

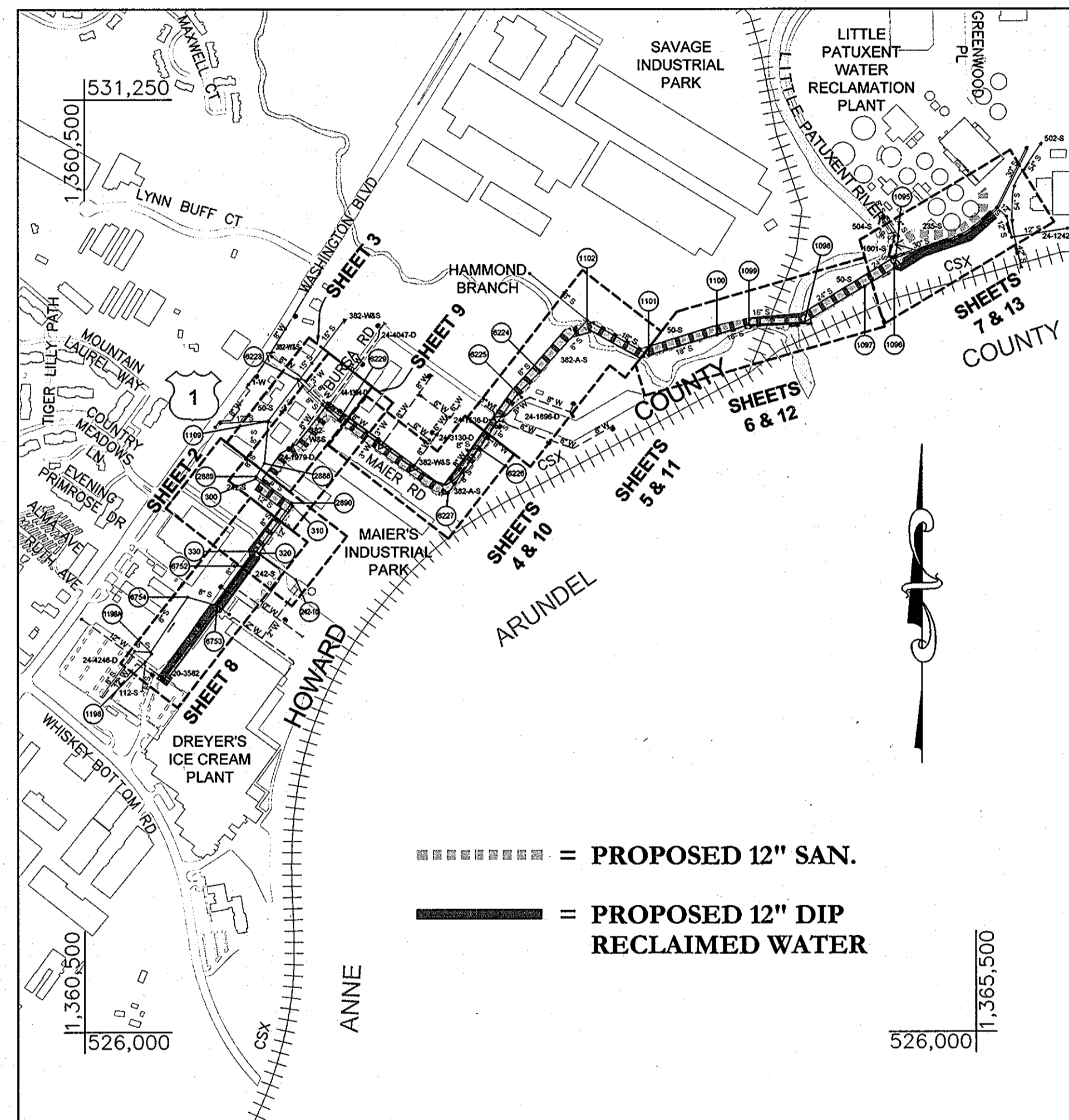
RECLAIMED WATER PROJECT - PHASE IIA

RECLAIMED WATER AND SEWER PIPELINES

CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

LEGEND

	EXIST. SEWER
	EXIST. WATER
	EXIST. STORM DRAIN
	EXIST. GAS
	EXIST. CONDUITS (ELECTRIC & TELEPHONE)
	RIGHT OF WAY
	100' YEAR FLOOD PLAIN
	PROPOSED 12" SANITARY SEWER
	PROPOSED 12" DIP RECLAIMED WATER
	GUARDRAIL
	FENCE (CHAINLINK)
	PROPERTY LINE
	SILT FENCE
	SUPER SILT FENCE
	LIMITS OF DISTURBANCE
	STREAM / WATERWAY EDGE
	HYDRAULIC GRADE LINE
	ABANDONED SEWER
	UTILITY MARKER
	SHRUB
	POST
	SIGN UTILITY
	TELEPHONE MANHOLE
	LAMP POST MANHOLE
	ELECTRIC MANHOLE
	CLEAN OUT
	VALVE
	STAND PIPE
	BOLLARD
	FIRE HYDRANT
	TELEPHONE POLE
	REMOVAL PUMP STATION
	CURB INLET PROTECTION
	PORTABLE SEDIMENT TANK
	STANDARD INLET PROTECTION
	STANDARD CONSTRUCTION ENTRANCE
	JACKING / RECEIVING PIT
	BORING LOCATION
	WATER TIGHT MANHOLE



===== = PROPOSED 12" SAN.
————— = PROPOSED 12" DIP RECLAIMED WATER

VICINITY MAP
SCALE: 1" = 600'

TYPE OF BUILDINGS: 0
NUMBER OF PARCELS: 0
NO. OF WATER CONNECTIONS: 0
DRAINAGE AREA: LITTLE PATUXENT

NO.	INDEX OF SHEETS
1	LOCATION MAP
2-7	PLAN & PROFILE - SANITARY SEWER
8-13	PLAN & PROFILE - RECLAIMED WATER
14-16	EROSION & SEDIMENT CONTROL PLAN
17	EROSION & SEDIMENT CONTROL DETAILS
18-19	MISCELLANEOUS DETAILS

GENERAL NOTES

PART I

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83/91 AND ARE REFERENCED TO THE FOLLOWING HOWARD COUNTY CONTROL POINT: 4718 N 529701.5813 E 1361469.7789 EL. 179.933
- ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATION AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT & T	1-800-252-1133	COLONIAL PIPELINE CO.	410-795-1390
BGE (CONTRACTOR SERVICE)	410-950-4020	MISS UTILITY	1-800-257-7777
BGE (UNDERGROUND DAMAGE CONTROL)	410-291-4607	STATE HIGHWAY ADMINISTRATION	410-531-5533
BUREAU OF UTILITIES	410-313-4900	VERIZON	1-800-743-0033 / 410-224-9210

- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING (JACKING) OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING NEAR AND/OR AROUND OVERHEAD UTILITY WIRES AND SHOULD ADHERE TO THE MARYLAND HIGH VOLTAGE ACT.

PART II - RECLAIMED WATER

- ALL RECLAIMED WATER MAINS TO BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
- TOPS OF ALL RECLAIMED WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

PART III - SEWER

- ALL SEWER MAINS SHALL BE H.D.P.E. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER AND SEALED UNLESS OTHERWISE NOTED.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL BE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAME AND COVERS ARE USED, SET TOP OF FRAME TO FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- HOUSE(S) WITH SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.

PART IV - SEDIMENT CONTROL

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF CONSTRUCTION INSPECTION PRIOR TO THE START OF ANY CONSTRUCTION, AT (410) 313-1855.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3%.
 - 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS, SOIL TEMPORARY SEEDING AND MULCHING. TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ALL SEDIMENT AND EROSION CONTROLS ARE TO BE INSTALLED PER THE SEDIMENT AND EROSION CONTROL PLAN. HOWEVER AND IF DEEMED NECESSARY, THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR MAY MODIFY PROPOSED CONTROLS OR MANIPULATE THE INSTALLATION OF NEW ONES.
- IN DOING OPEN-CUT INSTALLATION OR ANY EXCAVATION, THE CONTRACTOR IS TO STORE SPOIL UP-SLOPE OF TRENCHES AND PITS OR PROVIDE MEASURES TO PREVENT SPOIL FROM MIGRATING OUTSIDE THE LIMIT OF DISTURBANCE.

QUANTITIES

NAME OF UTILITY CONTRACTOR: METRA INDUSTRIES, LITTLE FALLS, NJ
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:

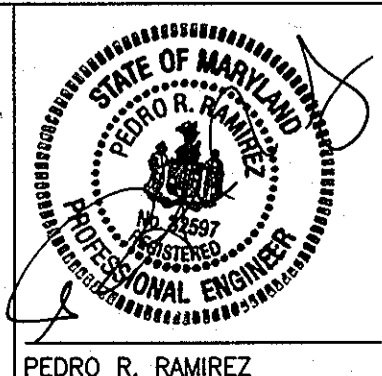
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
WATER				
12" Reclaimed Water	6585.30 ft.	5,960 ft.	HDPE, DIPS, SDR 9, PE 4710	ISCO INDUSTRIES
12" - 11.25 deg bend	3	3	HDPE, DIPS, SDR 9, PE 4710	ISCO INDUSTRIES
12" - 22.5 deg bend	8	8	HDPE, DIPS, SDR 9, PE 4710	ISCO INDUSTRIES
12" - 45 deg bend	10	10	HDPE, DIPS, SDR 9, PE 4710	ISCO INDUSTRIES
12" - 90 deg bend	5	5	HDPE, DIPS, SDR 9, PE 4710	ISCO INDUSTRIES
1" Air Release Valve	6	6	VAL-MATIC 207	FERGUSON WATERWORKS
Fire Hydrant	2	2	AMERICAN AVK SERIES 2700	ISCO INDUSTRIES
4 Dia. Manhole	1	1	ATLANTIC CONCRETE PRODUCTS	
Water Meter	1	0	DELETED	
12" RSG Valve	2	2	MUELLER A2360	FERGUSON WATERWORKS
3" Combination Air Valve	3	3	VAL-MATIC 203	FERGUSON WATERWORKS
3" Blow-Off Valve	2	2	ECLIPSE NO. 85	FERGUSON WATERWORKS
SEWER				
12" Sewer	5780.93 ft.	6,130 ft.	HDPE, DIPS, SDR 11, PE 3408	
2" Combination Air Valve	5	5	VAL-MATIC 802	FERGUSON WATERWORKS
12" RSG Valve	20	20	MUELLER A2360	FERGUSON WATERWORKS
4" Dia. Manhole	22	23	ATLANTIC CONCRETE PRODUCTS	

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT	DATE	U.S. SOIL CONSERVATION DISTRICT	DATE
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			
	6/10/10		6/10/10
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
	6/10/10		6/10/10
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

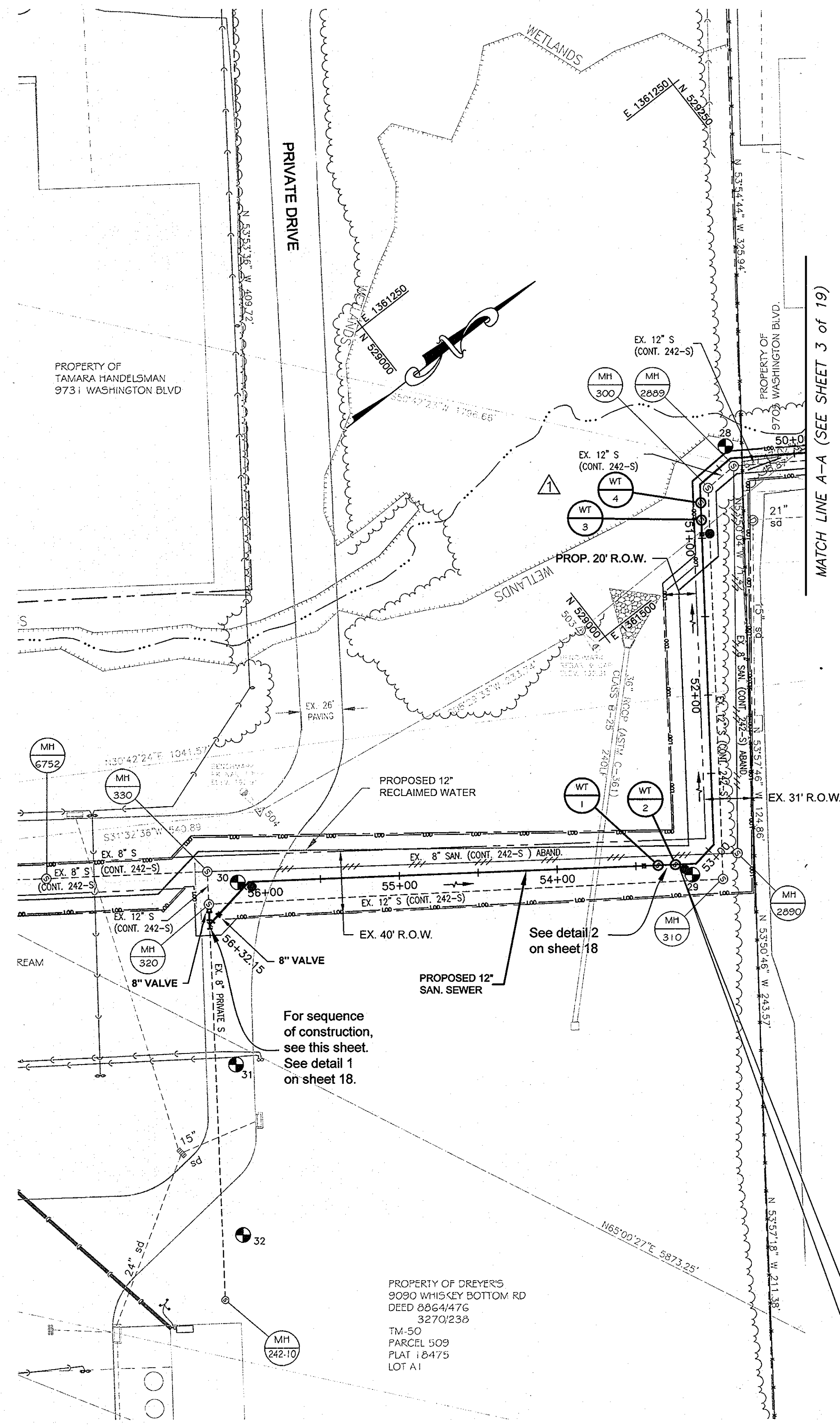
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(410) 468-0875



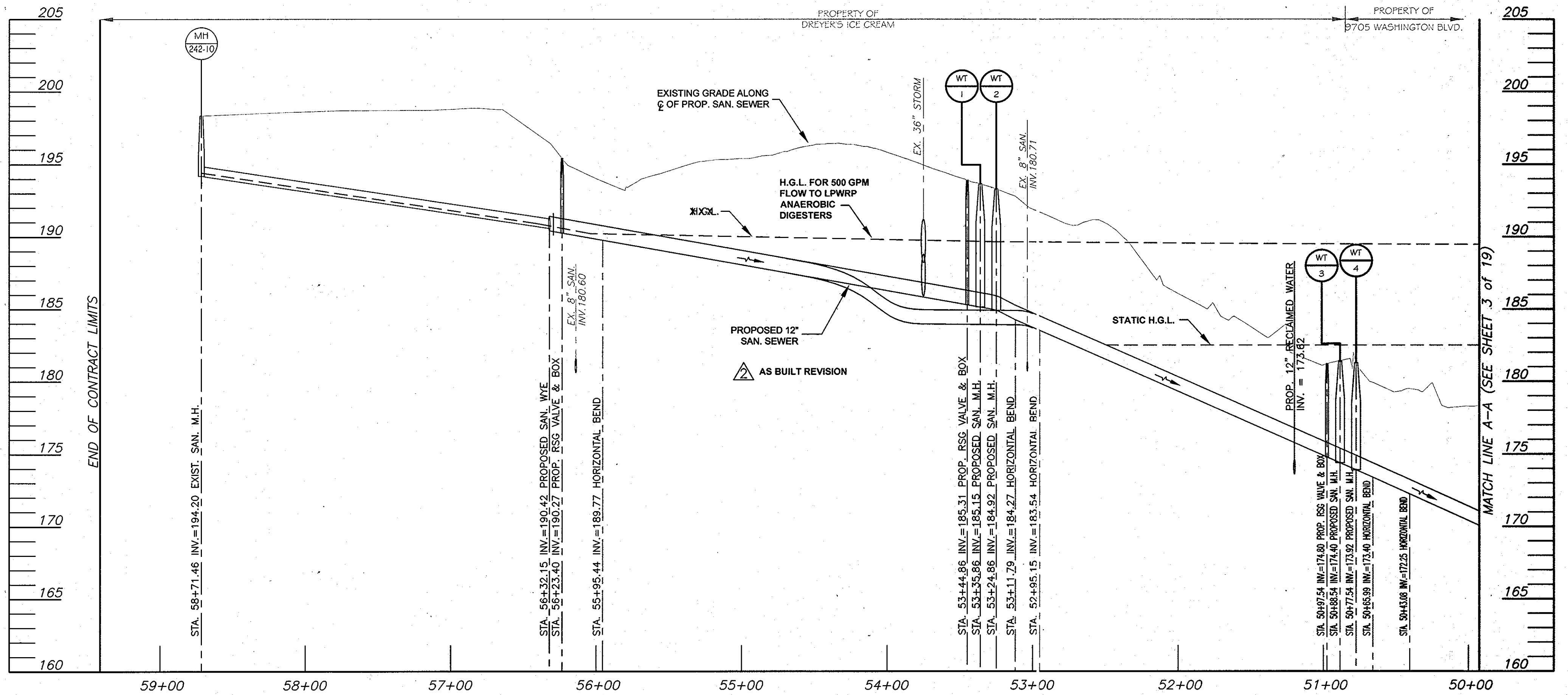
DESIGN: CSP					
DRAWN: BJW					
CHK: PRR					
DATE: 05/10/07					
NO.	REVISION	DATE	BY	600' SCALE MAP NO. 47.50	

RECLAIMED WATER PROJECT - PHASE IIA
RECLAIMED WATER AND SEWER PIPELINES
CAPITAL PROJECT NO. S-6245
CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 19



PLAN
SCALE: 1" = 50'



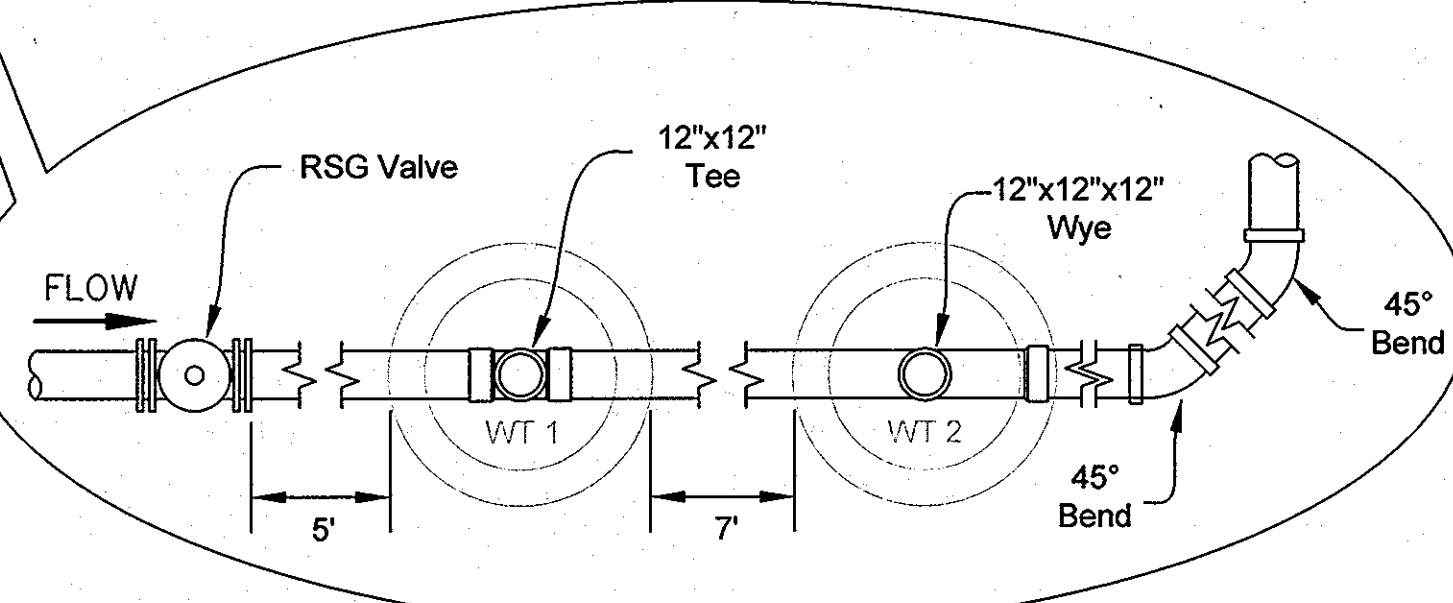
PROFILE
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

LEGEND
● = CONTINUITY TEST STATION - SEE DETAIL S - 4.18

HYDRAULIC TABLE	
DESIGN PEAK FLOW: 0.71 MGD	DESIGN PEAK VELOCITY: 1.5 FPS
DESIGN AVERAGE FLOW: 0.61 MGD	DESIGN AVERAGE VELOCITY: 1.3 FPS
DIAMETER: 12"	MANNINGS, N: 0.01

- SEQUENCE OF CONSTRUCTION:**
- 1) Use temporary bypass to divert sewage flow from MH 242-10 to MH 320.
 - 2) Sawcut existing 8" PVC pipe and construct as shown on detail 1, sheet 18.
 - 3) Test new sewer pipeline as per specifications.
 - 4) Resume sewage flow from MH 242-10.

- NOTES:**
- 1) All utility locations shown are approximate. Contractor to verify locations and depth of all utilities on site and ensure uninterrupted services.
 - 2) Contractor to coordinate access to Dreyer's facility with security office.
 - 3) All work on Dreyer's facility to be conducted in such a way as to ensure minimum disruption to facility's daily operations.
 - 4) All sanitary sewer manholes to be water tight manholes per Howard County Standard Details G5.12 and G5.52, unless otherwise noted.
 - 5) Removal of fence on Sunbelt property to be done by others.
 - 6) Contractor to install buttresses and thrust blocks per Howard County specifications, see Howard County standard details W2.21 and W2.22.

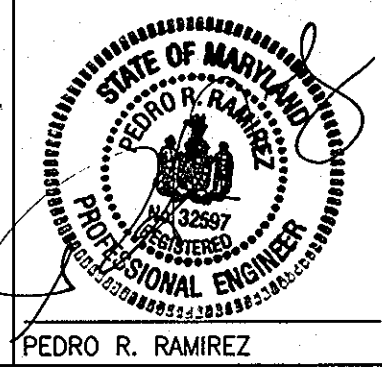


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REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT	DATE	U.S. SOIL CONSERVATION DISTRICT	DATE
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			
<i>J. Am...</i>	6/15/10	<i>Paul...</i>	6/10/10
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
<i>Sh...</i>	6/15/10	<i>Ch...</i>	6/10/10
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

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DESIGN: CSP			
DRAWN: BJW			
CHK: PRR	AS BUILT REVISION	01/15/08	CSP
DATE 05/10/07	SANITARY SEWER MODIFICATION (STA. 42+00.00 TO STA. 52+00.00)		
NO.	REVISION	DATE	BY

PLAN & PROFILE
SANITARY SEWER
600' SCALE MAP NO. 47.50
BLOCK NO. 23

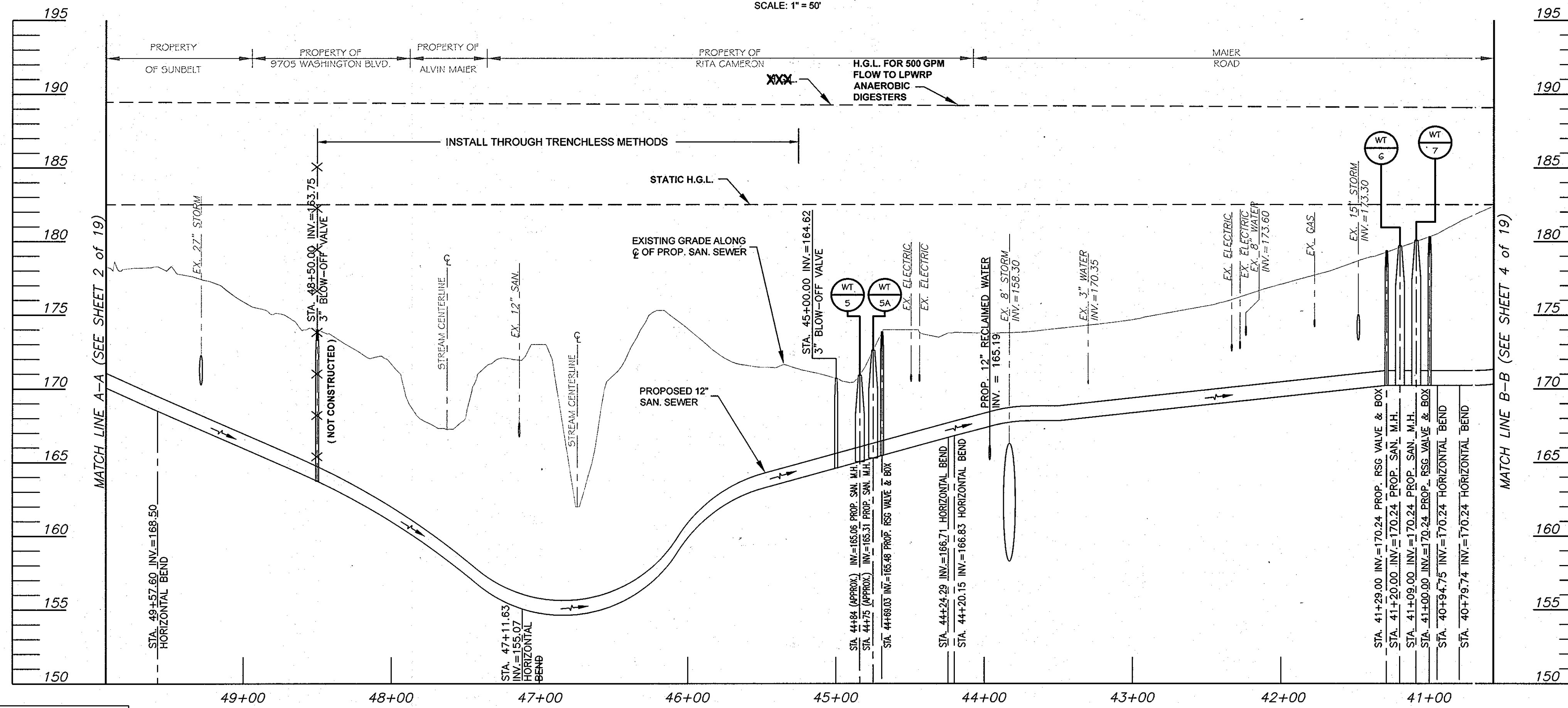
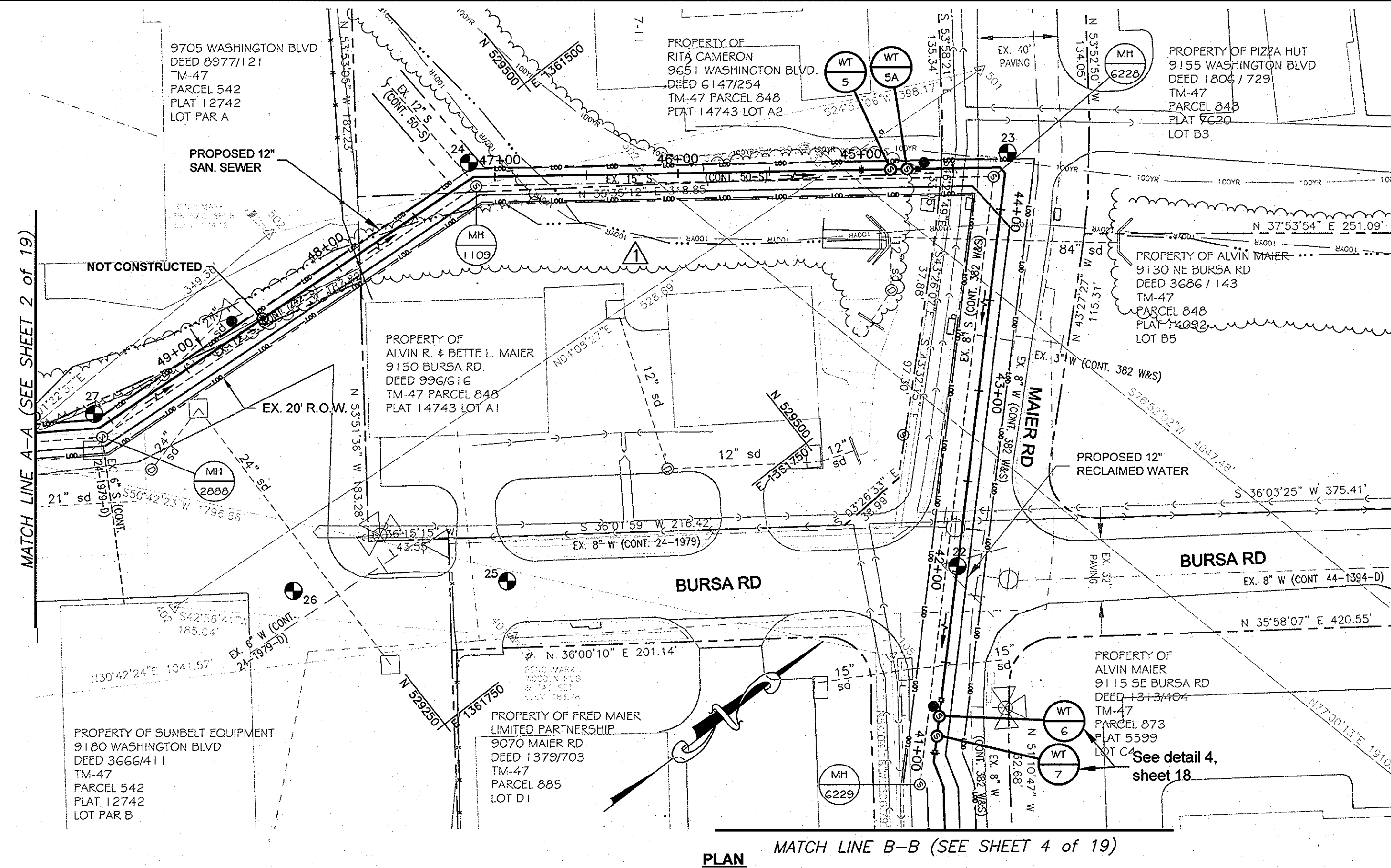
RECLAIMED WATER PROJECT - PHASE IIA
RECLAIMED WATER AND SEWER PIPELINES
CAPITAL PROJECT NO. S-6245
CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE
AS SHOWN
SHEET
2 OF 19

AS BUILT SEPT. 15, 2008

- NOTES:**
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 - 2) All sanitary sewer manholes to be water tight manholes per Howard County Standard Details G5.12 and G5.52, unless otherwise noted.
 - 3) Removal of fence on Sunbelt property to be done by others.
 - 4) Contractor to install buttresses and thrust blocks per Howard County specifications, see Howard County standard details W2.21 and W2.22.

