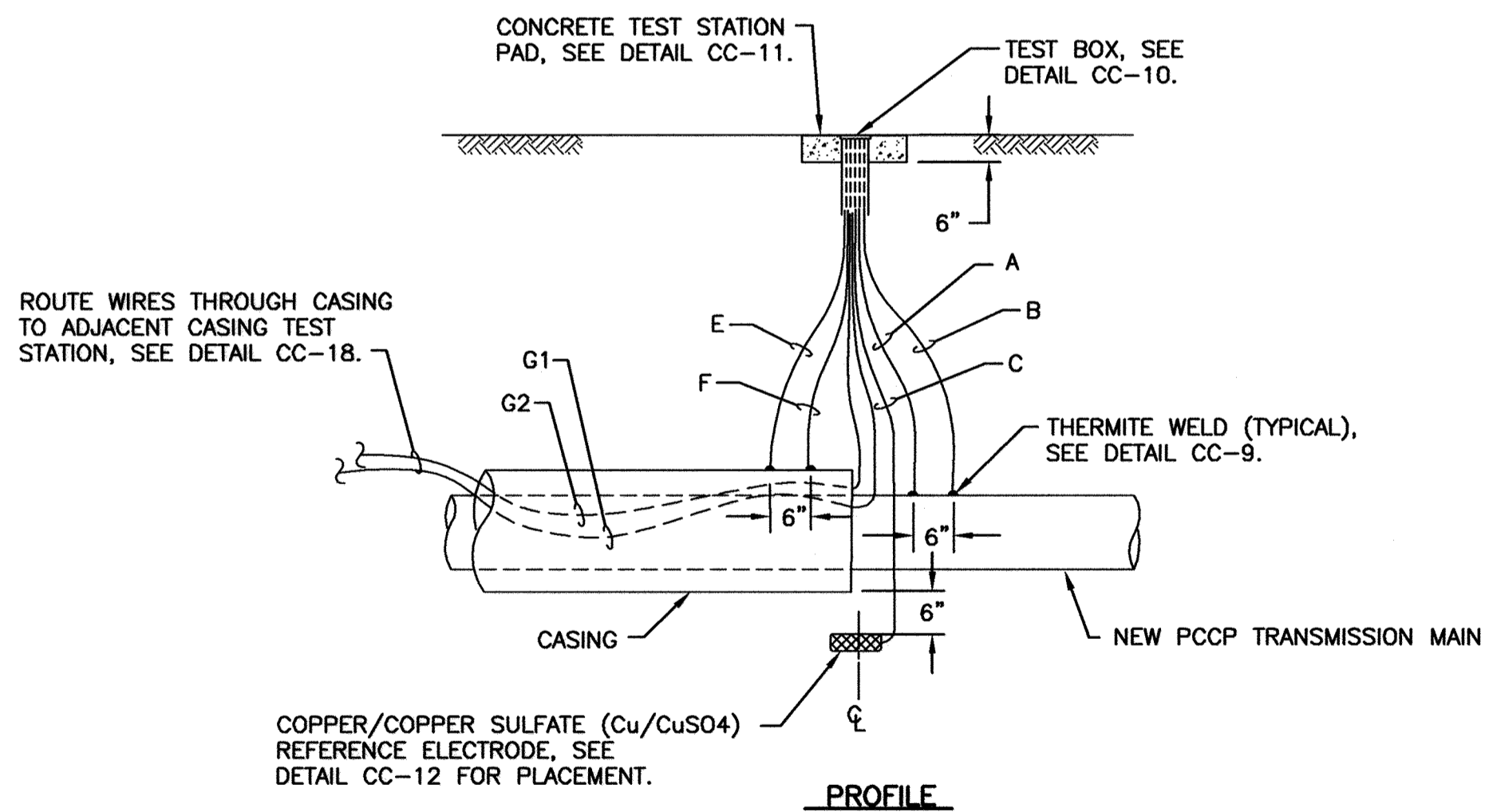
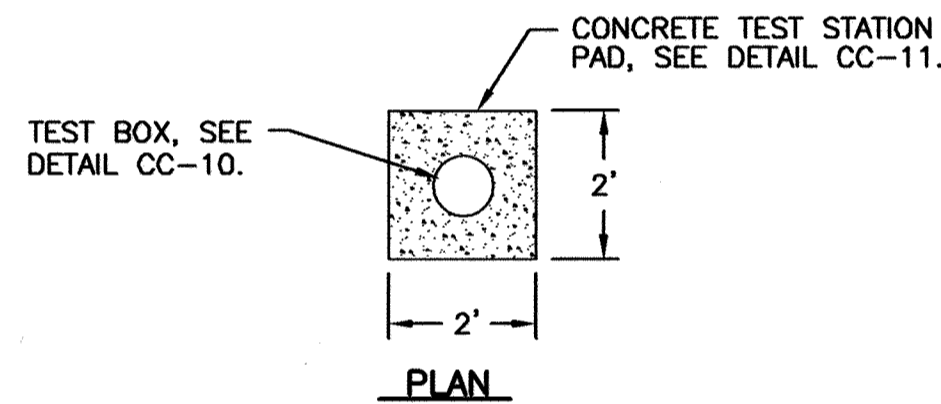
- NOTES:**
- DO NOT SET TEST STATION IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES IN PVC CONDUIT TO FINAL TEST BOX LOCATION IF TEST BOX IS NOT LOCATED DIRECTLY ABOVE THE MAIN IN A NON-PAVED AREA.
 - MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18" FROM THE TEST BOX.
 - ALL THERMITE WELDS TO PCCP TO BE PERFORMED AT STEEL BONDING PLATES, SEE DETAILS CC-8 AND CC-9.



CC-2: ANODE TEST STATION

WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE INSULATION	COLOR INSULATION
NEW TRANSMISSION MAIN	A B	1 3	#8 #10	THWN THWN	BLUE BLUE
PERMANENT REFERENCE ELECTRODE	C	6	#14	HMWPE	BLACK
ANODE HEADER CABLE	D1 D2	4 7	#8 #8	HMWPE HMWPE	BLACK BLACK

- NOTES:**
- INSTALL 0.01 OHM SHUNT BETWEEN TERMINALS #1 AND #4.
 - DO NOT SET TEST STATION IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES IN PVC CONDUIT TO FINAL TEST BOX LOCATION IF TEST BOX IS NOT LOCATED DIRECTLY ABOVE THE MAIN IN A NON-PAVED AREA.
 - MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18" FROM THE TEST BOX.
 - ALL THERMITE WELDS TO PCCP TO BE PERFORMED AT STEEL BONDING PLATES, SEE DETAILS CC-8 AND CC-9.
 - AT STATION 0+37, INSTALL 8 ZINC ANODES IN ACCORDANCE WITH NOTE 7 ON DRAWING CP-1.