LEGEND
 ● = CONTINUITY TEST STATION - SEE DETAIL S - 4.18



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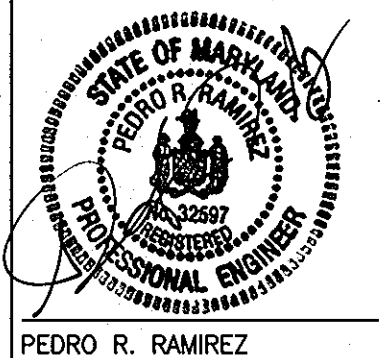
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT DATE U.S. SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works DATE 6/15/10
 Chief, Bureau of Engineering DATE 6/10/10
 Chief, Bureau of Utilities DATE 5/25/10
 Chief, Utility Design Division DATE 6/10/10

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DATE 05/10/07			
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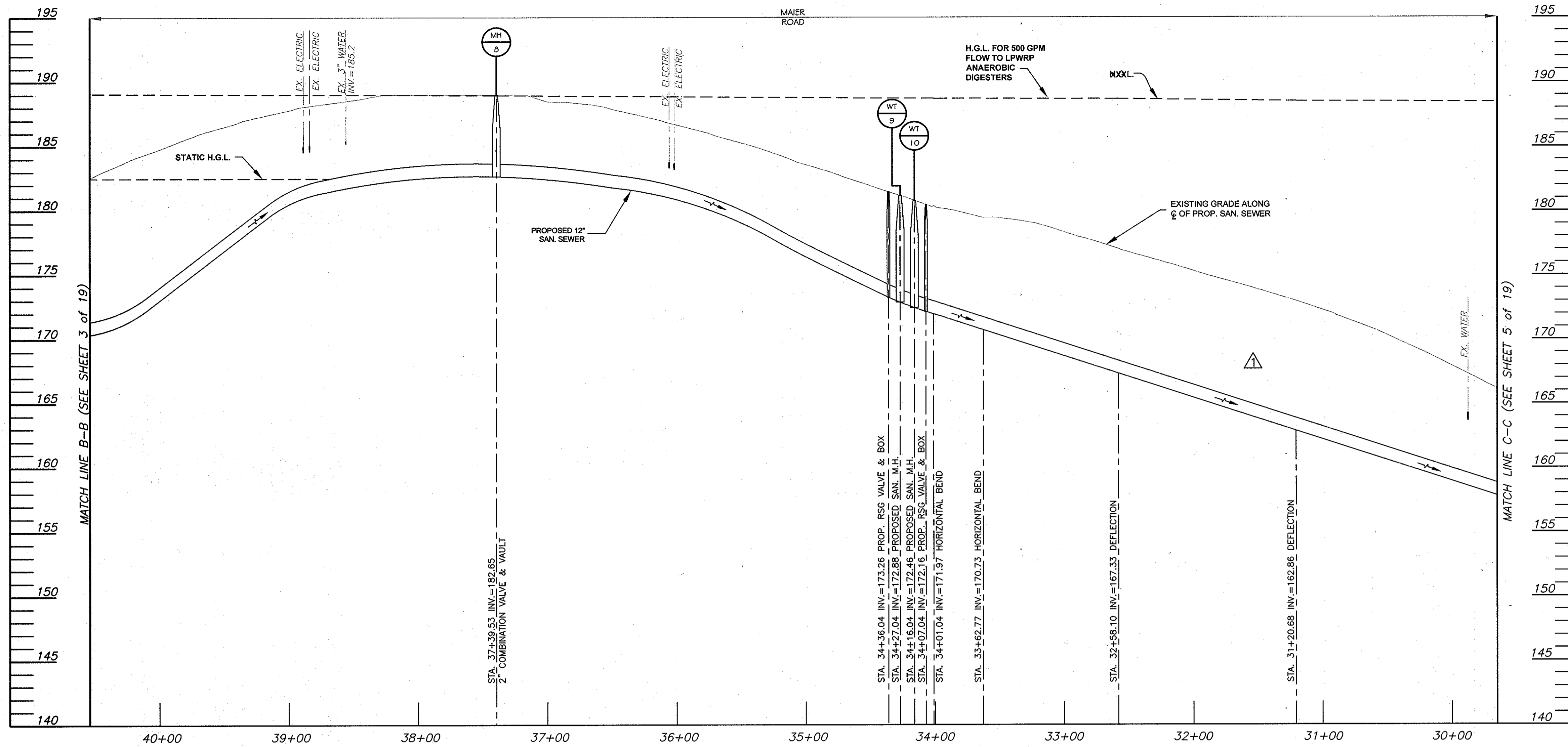
PLAN & PROFILE
 SANITARY SEWER

600' SCALE MAP NO. 47.50 BLOCK NO. 23

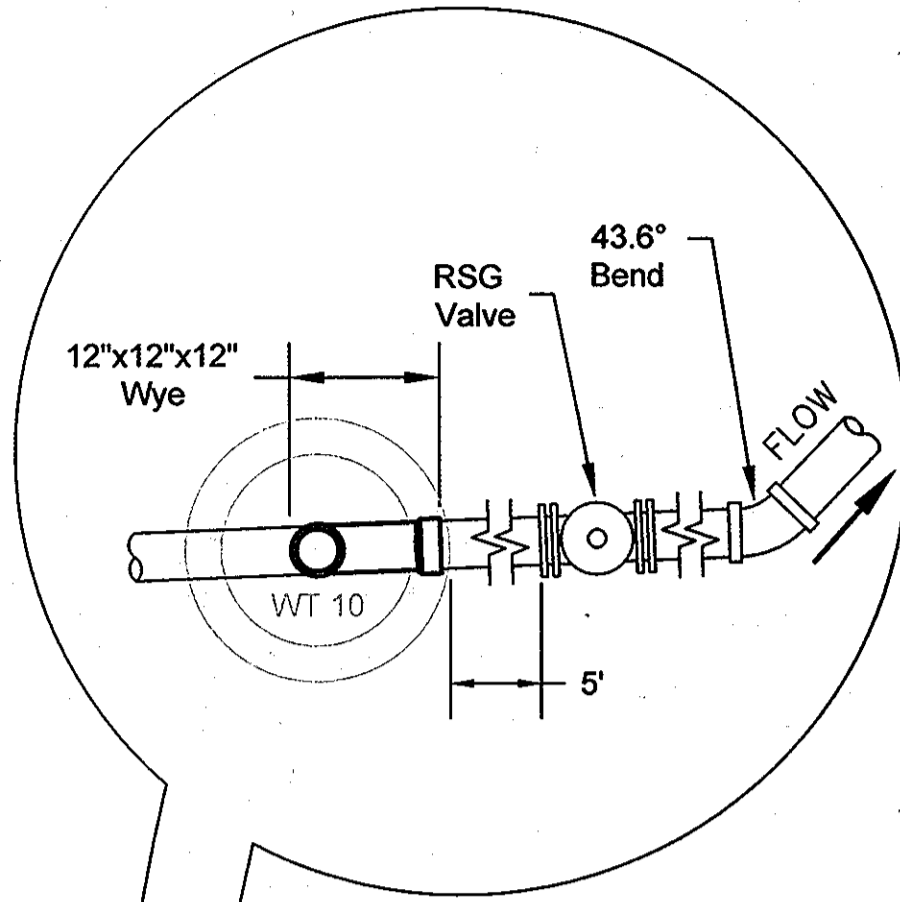
RECLAIMED WATER PROJECT - PHASE 1A
 RECLAIMED WATER AND SEWER PIPELINES
 CAPITAL PROJECT NO. S-6245
 CONTRACT NO. 60-4447
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 3 OF 19

AS BUILT SEPT. 15, 2008

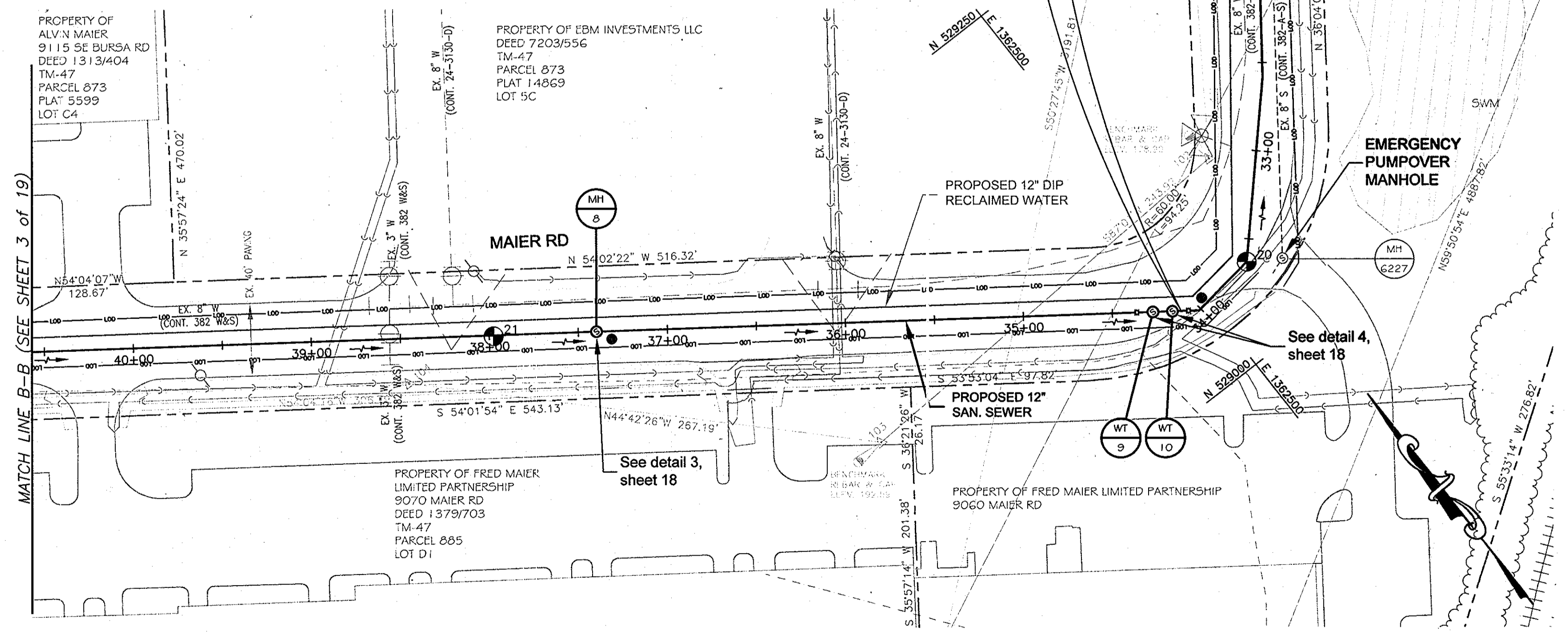


PROFILE
 HORIZONTAL SCALE: 1" = 50'
 VERTICAL SCALE: 1" = 5'



- NOTES:**
- 1) All utility locations shown are approximate. Contractor to verify locations and depth of all utilities on site and ensure uninterrupted services.
 - 2) All sanitary sewer manholes to be water tight manholes per Howard County Standard Details G5.12 and G5.52, unless otherwise noted.

LEGEND
 ● = CONTINUITY TEST STATION - SEE DETAIL S - 4.18



PLAN
 SCALE: 1" = 50'

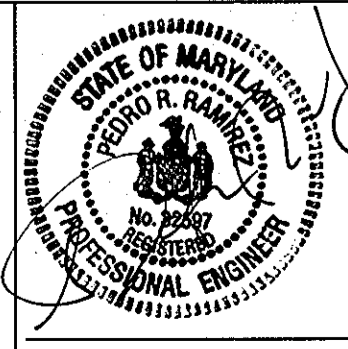
AS BUILT SEPT. 15, 2008

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REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT	DATE	U.S. SOIL CONSERVATION DISTRICT	DATE
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			
<i>[Signature]</i> DIRECTOR OF PUBLIC WORKS	6/10/10	<i>[Signature]</i> CHIEF, BUREAU OF ENGINEERING	6/10/10
<i>[Signature]</i> CHIEF, BUREAU OF UTILITIES	6/10/10	<i>[Signature]</i> CHIEF, UTILITY DESIGN DIVISION	6/10/10

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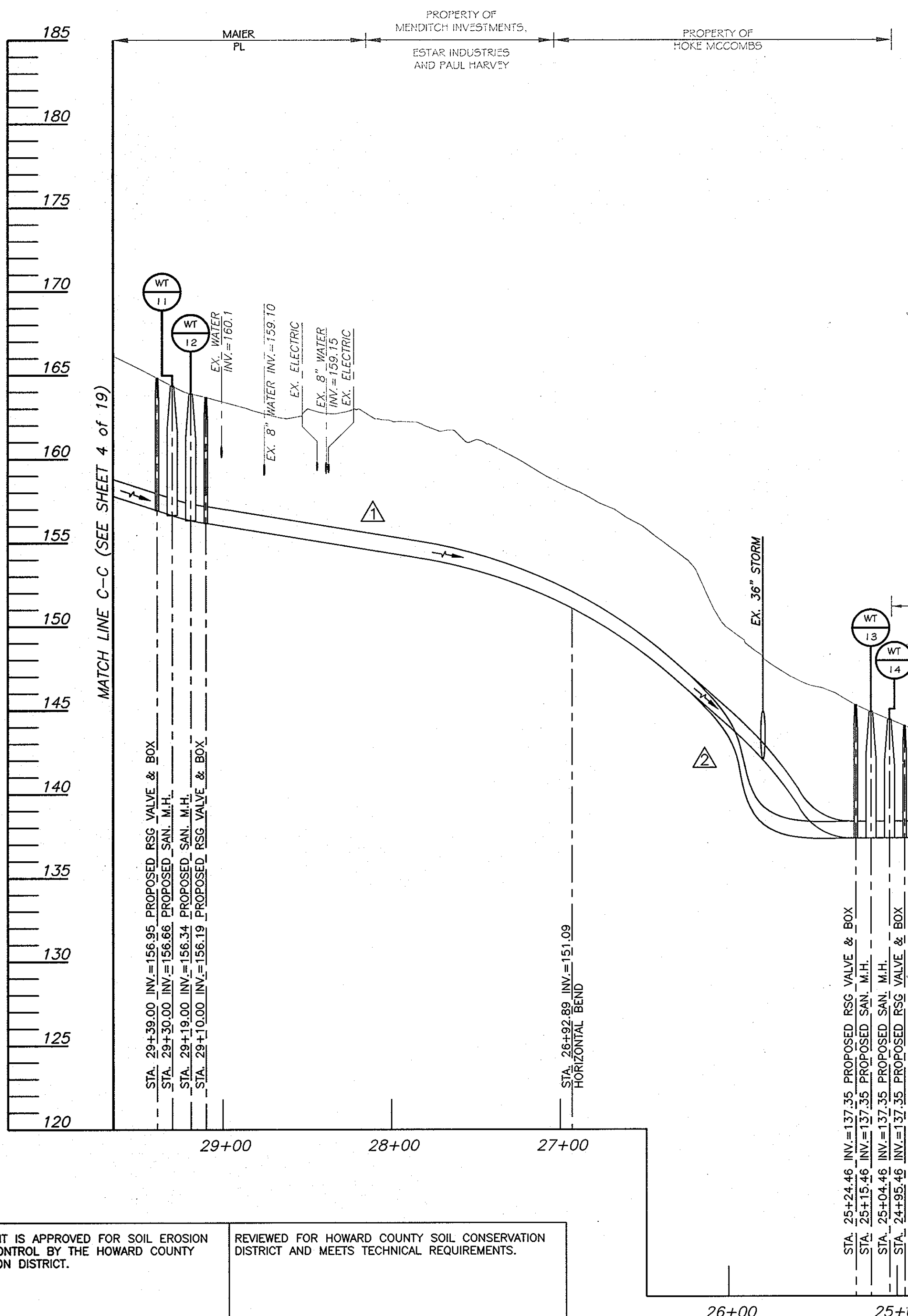
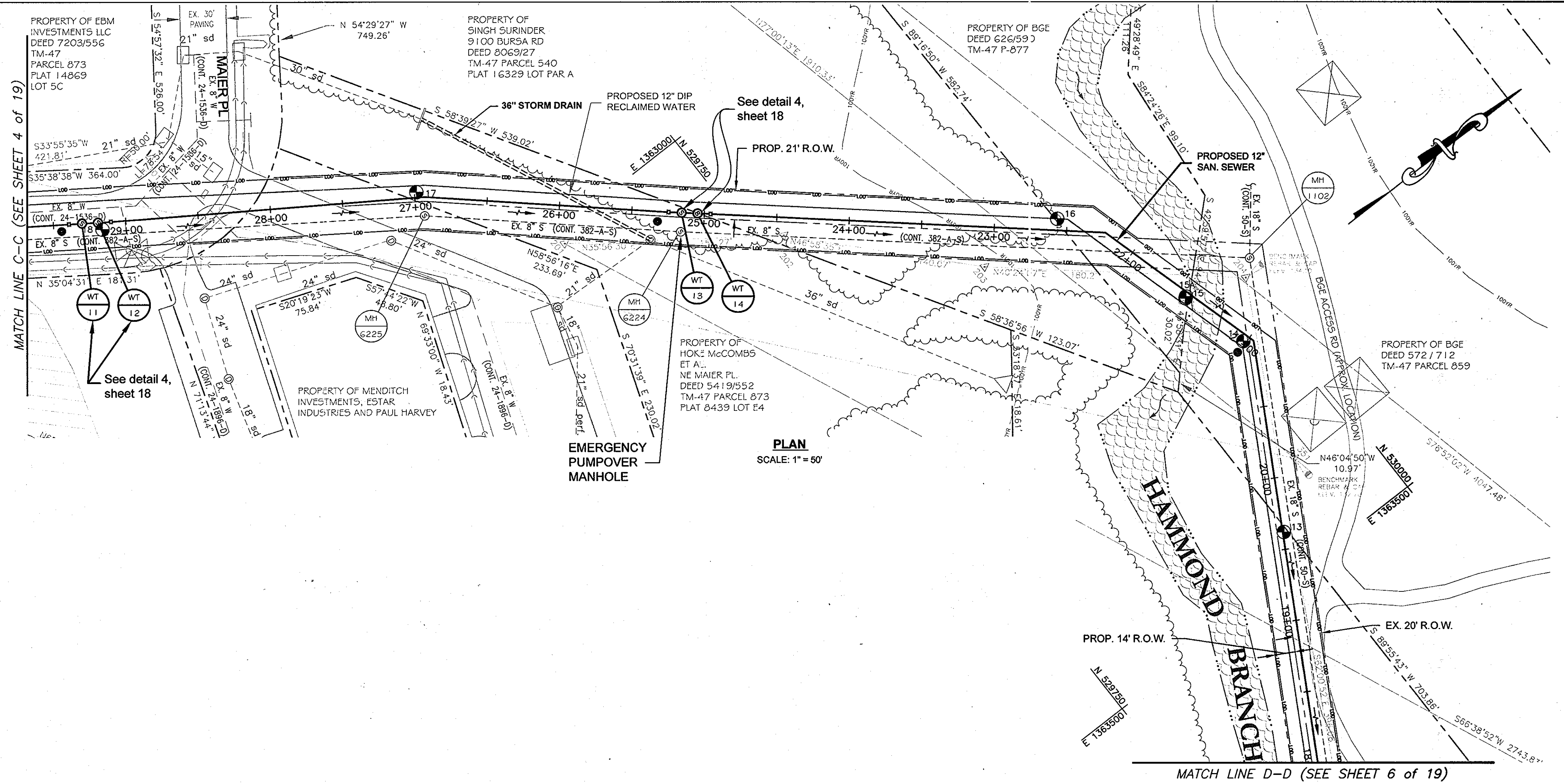
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CHK: PRR				
DATE: 05/10/07				
NO.	REVISION	DATE	BY	

PLAN & PROFILE
SANITARY SEWER
 600' SCALE MAP NO. 47.50
 BLOCK NO. 23

RECLAIMED WATER PROJECT - PHASE IIA
RECLAIMED WATER AND SEWER PIPELINES
 CAPITAL PROJECT NO. S-6245
 CONTRACT NO. 60-4447
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 4 OF 19

LEGEND
● = CONTINUITY TEST STATION - SEE DETAIL S - 4.18



NOTES:

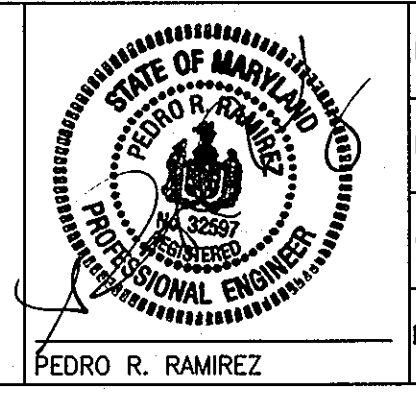
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REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT	DATE	U.S. SOIL CONSERVATION DISTRICT	DATE
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
<i>[Signature]</i>	5/25/10	<i>[Signature]</i>	6/10/10
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF, UTILITY DESIGN DIVISION	DATE

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DESIGN: CSP			
DRAWN: BJW			
CHK: PRR	AS BUILT REVISION	11/05/07	CSP
DATE 05/10/07	SANITARY SEWER ELEVATION MODIFICATION (STA. 26+92.89 TO STA. 29+50.00)		
NO.	REVISION	DATE	BY

PLAN & PROFILE
SANITARY SEWER

600' SCALE MAP NO. 47.50
BLOCK NO. 23

AS BUILT SEPT. 15, 2008

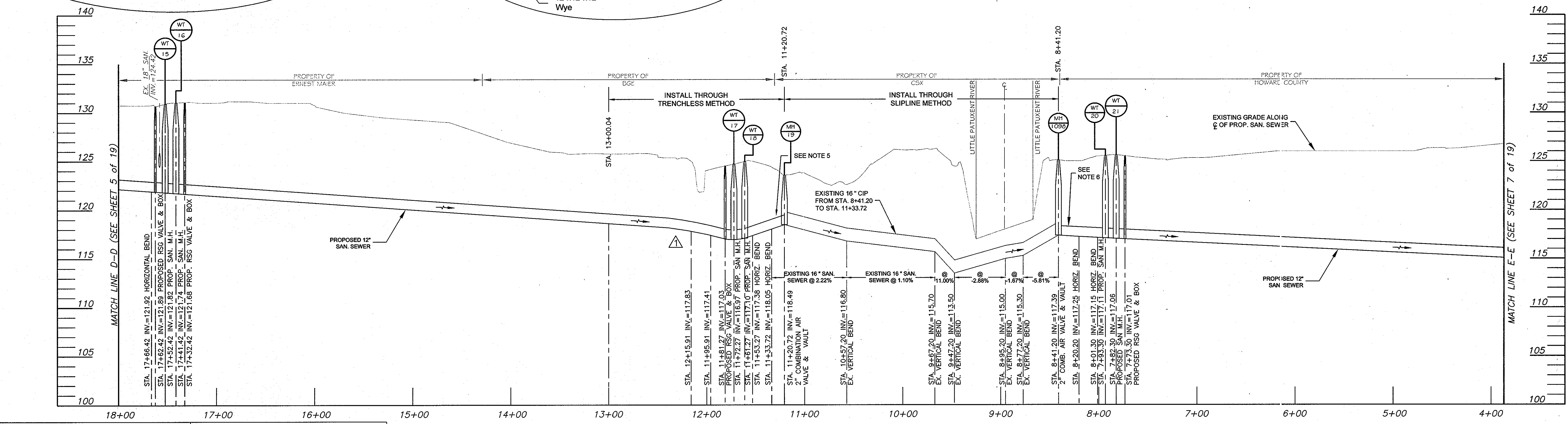
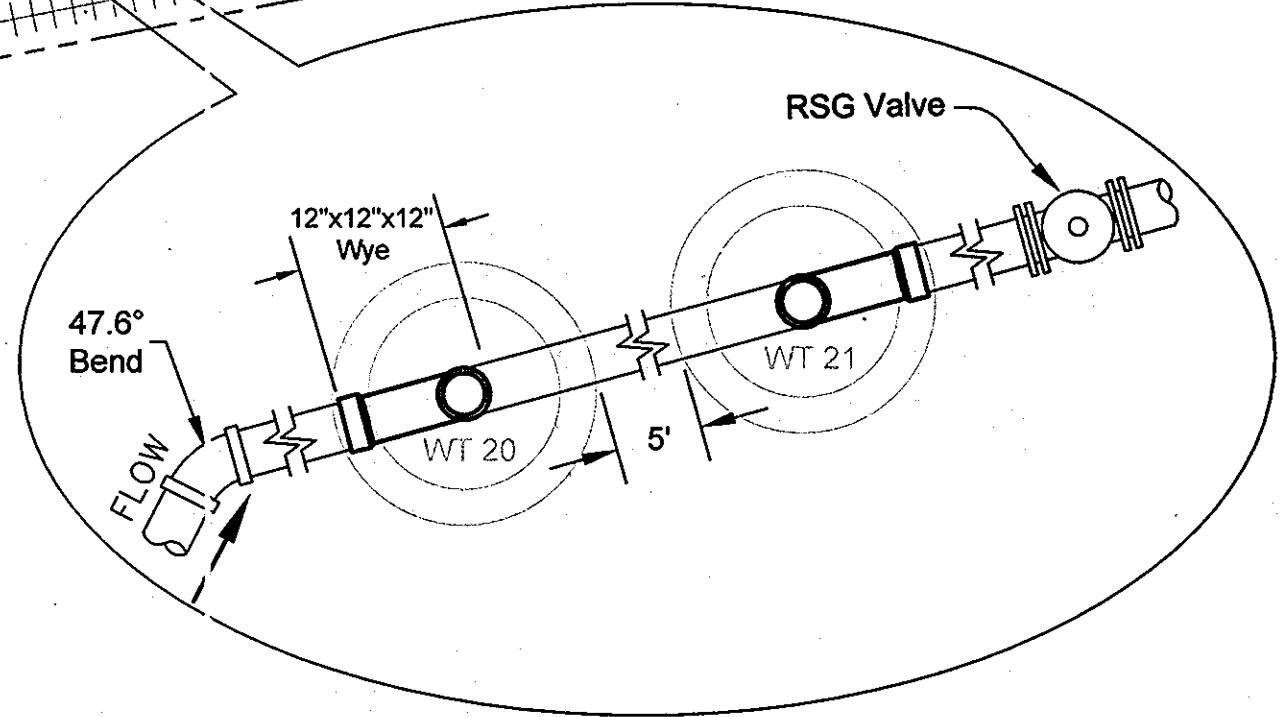
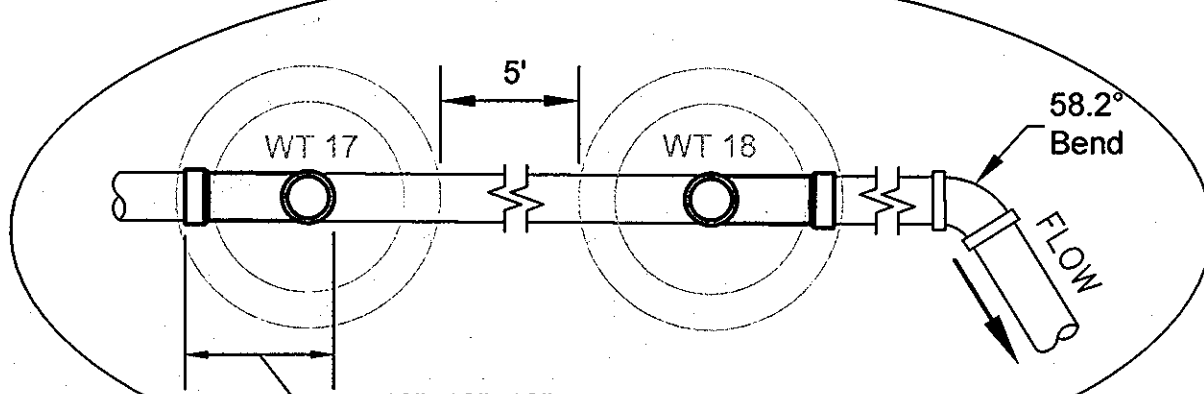
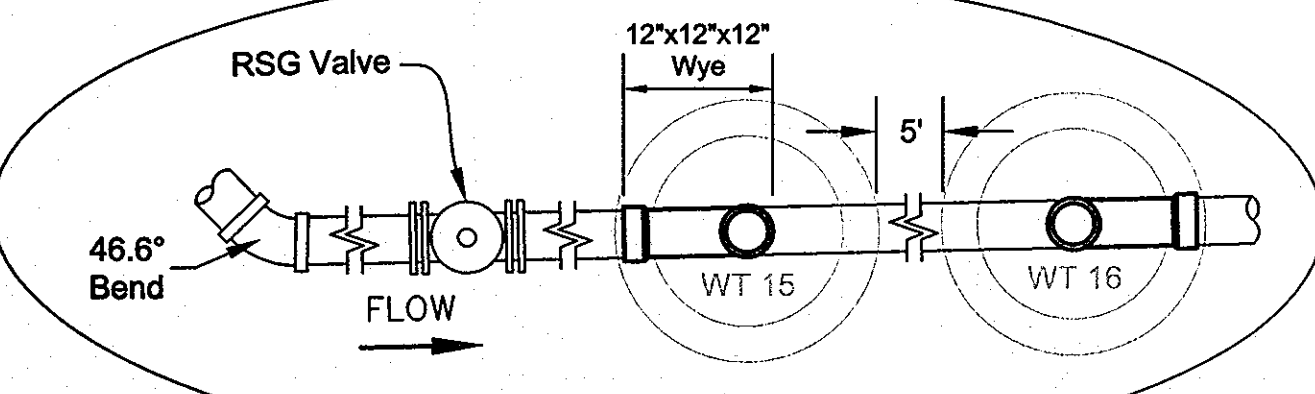
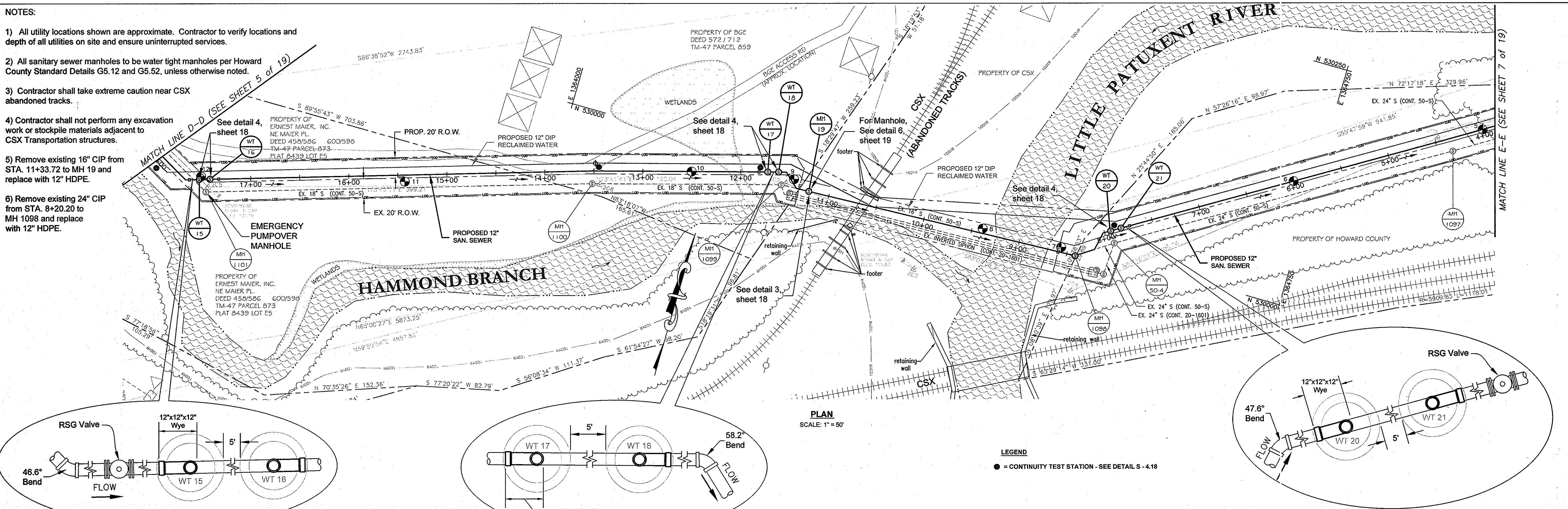
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RECLAIMED WATER AND SEWER PIPELINES
CAPITAL PROJECT NO. S-6245
CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 5 OF 18

NOTES:

- 1) All utility locations shown are approximate. Contractor to verify locations and depth of all utilities on site and ensure uninterrupted services.
- 2) All sanitary sewer manholes to be water tight manholes per Howard County Standard Details G5.12 and G5.52, unless otherwise noted.
- 3) Contractor shall take extreme caution near CSX abandoned tracks.
- 4) Contractor shall not perform any excavation work or stockpile materials adjacent to CSX Transportation structures.
- 5) Remove existing 16" CIP from STA. 11+33.72 to MH 19 and replace with 12" HDPE.
- 6) Remove existing 24" CIP from STA. 8+20.20 to MH 1098 and replace with 12" HDPE.

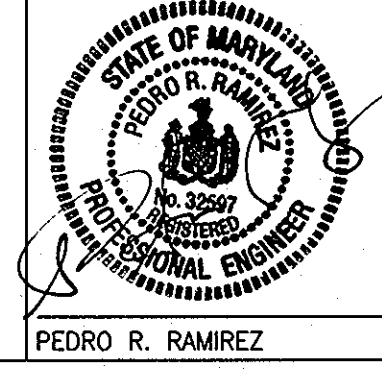


THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT	DATE	U.S. SOIL CONSERVATION DISTRICT	DATE
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			
<i>[Signature]</i> DIRECTOR OF PUBLIC WORKS	6/15/10	<i>[Signature]</i> CHIEF, BUREAU OF ENGINEERING	6/10/10
<i>[Signature]</i> CHIEF, BUREAU OF UTILITIES	5/15/10	<i>[Signature]</i> CHIEF, UTILITY DESIGN DIVISION	6/10/10

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(410) 468-0875



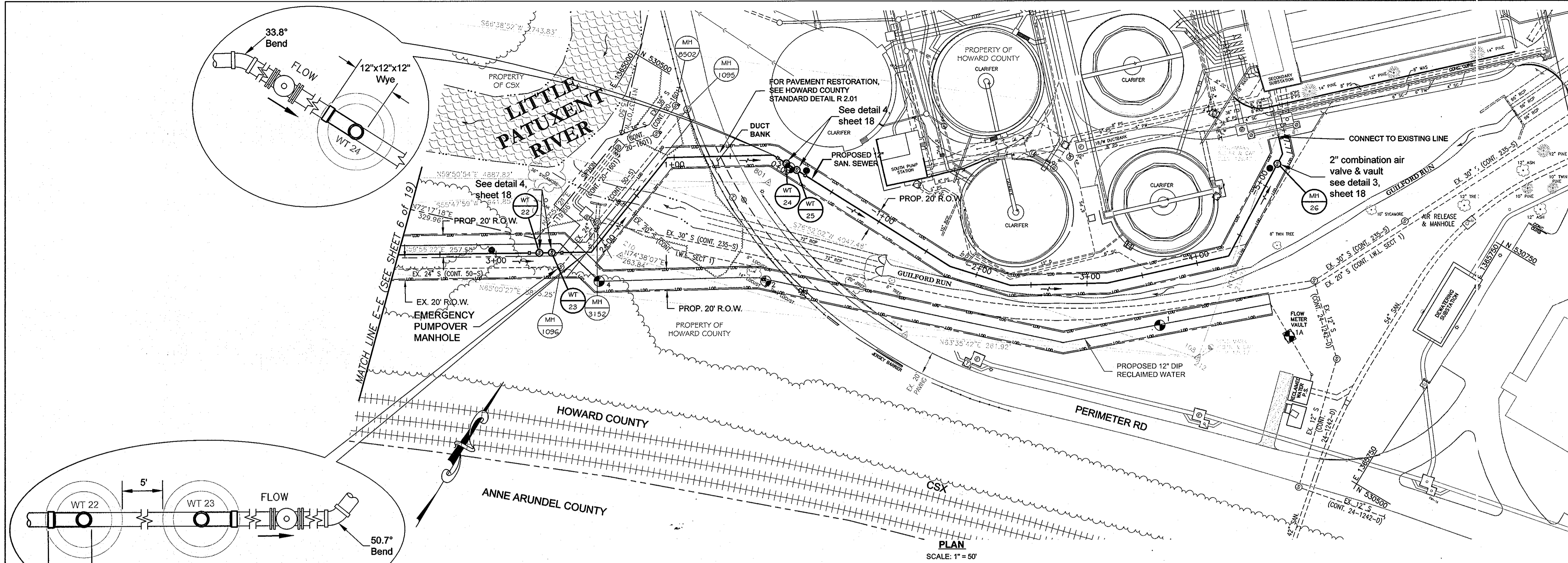
DESIGN: CSP			
DRAWN: BJW			
CHK: PRR	11/05/07	CSP	
DATE: 05/10/07			

PLAN & PROFILE
SANITARY SEWER

RECLAIMED WATER PROJECT - PHASE IIA
RECLAIMED WATER AND SEWER PIPELINES
CAPITAL PROJECT NO. S-6245
CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

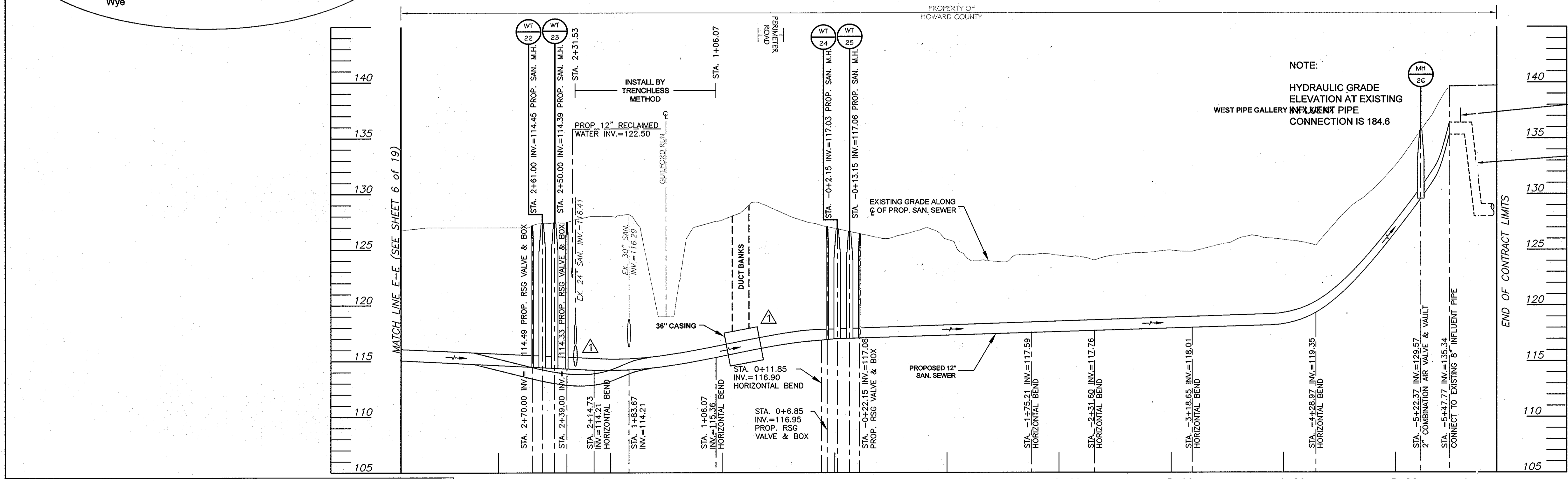
SCALE AS SHOWN
SHEET 6 OF 19

AS BUILT SEPT. 15, 2008



- NOTES:**
- 1) All utility locations shown are approximate. Contractor to verify locations and depth of all utilities on site and ensure uninterrupted services.
 - 2) All sanitary sewer manholes to be water tight manholes per Howard County Standard Details G5.12 and G5.52, unless otherwise noted.

LEGEND
 ● = CONTINUITY TEST STATION - SEE DETAIL S - 4-18



NOTE:
 HYDRAULIC GRADE ELEVATION AT EXISTING WEST PIPE GALLERY INFLUENT PIPE CONNECTION IS 184.6
 TAP AND VALVE FOR MANUAL AIR RELEASE INSTALLED BY BUREAU OF UTILITIES
 EXISTING PLANT 8" PFI TO WEST GALLERY CONTRACT NO. 20-4417, SHEET 36 OF 112

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
 REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT DATE U.S. SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *John P. ...* 6/15/10
 Chief, Bureau of Engineering: *Paul ...* 6/10/10
 Chief, Bureau of Utilities: *Steve C. ...* 5/25/10
 Chief, Utility Design Division: *De ...* 6/10/10

URS
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 1800 WASHINGTON BOULEVARD, SUITE 410
 BALTIMORE, MARYLAND 21230
 (410) 468-0875
 PEDRO R. RAMIREZ

DESIGN: CSP					
DRAWN: BJW					
CHK: PRR					
DATE 05/10/07	AS BUILT REVISION				
NO.	REVISION	DATE	BY		

PLAN & PROFILE
 SANITARY SEWER
 600' SCALE MAP NO. 47.50
 BLOCK NO. 23

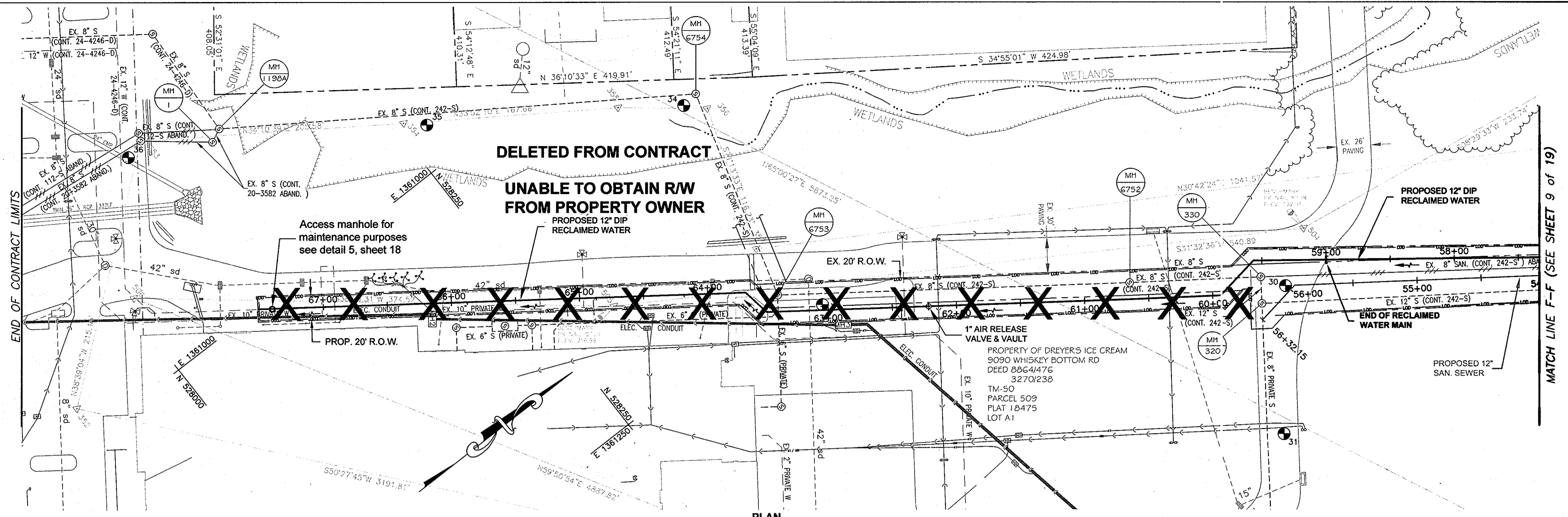
RECLAIMED WATER PROJECT - PHASE IA
 RECLAIMED WATER AND SEWER PIPELINES
 CAPITAL PROJECT NO. S-6245
 CONTRACT NO. 60-4447
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 2 OF 18

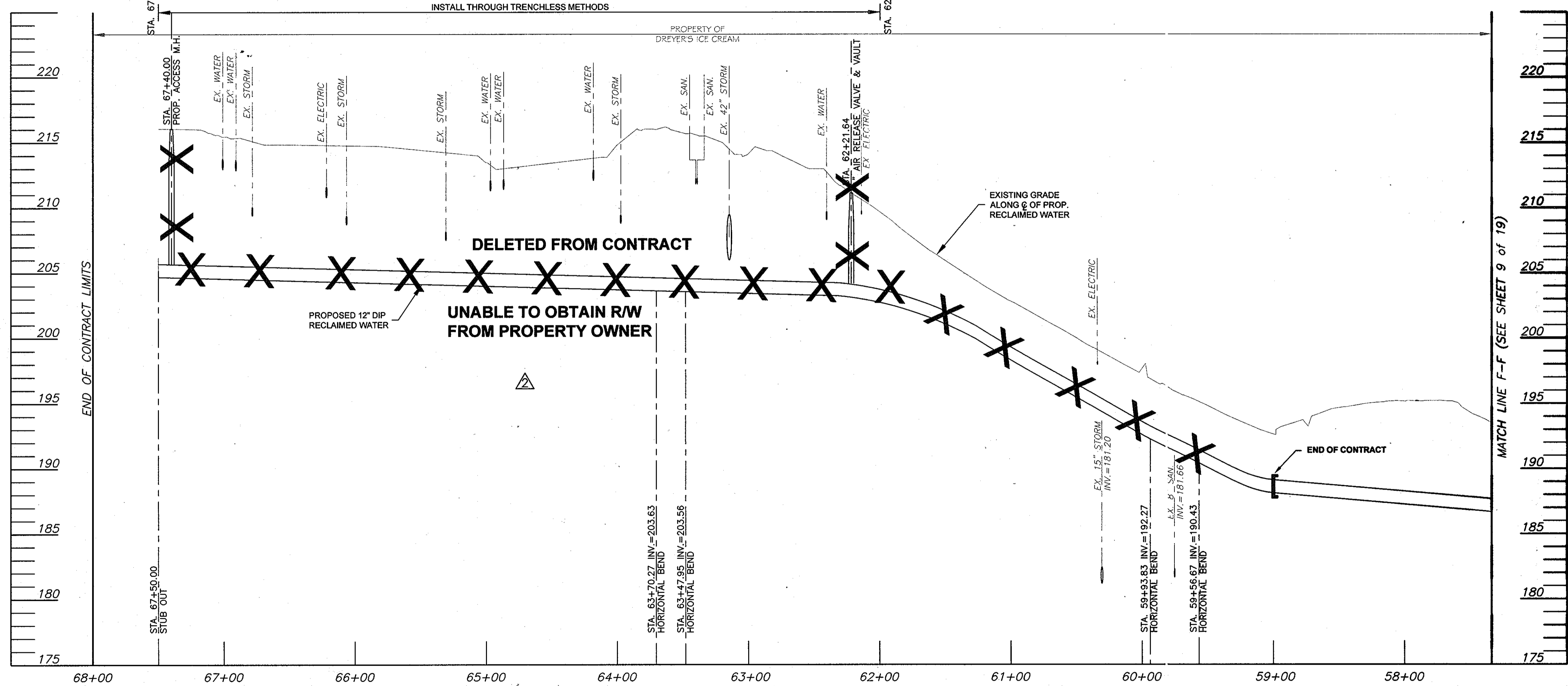
AS BUILT SEPT. 15, 2008

NOTES:

- 1) All utility locations shown are approximate. Contractor to verify locations and depth of all utilities on site and ensure uninterrupted services through test pitting.
- 2) Contractor to coordinate access to Dreyer's facility with security office.
- 3) All work on Dreyer's facility to be conducted in such a way as to ensure minimum disruption to facility's daily operations.
- 4) For air release or vacuum valve manholes, see Howard County Standard Detail W4.11.
- 5) For Blow-off, see Howard County Standard Detail W4.13.
- 6) All work across Dreyer's property to be coordinated with Dreyer's. All work to be restricted to Friday afternoon to Sunday morning.