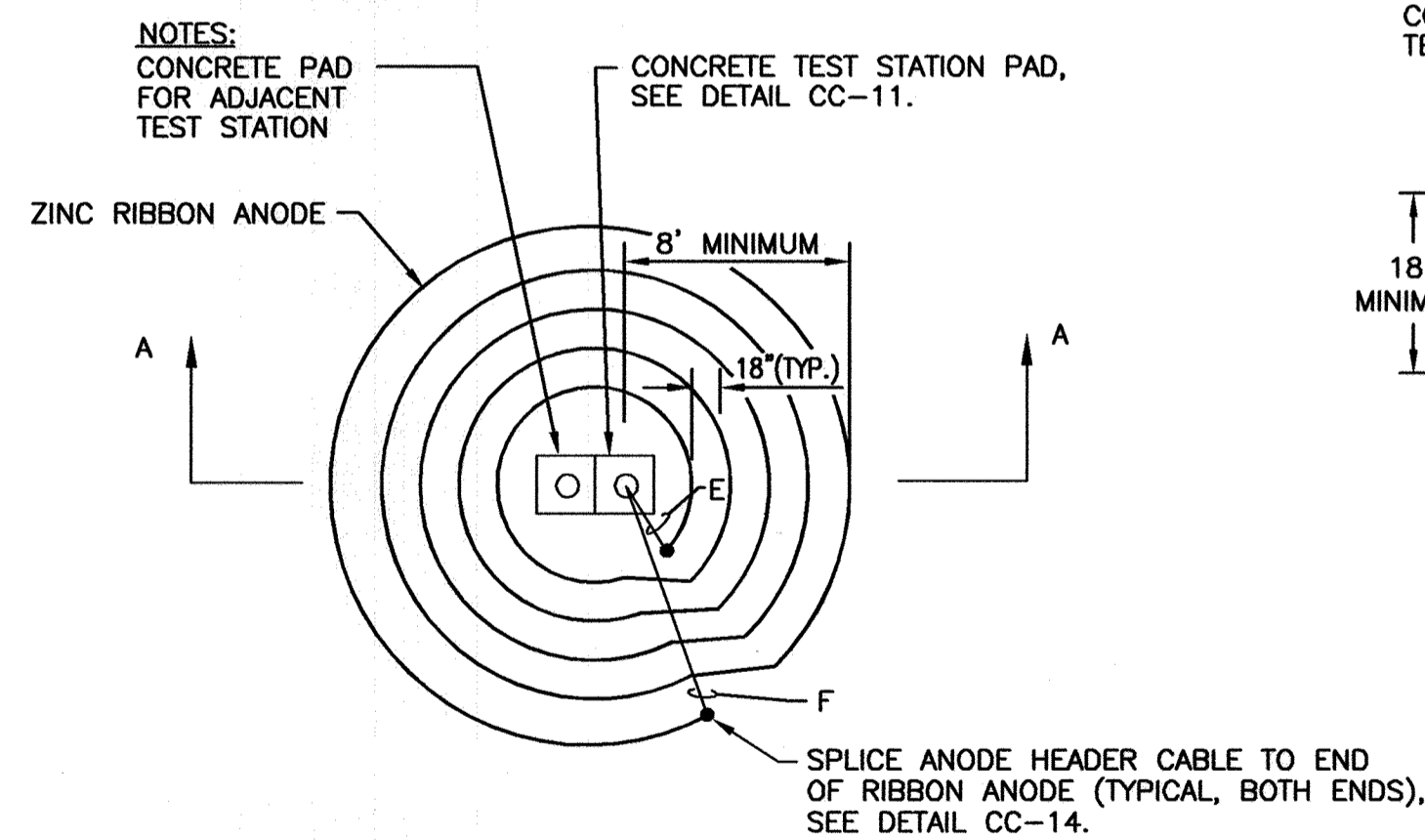


CC-3: CASING TEST STATION

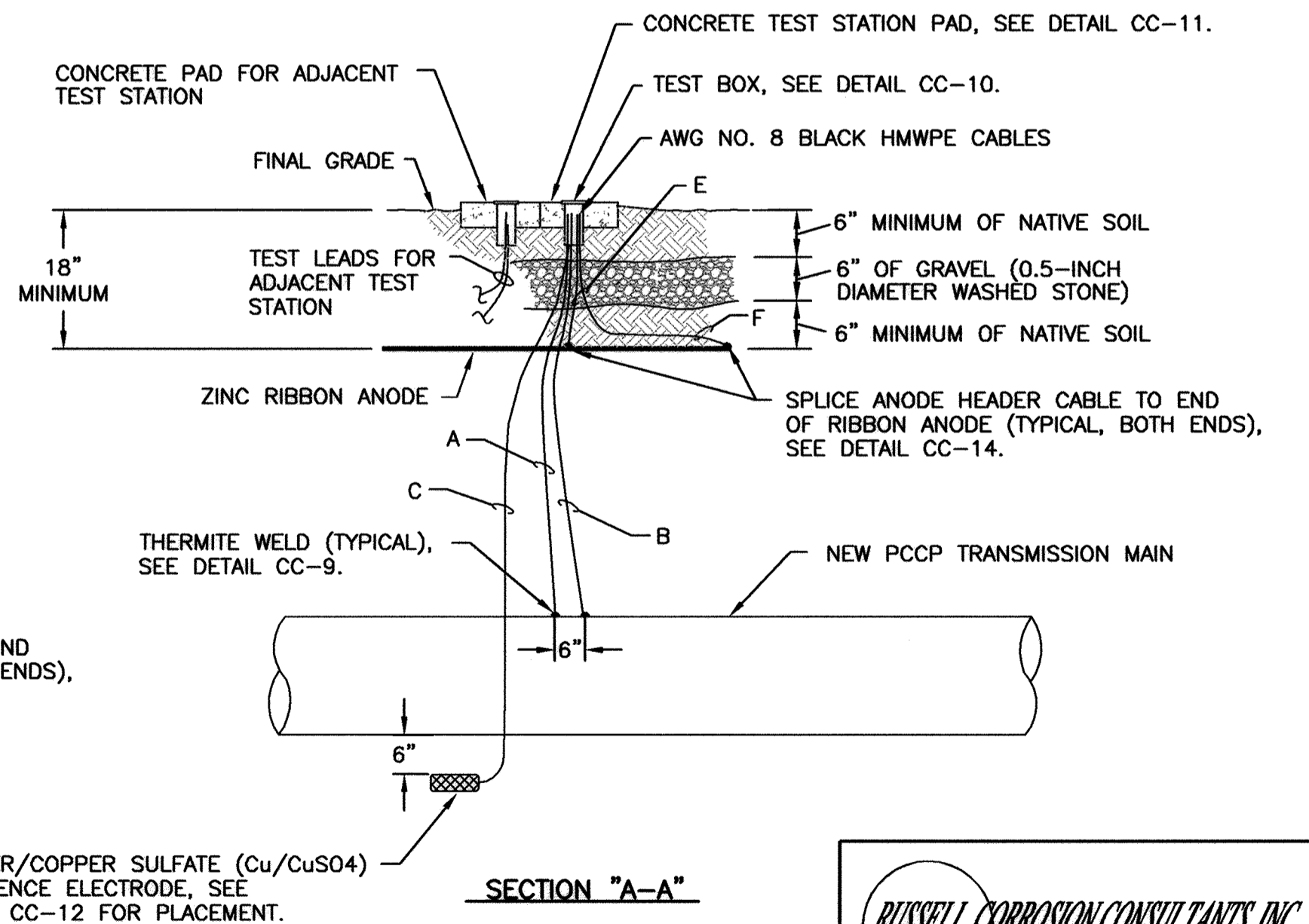
WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE OF INSULATION	COLOR OF INSULATION
NEW TRANSMISSION MAIN	A B	1 3	#8 #10	THWN THWN	BLUE BLUE
PERMANENT REFERENCE ELECTRODE	C	6	#14	HMWPE	BLACK
CASING PIPE	E F	2 5	#8 #10	THWN THWN	WHITE WHITE
ADJACENT CASING TEST STATION	G1 G2	7 7	#8 #10	THWN THWN	RED RED

- NOTES:**
- DO NOT SET TEST STATION IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES IN PVC CONDUIT TO FINAL TEST BOX LOCATION IF TEST BOX IS NOT LOCATED DIRECTLY ABOVE THE MAIN IN A NON-PAVED AREA.
 - MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18" FROM THE TEST BOX.
 - ALL THERMITE WELDS TO PCCP TO BE PERFORMED AT STEEL BONDING PLATES, SEE DETAILS CC-8 AND CC-9.

WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE OF INSULATION	COLOR OF INSULATION
NEW TRANSMISSION MAIN	A B	1 3	#8 #10	THWN THWN	BLUE BLUE
PERMANENT REFERENCE ELECTRODE	C	6	#14	HMWPE	BLACK
ZINC RIBBON ANODE	E F	4 5	#8 #8	HMWPE HMWPE	BLACK BLACK



PLAN



SECTION "A-A"

CC-4: AC GROUND MAT TEST STATION

- NOTES:**
- INSTALL 0.01 OHM SHUNT BETWEEN TERMINALS #1 AND #4.
 - DO NOT SET TEST STATION IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES IN PVC CONDUIT TO FINAL TEST BOX LOCATION IF TEST BOX IS NOT LOCATED DIRECTLY ABOVE THE MAIN IN A NON-PAVED AREA.
 - MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18" FROM THE TEST BOX.
 - ALL THERMITE WELDS TO PCCP TO BE PERFORMED AT STEEL BONDING PLATES, SEE DETAILS CC-8 AND CC-9.

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIOUS CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
AP Tinkler 3/15/12	CHIEF, UTILITY ENGINEERING	DATE
CHIEF, WATER & WASTEWATER ENG. DIV. BUREAU OF WATER AND WASTEWATER	CHIEF, WATER ENGINEERING SECTION	DATE
DATE: 1/19/2012	REVISION	BY DATE P.W.A. NO. KEY SHEET POSITION SHIT
PROFESSIONAL CERTIFICATION	REVISION	DRAWING SCALE DEPARTMENT OF PUBLIC WORKS
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 17063 EXPIRATION DATE 9/27/2012		PLAN SCALE: AS NOTED APPROVED BY: [Signature] DIRECTOR
ENGINEER: MICHAEL J. SZEJLIGA RUSSELL CORROSION CONSULTANTS, INC.	DESIGN BY: MS	PROFILE SCALE: AS NOTED DATE: 1-24-12
AS-BUILT PER RECORD PRINT	DRAWN BY: DID	APPROVED BY: [Signature] CHIEF
BY: DATE:	CHKD BY: MS	DATE: 1/24/12
REVIEWED BY: RJE	DATE REVIEWED: 1/23/12	DATE: 1/23/12
BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	STORM DRAINS
HIGHWAYS	STRUCTURES	SEWER
WATER	FIELD ENGINEERS	BUR. OF ENGINEERING & CONSTRUCTION
DATE: 1/23/12	DATE: 1/20/12	DATE: 1/23/12

AS-BUILT JUNE 2016

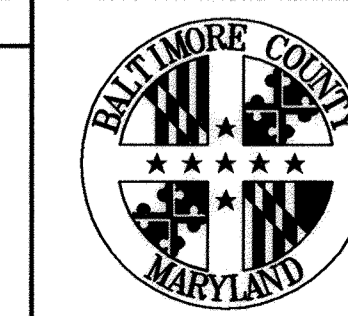
SOUTHWEST TRANSMISSION MAIN
CATHODIC PROTECTION DETAILS - 1

SUBDIVISION: ST. DENIS

ELECTION DIST. NO.: 13

RUSSELL CORROSION CONSULTANTS, INC.
Columbia, Maryland

SHEET DESIGNATION	CONTRACT NUMBER
CP-3	44-4618
JOB ORDER NUMBER	203-0067-0281
SHEET 33 OF 36	DRAWING NUMBER
2009-3382	FILE NO.:

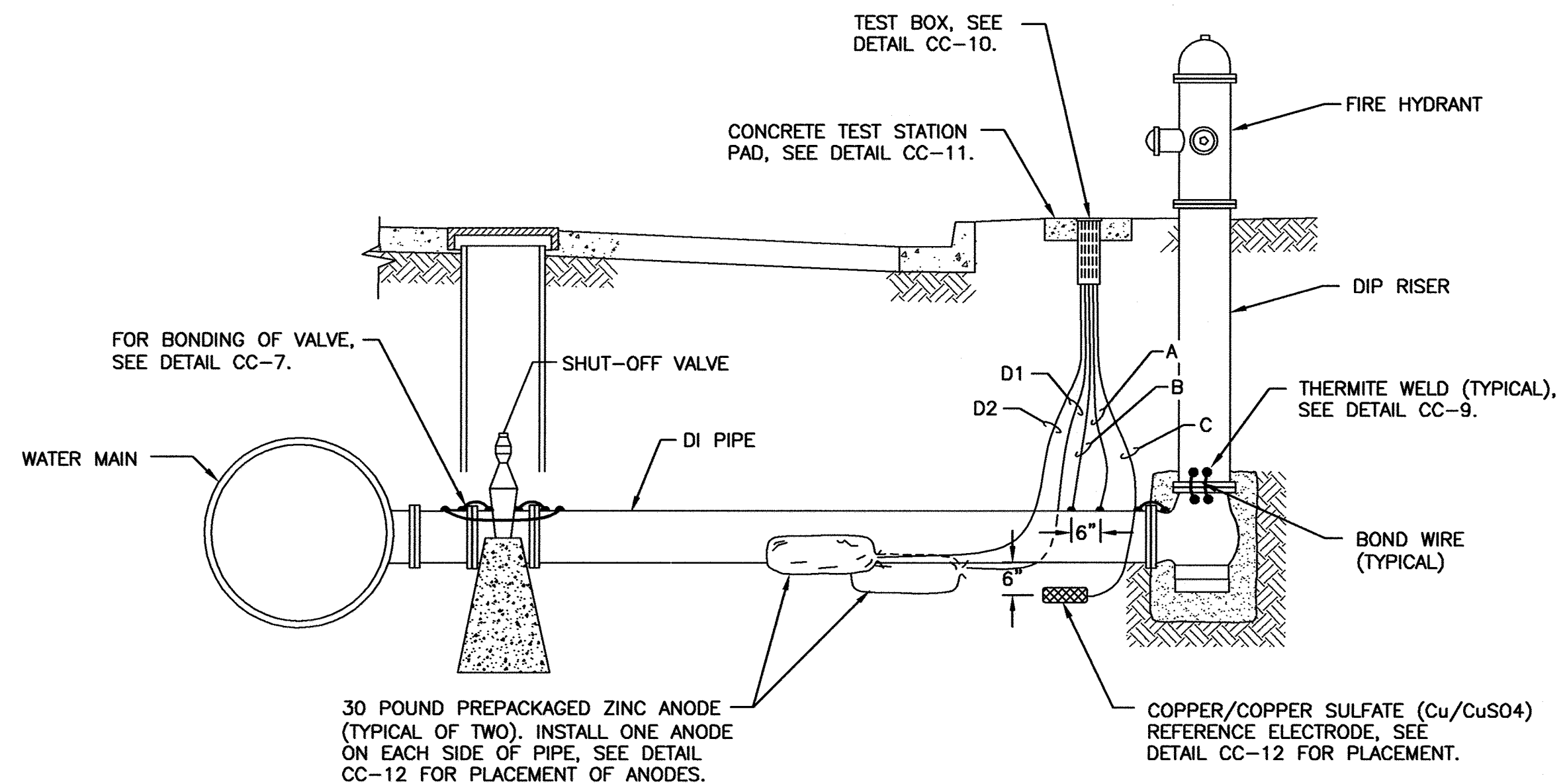


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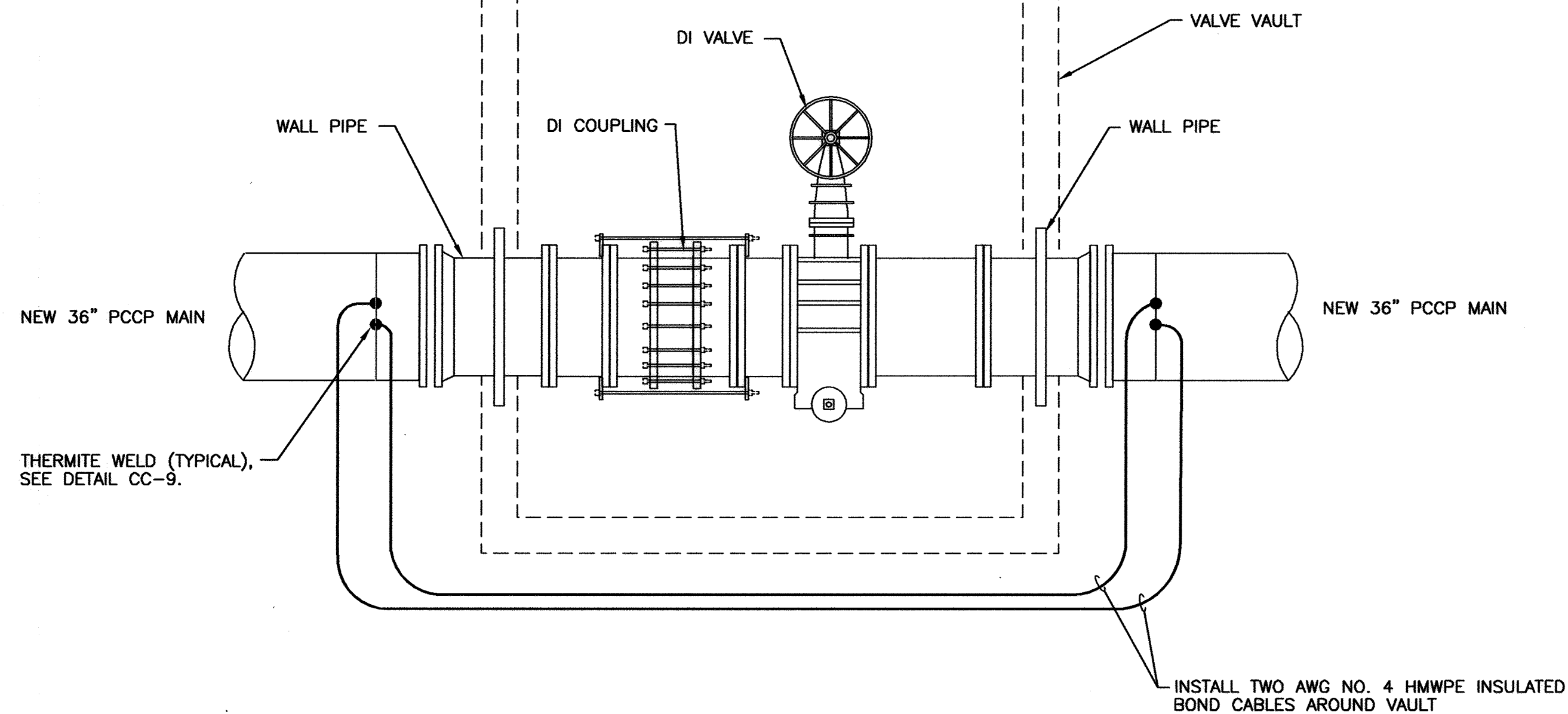
WIRING SCHEDULE					
DESCRIPTION	WIRE	TEST STATION TERMINAL	AWG WIRE SIZE	TYPE INSULATION	COLOR INSULATION
NEW TRANSMISSION MAIN	A B	1 3	#8 #10	THWN THWN	BLUE BLUE
PERMANENT REFERENCE ELECTRODE	C	6	#14	HMWPE	BLACK
PREPACKAGED ZINC ANODE	D1 D2	4 4	#12 #12	TW TW	BLACK BLACK

NOTES:

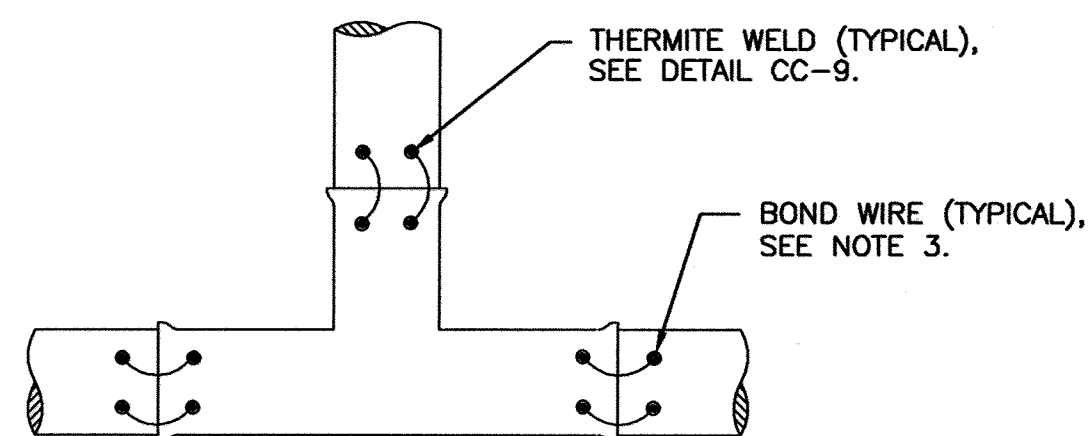
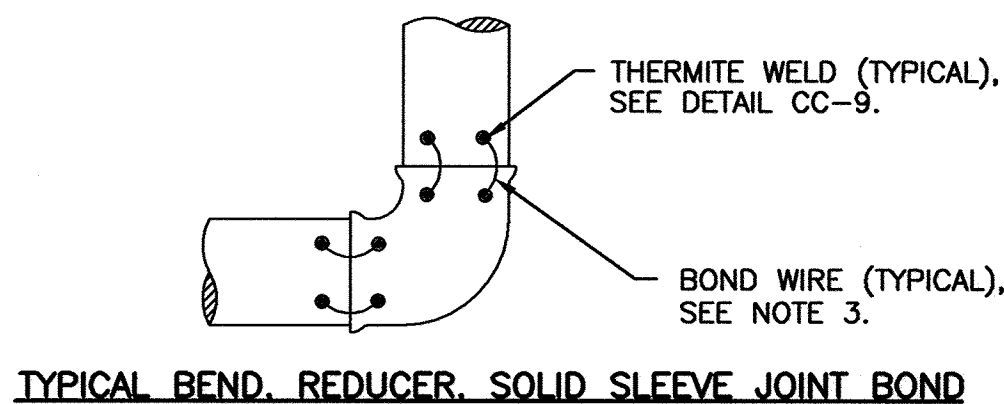
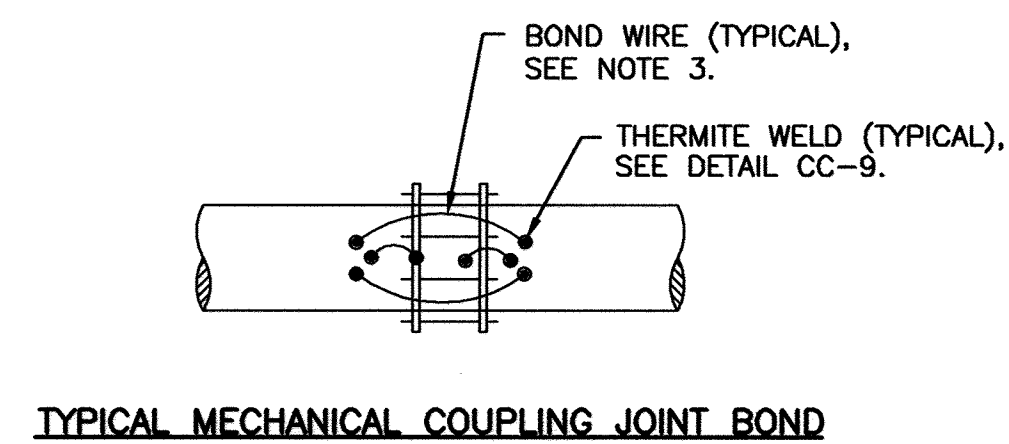
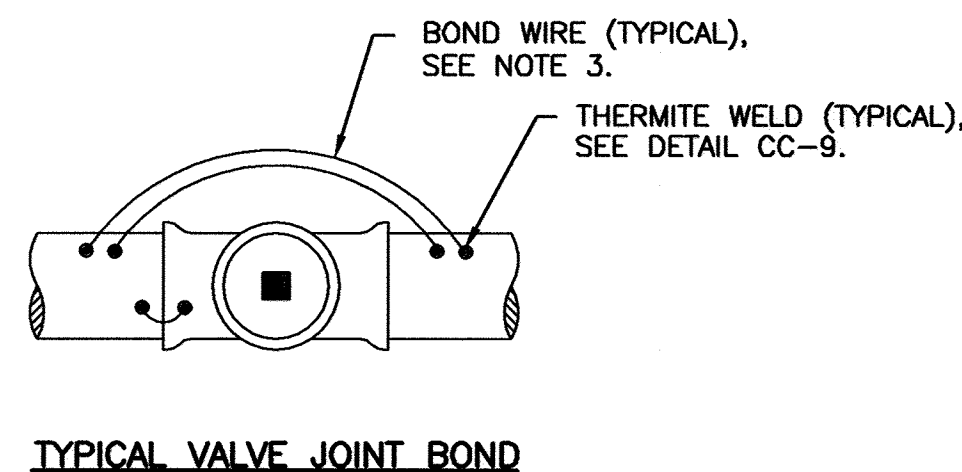
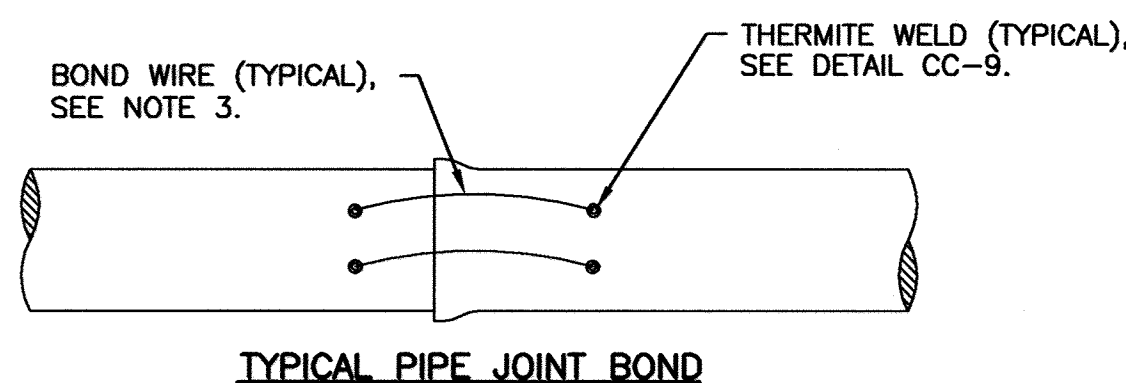
1. INSTALL 0.01 OHM SHUNT BETWEEN TERMINALS #1 AND #4.
2. MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18 INCHES FROM THE TEST BOX.
3. BOND ALL DUCTILE IRON COMPONENTS TOGETHER WITH AWG NO. 6 HMWPE WIRES.
4. INSTALL BOND WIRES ON TOP OF PIPE OR FITTING WHERE POSSIBLE.
5. INSTALL A MINIMUM OF TWO BOND CABLES ACROSS EACH PIPE JOINT.
6. SEE DETAIL CC-7 FOR BONDING OF VALVE.
7. BOND ALL HYDRANT PIPING ASSOCIATED WITH THE WATER MAIN.
8. INSTALL BOND CABLES ON HYDRANT RISER PIPE AND RISER ELBOW BEFORE INSTALLING RISER PIPE IN EXCAVATION.