PLAN
SCALE: 1" = 50'



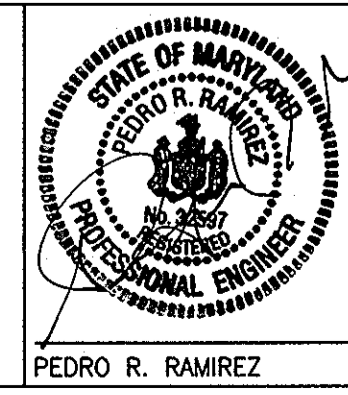
PROFILE
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT	DATE	U.S. SOIL CONSERVATION DISTRICT	DATE
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			
<i>Janet Glicko</i> DIRECTOR OF PUBLIC WORKS	6/15/10	<i>Paul J. Zappala</i> CHIEF, BUREAU OF ENGINEERING	6/10/10
<i>Steve C. Lewis</i> CHIEF, BUREAU OF UTILITIES	5/25/10	<i>Pedro R. Ramirez</i> CHIEF, UTILITY DESIGN DIVISION	6/10/10

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DESIGN: CSP			
DRAWN: BJW			
CHK: PRR			
DATE 05/10/07	NO.	REVISION	DATE BY
		AS BUILT REVISION	
		PROP. RECLAIMED WATER ADJUSTMENT	02/06/08 CSP

**PLAN & PROFILE
RECLAIMED WATER**

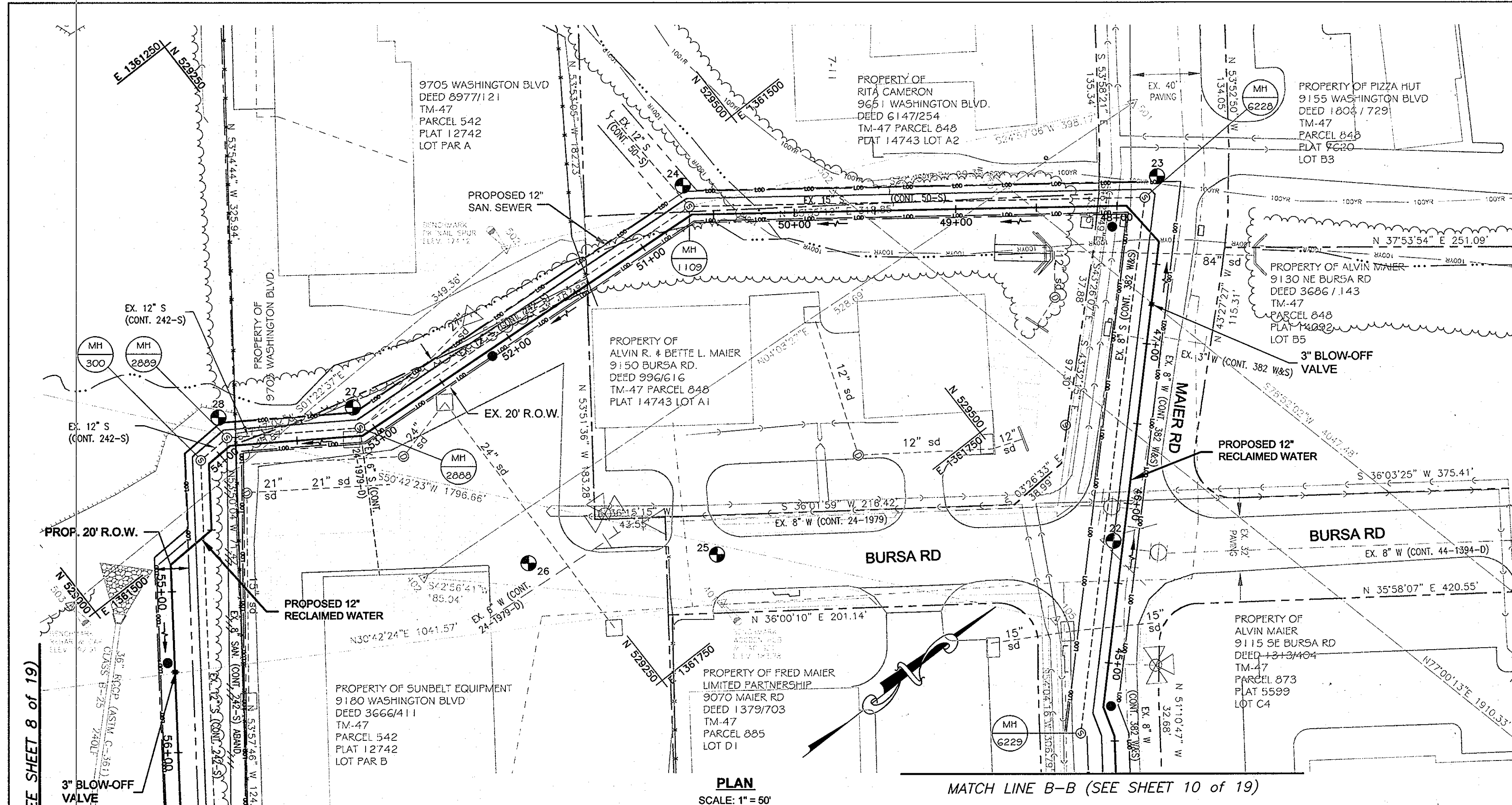
600' SCALE MAP NO. 47.50
BLOCK NO. 5

**RECLAIMED WATER PROJECT - PHASE IA
RECLAIMED WATER AND SEWER PIPELINES
CAPITAL PROJECT NO. S-6245
CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND**

SCALE
AS SHOWN

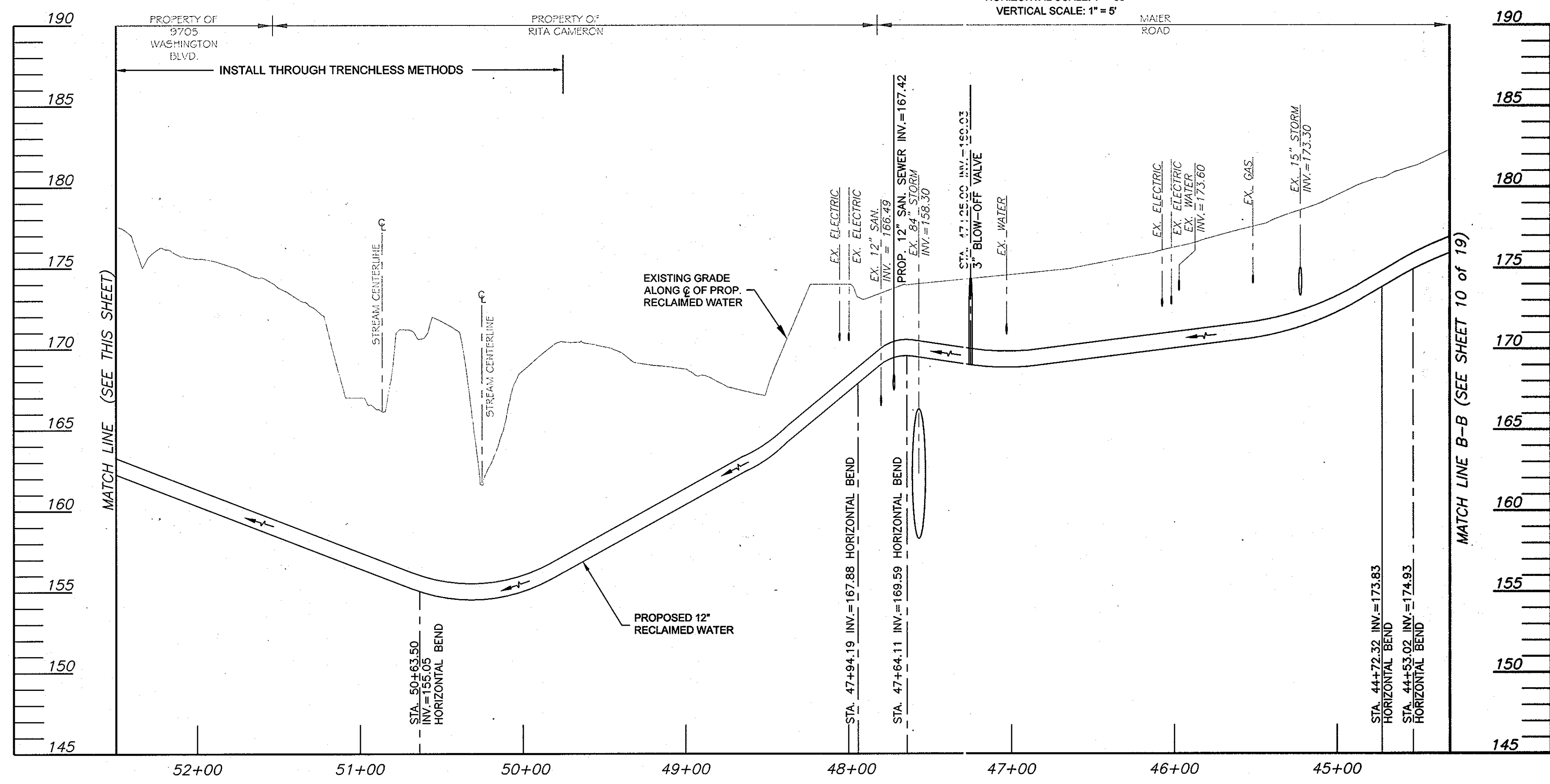
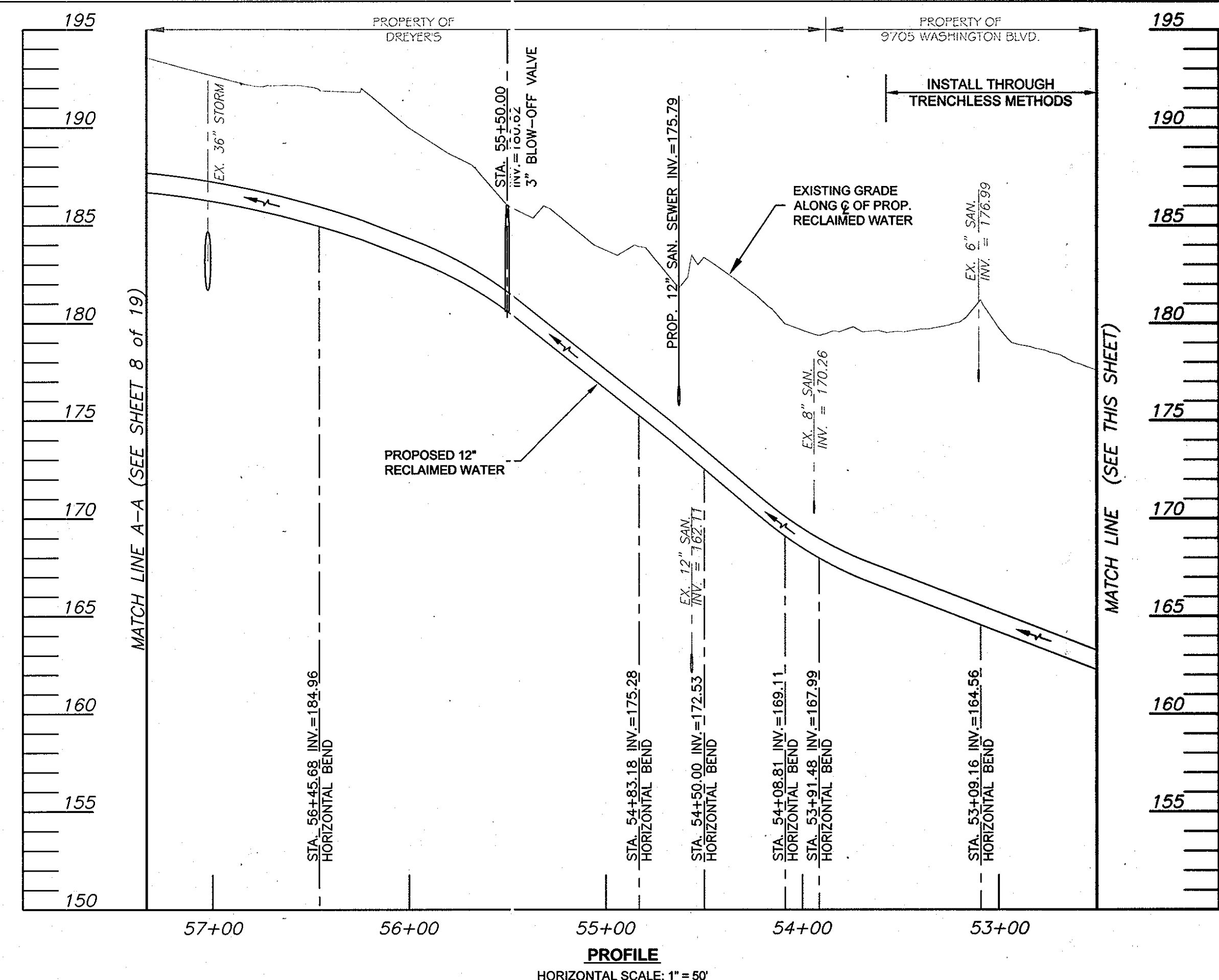
SHEET
8 OF 18

AS BUILT SEPT. 15, 2008



- NOTES:**
- 1) All utility locations shown are approximate. Contractor to verify locations and depth of all utilities on site and ensure uninterrupted services.
 - 2) Contractor to coordinate access to Dreyer's facility with security office.
 - 3) All work on Dreyer's facility to be conducted in such a way as to ensure minimum disruption to facility's daily operations.
 - 4) For air release or vacuum valve manholes, see Howard County Standard Detail W4.11.
 - 5) For Blow-off, see Howard County Standard Detail W4.13.
 - 6) Removal of fence on Sunbelt property to be done by others.
 - 7) Contractor to install buttresses and thrust blocks per Howard County specifications, see Howard County standard details W2.21 and W2.22.

LEGEND
 ● = CONTINUITY TEST STATION - SEE DETAIL S - 4.18



THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT DATE U.S. SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works DATE
 Chief, Bureau of Engineering DATE
 Chief, Bureau of Utilities DATE
 Chief, Utility Design Division DATE

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 1800 WASHINGTON BOULEVARD, SUITE 410
 BALTIMORE, MARYLAND 21230
 (410) 468-0875

STATE OF MARYLAND
 PEDRO R. RAMIREZ
 PROFESSIONAL ENGINEER

DESIGN: CSP				
DRAWN: BJW				
CHK: PRR	1	RECLAIMED WATER MODIFICATION (STA. 45+50.00 TO STA. 55+50.00)	01/15/08	CSP
DATE: 05/10/07	NO.	REVISION	DATE	BY

PLAN & PROFILE RECLAIMED WATER

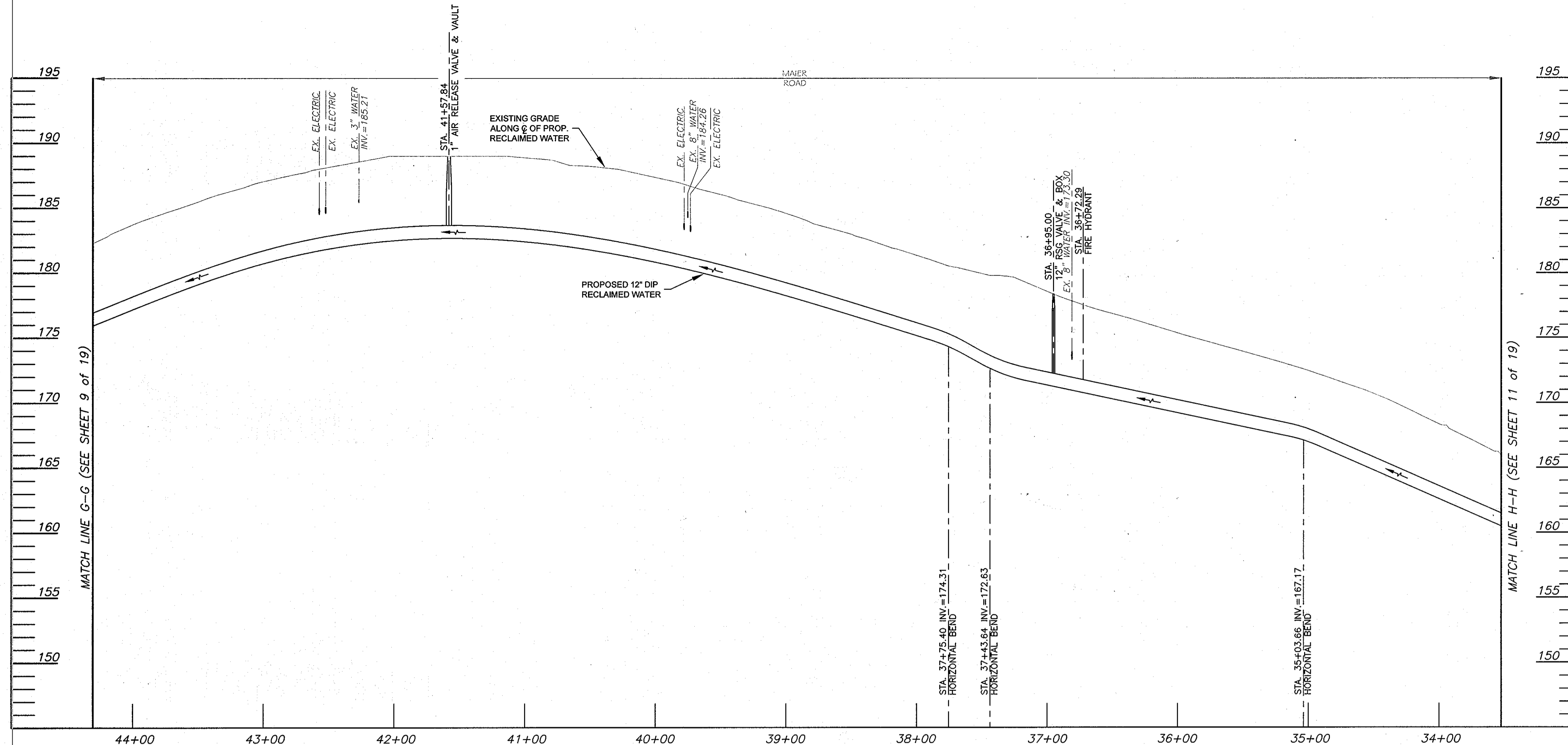
600' SCALE MAP NO. 47.50 BLOCK NO. 23

RECLAIMED WATER PROJECT - PHASE IIA
 RECLAIMED WATER AND SEWER PIPELINES
 CAPITAL PROJECT NO. S-6245
 CONTRACT NO. 60-4447
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 9 OF 18

AS BUILT SEPT. 15, 2008

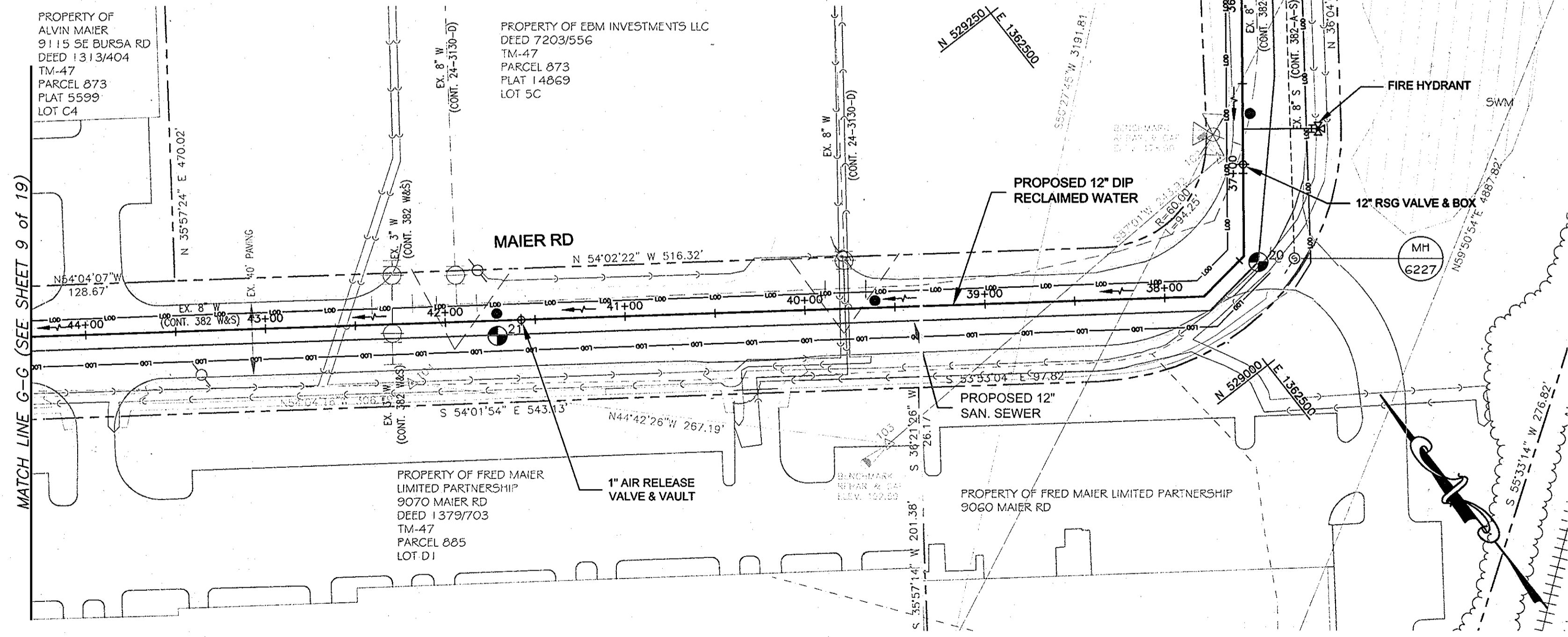


ID Number	Quantity	Fitting Angle	Deflection Angle
15	1		3
16	1	45	
17	1	45	
	1		1

PROFILE
 HORIZONTAL SCALE: 1" = 50'
 VERTICAL SCALE: 1" = 5'

- NOTES:**
- 1) All utility locations shown are approximate. Contractor to verify locations and depth of all utilities on site and ensure uninterrupted services.
 - 2) For fire hydrant detail, see Howard County Standard Detail W1.11.
 - 3) For air release or vacuum valve manholes, see Howard County Standard Detail W4.11.
 - 4) For Blow-off, see Howard County Standard Detail W4.13.

LEGEND
 ● = CONTINUITY TEST STATION - SEE DETAIL S - 4.18



PLAN
 SCALE: 1" = 50'

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

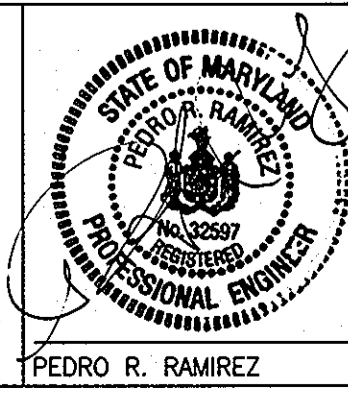
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT _____ DATE _____ U.S. SOIL CONSERVATION DISTRICT _____ DATE _____

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: *Janet A. Gristle* DATE: 6/10/10
 Chief, Bureau of Engineering: *Paul J. Spon* DATE: 6/10/10
 Chief, Bureau of Utilities: *Steve C. Lane* DATE: 6/10/10
 Chief, Utility Design Division: *Oliver J. Lane* DATE: 6/10/10

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 BALTIMORE, MARYLAND 21230
 (410) 468-0875



DESIGN: CSP					
DRAWN: BJW					
CHK: PRR					
DATE: 05/10/07					
NO.	REVISION	DATE	BY		

PLAN & PROFILE RECLAIMED WATER

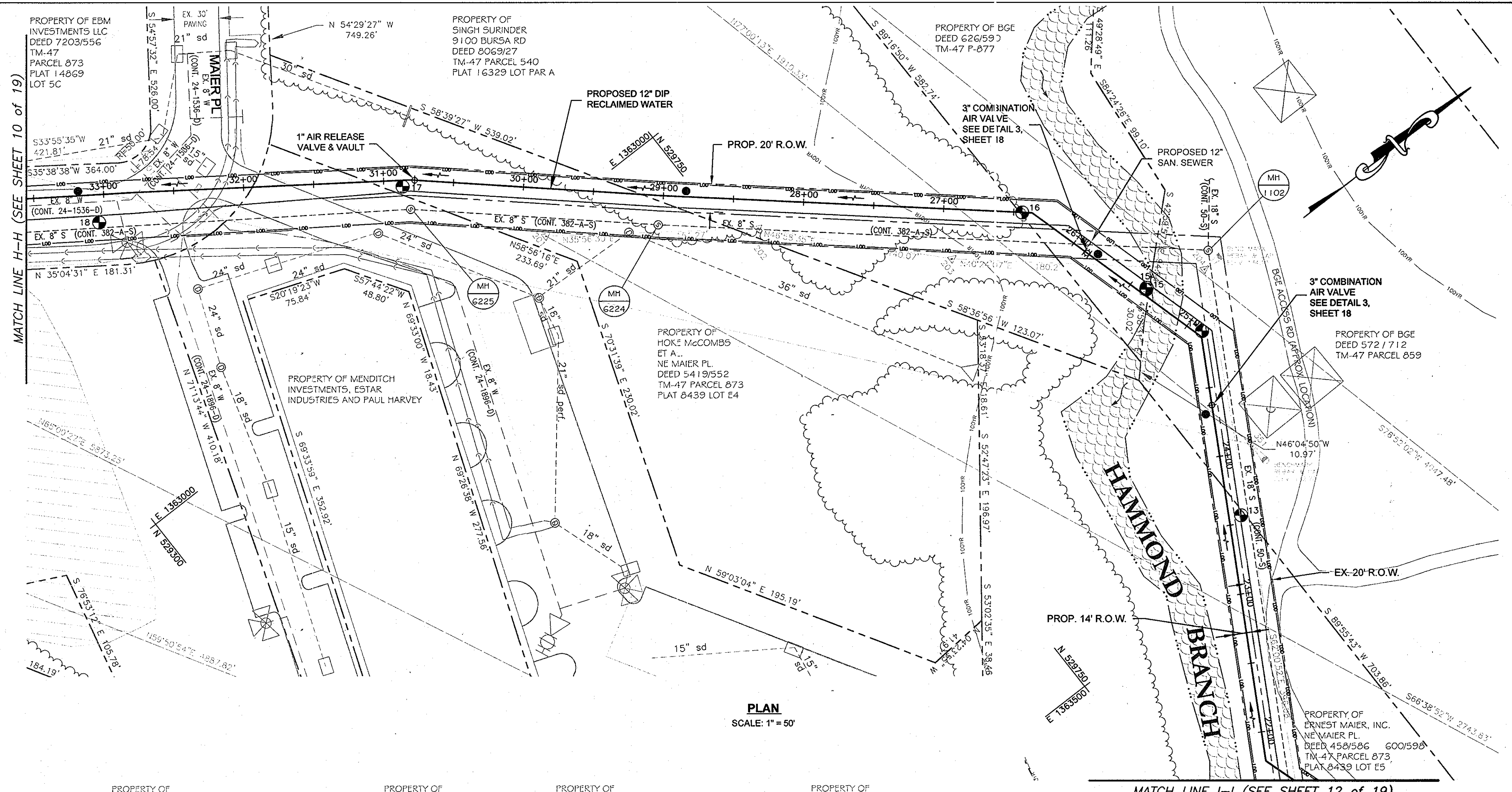
600' SCALE MAP NO. 47.50 BLOCK NO. 23

RECLAIMED WATER PROJECT - PHASE IIA
 RECLAIMED WATER AND SEWER PIPELINES
 CAPITAL PROJECT NO. S-6245
 CONTRACT NO. 60-4447
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

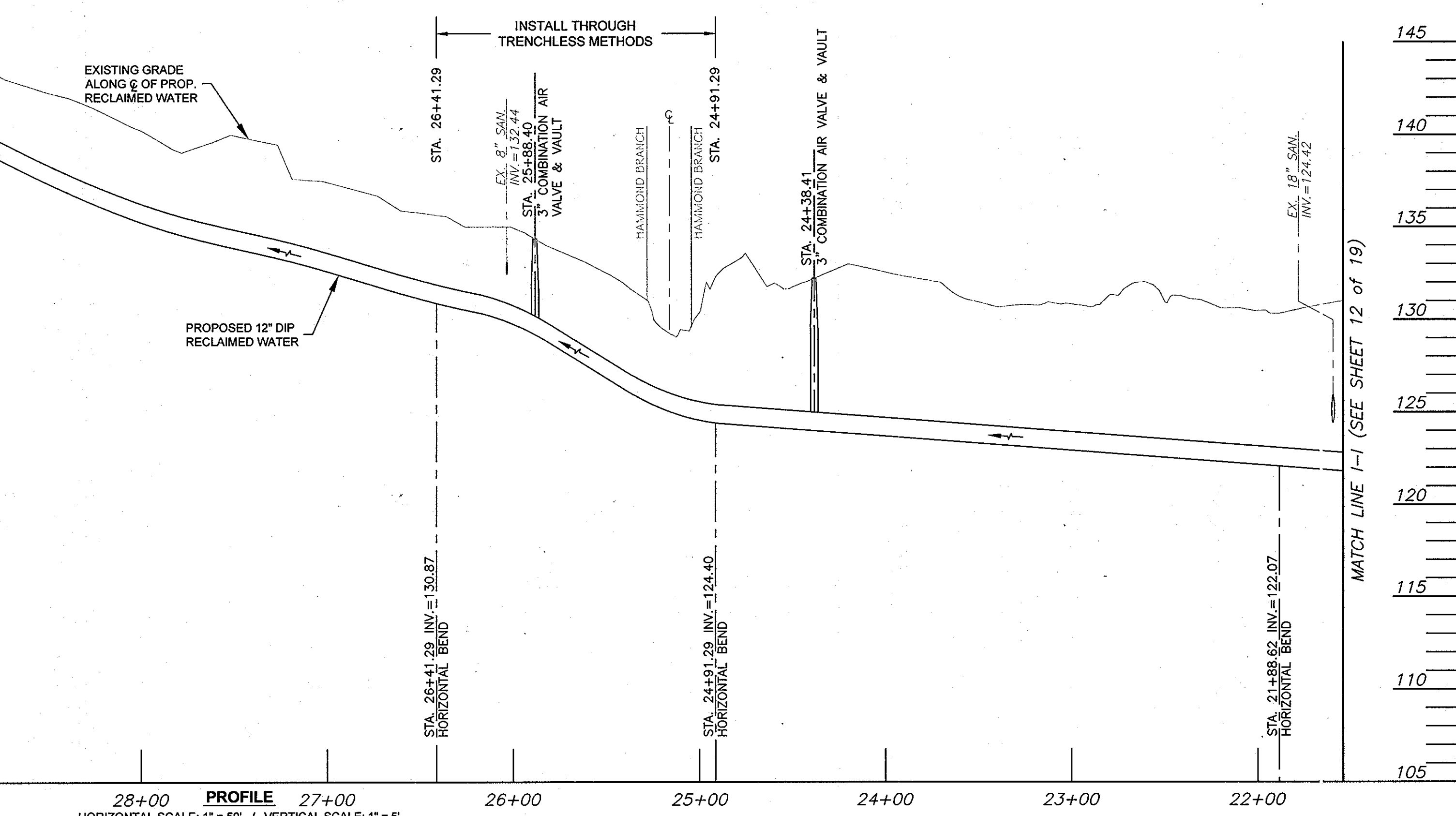
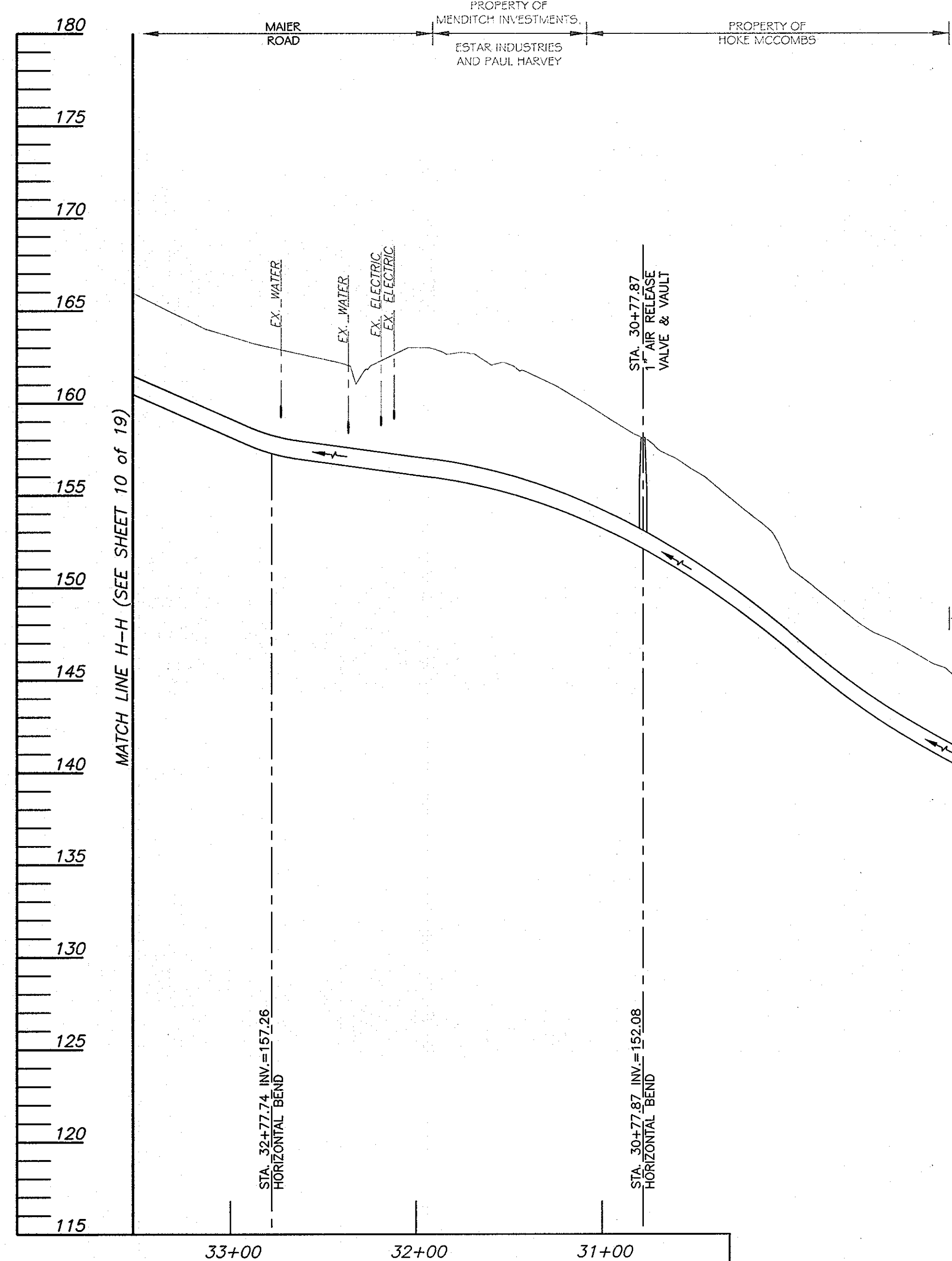
SCALE AS SHOWN
 SHEET 10 OF 19

AS BUILT SEPT. 15, 2008

ID Number	Quantity	Fitting Angle	Deflection Angle
(10)	1	45	
(11)	1	45	
(12)	1	22.5	
(13)	2	11.25	0.25
(14)	1		3
(15)	1		1



PLAN
SCALE: 1" = 50'



- NOTES:
- 1) All utility locations shown are approximate. Contractor to verify locations and depth of all utilities on site and ensure uninterrupted services.
 - 2) For air release or vacuum valve manholes, see Howard County Standard Detail W4.11.
 - 3) For Blow-off, see Howard County Standard Detail W4.13.
 - 4) A minimum of 3'-0" of cover shall be maintained at existing utility crossings per Howard County Design Manual Volume II, Section 3.3.B.5.

LEGEND
● = CONTINUITY TEST STATION - SEE DETAIL S - 4.18

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

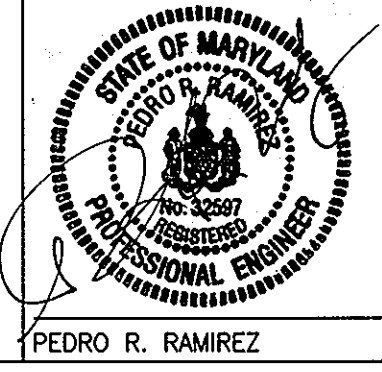
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT DATE U.S. SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *Janet Clark* 6/10/10
 Chief, Bureau of Engineering: *Paul Johnson* 6/10/10
 Chief, Bureau of Utilities: *Steve Clemen* 6/23/10
 Chief, Utility Design Division: *Ray Don* 6/10/10

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(410) 468-0875



NO.	REVISION	DATE	BY

PLAN & PROFILE
RECLAIMED WATER

600' SCALE MAP NO. 47.50 BLOCK NO. 23

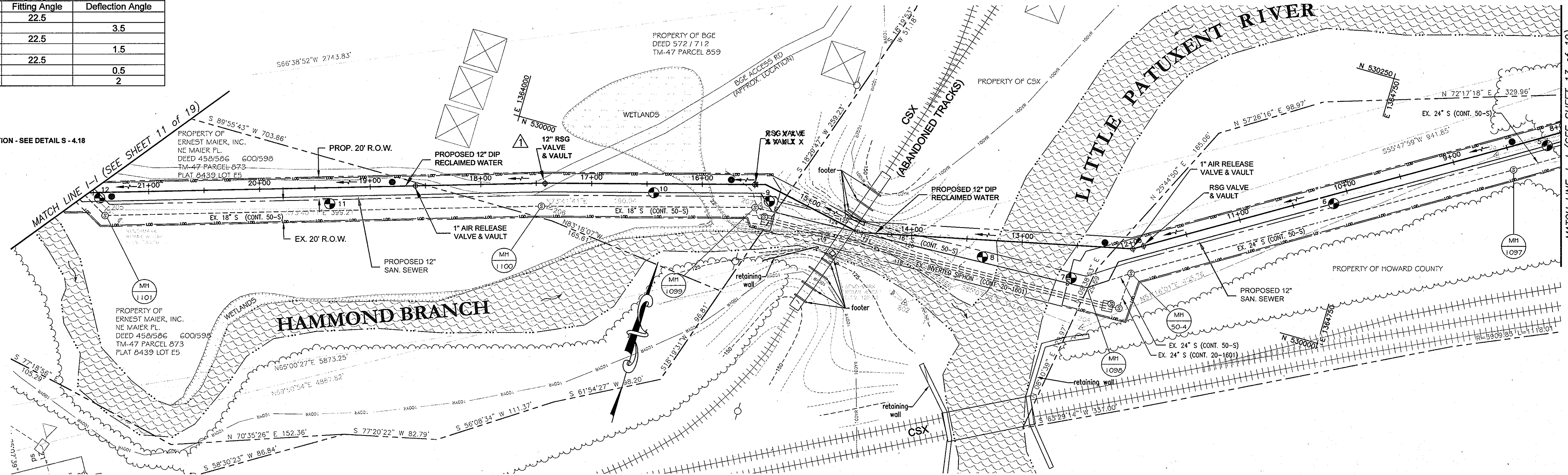
RECLAIMED WATER PROJECT - PHASE IIA
RECLAIMED WATER AND SEWER PIPELINES
CAPITAL PROJECT NO. S-6245
CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 11 OF 18

AS BUILT SEPT. 15, 2008

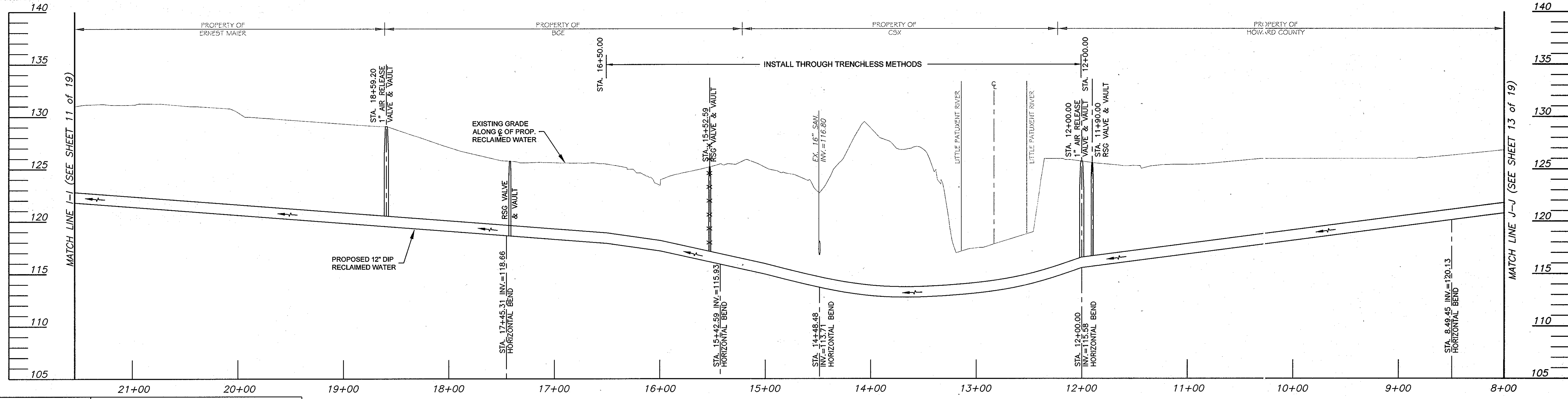
ID Number	Quantity	Fitting Angle	Deflection Angle
6	1	22.5	3.5
7	1	22.5	1.5
8	1	22.5	0.5
9	1		2

LEGEND
 ● = CONTINUITY TEST STATION - SEE DETAIL S - 4.18



PLAN
SCALE: 1" = 50'

- NOTES:**
- 1) All utility locations shown are approximate. Contractor to verify locations and depth of all utilities on site and ensure uninterrupted services.
 - 2) For air release or vacuum valve manholes, see Howard County Standard Detail W4.11.
 - 3) For Blow-off, see Howard County Standard Detail W4.13.
 - 4) Contractor shall take extreme caution near CSX abandoned tracks.
 - 5) Contractor shall not perform any excavation work or stockpile materials adjacent to CSX Transportation structures.



PROFILE
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

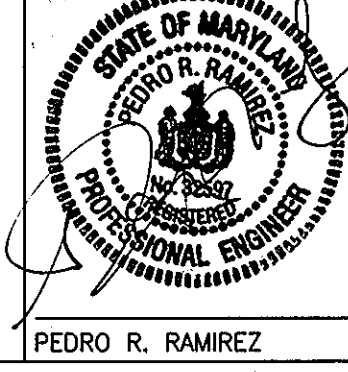
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT _____ DATE _____ U.S. SOIL CONSERVATION DISTRICT _____ DATE _____

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* Date: *6/10/10*
 Chief, Bureau of Engineering: *[Signature]* Date: *6/10/10*
 Chief, Bureau of Utilities: *[Signature]* Date: *6/10/10*
 Chief, Utility Design Division: *[Signature]* Date: *6/10/10*

URS
MONTGOMERY PARK BUSINESS CENTER
1800 WASHINGTON BOULEVARD, SUITE 410
BALTIMORE, MARYLAND 21230
(410) 468-0875



DESIGN: CSP					
DRAWN: BJW					
CHK: PRR					
DATE: 05/10/07					
NO.					
AS BUILT REVISION					
NO.					
REVISION					
DATE					
BY					

PLAN & PROFILE
RECLAIMED WATER

600' SCALE MAP NO. 47.50
BLOCK NO. 23

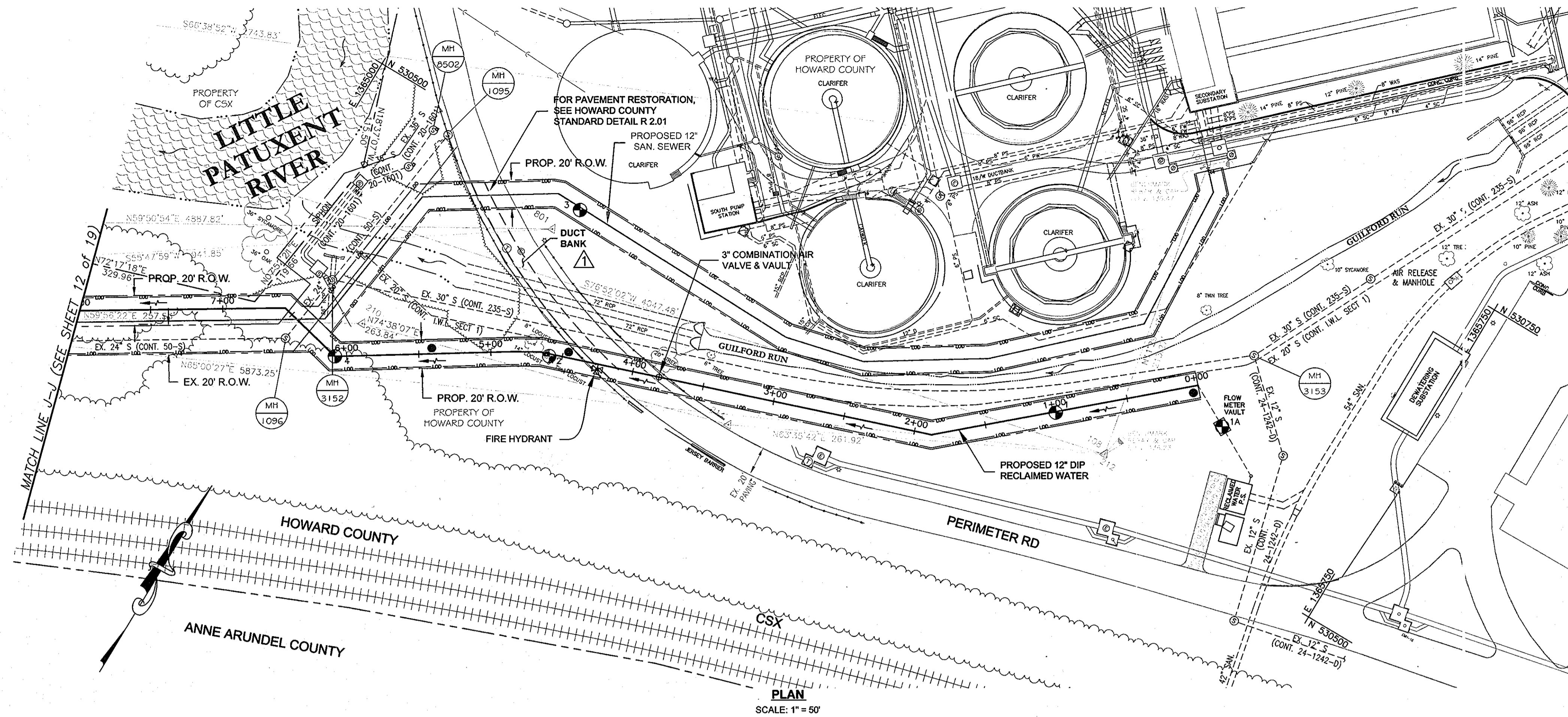
RECLAIMED WATER PROJECT - PHASE IIA
RECLAIMED WATER AND SEWER PIPELINES
CAPITAL PROJECT NO. S-6245
CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 12 OF 18

AS BUILT SEPT. 15, 2008

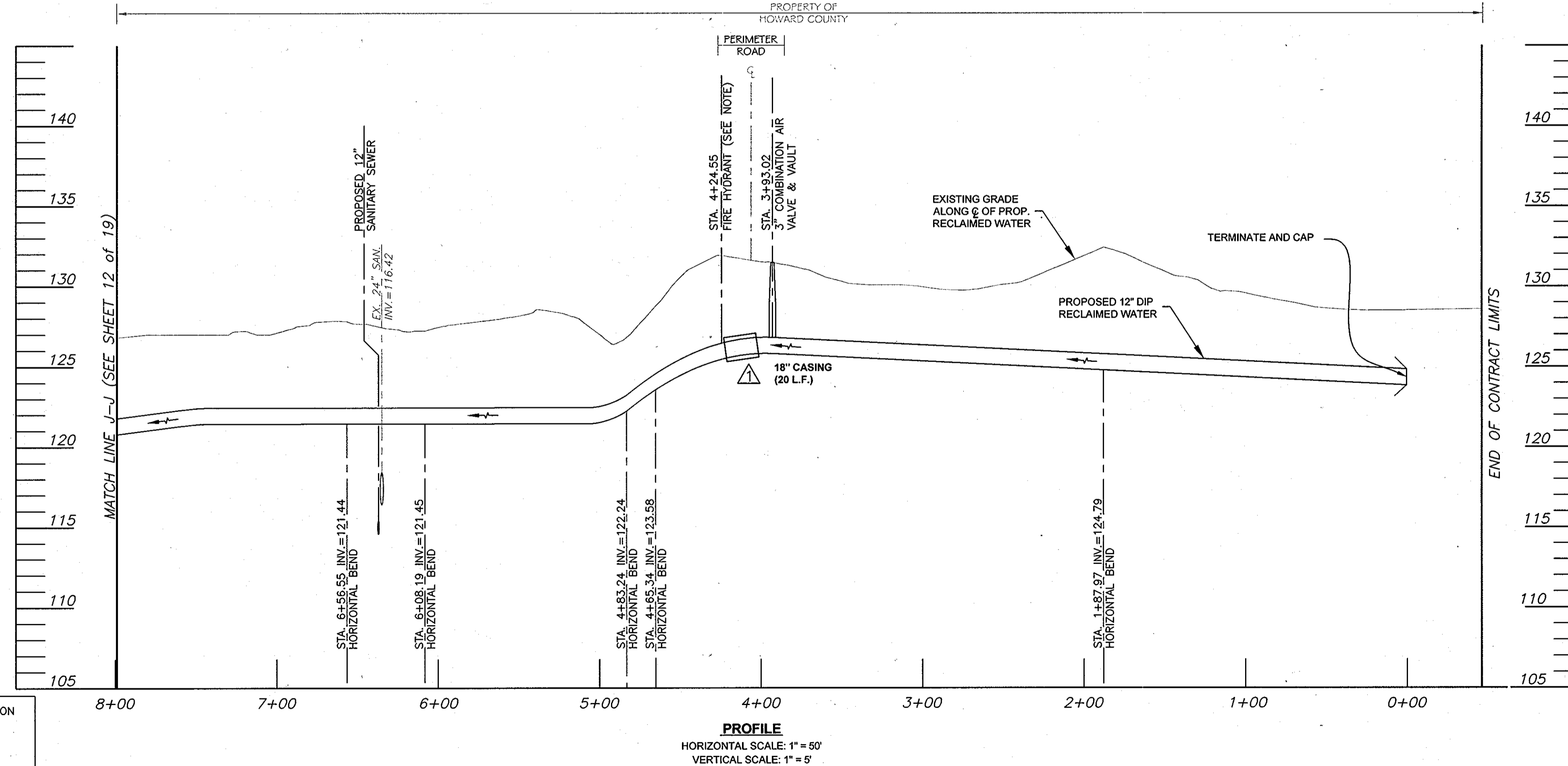
NOTES:

- 1) All utility locations shown are approximate. Contractor to verify locations and depth of all utilities on site and ensure uninterrupted services.
- 2) For air release valve manholes, see Howard County Standard Detail W4.11.
- 3) For Blow-off, see Howard County Standard Detail W4.13.
- 4) Contractor to provide visual ground marker at location of termination point.
- 5) For fire hydrant detail, see Howard County Standard detail W1.11



ID Number	Quantity	Fitting Angle	
		Fitting Angle	Deflection Angle
①	1	22.5	
②	1		0.5
③	1	11.25	
④	1	45	2.75
⑤	1	45	1

LEGEND
 ● = CONTINUITY TEST STATION - SEE DETAILS S - 4.18



THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT _____ DATE _____ U.S. SOIL CONSERVATION DISTRICT _____ DATE _____

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James A. Clark 6/10/10
 DIRECTOR OF PUBLIC WORKS DATE

Richard J. Johnson 6/10/10
 CHIEF, BUREAU OF ENGINEERING DATE

Shirley C. Green 6/10/10
 CHIEF, BUREAU OF UTILITIES DATE

Oliver J. Taylor 6/10/10
 CHIEF, UTILITY DESIGN DIVISION DATE

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 BALTIMORE, MARYLAND 21230
 (410) 468-0875

PEDRO R. RAMIREZ
 PROFESSIONAL ENGINEER
 STATE OF MARYLAND
 LICENSE NO. 12289

DESIGN: CSP					
DRAWN: BJW					
CHK: PRR					
DATE 05/10/07					
NO.	AS BUILT REVISION	DATE	BY		
	REVISION				

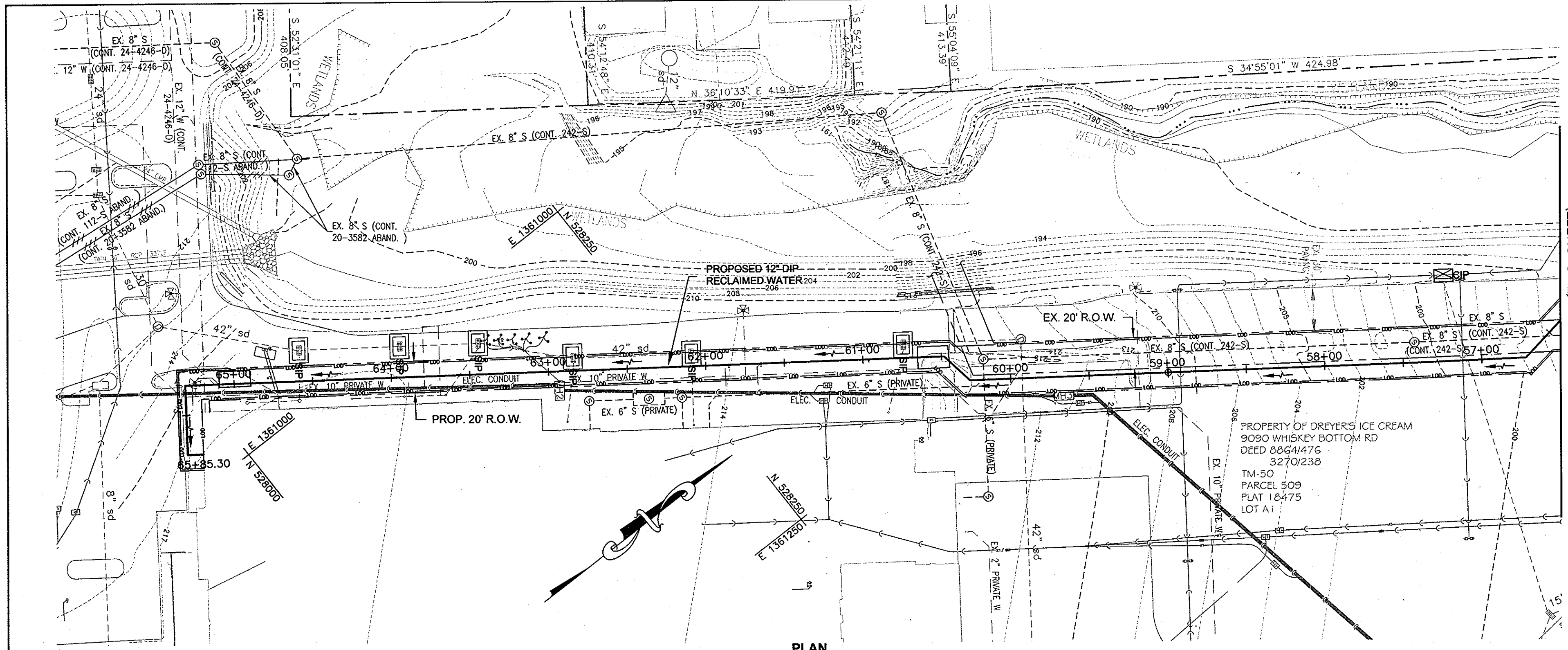
PLAN & PROFILE RECLAIMED WATER

600' SCALE MAP NO. 47.50 BLOCK NO. 23

RECLAIMED WATER PROJECT - PHASE IIA
 RECLAIMED WATER AND SEWER PIPELINES
 CAPITAL PROJECT NO. S-6245
 CONTRACT NO. 60-4447
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 13 OF 19

AS BUILT SEPT. 15, 2008



PLAN
SCALE: 1" = 50'

HOWARD SOIL CONSERVATION DISTRICT

STANDARD SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis:
 Total Area of Site 3.3 Acres
 Area Disturbed 3.0 Acres
 Area to be roofed or paved 0 Acres
 Area to be vegetatively stabilized 1.71 Acres
 Total Cut 0 Cu. Yds.
 Total Fill 0 Cu. Yds.
 Offsite waste/borrow area location: 0
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.