CC-5: FIRE HYDRANT TEST STATION WITH ANODES



CC-6: BONDING AROUND VALVE VAULT

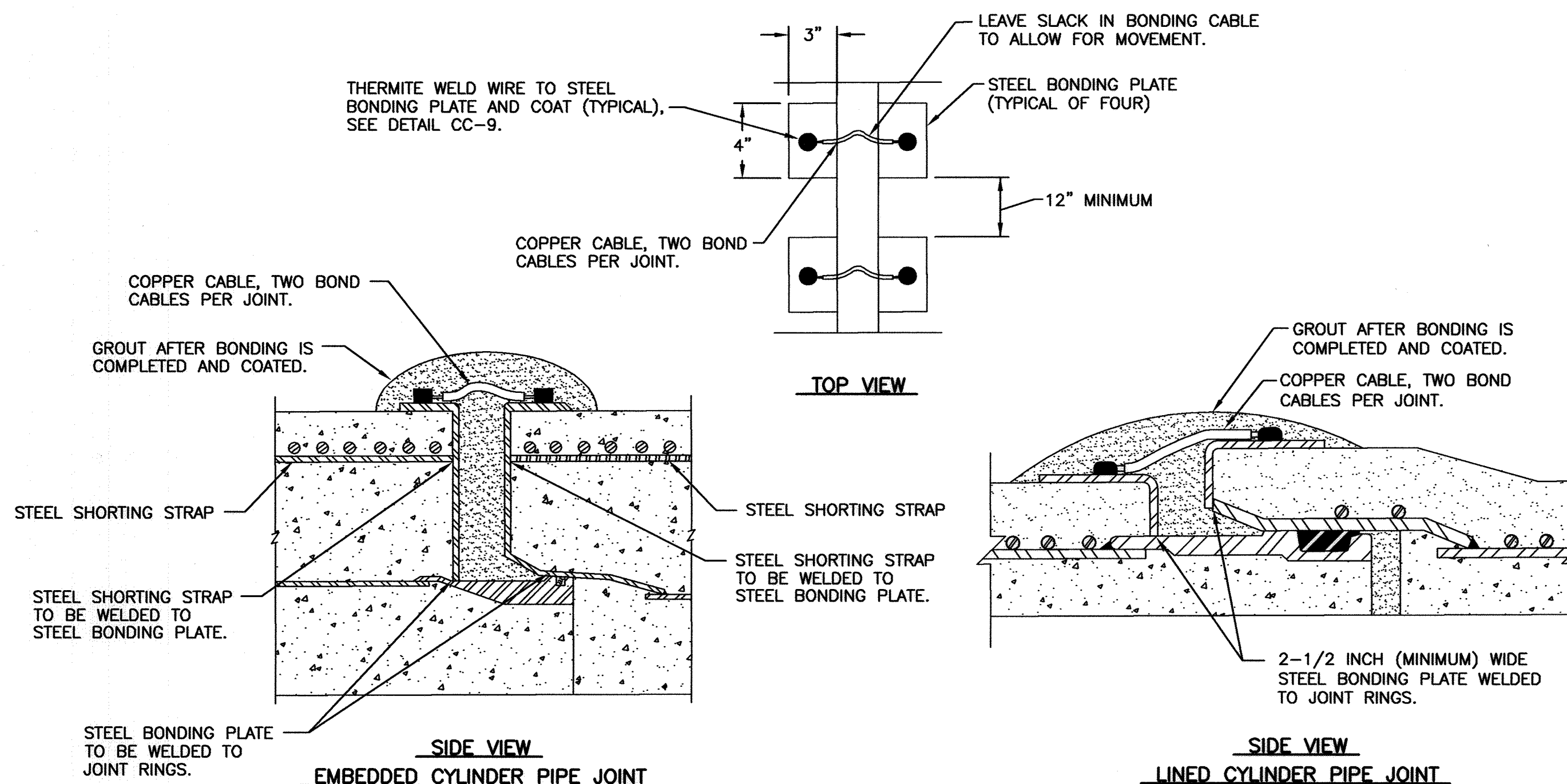


NOTES:

1. ALL DUCTILE IRON AND PRESTRESSED CONCRETE PIPE JOINTS THAT ARE NOT SPECIFIED WITH INSULATING FLANGES SHALL BE BONDED.
2. THERMITE WELD BONDING WIRES TO TOP OF PIPE OR FITTINGS.
3. WIRE SIZE FOR BONDING JOINTS SHALL BE AS FOLLOWS:

PIPE SIZE	WIRE SIZE
LARGER THAN 36"	AWG NO. 2 HMWPE
16" TO 36"	AWG NO. 4 HMWPE
SMALLER THAN 16"	AWG NO. 6 HMWPE
4. ALL THERMITE WELDS TO PCCP TO BE PERFORMED AT STEEL BONDING PLATES, SEE DETAILS CC-8 AND CC-9.

CC-7: JOINT BONDING



NOTES:

1. TWO STEEL SHORTING STRAPS REQUIRED PER PIPE SECTION FOR EMBEDDED CYLINDER PIPE. NO SHORTING STRAPS REQUIRED FOR LINED CYLINDER PIPE.
2. STEEL BONDING PLATES AND STEEL SHORTING STRAPS (IF REQUIRED) TO BE INSTALLED BY PIPE MANUFACTURER DURING PIPE FABRICATION.
3. BOND ALL PIPE JOINTS, INCLUDING THOSE ON PIPE, FITTINGS, VALVES, ETC., EXCEPT THOSE SPECIFIED TO BE INSULATED.
4. WIRE SIZE FOR BONDING JOINTS SHALL BE AS FOLLOWS:

PIPE SIZE	WIRE SIZE
LARGER THAN 36"	AWG NO. 2 HMWPE
16" TO 36"	AWG NO. 4 HMWPE
SMALLER THAN 16"	AWG NO. 6 HMWPE

CC-8: PCCP JOINT BONDING

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIATIONS IN SOIL CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Water & Wastewater Eng. Div.	Chief, Utility Engineering	Director, Dept. of Public Works
DATE	DATE	DATE

SEAL	PROFESSIONAL CERTIFICATION	REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE	DEPARTMENT OF PUBLIC WORKS
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.							PLAN SCALE: AS NOTED	APPROVED BY: <i>[Signature]</i> DIRECTOR
	RUSSELL CORROSION CONSULTANTS, INC.							PROFILE SCALE: AS NOTED	DATE: 1-24-12
AS-BUILT PER RECORD PRINT	DESIGN BY: MIS	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
BY: DATE:	DRAWN BY: DJD	REVIEWED BY: RJS							APPROVED BY: <i>[Signature]</i> CHIEF
	CHRD BY: MIS	DATE REVIEWED: 1/23/12							DATE: 1/24/12

AS-BUILT JUNE 2016

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

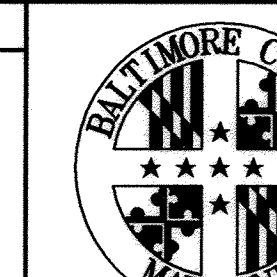
SOUTHWEST TRANSMISSION MAIN
CATHODIC PROTECTION DETAILS - 2

SUBDIVISION: ST. DENIS

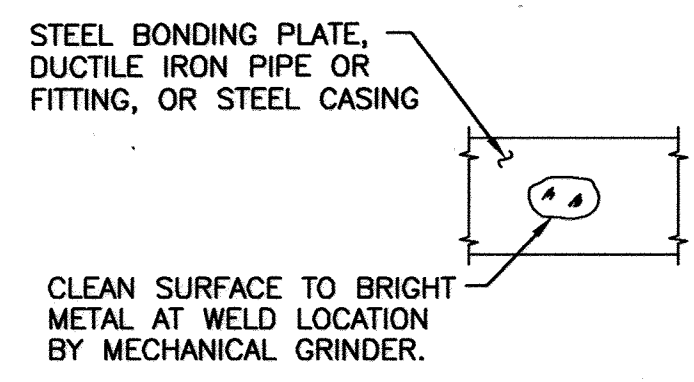
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RUSSELL CORROSION CONSULTANTS, INC.
Columbia, Maryland

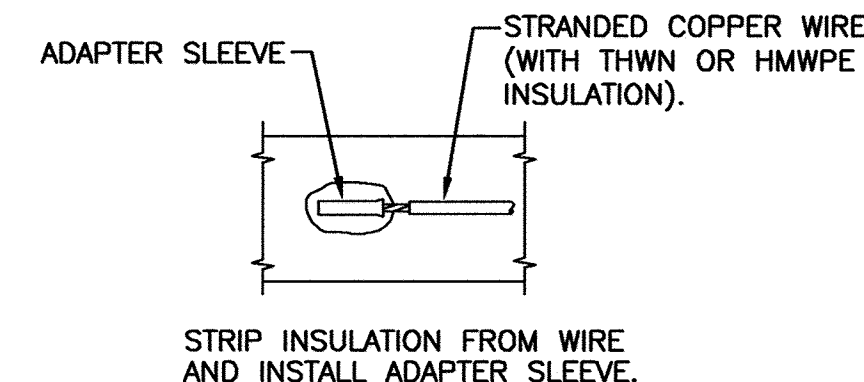
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CP-4	44-4618
	JOB ORDER NUMBER
	203-0067-0281
	SHEET 34 OF 36
	DRAWING NUMBER
	2009-3383
	FILE NO.:



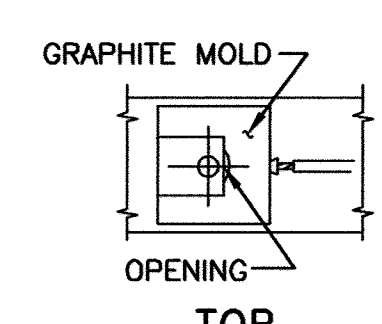
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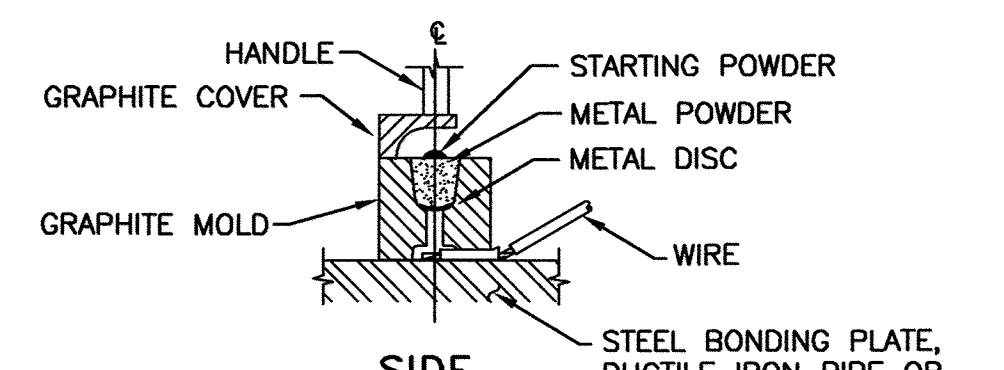
STEP 1



STEP 2



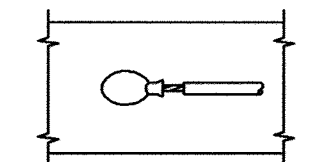
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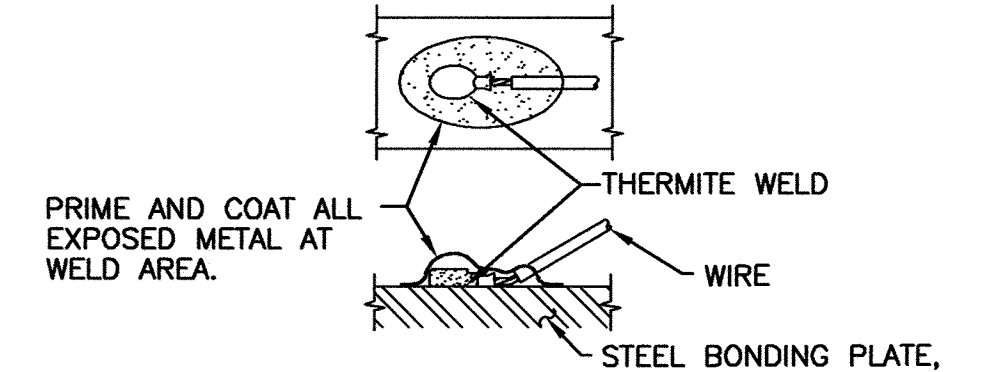
SIDE

HOLD GRAPHITE MOLD FIRMLY OVER ADAPTER SLEEVE WITH OPENING AWAY FROM OPERATOR - IGNITE STARTING POWDER.