SEDIMENT CONTROL

(Provide the following certification blocks on sediment control plans:
 () By the Developer:
 "I We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer _____ Date _____
 Print name below signature _____

() By the Engineer:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

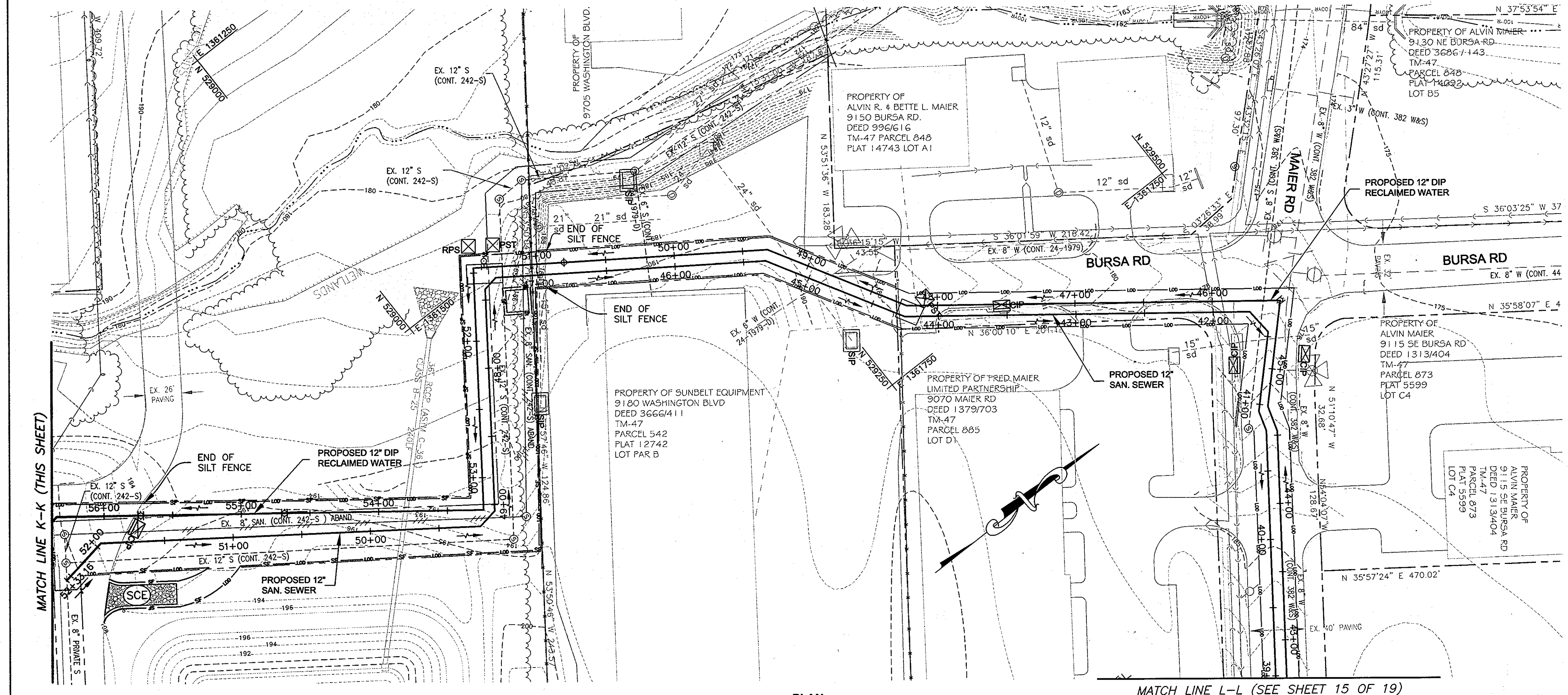
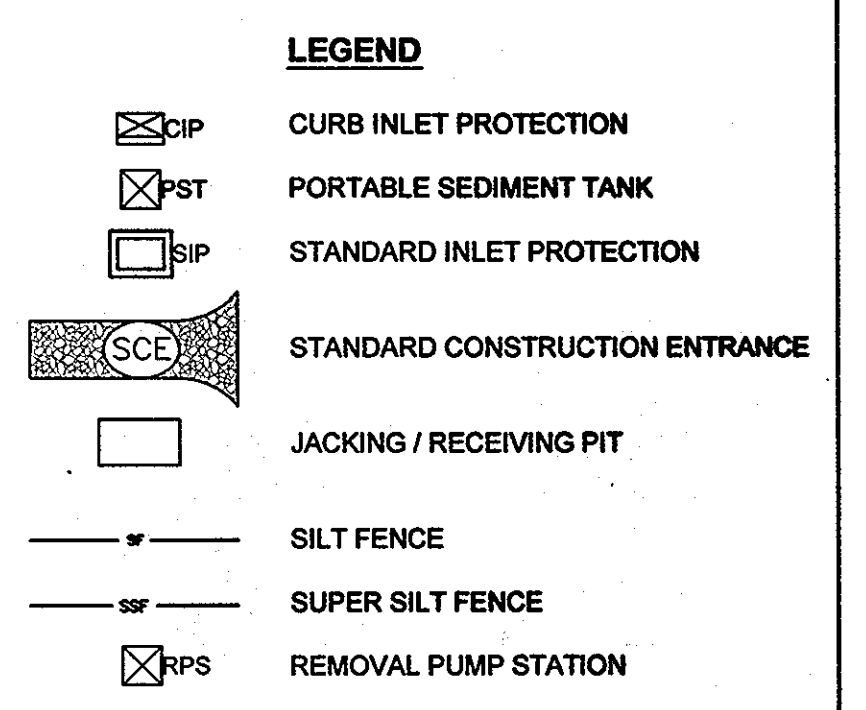
Signature of Engineer _____ Date _____
 Print name below signature _____

() Reviewed for HOWARD SCD and meets Technical Requirements.

Signature of SDA-Natural Resources _____ Date _____
 Conservation Service _____

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Forward SCD _____ Date _____



PLAN
SCALE: 1" = 50'

HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.
- Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:
1. Preferred--Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
 2. Acceptable--Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.
- Seeding-- For the periods March 1--April 30, and August 1--October 15, seed with 60 lbs/acre (4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1-- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by:
- Option 1 -- Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
 Option 2 -- Use sod.
 Option 3 -- Seer: with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.
- Mulching--Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.
- Maintenance -- Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

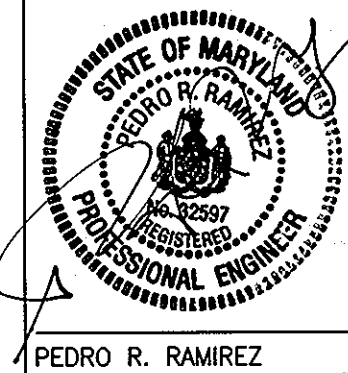
- Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.
- Seedbed preparation-- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.
- Soil Amendments-- Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).
- Seeding -- For periods March 1 --April 30 and from August 15 - October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 -- February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
- Mulching --Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.
- Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT	DATE	U.S. SOIL CONSERVATION DISTRICT	DATE
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			
	6/15/10		6/10/10
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF, BUREAU OF ENGINEERING	DATE
	5/25/10		6/10/10
CHIEF, BUREAU OF UTILITIES	DATE	CHIEF UTILITY DESIGN DIVISION	DATE

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 BALTIMORE, MARYLAND 21230
 (410) 468-0875



DESIGN: CSP					
DRAWN: BJW					
CHK: PRR					
DATE 05/10/07					
NO.	REVISION	DATE	BY	600' SCALE MAP NO: 47.50	

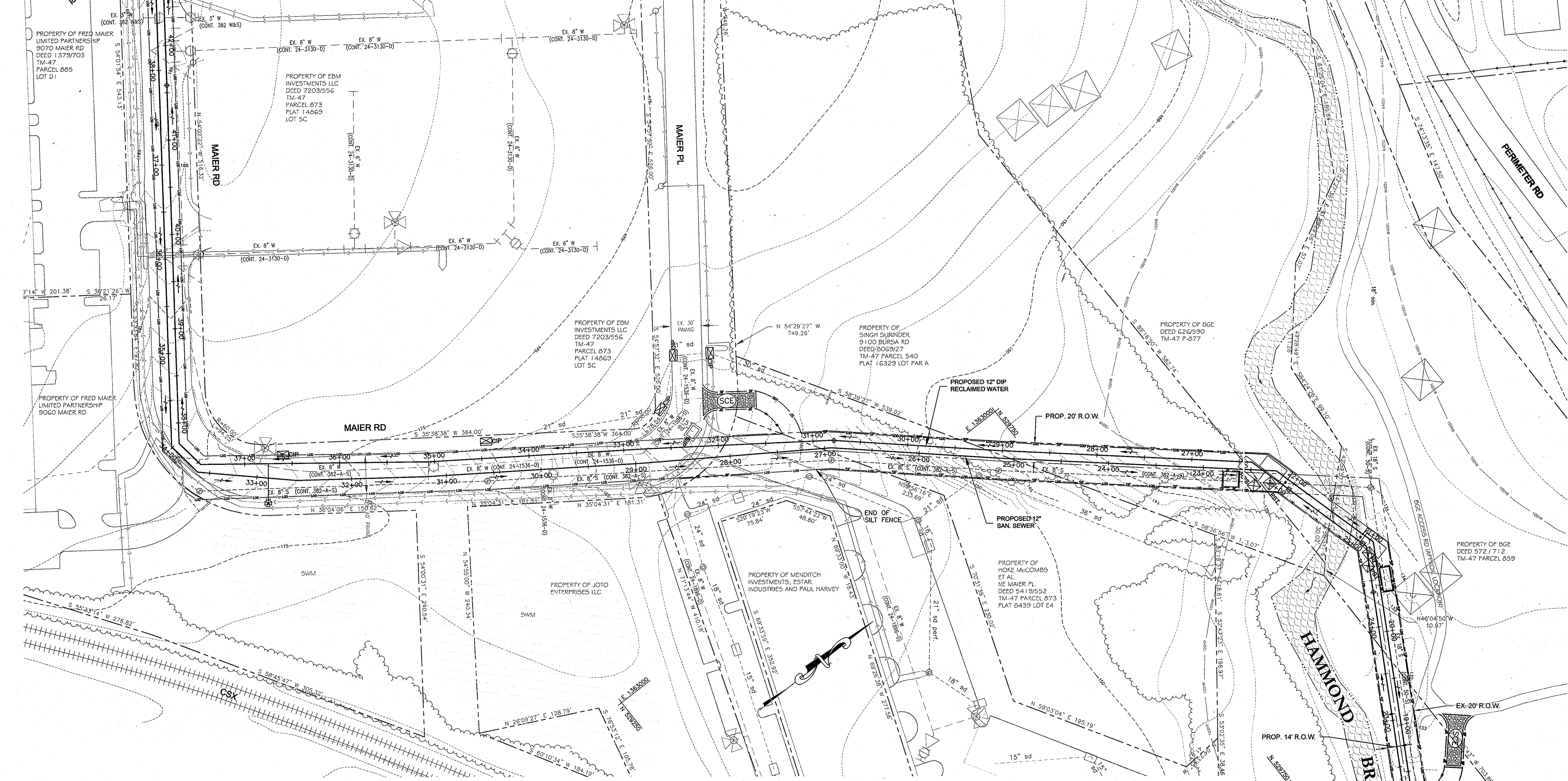
EROSION & SEDIMENT CONTROL PLAN

RECLAIMED WATER PROJECT - PHASE IIA
 RECLAIMED WATER AND SEWER PIPELINES
 CAPITAL PROJECT NO. S-6245
 CONTRACT NO. 60-4447
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 14 OF 18

AS BUILT SEPT. 15, 2008

MATCH LINE L-L (SEE SHEET 14 OF 19)



MATCH LINE M-M (SEE SHEET 16 OF 19)

- LEGEND**
- CURB INLET PROTECTION
 - PORTABLE SEDIMENT TANK
 - STANDARD INLET PROTECTION
 - STANDARD CONSTRUCTION ENTRANCE
 - JACKING / RECEIVING PIT
 - SILT FENCE
 - SUPER SILT FENCE
 - REMOVAL PUMP STATION

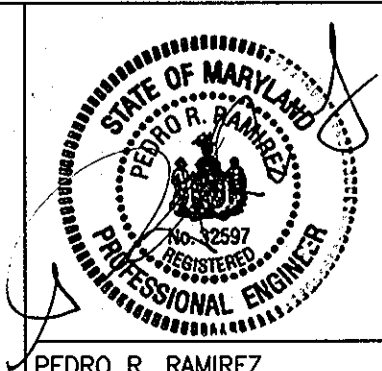
PLAN
SCALE: 1" = 50'

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT	DATE	U.S. SOIL CONSERVATION DISTRICT	DATE
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND			
	DATE		DATE
DIRECTOR OF PUBLIC WORKS	6/10/10	CHIEF, BUREAU OF ENGINEERING	6/10/10
	DATE		DATE
CHIEF, BUREAU OF UTILITIES	6/10/10	CHIEF, UTILITY DESIGN DIVISION	6/10/10

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DATE 05/10/07				
NO.	REVISION	DATE	BY	

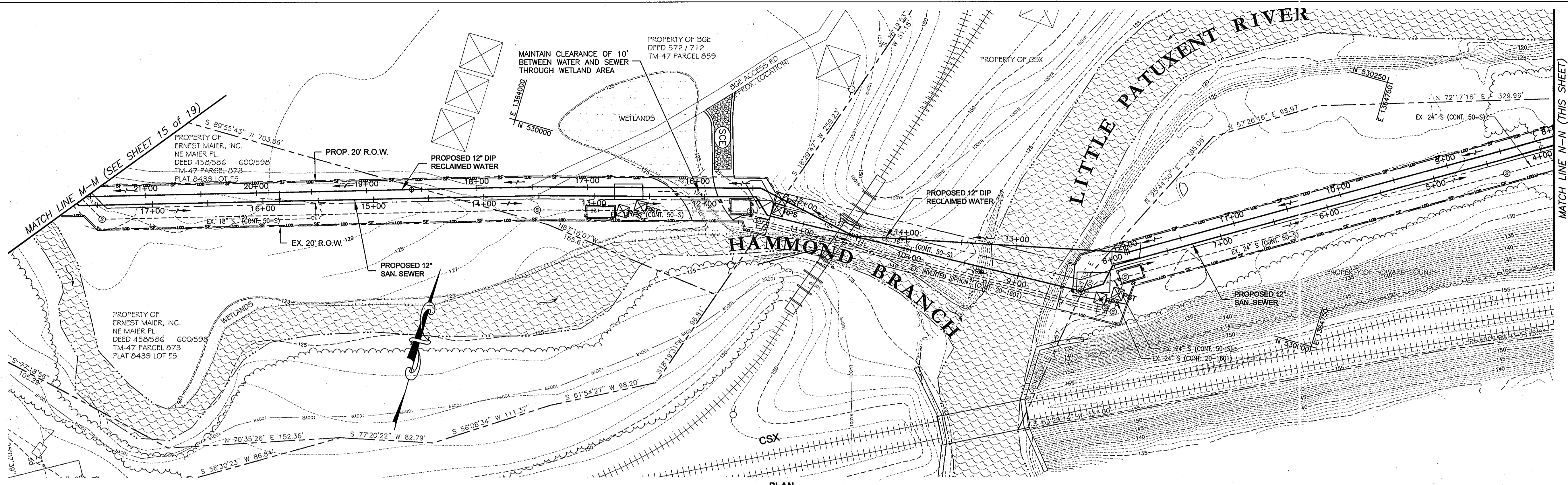
EROSION & SEDIMENT CONTROL PLAN

600' SCALE MAP NO. 47.50

RECLAIMED WATER AND SEWER PIPELINES - PHASE IIA
CAPITAL PROJECT NO. S-6245
CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 15 OF 18

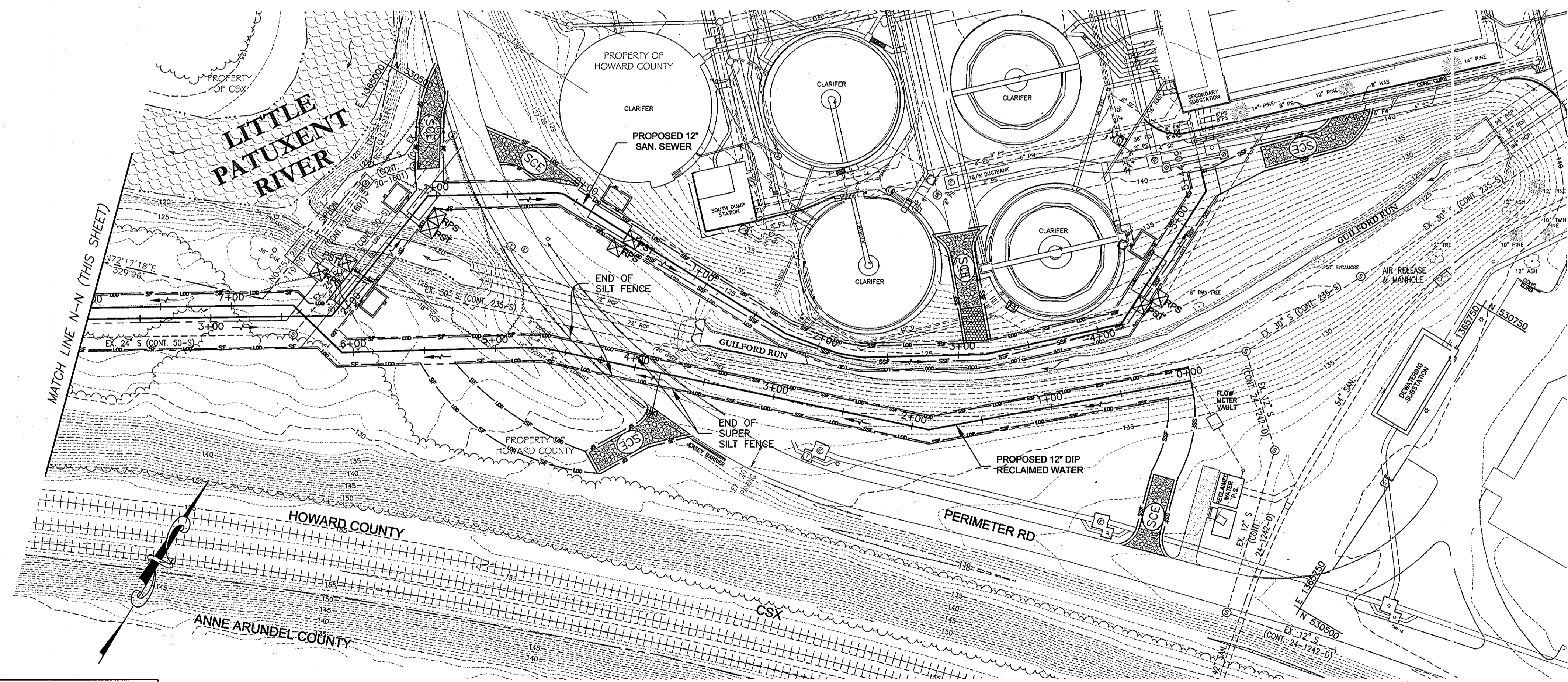
AS BUILT SEPT. 15, 2008



PLAN
SCALE: 1" = 50'

LEGEND

- CURB INLET PROTECTION
- PORTABLE SEDIMENT TANK
- STANDARD INLET PROTECTION
- STANDARD CONSTRUCTION ENTRANCE
- JACKING / RECEIVING PIT
- SILT FENCE
- SUPER SILT FENCE
- REMOVAL PUMP STATION



PLAN
SCALE: 1" = 50'

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT _____ DATE _____ U.S. SOIL CONSERVATION DISTRICT _____ DATE _____

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 6/15/10
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 6/10/10
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 5/25/10
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 6/10/10
CHIEF, UTILITY DESIGN DIVISION DATE

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(410) 468-0875

STATE OF MARYLAND
PEDRO R. RAMIREZ
PROFESSIONAL ENGINEER

DESIGN: CSP								
DRAWN: BJW								
CHK: PRR								
DATE 05/10/07								
NO.		REVISION		DATE	BY	600' SCALE MAP NO. 47.50		

EROSION & SEDIMENT CONTROL PLAN

RECLAIMED WATER PROJECT - PHASE IIA
RECLAIMED WATER AND SEWER PIPELINES
CAPITAL PROJECT NO. S-6245
CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

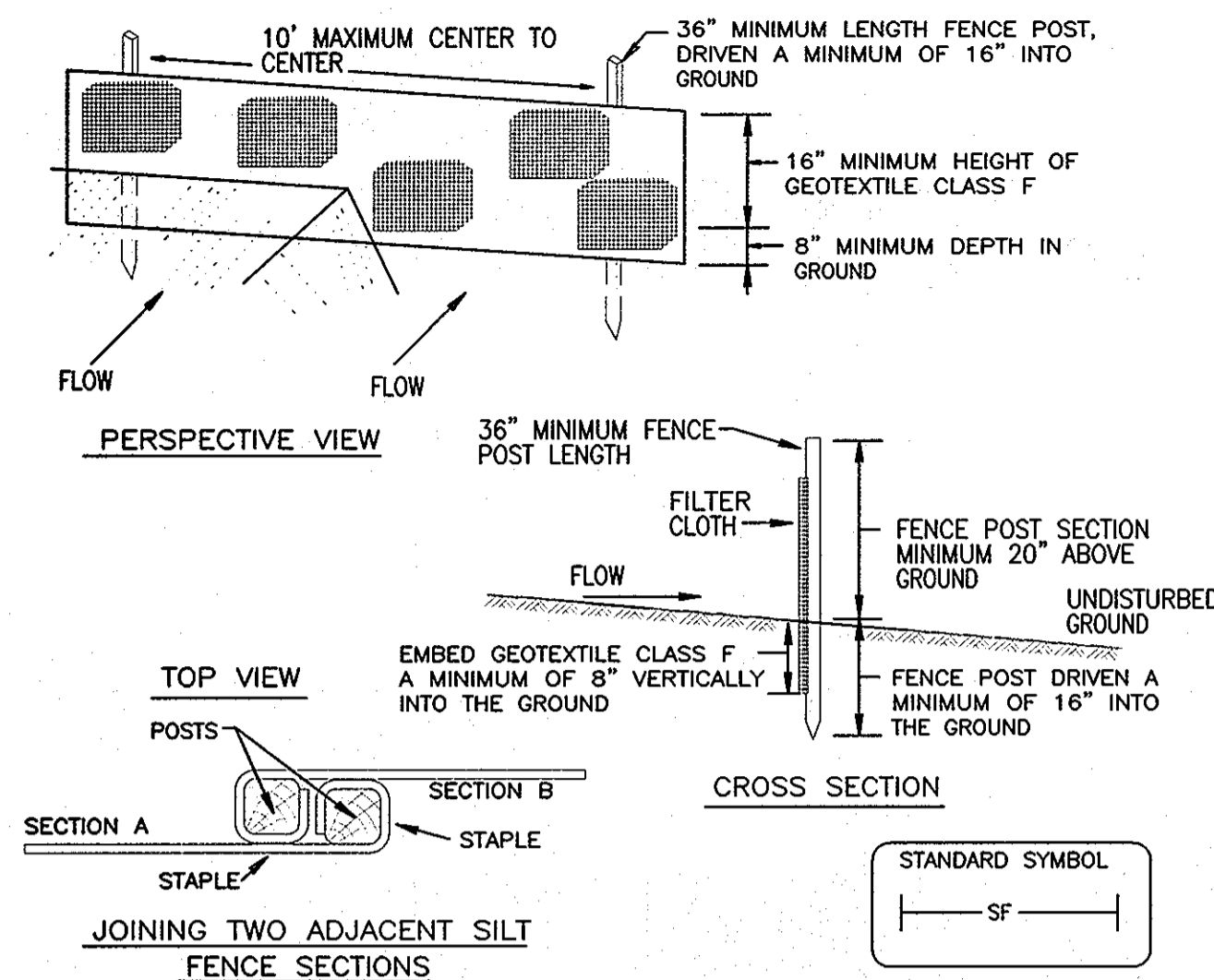
SCALE
AS SHOWN

SHEET
16 OF 19

AS BUILT SEPT. 15, 2008

BEST MANAGEMENT PRACTICES FOR SEDIMENT AND EROSION CONTROL

- It is the contractor's responsibility to provide proper sediment and erosion control protection around all areas where any excavation takes place following the latest Howard County's Erosion & Sediment Control Guidelines, and/or following Maryland Department of the Environment's Standards and Specifications for Soil Erosion and Sediment Control. The costs for protection devices not specifically identified as line items shall be considered incidental to associated construction activities including replacement of silt fence with super silt fence as needed.
- Contractor to maintain all sediment and erosion control measures at all times.
- At no time will sediment laden or untreated water resulting from runoff or dewatering be allowed to flow directly into unprotected storm inlets.
- Contractor will use portable sediment tank (see detail, this sheet) for all dewatering operations.
- Soil stockpiling is permitted in designated areas provided that the contractor installs and maintains all necessary Sediment and Erosion measures, including, but not limited to standard silt fence (see detail, this sheet).



- Construction Specifications**
- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
 - Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs./in. (min.)	Test: MSMT 509
Tensile Modulus	20 lbs./in. (min.)	Test: MSMT 509
Flow Rate	0.3 gal. ft ² /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
 - Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 - Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note:
In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

SILT FENCE

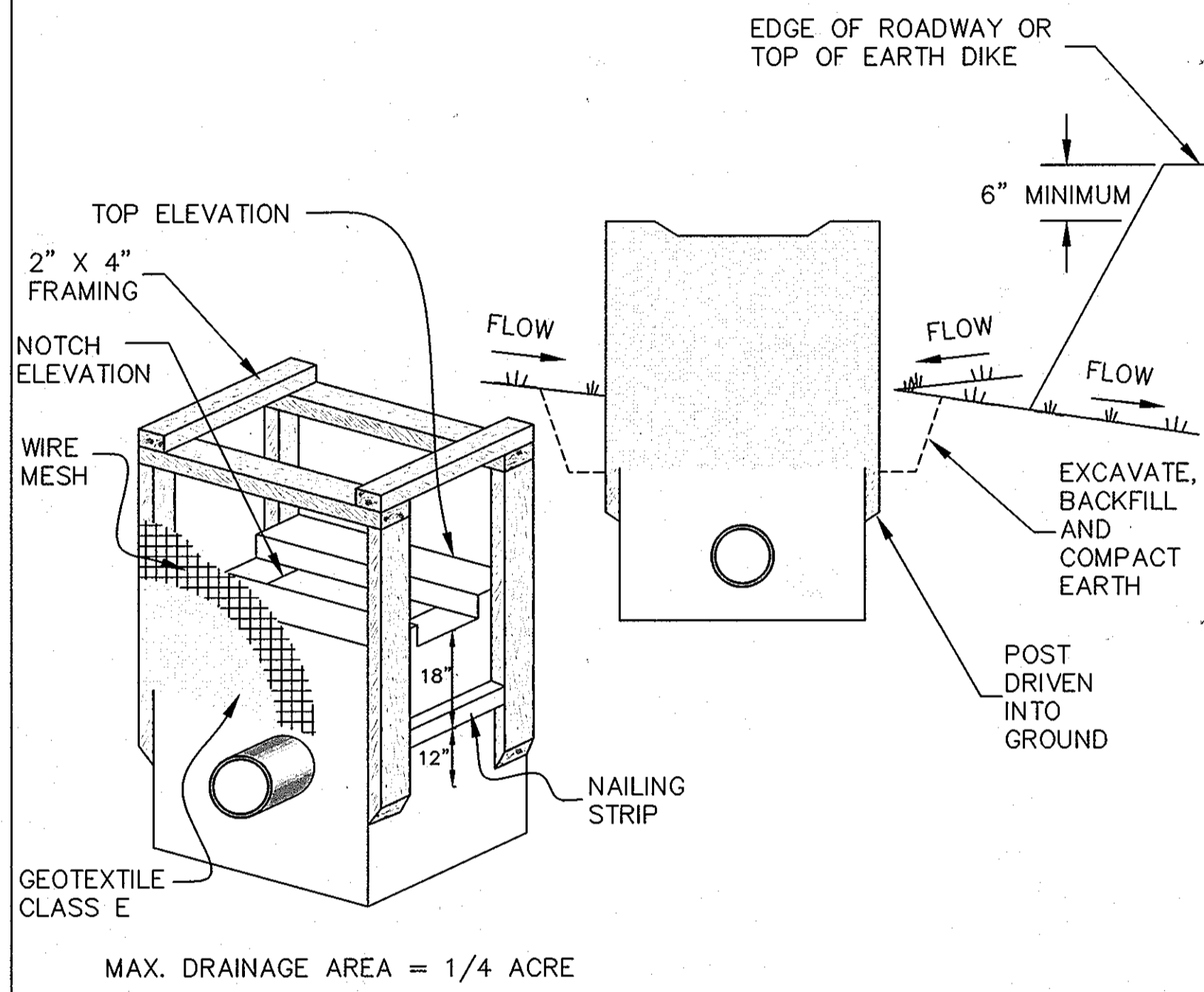
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT DATE U.S. SOIL CONSERVATION DISTRICT DATE