STEP 3



STEP 4

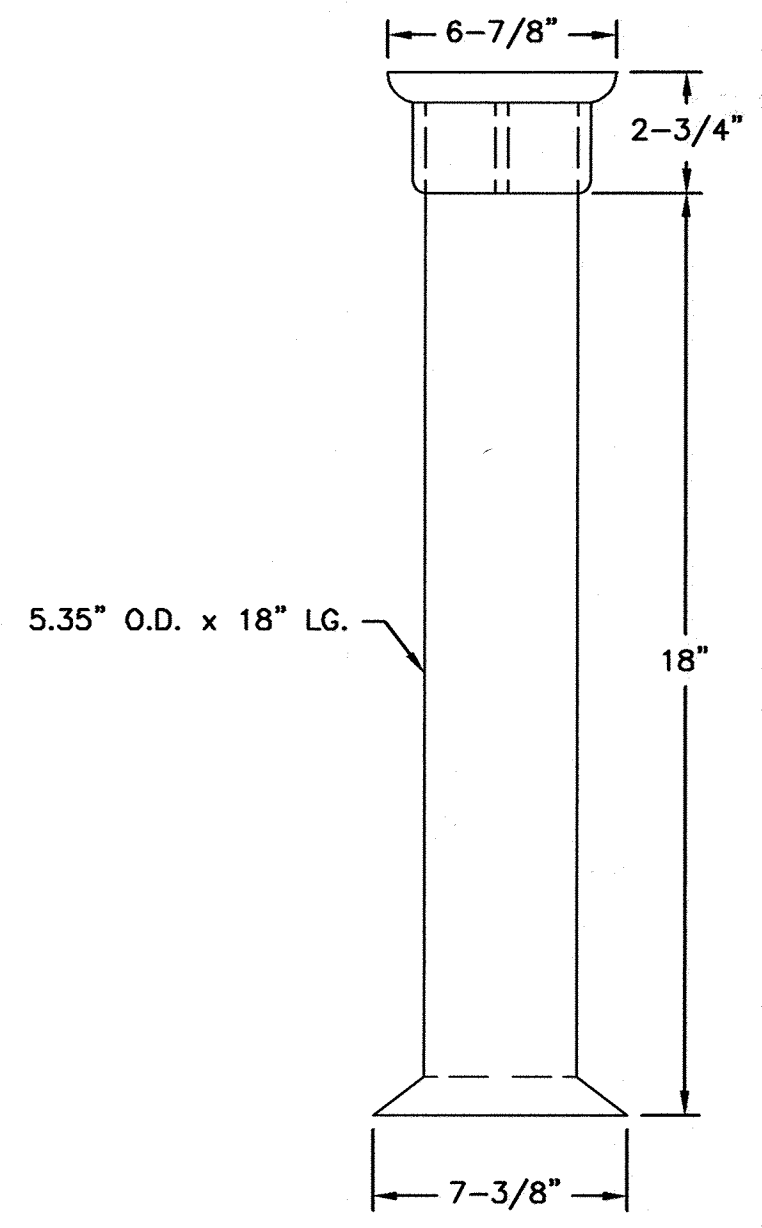


STEP 5

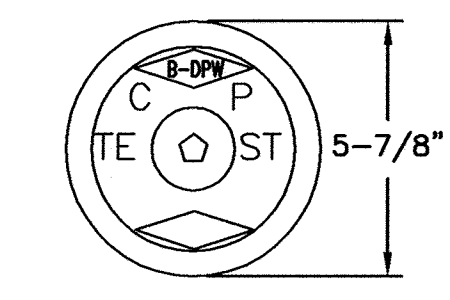
NOTES:

1. THERMITE WELDS MADE TO THE STEEL BONDING PLATES OF PCCP PIPING SHALL BE COATED WITH BRUSH APPLIED R28 MASTIC (10 MILS MINIMUM THICKNESS) OR APPROVED EQUAL. MASTIC SHALL BE DRY BEFORE THERMITE WELDS ARE COVERED OVER WITH GROUT.
2. ALL THERMITE WELDS TO PCCP TO BE PERFORMED AT STEEL BONDING PLATES, SEE DETAIL CC-8.
3. THERMITE WELDS TO DUCTILE IRON PIPE AND STEEL CASINGS SHALL BE COATED WITH A PREFABRICATED ONE PIECE PLASTIC CAP FILLED WITH ELASTOMERIC MATERIAL, ROYSTON HANDY-CAP OR APPROVED EQUAL.