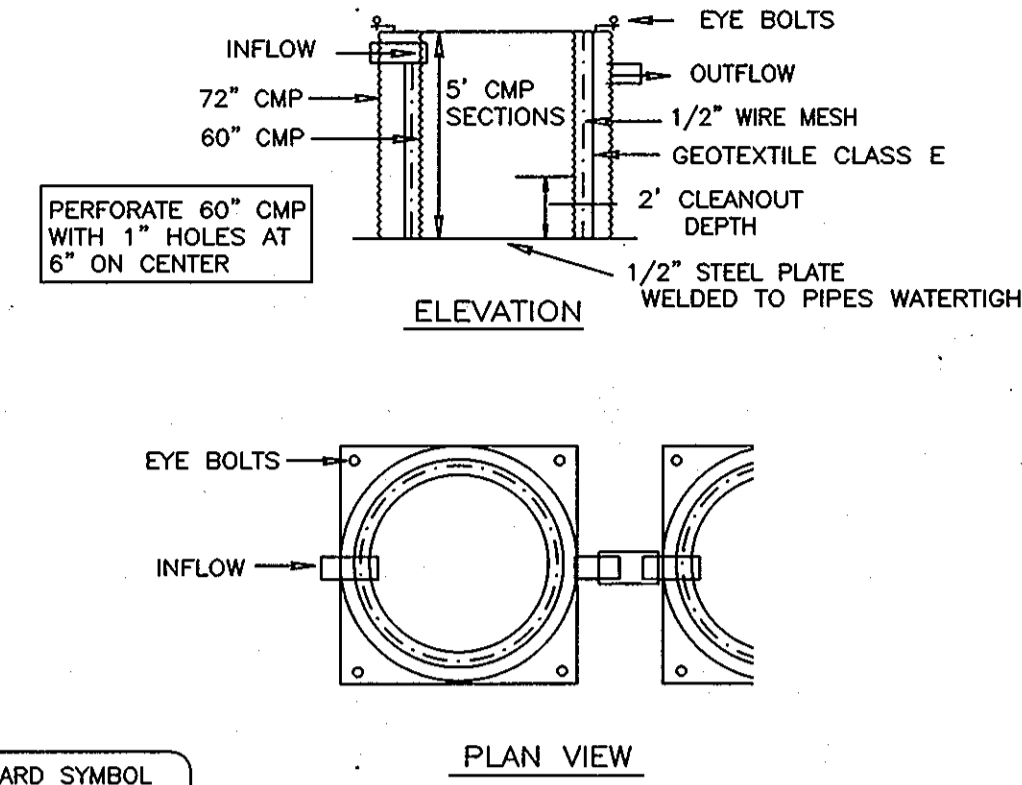
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works DATE Chief, Bureau of Engineering DATE
Chief, Bureau of Utilities DATE Chief, Utility Design Division DATE



- Construction Specifications**
- Excavate completely around the inlet to a depth of 18" below the notch elevation.
 - Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown above. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.
 - Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
 - Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded and then fastened down.
 - Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
 - If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
 - The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

STANDARD INLET PROTECTION



STANDARD SYMBOL
☒ PST

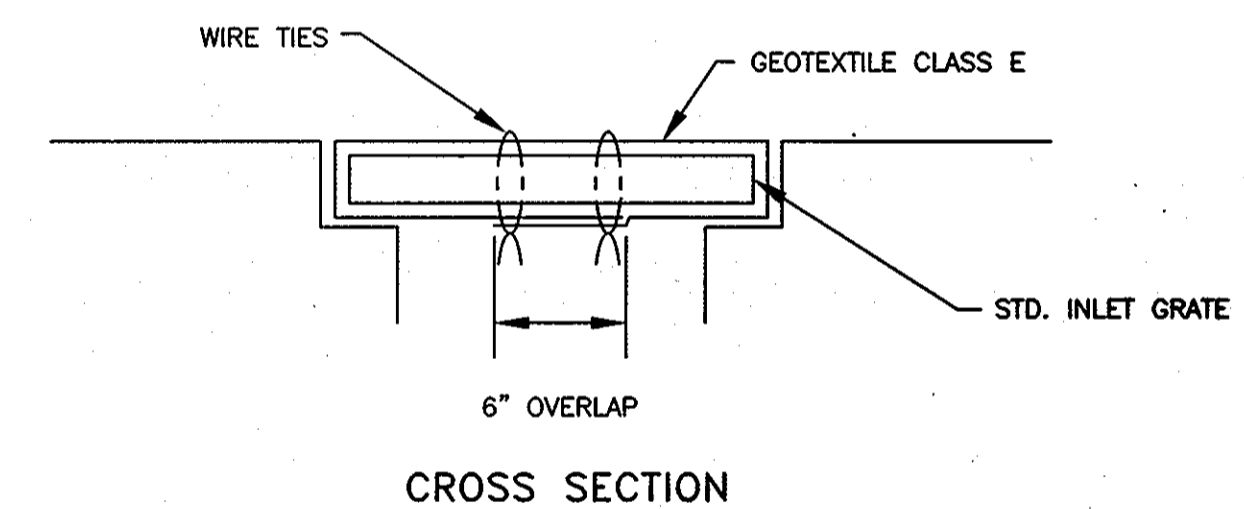
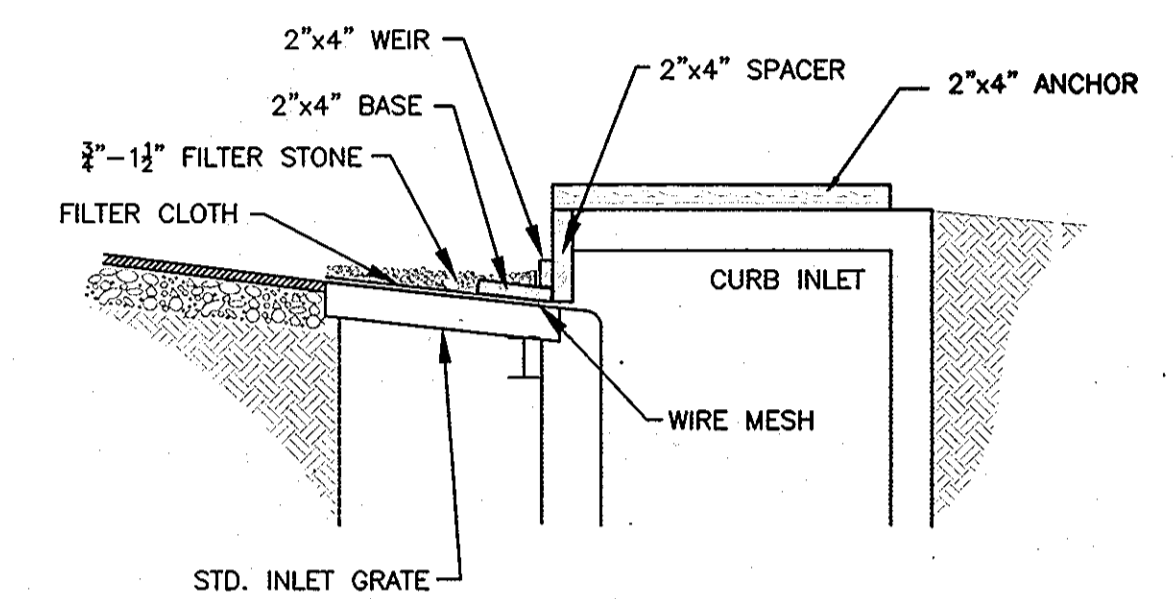
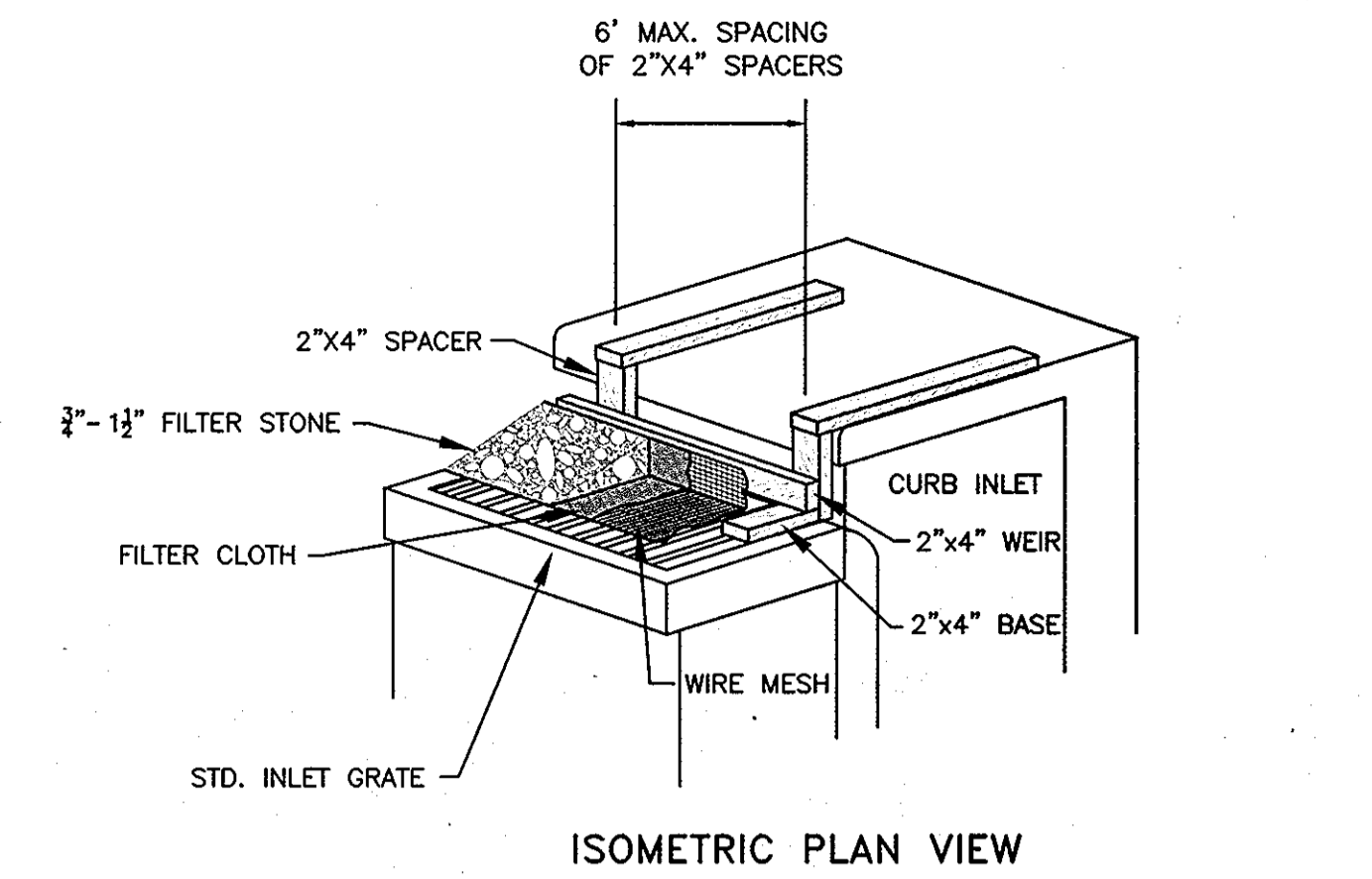
Construction Specifications

- The following formula should be used in determining the storage volume of the sediment tank: 1 cubic foot of storage for each gallon per minute of pump discharge capacity.
- An example of a typical sediment tank is shown above. Other container designs can be used if the storage volume is adequate and approval is obtained from the local approving agency.
- Tanks may be connected in series.

PORTABLE SEDIMENT TANK

SEQUENCE OF CONSTRUCTION

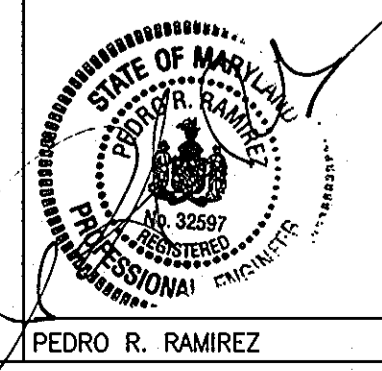
- OBTAIN ALL REQUIRED PERMITS.
- SUBMIT WRITTEN NOTIFICATION TO THE HOWARD COUNTY ENVIRONMENTAL ENGINEERING SECTION 72 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY:
 - WHEN CONTRACTOR INTENDS TO BEGIN CONSTRUCTION
 - SOURCE OF BORROW MATERIAL
 - CONTRACTOR'S DISPOSAL AREA
 - CONTRACTOR'S TENTATIVE COMPLETION DATE
- INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS FOLLOWS:
 - HEAVY DUTY STABILIZED CONSTRUCTION ENTRANCE
 - SILT FENCE
 - DEWATERING BASIN (PORTABLE SEDIMENT TANKS)
- STRIP AND STOCKPILE TOPSOIL.
- ALL SEDIMENT CONTROLS AND CRITICAL SLOPES GREATER THAN 3:1 MUST BE STABILIZED WITHIN 7 CALENDAR DAYS. ALL OTHER INACTIVE DISTURBED AREA ON THE PROJECT SITE MUST BE STABILIZED WITHIN 14 DAYS.
- TEST PIT FOR EXISTING UTILITIES TO LOCATE POINT OF CONNECTION WITH NEW PIPING. ADVISE ENGINEER IN WRITING OF SIZE, ELEVATION AND ALIGNMENT OF EXISTING UTILITIES.
- EXCAVATE TRENCH AND INSTALL PROPOSED UTILITIES SHOWN ON PLAN.
- PROVIDE TEMPORARY STABILIZATION OF DISTURBED AREAS WITH SEED AND MULCH.
- CLEAN UP CONSTRUCTION SITE.
- COMPLETE ROADWAY PAVEMENT REPAIRS.
- PERMANENTLY STABILIZE ALL DISTURBED AREAS PRIOR TO REMOVAL OF SEDIMENT AND EROSION MEASURES AND DEVICES.
- REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES AFTER RECEIVING WRITTEN APPROVAL FROM THE HOWARD COUNTY INSPECTOR. PERMANENTLY STABILIZE THE REMAINING DISTURBED AREA.



- Construction Specifications**
- Lift grate and wrap with Geotextile Class E to completely cover all opening, then set grate back in place.
 - Attach a continuous piece of wire mesh (30" minimum width with throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
 - Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
 - Securely nail the 2" x 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4" apart).
 - Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
 - The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
 - Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
 - This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
 - Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

TYPICAL CURB INLET PROTECTION AS BUILT SEPT. 15, 2008

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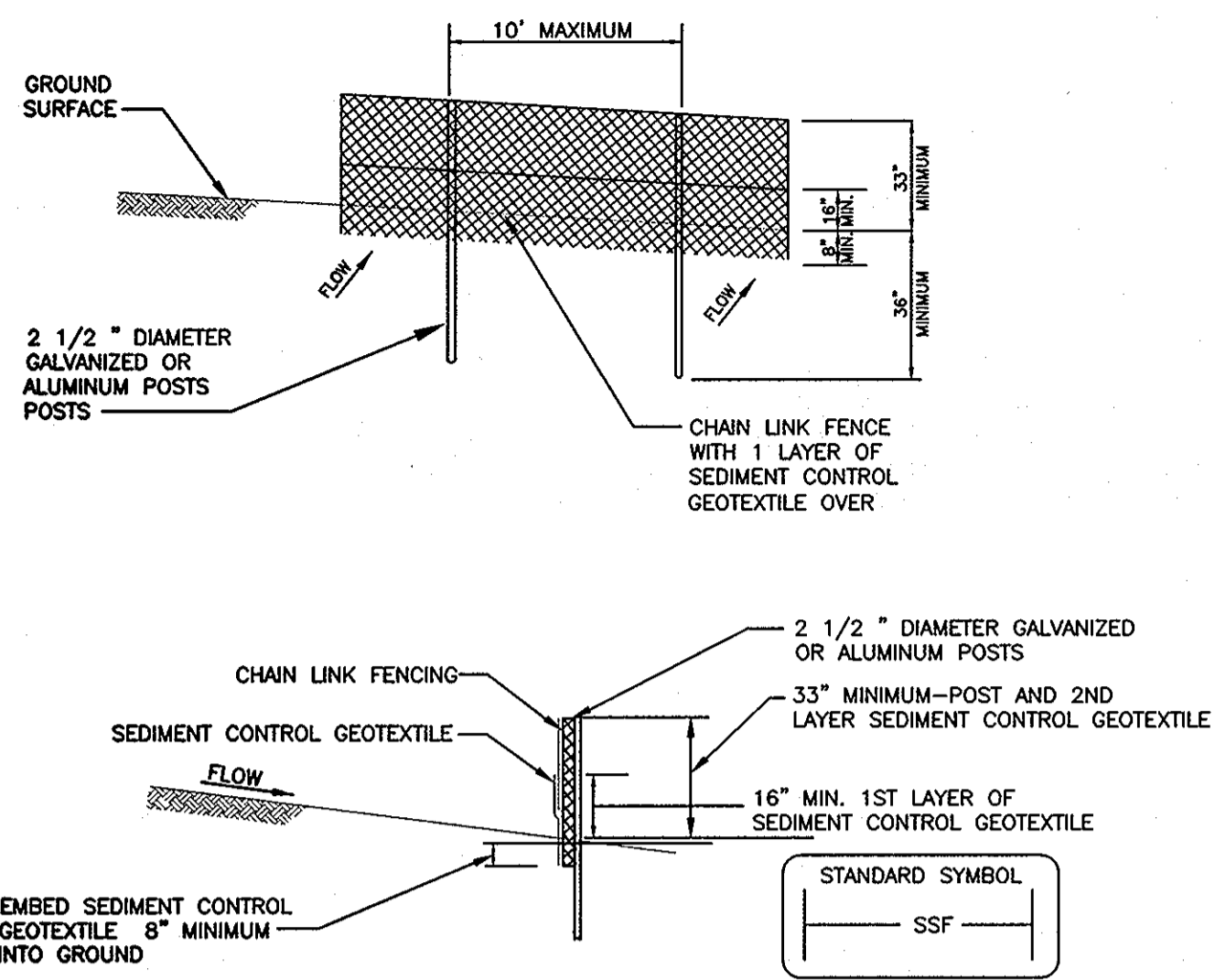
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CHK: PRR				
DATE 05/10/07				
NO.	REVISION	DATE	BY	

EROSION & SEDIMENT CONTROL DETAILS
600' SCALE MAP NO. 47.50

RECLAIMED WATER PROJECT - PHASE IIA
RECLAIMED WATER AND SEWER PIPELINES
CAPITAL PROJECT NO. S-6245
CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 17 OF 18

NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER

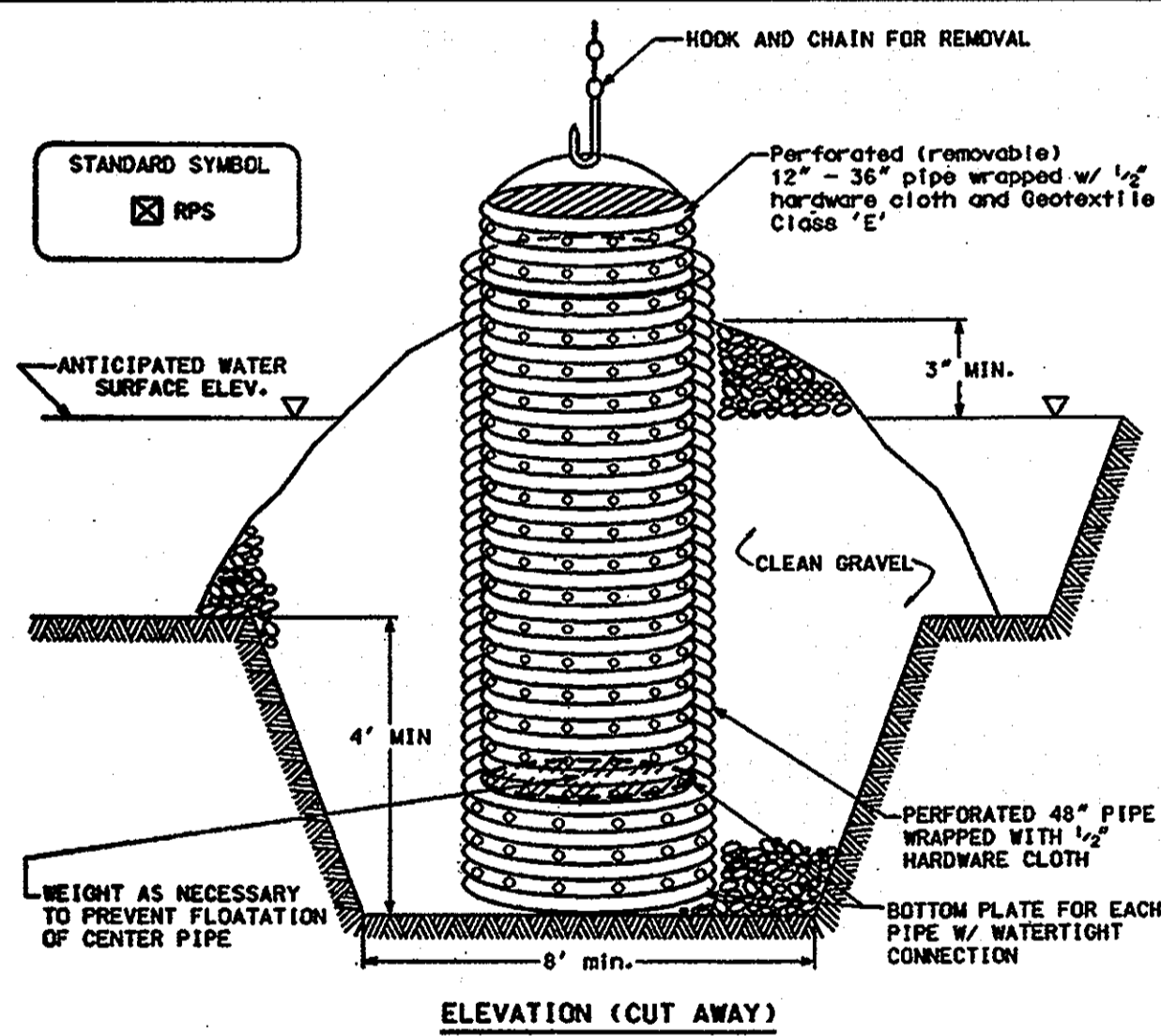


Construction Specifications:

Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6 foot fence shall be used, substituting 42 Inch fabric and 6 foot length posts.

- The poles do not need to set in concrete.
- Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildups removed when "buildups" develop in the silt fence.

SUPER SILT FENCE



Construction Specifications

- The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
- After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
- The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" dia. slots or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class E.
- The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

REMOVABLE PUMP STATION

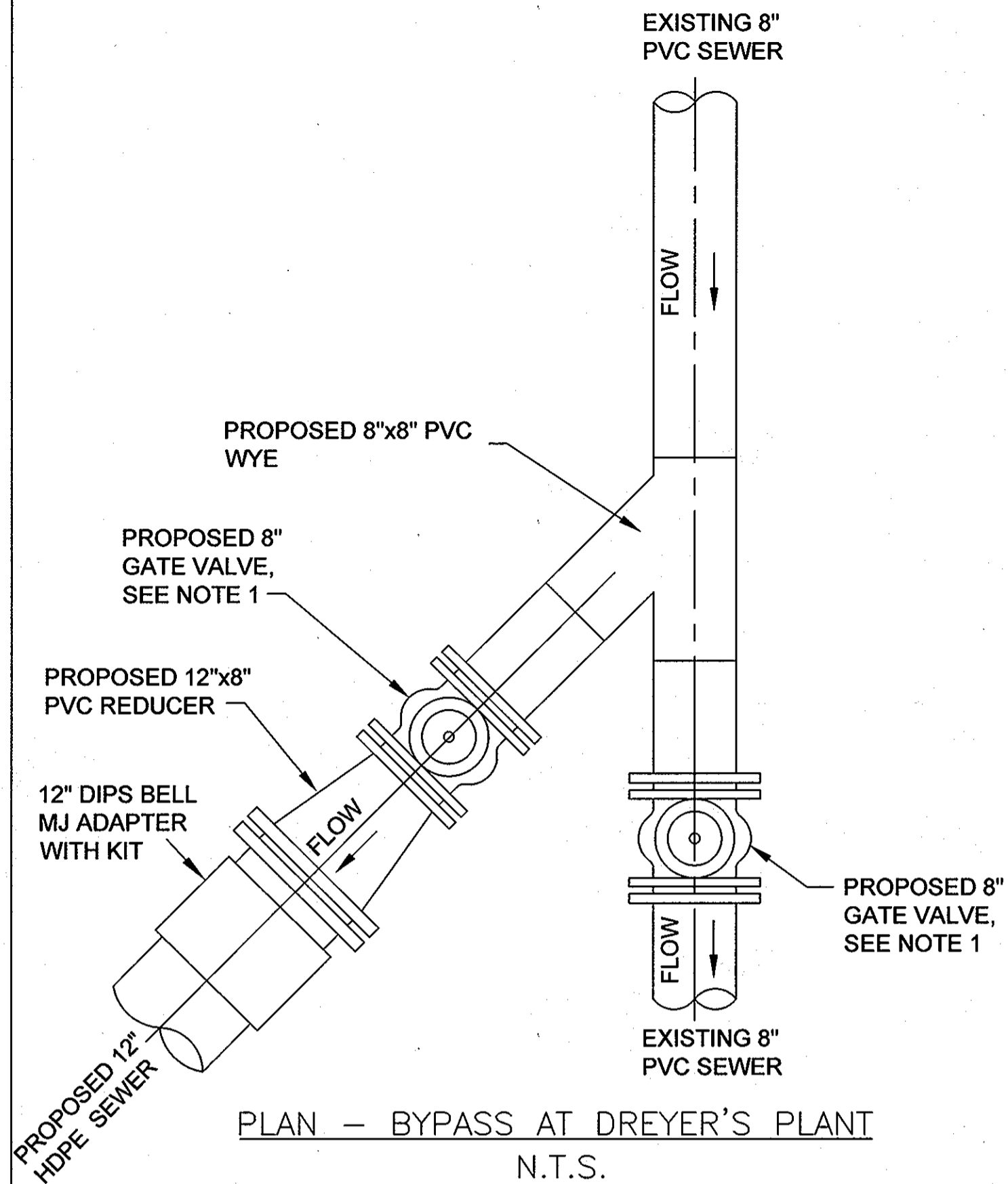
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT _____ DATE _____ U.S. SOIL CONSERVATION DISTRICT _____ DATE _____

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: *6/10/10*
 Chief, Bureau of Engineering: *[Signature]* DATE: *6/10/10*
 Chief, Bureau of Utilities: *[Signature]* DATE: *6/10/10*
 Chief, Utility Design Division: *[Signature]* DATE: *6/10/10*

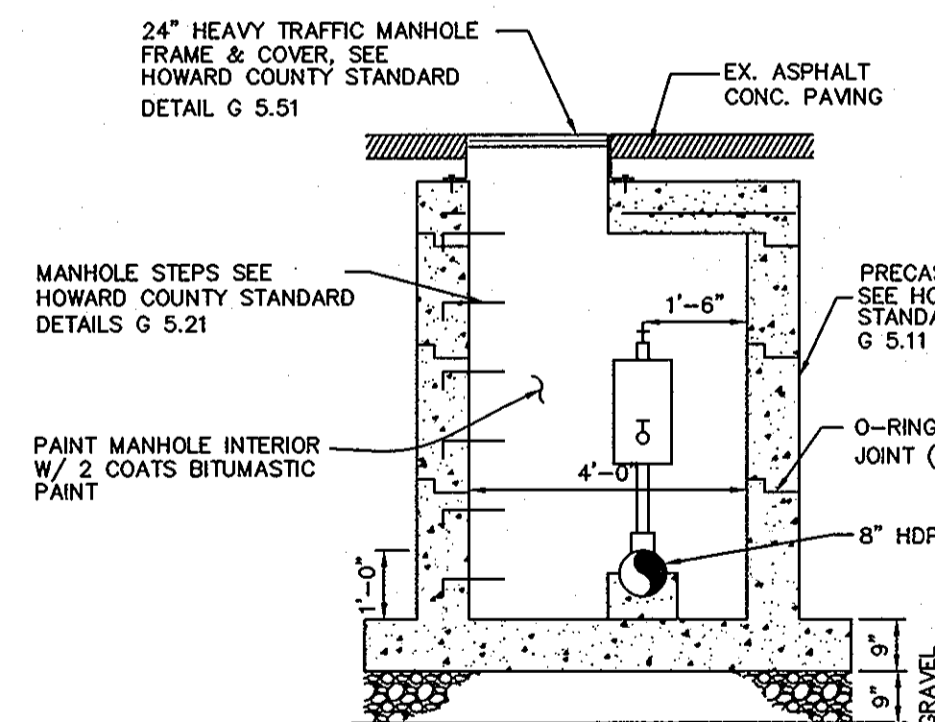


PLAN - BYPASS AT DREYER'S PLANT
N.T.S.