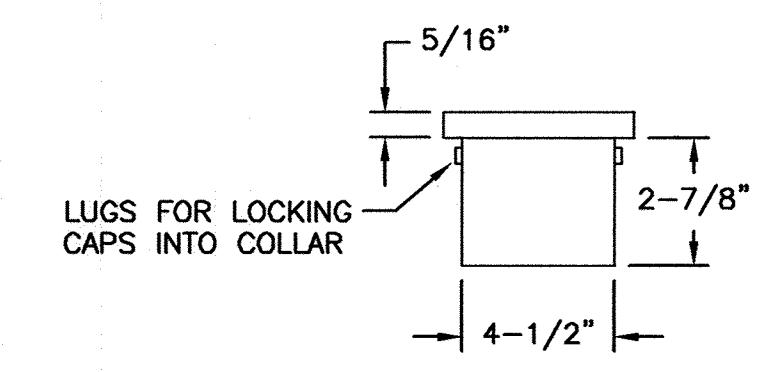
CC-9: THERMITE WELD



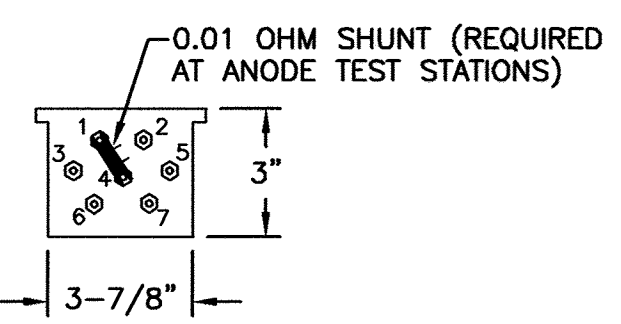
SIDE VIEW
TEST BOX BODY



TOP VIEW

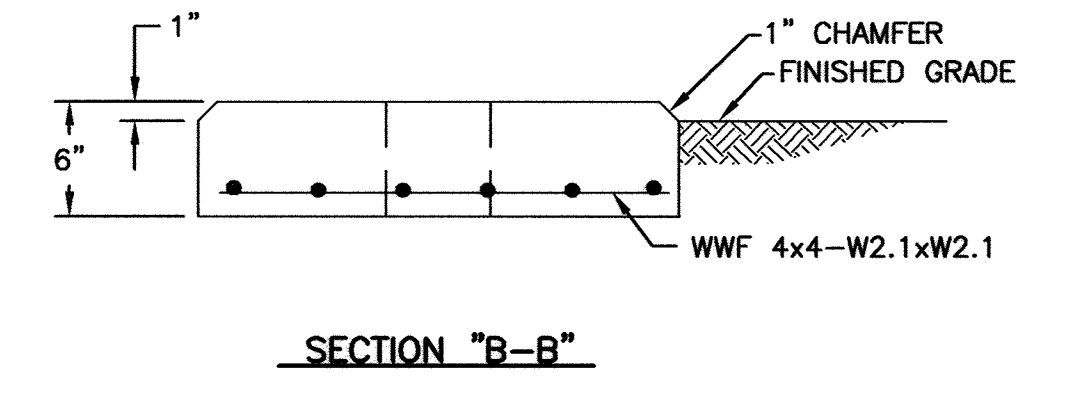


SIDE VIEW

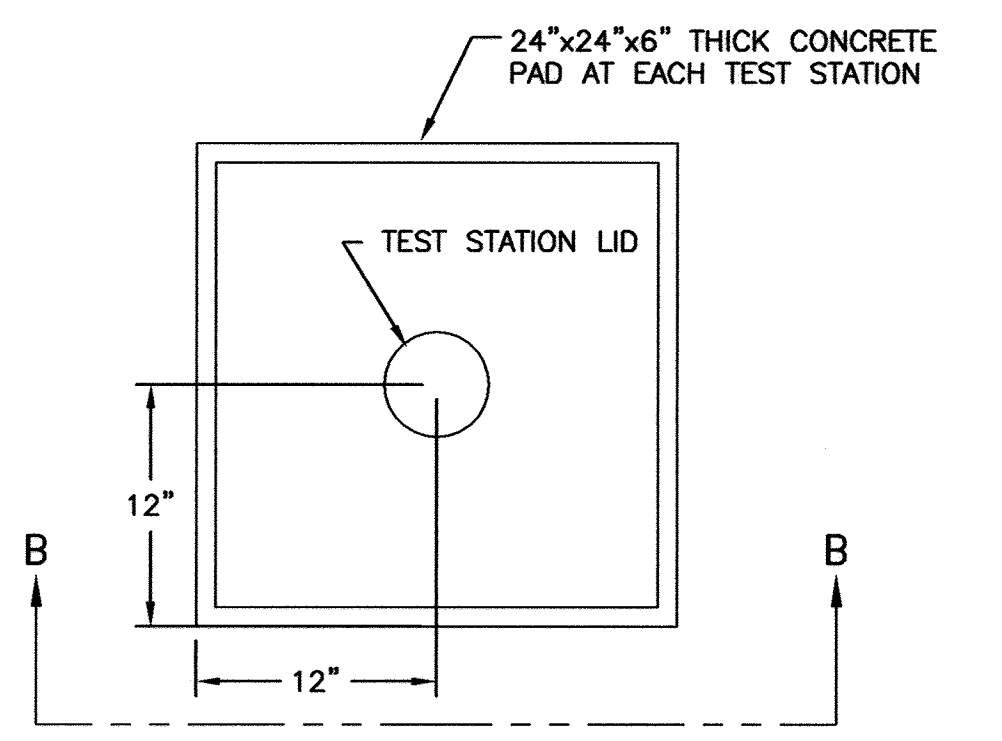


TEST BOX LID
AND TERMINAL BOARD

CC-10: TEST BOX

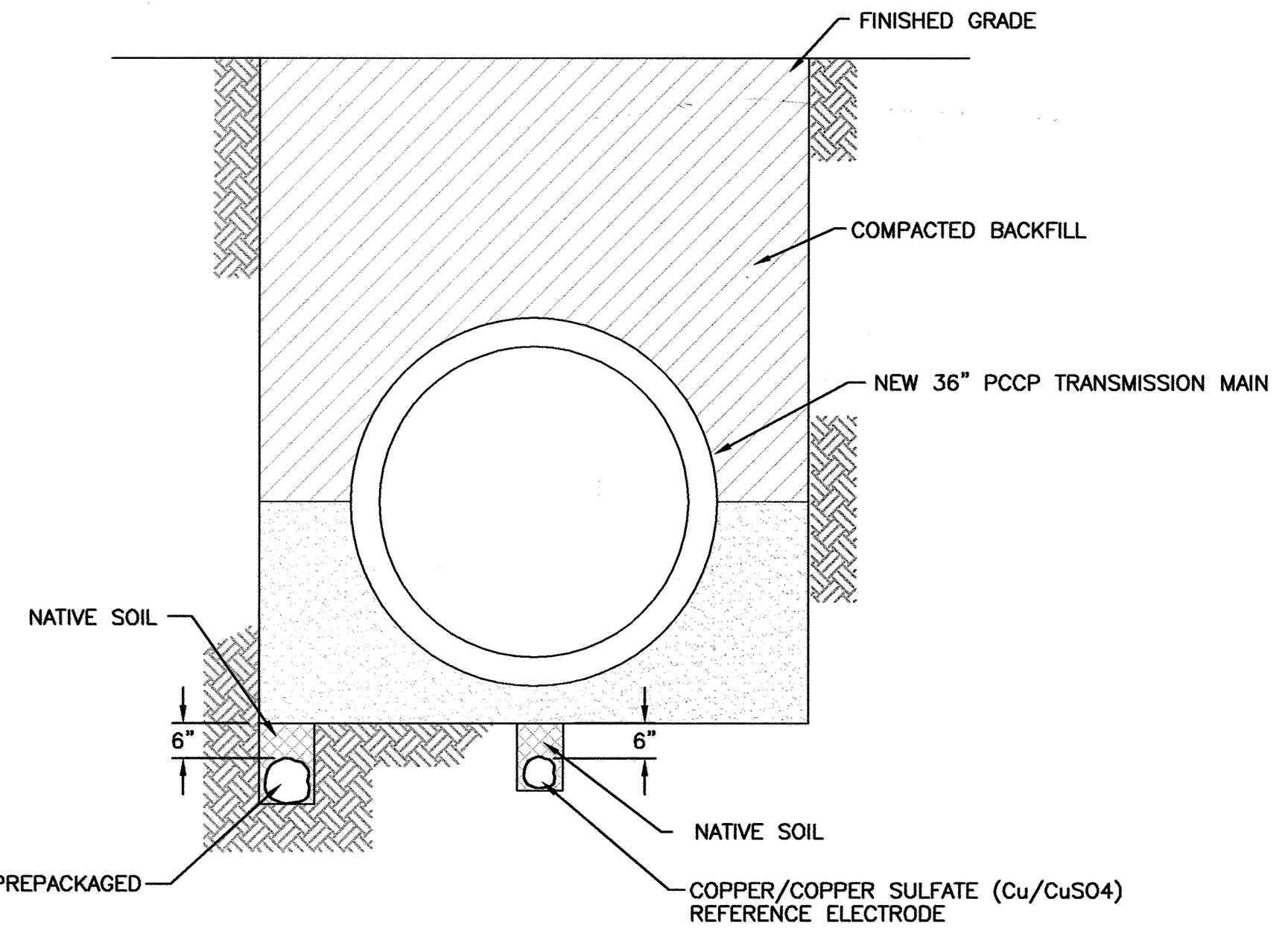


SECTION "B-B"



PLAN

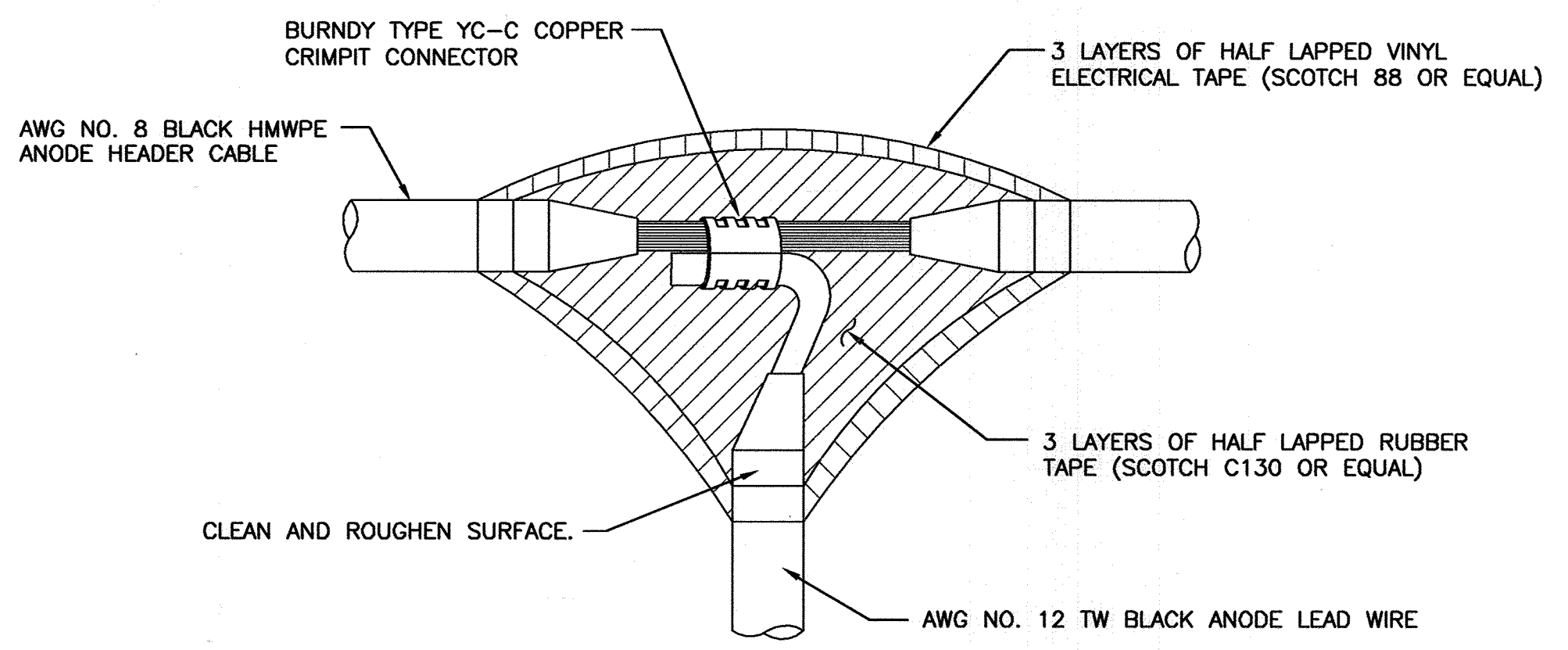
CC-11: TEST STATION PAD



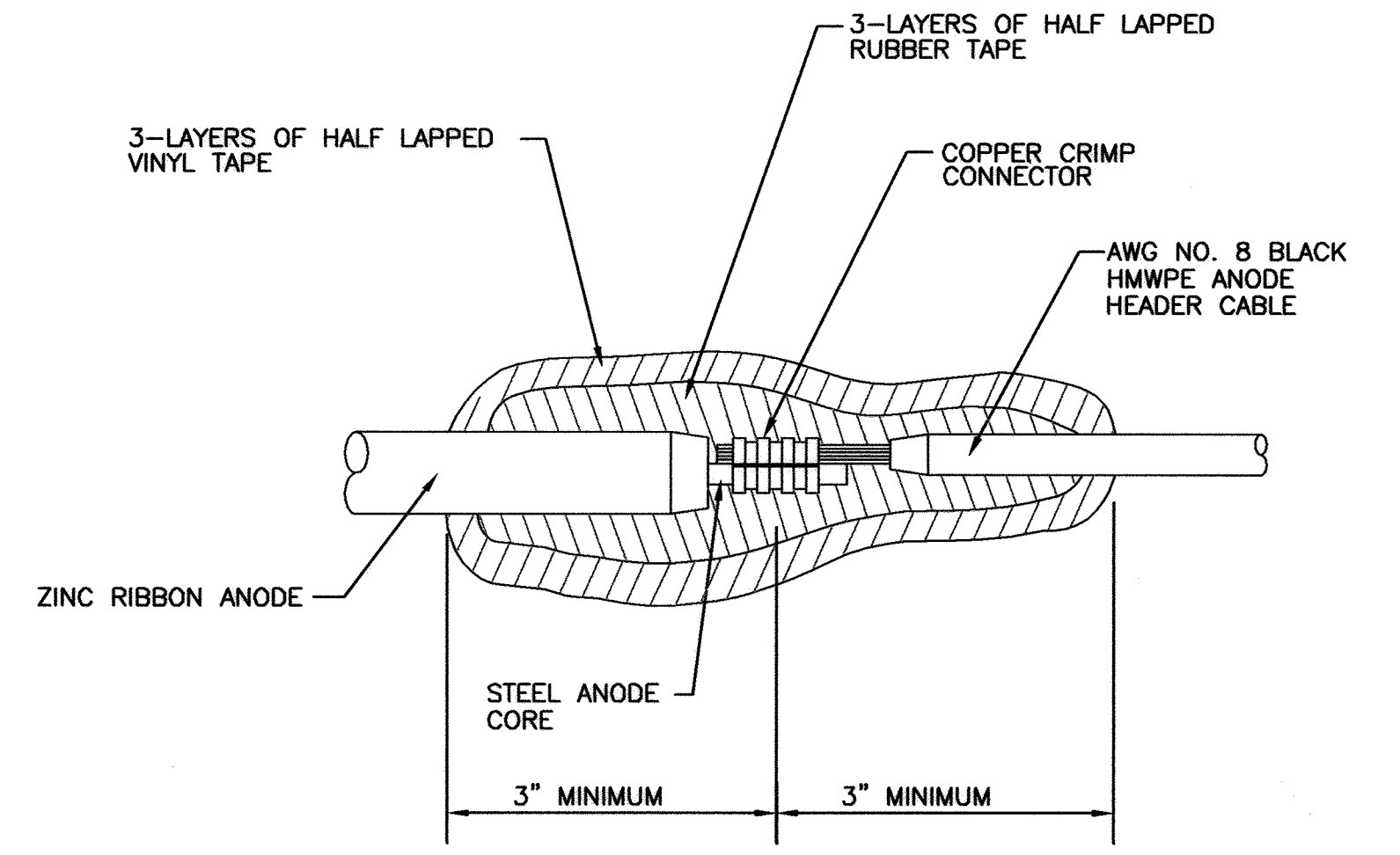
NOTES:

1. BACKFILL ANODES WITH NATIVE SOIL FOR A MINIMUM OF 6" ON ALL SIDES. DO NOT BACKFILL ANODES WITH STONE OR SAND BACKFILL.
2. MAINTAIN A MINIMUM 12" CLEARANCE WHEN ROUTING ANODES AROUND VAULTS AND APPURTANCES.
3. AT STATION 0+37, AND AT FIRE HYDRANT, INSTALL ZINC ANODES ON BOTH SIDES OF THE MAIN IN A MANNER SIMILAR TO WHAT IS SHOWN.

CC-12: ANODE AND REFERENCE
ELECTRODE PLACEMENT



CC-13: ANODE HEADER CABLE SPLICE



CC-14: RIBBON ANODE END TO LEAD WIRE SPLICE

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CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, UTILITY ENGINEERING	DATE	DATE
CHIEF, WATER ENGINEERING SECTION	DATE	DIRECTOR, DEPT. OF PUBLIC WORKS
DATE	DATE	DATE

PROFESSIONAL CERTIFICATION	REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SH	DRAWING SCALE	DEPARTMENT OF PUBLIC WORKS
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.							PLAN SCALE: AS NOTED	APPROVED BY: [Signature]
LICENSE NO. 17083	EXPIRATION DATE 9/27/2012						PROFILE SCALE: AS NOTED	DATE: 1-24-12
ENGINEER: MICHAEL J. SZELEGA	DESIGN BY: MS	BUREAU OF ENGINEERING AND CONSTRUCTION	BUILDINGS	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER
RUSSELL CORROSION CONSULTANTS, INC.	DRAWN BY: DID	REVIEWED BY: R/JF						
AS-BUILT PER RECORD PRINT	CHKD BY: MS	DATE REVIEWED: 1/23/12						
DATE: 1/19/2012								

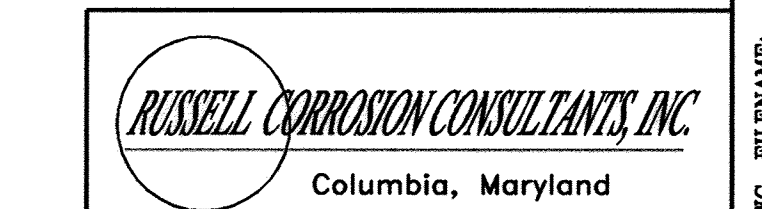
AS-BUILT JUNE 2016

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

SOUTHWEST TRANSMISSION MAIN
CATHODIC PROTECTION DETAILS - 3

SUBDIVISION: ST. DENIS

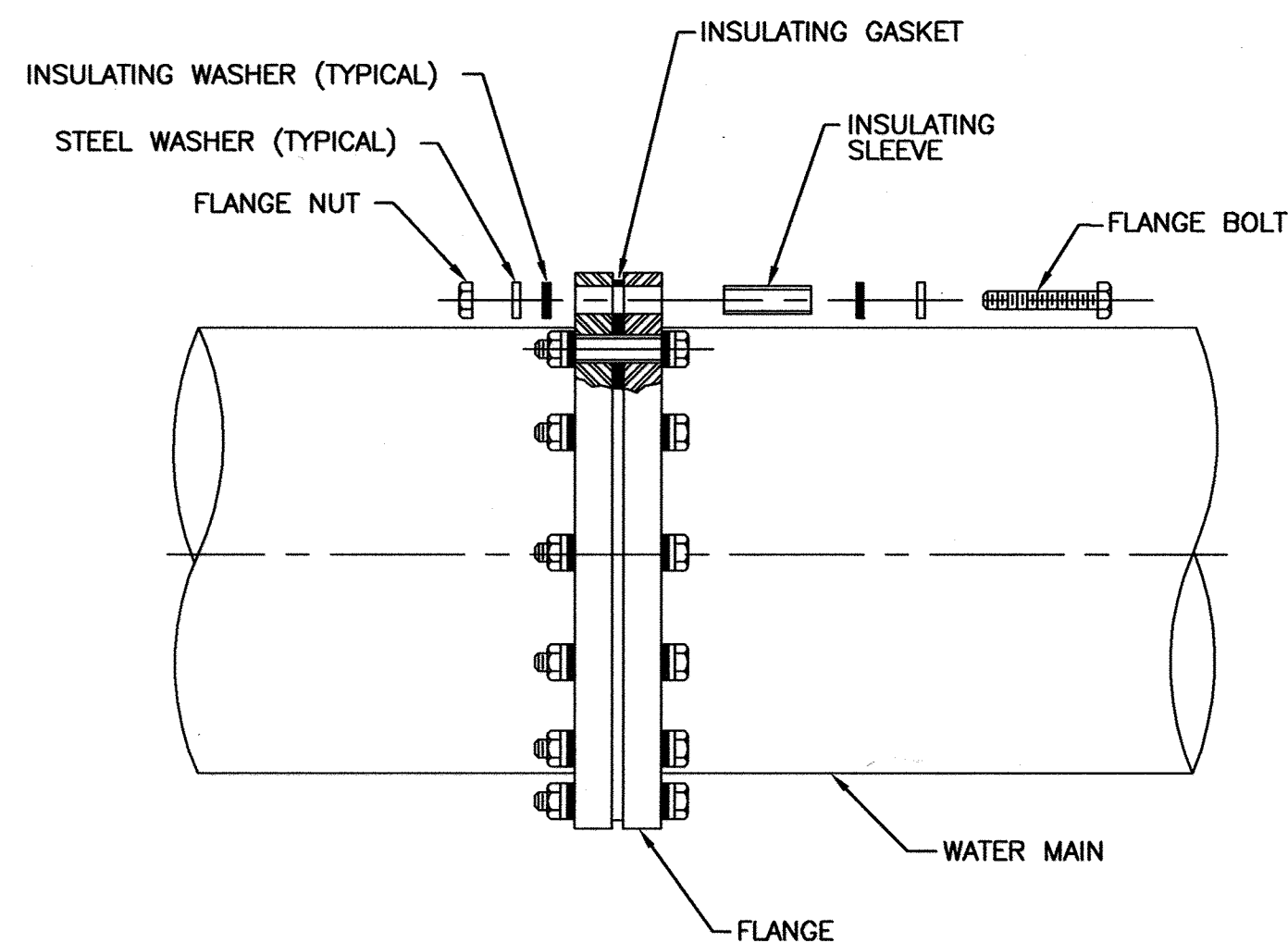
ELECTION DIST. NO.: 13



SHEET DESIGNATION	CONTRACT NUMBER
CP-5	44-4618
JOB ORDER NUMBER	
203-0067-0281	
SHEET 35 OF 36	
DRAWING NUMBER	
2009-3384	
FILE NO.:	



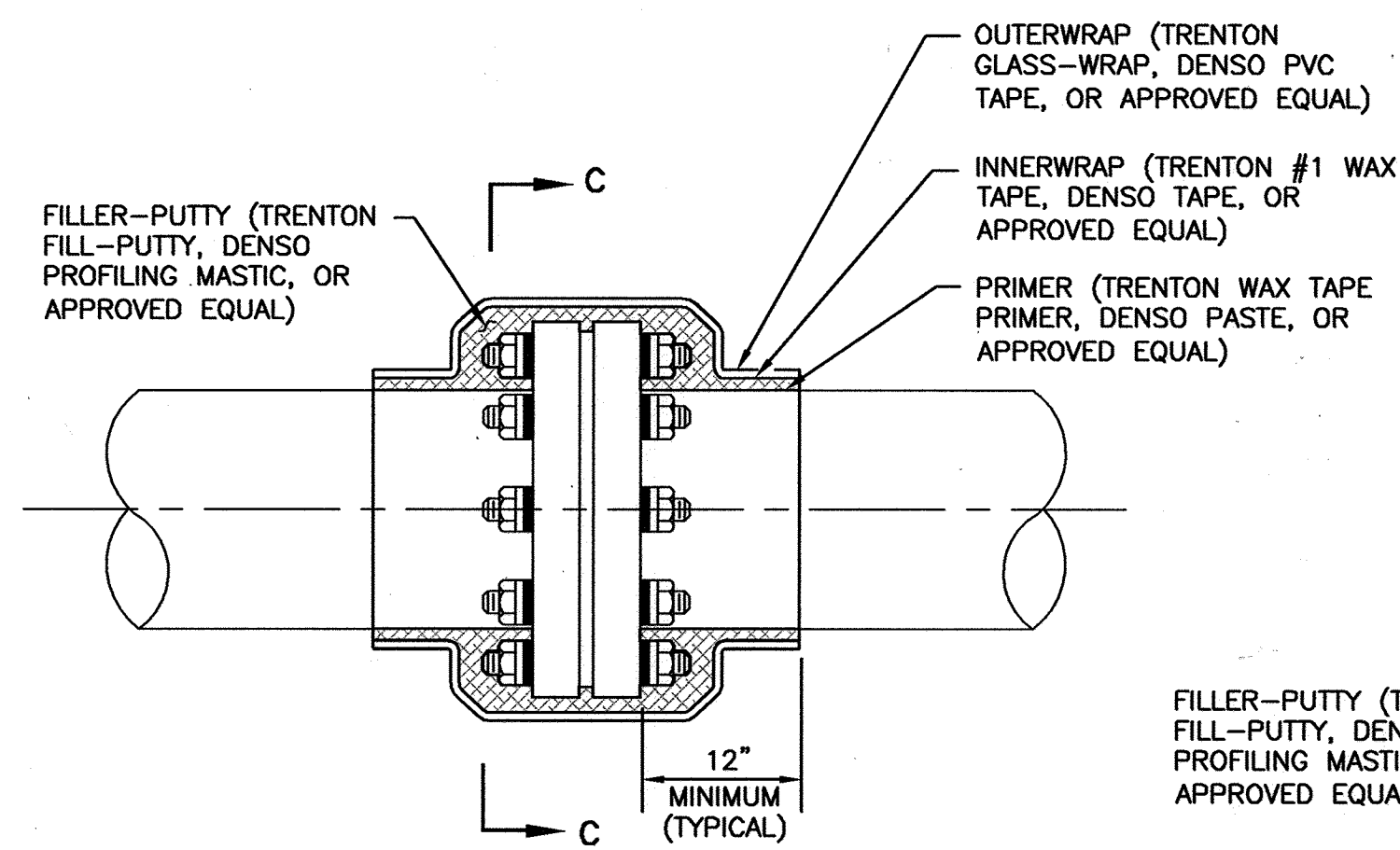
DWG. FILENAME:



NOTES:

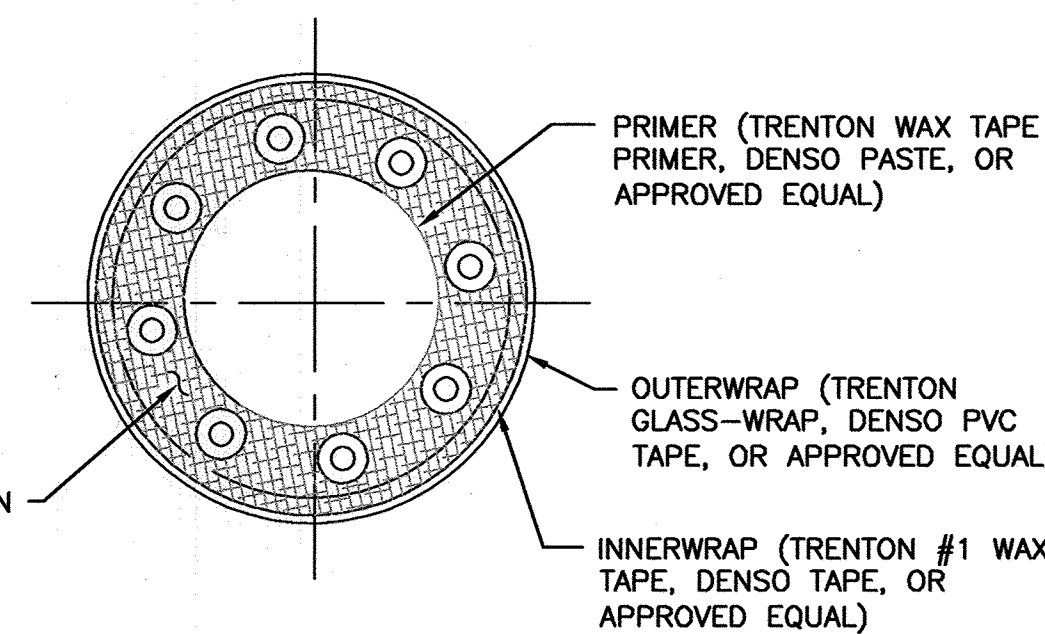
1. AFTER ASSEMBLY, TEST TO VERIFY THAT ISOLATION IS EFFECTIVE. IF ISOLATION IS NOT EFFECTIVE, REPAIR AS NECESSARY AND RETEST. THIS PROCESS SHALL CONTINUE UNTIL ISOLATION IS VERIFIED AS EFFECTIVE.
2. AFTER VERIFYING EFFECTIVE ISOLATION, COAT THE ENTIRE FLANGE AND ALL EXPOSED METAL INCLUDING BOLTS, NUTS, AND WASHERS WITH FOUR COMPONENTS OF DENSO OR TRENTON WAX TAPE COATING SYSTEM. COATING SYSTEM SHALL EXTEND A MINIMUM OF 12 INCHES ON EITHER SIDE OF FLANGE.
3. ALL INSULATING FLANGES TO BE PROVIDED WITH TEST STATION, SEE DETAIL CC-1.