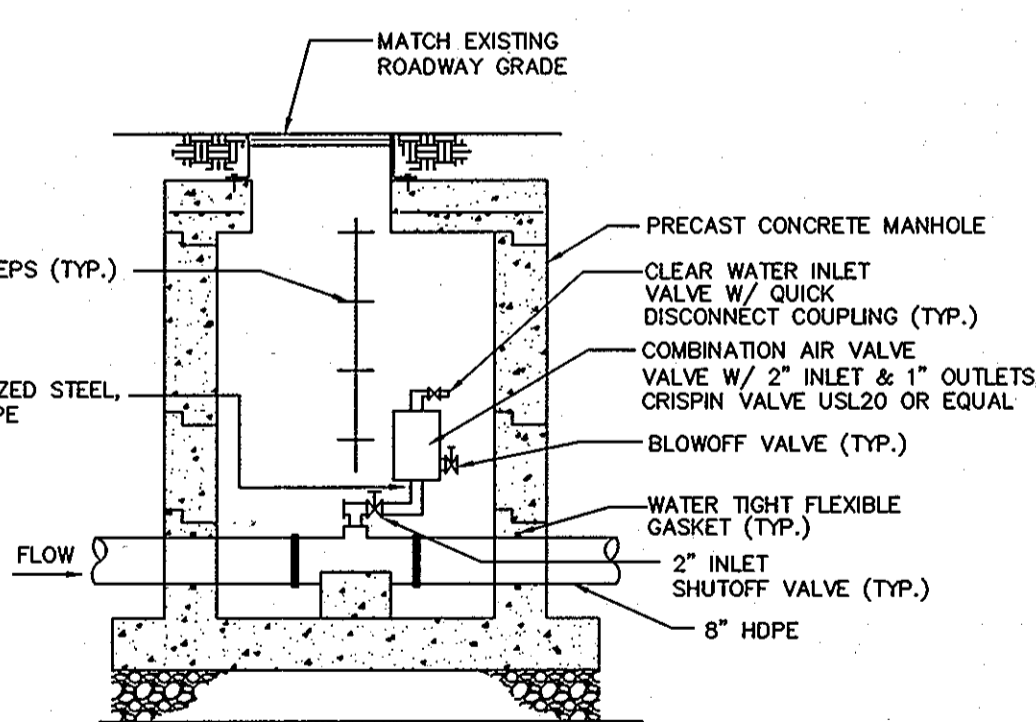
- NOTE:
- PROPOSED RESILIENT SEAT GATE VALVE WITH FUSION BONDED EPOXY COATING AND ADJUSTABLE VALVE BOX WITH EXTENSION STEM AND OPERATING NUT TO FINISHED GRADE.

DETAIL 1

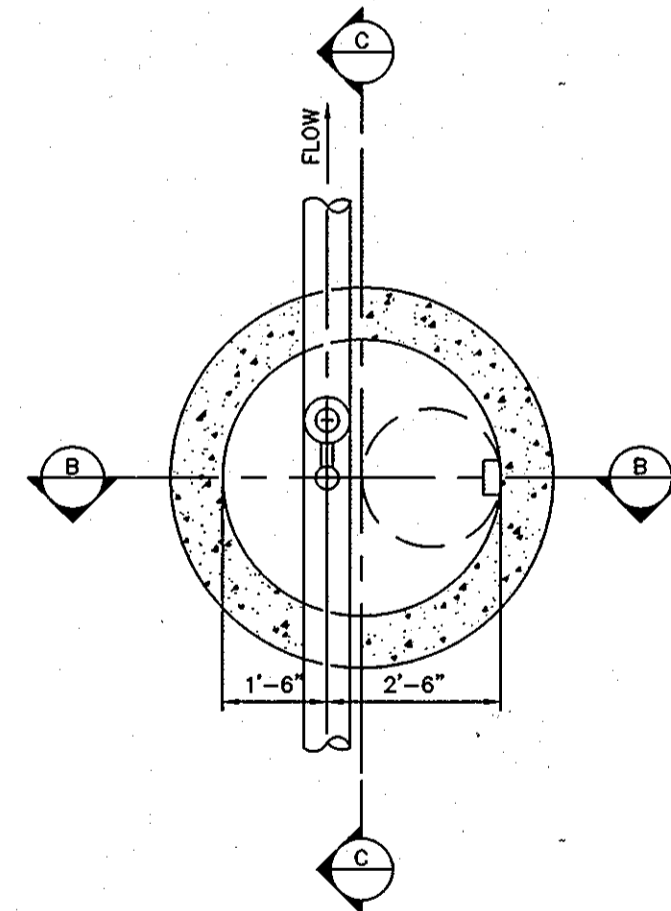
NOTE: USING GRADE RINGS, ADJUST FRAME AND COVER TO BE FLUSH IN PAVEMENT SURFACE.



COMBINATION AIR VALVE AND VAULT SECTION B-B
N.T.S.

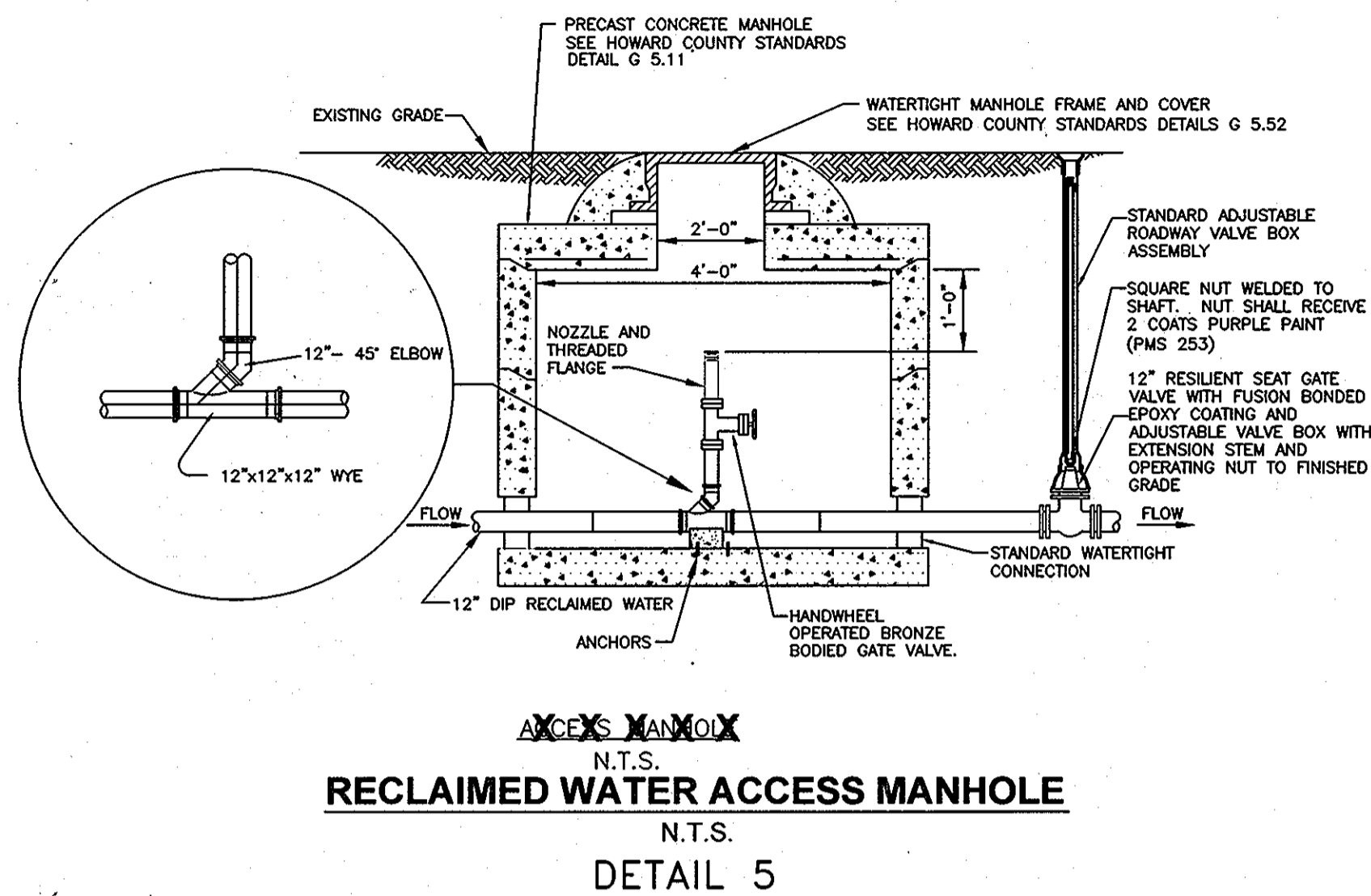


COMBINATION AIR VALVE AND VAULT SECTION C-C
N.T.S.

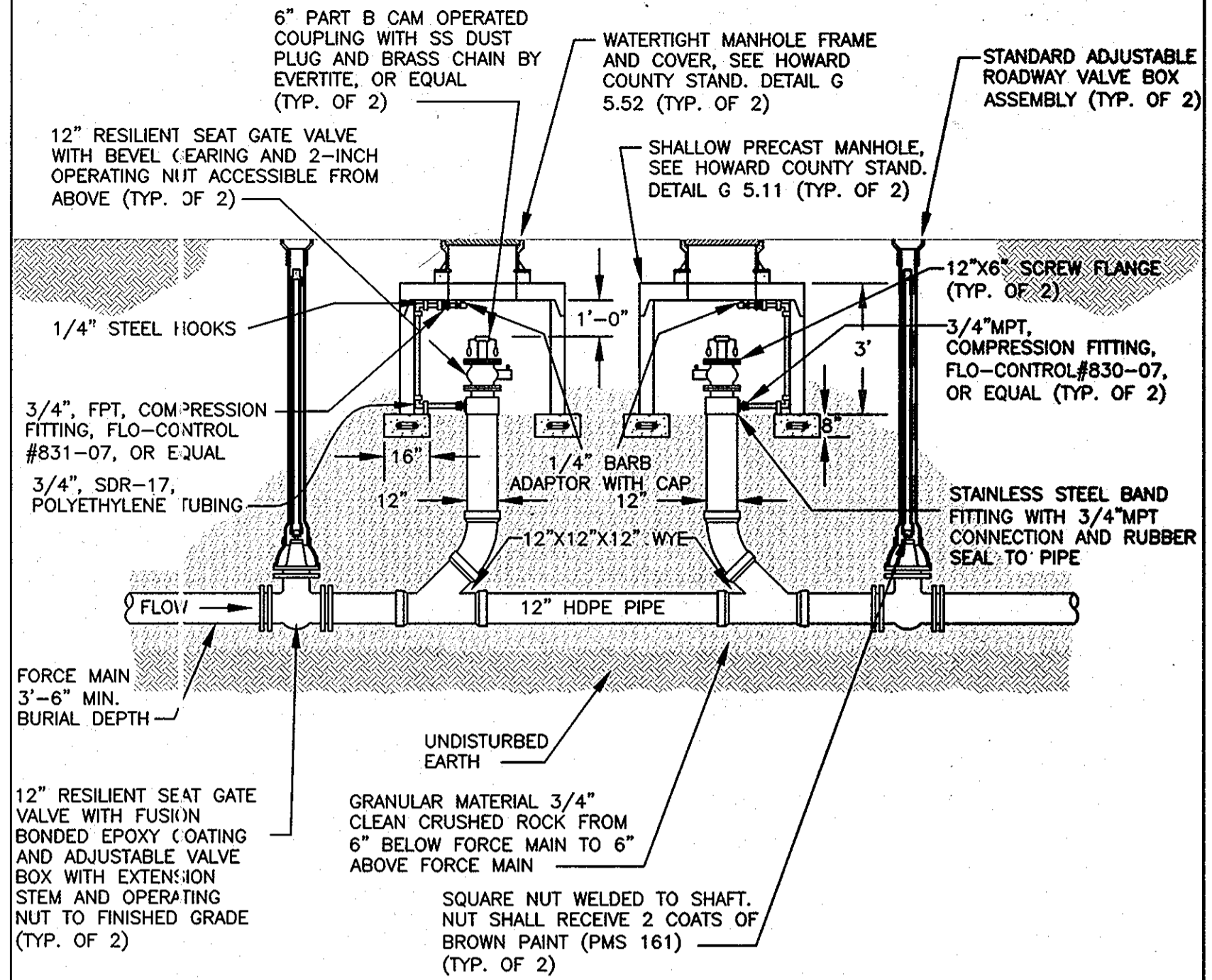


COMBINATION AIR VALVE AND VAULT PLAN
N.T.S.

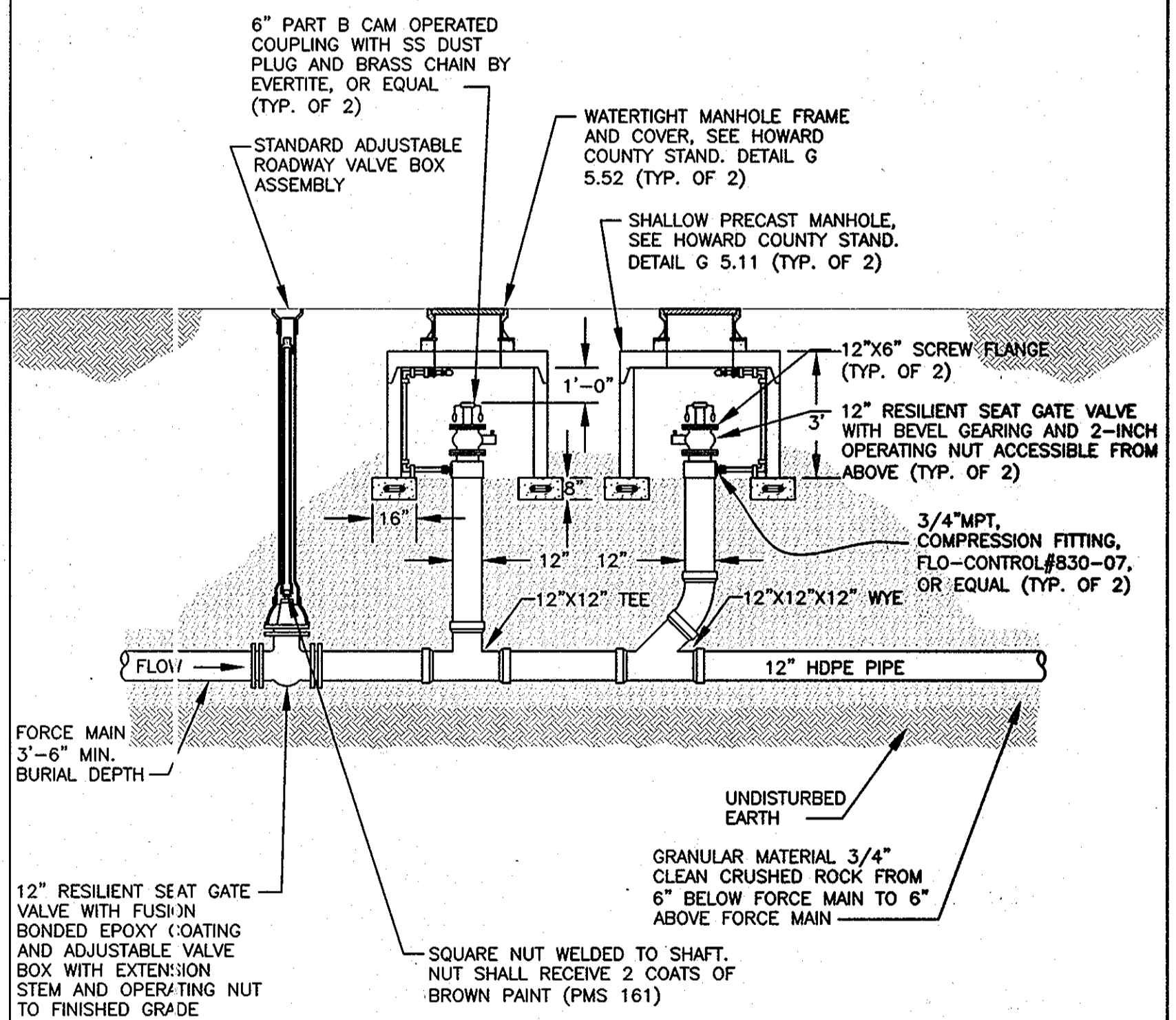
DETAIL 3 - COMBINATION AIR VALVE AND VAULT



RECLAIMED WATER ACCESS MANHOLE
N.T.S.
DETAIL 5



DUAL PRESSURE SEWER CLEANOUT DETAIL
N.T.S.
DETAIL 4



SINGLE PRESSURE CLEANOUT DETAIL
N.T.S.
DETAIL 2

DESIGN: CSP
 DRAWN: BJW
 CHK: PRR
 DATE: 05/10/07

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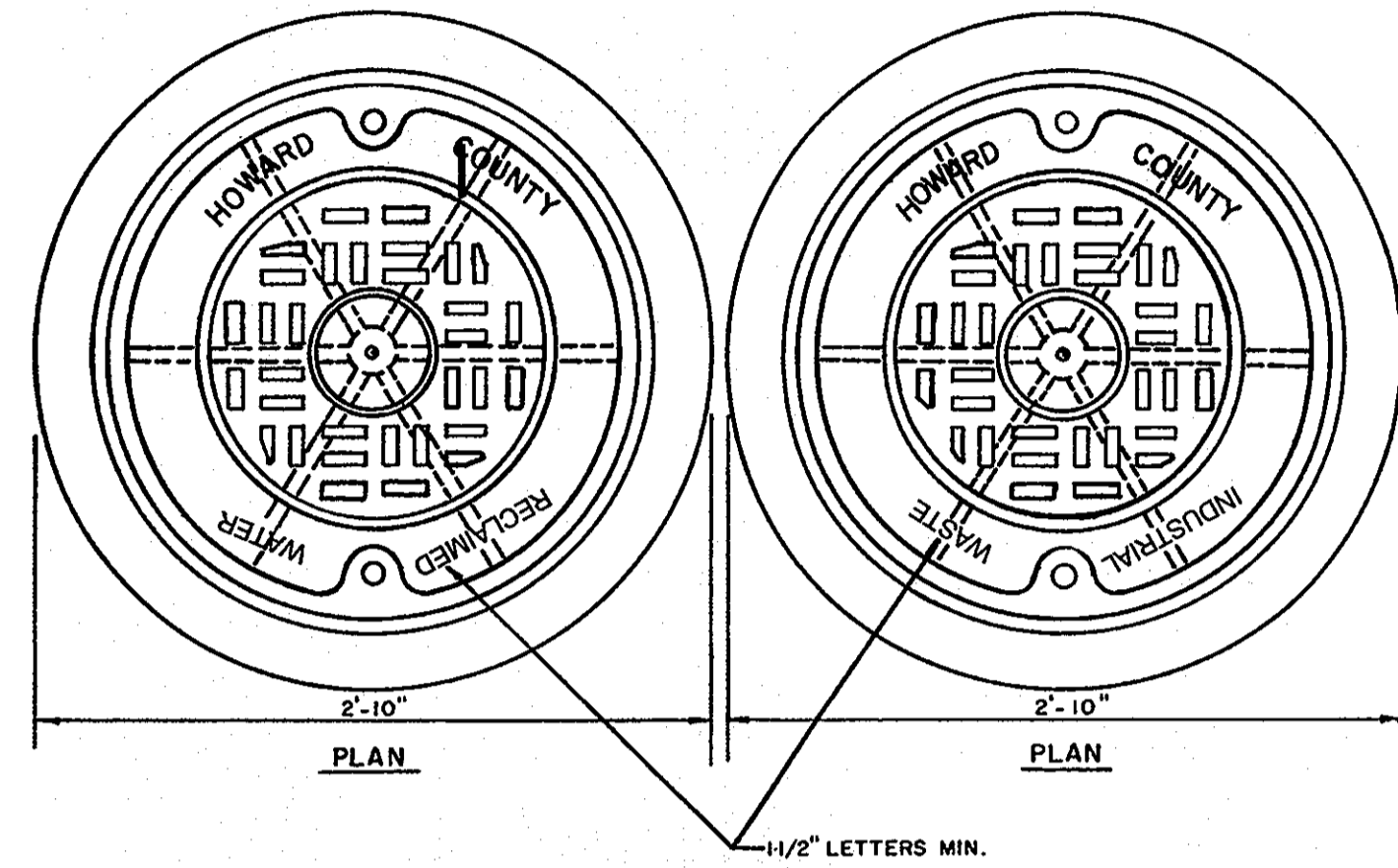
NO.	REVISION	DATE	BY

MISCELLANEOUS DETAILS

RECLAIMED WATER PROJECT - PHASE IIA
 RECLAIMED WATER AND SEWER PIPELINES
 CAPITAL PROJECT NO. S-6245
 CONTRACT NO. 60-4447
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 18 OF 18

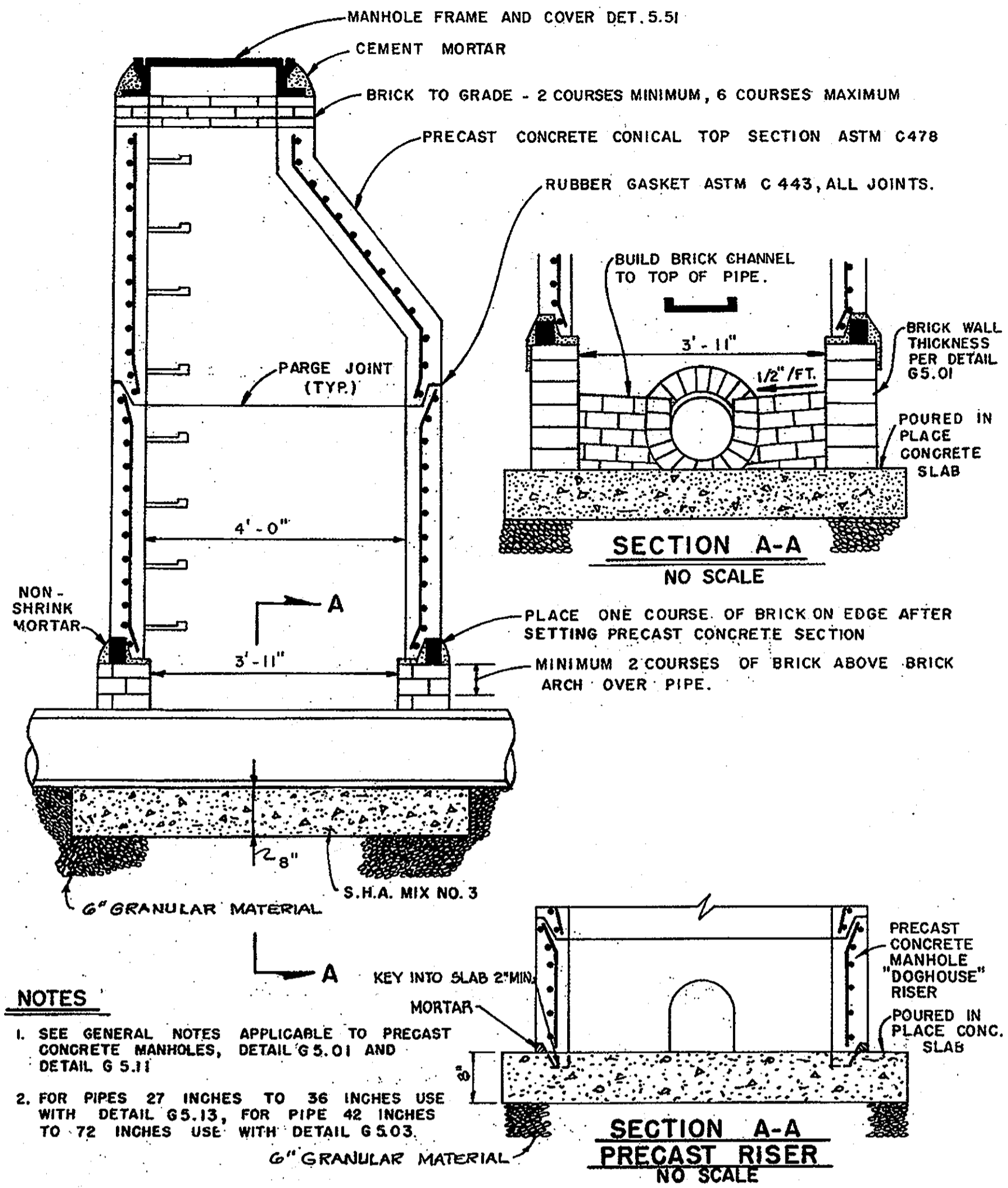
AS BUILT SEPT. 15, 2008



NOTES:

1. FOR MANHOLE FRAME AND COVER ASSEMBLY, SEE DETAIL G-5.51 OR G-5.52.
2. FRAME AND COVER TO BE CAST IRON ASTM A-48.
3. AVERAGE WEIGHT OF COVER SHALL NOT BE LESS THAN 170 LBS.
4. PLAN A WILL BE USED FOR RECLAIMED WATER MANHOLE COVERS. THE COVERS SHALL BE PAINTED PURPLE (PMS 253).
5. PLAN B WILL BE USED FOR SANITARY SEWER MAHOLE COVERS. THE COVERS SHALL BE PAINTED BROWN (PMS 161).

LETTERING FOR MANHOLE COVERS



NOTES

1. SEE GENERAL NOTES APPLICABLE TO PRECAST CONCRETE MANHOLES, DETAIL G 5.01 AND DETAIL G 5.11
2. FOR PIPES 27 INCHES TO 36 INCHES USE WITH DETAIL G 5.13, FOR PIPE 42 INCHES TO 72 INCHES USE WITH DETAIL G 5.03

PRECAST CONCRETE MANHOLE BUILT OVER EXISTING SEWER
N.T.S.

DETAIL 6

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

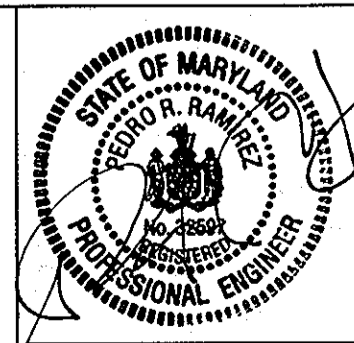
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SOIL CONSERVATION DISTRICT DATE U.S. SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *Janet G. Glisk* DATE: 6/10/10
 Chief, Bureau of Engineering: *Robert Johnson* DATE: 6/10/10
 Chief, Bureau of Utilities: *Steve C. ...* DATE: 5/25/10
 Chief, Utility Design Division: *...* DATE: 6/10/10

URS
MONTGOMERY PARK BUSINESS CENTER
1800 WASHINGTON BOULEVARD, SUITE 410
BALTIMORE, MARYLAND 21230
(410) 468-0875



DESIGN: CSP					
DRAWN: BJW					
CHK: PRR					
DATE: 05/10/07					
	NO.	REVISION	DATE	BY	

MISCELLANEOUS
DETAILS

600' SCALE MAP NO. 47.50

RECLAIMED WATER PROJECT - PHASE IIA
RECLAIMED WATER AND SEWER PIPELINES
CAPITAL PROJECT NO. S-6245
CONTRACT NO. 60-4447
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 19 OF 19

AS BUILT SEPT. 15, 2008