CC-15: INSULATING FLANGE

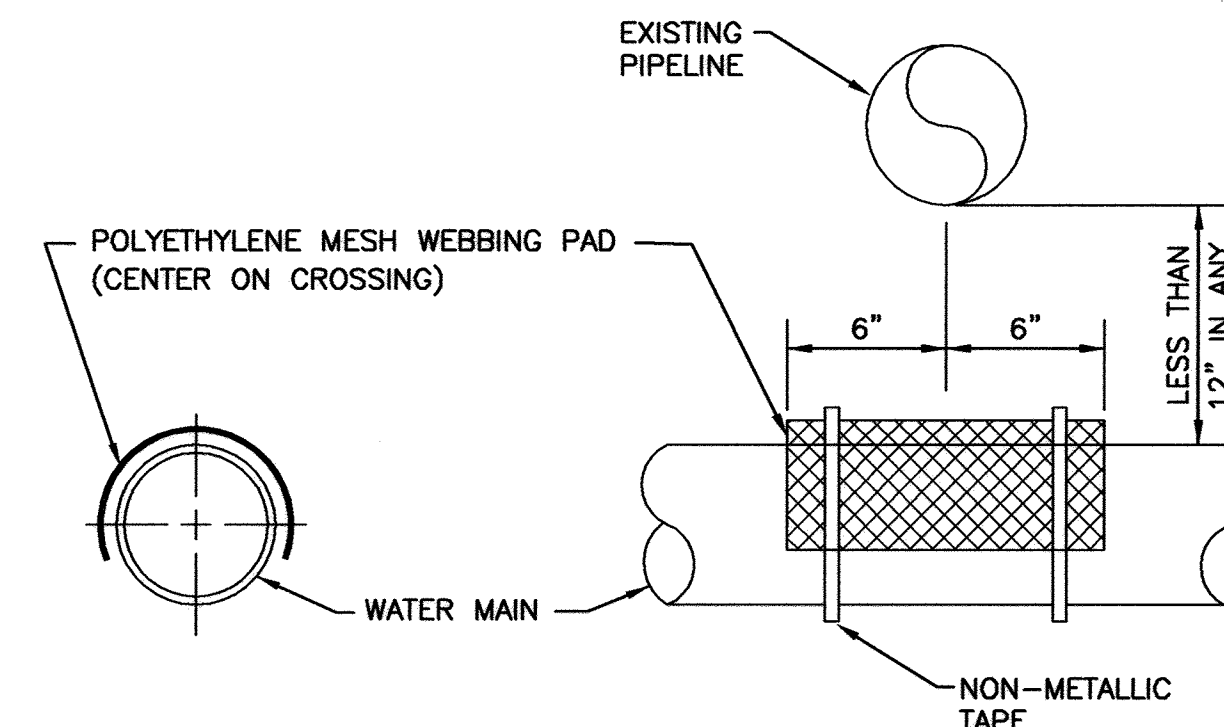


SIDE VIEW

CC-16: COATING OF INSULATING FLANGE



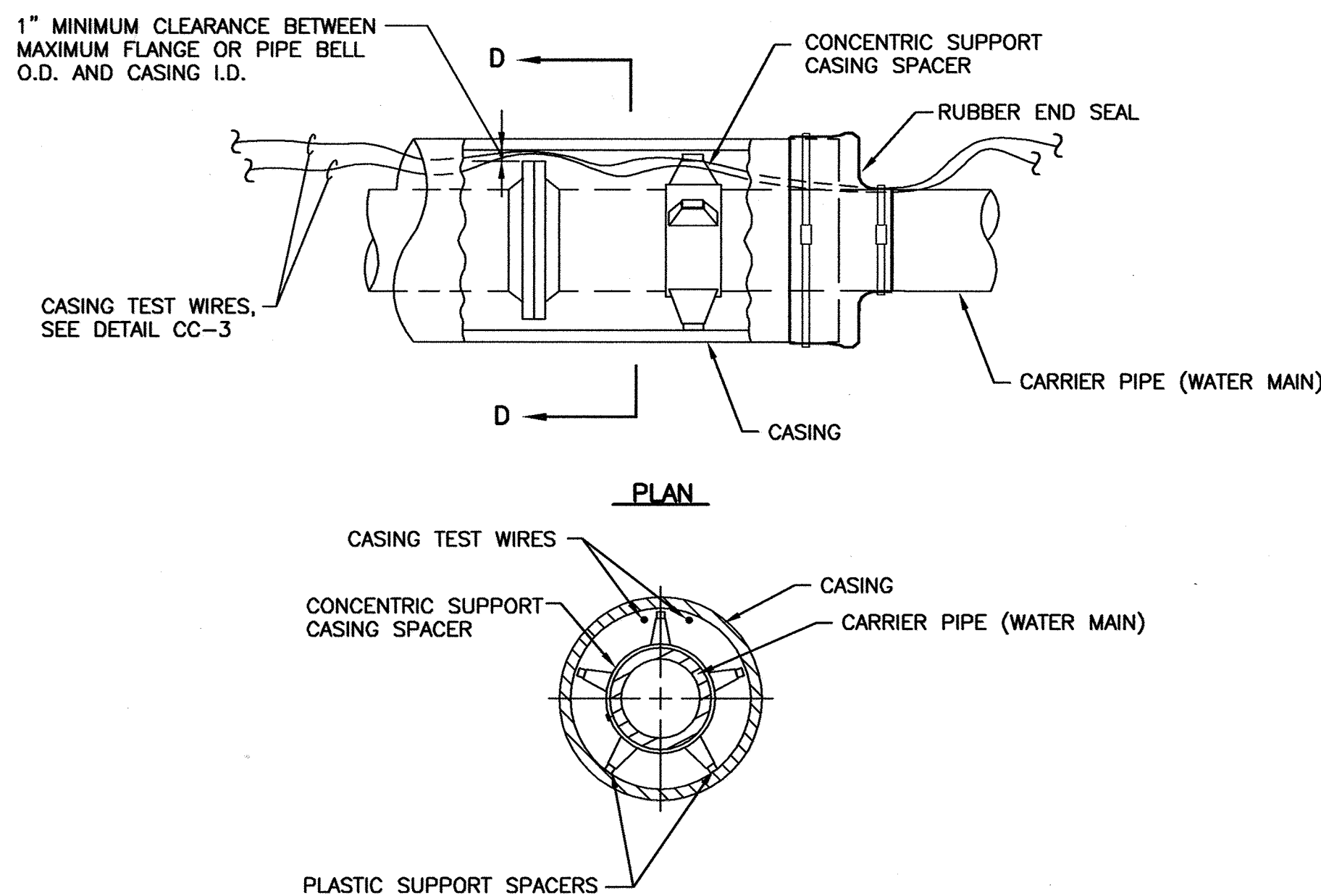
SECTION "A-A"



NOTE:

USE ONLY WHEN PIPES ARE LESS THAN 12" APART IN ANY DIRECTION.

CC-17: SEPARATOR TO AVOID ELECTRICAL CONTACT



SECTION "D-D"

NOTES:

1. EACH LENGTH OF PIPE WITHIN THE CASING SHALL BE SUPPORTED AND ELECTRICALLY ISOLATED FROM THE CASING BY THE USE OF INSULATING CASING SPACERS. THE NUMBER OF CASING SPACERS AND THE SPACING BETWEEN THEM SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE CASING SPACERS, HOWEVER A MINIMUM OF THREE CASING SPACERS SHALL BE REQUIRED FOR EACH PIPE LENGTH. THE INSULATING SPACERS SHALL BE SIZED TO BE CAPABLE OF SUPPORTING THE WEIGHT OF THE CARRIER PIPE FILLED WITH WATER.
2. PRIOR TO BACKFILL, TEST TO VERIFY THAT ISOLATION BETWEEN PIPING AND CASING IS EFFECTIVE. IF ISOLATION IS NOT EFFECTIVE, REPAIR AS NECESSARY AND RETEST. THIS PROCESS SHALL CONTINUE UNTIL ISOLATION IS VERIFIED AS EFFECTIVE.
3. INSTALL RUBBER END SEALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

DETAIL CC-18: CASING ISOLATION

36-INCH SOUTHWEST WATER TRANSMISSION MAIN

STATION NUMBER	TEST STATION TYPE	DETAIL NUMBER	NUMBER OF ZINC ANODES	Cu/CuSO4 REFERENCE ELECTRODE
0+34±	ANODE	CC-2	8	YES
0+49±	INSULATING FLANGE	CC-1	0	YES
0+51±	AC GROUND MAT	CC-4	0	YES
0+53±	ANODE	CC-2	11	YES
2+41	AC GROUND MAT	CC-4	0	YES
2+43	CASING	CC-3	0	YES
3+13	CASING	CC-3	0	YES
3+15	AC GROUND MAT	CC-4	0	YES
5+00	ANODE	CC-2	11	YES
5+02	AC GROUND MAT	CC-4	0	YES
10+00	ANODE	CC-2	11	YES
15+00	ANODE	CC-2	11	YES
20+00	ANODE	CC-2	11	YES
25+00	ANODE	CC-2	11	YES
30+00	ANODE	CC-2	11	YES
31+93.38	8" INSULATING FLANGE AT 36" MAIN	CC-1	0	YES
31+94 (38' L)	8" INSULATING FLANGE AT 12" EX. MAIN	CC-1	0	YES
32+01	ANODE	CC-2	11	YES
32+03	CASING	CC-3	0	YES
36+58	CASING	CC-3	0	YES

STATION NUMBER	TEST STATION TYPE	DETAIL NUMBER	NUMBER OF ZINC ANODES	Cu/CuSO4 REFERENCE ELECTRODE
101+50	ANODE	CC-2	11	YES
106+68	ANODE	CC-2	11	YES
106+70	CASING	CC-3	0	YES
108+65	CASING	CC-3	0	YES
111+60	ANODE	CC-2	11	YES
115+60.50	CASING	CC-3	0	YES
116+52.50	CASING	CC-3	0	YES
116+54	ANODE	CC-2	11	YES
121+50	ANODE	CC-2	11	YES
124+46	INSULATING FLANGE	CC-1	0	YES
124+61	CASING	CC-3	0	YES
124+95± (100' R)	FIRE HYDRANT	CC-5	2	YES
127+06	CASING	CC-3	0	YES
127+08	ANODE	CC-2	11	YES
130+91	8" INSULATING FLANGE AT 36" MAIN	CC-1	0	YES
131+27± (70' L)	8" INSULATING FLANGE AT 8" MAIN	CC-1	0	YES
132+00	ANODE	CC-2	11	YES
137+40	ANODE	CC-2	11	YES
137+41.90	CASING	CC-3	0	YES
139+10.90	CASING	CC-3	0	YES
141+55	ANODE	CC-2	11	YES
141+57±	INSULATING FLANGE	CC-1	0	YES

CC-19: TEST STATION SCHEDULE

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIOUS CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

CITY OF BALTIMORE	REVISION - CITY OF BALTIMORE	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, UTILITY ENGINEERING	DATE	DATE
CHIEF, WATER ENGINEERING SECTION	DATE	DIRECTOR, DEPT. OF PUBLIC WORKS
DATE	DATE	DATE
PROFESSIONAL CERTIFICATION	REVISION	BY DATE P.W.A. NO. KEY SHEET POSITION SHI
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.		DRAWING SCALE DEPARTMENT OF PUBLIC WORKS
LICENSE NO. 17063 EXPIRATION DATE 9/27/2012		PLAN SCALE: AS NOTED APPROVED BY: [Signature] DIRECTOR
ENGINEER: MICHAEL J. SZELIGA RUSSELL CORROSION CONSULTANTS, INC.	DESIGN BY: MIS	PROFILE SCALE: AS NOTED DATE: 1-24-12
AS-BUILT PER RECORD PRINT	DRAWN BY: DDD	DEPARTMENT OF PUBLIC WORKS
BY: DATE:	REVIEWED BY: RJE	BUR. OF ENGINEERING & CONSTRUCTION
DATE: 1/19/2012	DATE REVIEWED: 1/23/12	DATE: [Signature] DATE: [Signature]

AS-BUILT JUNE 2016

SOUTHWEST TRANSMISSION MAIN CATHODIC PROTECTION DETAILS - 4

SUBDIVISION: ST. DENIS

ELECTION DIST. NO.: 13



SHEET DESIGNATION	CONTRACT NUMBER
CP-6	44-4618
JOB ORDER NUMBER	203-0067-0281
SHEET 36 OF 36	DRAWING NUMBER
2009-3385	FILE NO.:



DWG. FILENAME: