

**GENERAL NOTES:**

- APPROXIMATE LOCATIONS 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.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN NOVEMBER 2014 BY WHITMAN, REQUARDT & ASSOCIATES LLP.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:  
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE COORDINATE SYSTEM NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 35BB AND NO. 35DA. SEE SURVEY INFORMATION TABLE ON THIS DRAWING.  
ALL VERTICAL CONTROLS ARE BASED ON NAVD '88 AND WERE DERIVED FROM SURVEY CONTROL STATION NO. 35BB AND NO. 35DA. SEE SURVEY INFORMATION TABLE ON THIS DRAWING.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 18". CLEAR ALL POLES BY 5'-0" MINIMUM, OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF THE POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE 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.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL [ ] AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR BY TEST PIT TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS 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  
BGE (CONSTRUCTION SERVICES) ..... 410-637-8713  
BGE (EMERGENCY) ..... 410-685-0123  
BUREAU OF UTILITIES ..... 410-313-4900  
COLONIAL PIPELINE CO. .... 410-795-1390  
MISS UTILITY ..... 1-800-257-7777  
STATE HIGHWAY ADMINISTRATION ..... 410-531-5533  
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 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.

**WATER NOTES:**

- ALL WATER MAINS SHALL BE DR-18 C-900 PVC UNLESS OTHERWISE INDICATED.
- TOPS OF ALL WATER MAINS SHALL 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 IN 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. ALL FIRE HYDRANT LEADS INCLUDING THE TEE SHALL BE DUCTILE IRON CLASS 54 MEETING THE REQUIREMENTS OF AND CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF UTILITIES HOWARD COUNTY 15 DAYS PRIOR TO WATER MAIN SHUT DOWNS.
- TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL. CONTINUITY TEST STATIONS SHALL BE PLACED ADJACENT TO EACH FIRE HYDRANT AND ANCHORAGES SHALL BE INSTALLED UNDER WATER VALVES IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS AND DETAILS.
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
- UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSSES. TWELVE (12) POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC SHALL BE DUCTILE IRON.
- PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF PVC PIPE.
- ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #7 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.  
PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES (1/2-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL.  
FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.
- WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C-900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS AND 5-DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTINGS. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.

**SANITARY SEWER NOTES:**

- ALL SEWER MAINS SHALL BE SDR-35 PVC UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" UNLESS OTHERWISE NOTED.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED "WT" IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAILS G5.52.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATED THAT THE CELLAR CANNOT BE SERVED.
- HOUSE NUMBERS 5914, 5916, 5936, 5938, AND 5942 SHALL BE SERVED BY A FUTURE LOW PRESSURE SEWER SYSTEM (NOT IN THIS CONTRACT).

# TROTTER ROAD WATER AND SEWER EXTENSION CAPITAL PROJECT W-8698 CONTRACT NO. 34-4943 HOWARD COUNTY, MARYLAND

**ABBREVIATIONS**

CE	CELLAR ELEVATION	NIC	NOT IN CONTRACT
C.N.S.	CELLAR NOT SERVED	PROP	PROPOSED
DIA.	DIAMETER	PVC	POLYVINYL CHLORIDE
DHC	DROP HOUSE CONNECTION	R&C	REBAR AND CAP
ELEV.	ELEVATION	R/O/W	RIGHT OF WAY
EX.	EXISTING	S	GRAVITY SANITARY SEWER
FF	FINISHED FLOOR	SAN	SANITARY
HORIZ.	HORIZONTAL	SHC	SEWER HOUSE CONNECTION
INV.	INVERT	SF	SILT FENCE
LF	LINEAR FOOT	SSF	SUPER SILT FENCE
LOD	LIMIT OF DISTURBANCE	TYP.	TYPICAL
MIN.	MINIMUM	WHC	WATER HOUSE CONNECTION
N/A	NOT APPLICABLE		

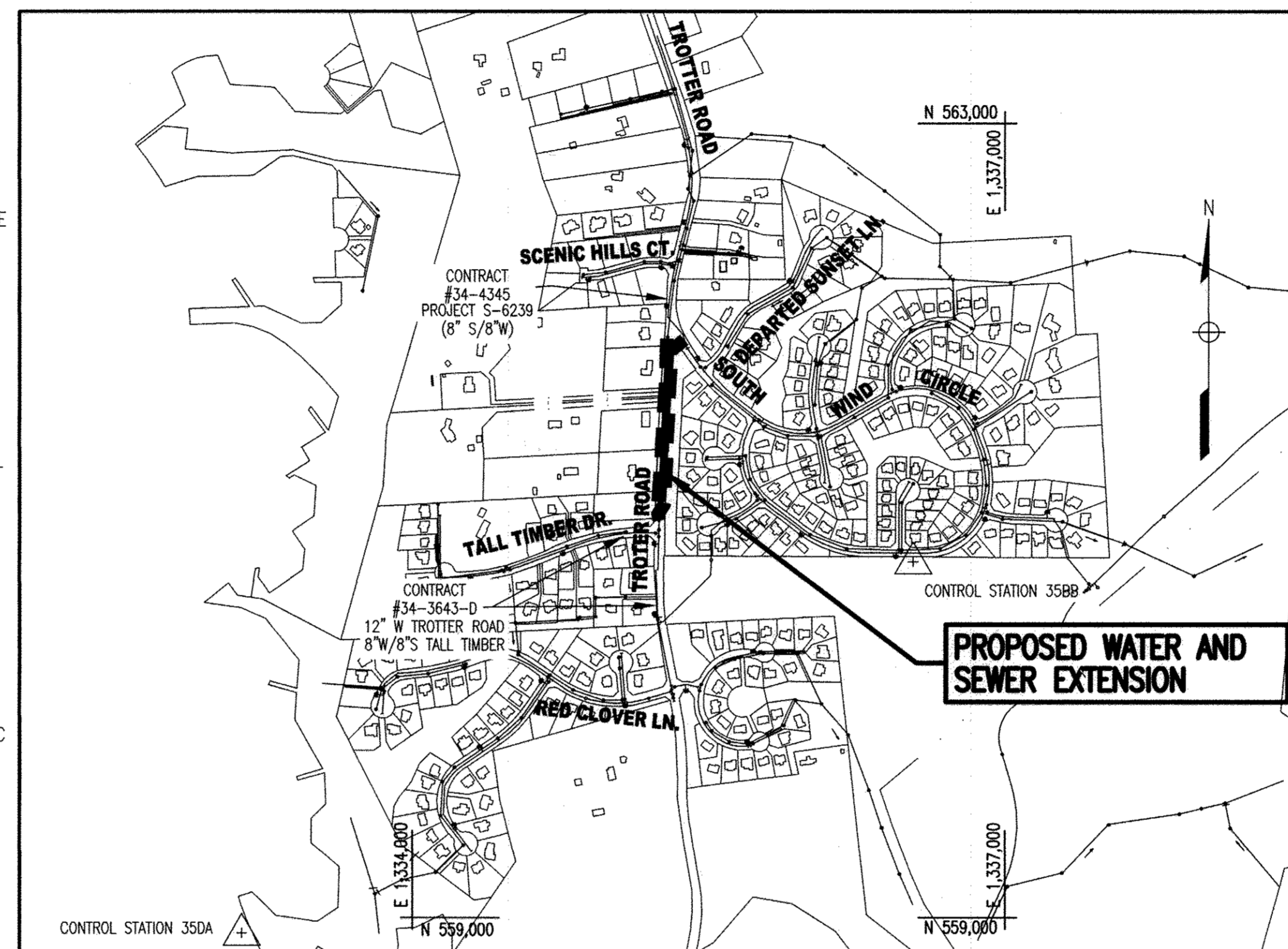
**DRAWING/SHEET INDEX**

DWG.	SHEET	DESCRIPTION
G-1	1	VICINITY MAP, TITLE, BILL OF MATERIALS, SHEET INDEX
C-1	2	SEWER PLAN AND PROFILE
C-2	3	WATER MAIN PLAN AND PROFILE
SC-1	4	EROSION AND SEDIMENT CONTROL PLAN, NOTES AND DETAILS
SC-2	5	EROSION AND SEDIMENT CONTROL DETAILS
SC-3	6	EROSION AND SEDIMENT CONTROL DETAILS

NOTE: SEE AS-BUILT LOT MEASUREMENTS AND SKETCHES SHEET 6 OF 6

**BILL OF MATERIALS**

ITEM	QUANTITY	MATERIALS	AS-BUILT QUANTITY	MANUFACTURER
48" I.D. PRECAST CONCRETE MANHOLE < 6'	4 EACH	PRECAST CONC.	4	C.P.P.
48" I.D. PRECAST MANHOLE ADDITIONAL DEPTH > 6'	35 VF	PRECAST CONC.	35	C.P.P.
8" DIA. SDR 35 PVC SANITARY SEWER	317 LF	SDR-35 PVC	310.75	J.M. EAGLE
8" DIA. C-900 PVC SANITARY SEWER	555 LF	C-900 PVC	547	J.M. EAGLE
8" DIA. TYPE 'B' DROP CONNECTION	1 EACH	PVC	1	AMERICAST
4" DIA. SDR 35 SHC	22 LF	SDR-35 PVC	22	J.M. EAGLE
4" DIA. C-900 SHC	130 LF	C-900 PVC	130	J.M. EAGLE
4" DIA. SDR 35 DHC	32 LF	SDR-35 PVC	45	J.M. EAGLE
4" DIA. C-900 DHC	65 LF	C-900 PVC	65	J.M. EAGLE
4" DIA. C-900 TWIN DHC	42 LF	C-900 PVC	42	J.M. EAGLE
8" DIA. C-900 PVC DR18 WATER	950 LF	C-900 PVC	950.5	J.M. EAGLE
8" TAPPING SLEEVE AND VALVE (WATER)	1 EACH	RESISTANT SEAT GATE VALVE	1	FORD METER BOX
FIRE HYDRANT (VOL. IX 961.07)	1 EACH	C502	1	AMERICAN FLOW CONTROL
1 1/2" DIA. WHC (COPPER), 1" OUTSIDE METER SETTING, DETAIL W-3.28	210 LF	TYPE 'K' COPPER	211	CAMBRIDGE
1 1/2" DIA. WHC (COPPER), 1" TWIN OUTSIDE METER SETTING, DETAIL W-3.32	68 LF	TYPE 'K' COPPER	72	CAMBRIDGE



TYPE OF BUILDING: NA  
NUMBER OF PARCELS: 10  
WATER HOUSE CONNECTIONS: 10  
SEWER HOUSE CONNECTIONS: 10  
DRAINAGE AREA: MIDDLE PATUXENT  
PRESSURE ZONE: 630-W  
WATER TEST GRADIENT: 908'

**LOCATION MAP**

1" = 600'

**SURVEY INFORMATION TABLE**

GEODETIC CONTROL STA.	NORTHING	EASTING	ELEV.
35BB	560,790.46	1,336,537.26	394.27
35DA	558,918.63	1,333,137.30	350.82

**PROJECT PURPOSE:**

THIS CONTRACT IS TO PROVIDE PUBLIC WATER SERVICE AND PUBLIC SEWER SERVICE TO 10 PRIVATE PROPERTIES ON THE WEST SIDE OF TROTTER ROAD, FROM SOUTH WIND CIRCLE TO TALL TIMBER TRAIL. IT ALSO SERVES TO PROVIDE A CONNECTION LOOP IN THE WATER MAINS BETWEEN THE NORTHERN AND CENTRAL PORTIONS OF TROTTER ROAD.

**TRAFFIC CONTROL/ROAD RESTORATION NOTES:**

- ROADWAY IS COUNTY MAINTAINED. PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH SHA STANDARD DETAIL MD-1.04.02-09.
- ALL TEMPORARY RESTORATION SHALL BE INCLUDED IN THE PRICE BID FOR GIVEN UTILITY. TEMPORARY RESTORATION WILL NOT BE MEASURED AND PAID FOR. MILL AND OVERLAY OF ENTIRE ROADWAY IS REQUIRED AS NOTED ON THE DRAWINGS.
- SEE DRAWING C-1 FOR ROAD RESTORATION DETAIL, WHICH APPLIES TO BOTH WATER AND SEWER UTILITY.

**LEGEND**

EXISTING	PROPOSED	DESCRIPTION
(Symbol)	(Symbol)	BORING
(Symbol)	(Symbol)	CONTOURS
(Symbol)	(Symbol)	CURB
(Symbol)	(Symbol)	SIGN
(Symbol)	(Symbol)	TREE
(Symbol)	(Symbol)	SANITARY SEWER & MH
(Symbol)	(Symbol)	REDUCER, TEE, VALVE & FIRE HYDRANT
(Symbol)	(Symbol)	LIMIT OF DISTURBANCE
(Symbol)	(Symbol)	WATER MAIN
(Symbol)	(Symbol)	GAS (UNDERGROUND)
(Symbol)	(Symbol)	ELECTRIC (UNDERGROUND)
(Symbol)	(Symbol)	WATER METER
(Symbol)	(Symbol)	WATER AIR RELEASE OR VALVE MANHOLE
(Symbol)	(Symbol)	WELL
(Symbol)	(Symbol)	STORM DRAIN INLET W/ STORM DRAIN PIPE
(Symbol)	(Symbol)	FENCE WIRE
(Symbol)	(Symbol)	FENCE WOOD
(Symbol)	(Symbol)	PAVED ROADWAY
(Symbol)	(Symbol)	TRAVERSE POINT
(Symbol)	(Symbol)	BENCHMARK/SURVEY CONTROL POINT
(Symbol)	(Symbol)	PROPERTY LINE
(Symbol)	(Symbol)	MAILBOX
(Symbol)	(Symbol)	POWER/UTILITY POLE WITH GUY WIRE
(Symbol)	(Symbol)	STREET LIGHT
(Symbol)	(Symbol)	ELECTRIC METER
(Symbol)	(Symbol)	IRON PIPE FOUND

**AS-BUILT**

<p><b>DESIGN CERTIFICATION</b></p> <p>I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.</p> <p>_____ WILFRIED HINZ DESIGNER'S SIGNATURE</p> <p>5/11/2016 DATE</p> <p>27029 MDE REGISTRATION NO. P.E., RLS, OR R.L.A.</p>	<p><b>OWNERS/DEVELOPER CERTIFICATION:</b></p> <p>I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT ACCORDING TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.</p> <p>_____ WES DAUB OWNER'S/DEVELOPER'S SIGNATURE</p> <p>5/12/16 DATE</p> <p>WES DAUB - PROJECT MANAGER PRINTED NAME &amp; TITLE</p>
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<p><b>NAME OF UTILITY CONTRACTOR:</b></p> <p>SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.</p> <p>EP16 009</p>	<p><b>HOWARD SOIL CONSERVATION DISTRICT SIGNATURE BLOCK</b></p> <p>THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.</p> <p>_____ John K. Roberts HOWARD SOIL CONSERVATION DISTRICT</p> <p>5/13/16 DATE</p>
<p>"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. 27029, EXPIRATION DATE: 1/25/18."</p>	<p><b>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.</b></p> <p>_____ Director of Public Works</p> <p>_____ Chief, Bureau of Utilities</p> <p>_____ Chief, Utility Design Division</p>

**WR&A**  
Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, Maryland 21231



DES:	G.G.	
DRN:	G.G.	
CHK:	W.H.	
MAY 2016		
BY:	NO.	AS-BUILTS
REVISION		
DATE		6/17

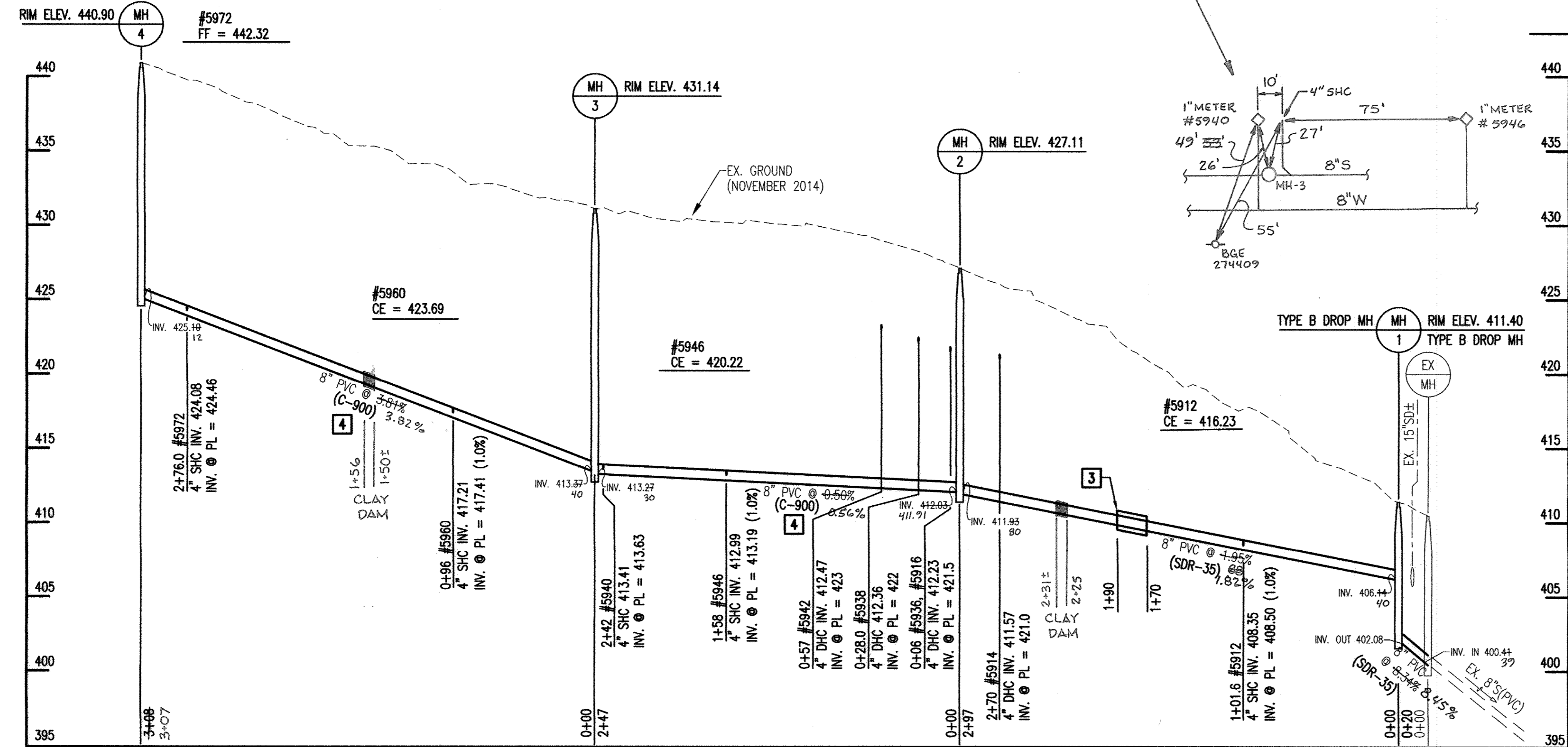
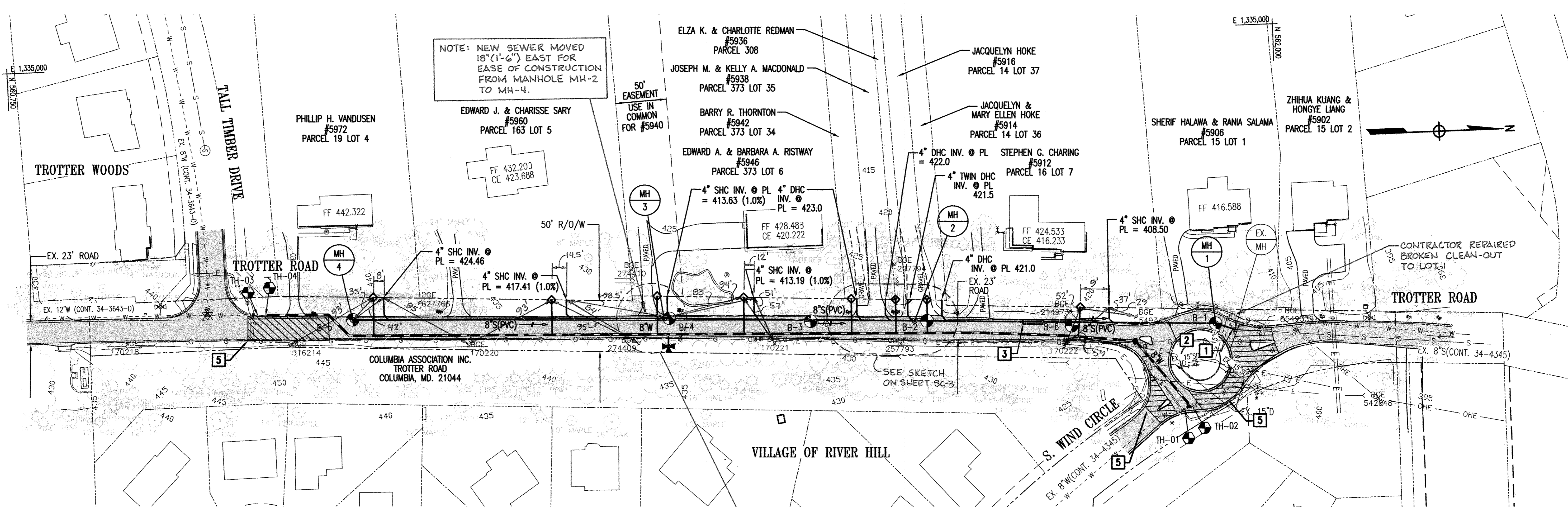
TITLE SHEET	
600 SCALE MAP NO.	
BLOCK NO.	

**TROTTER ROAD WATER AND SEWER EXTENSION**

CAPITAL PROJECT NO. W-8698  
CONTRACT NO. 34-4943

5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

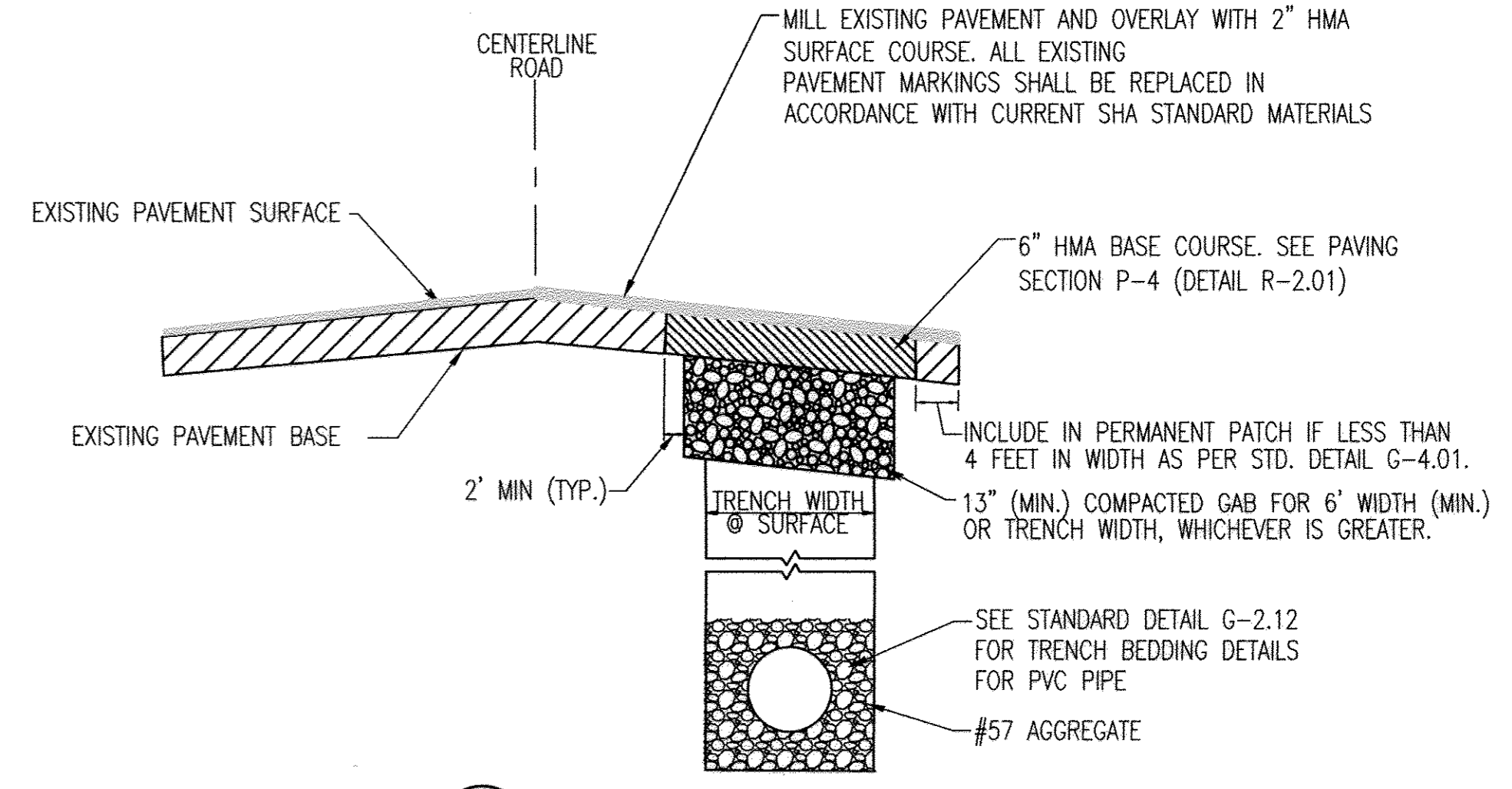
G-1
SCALE AS SHOWN
SHEET 1 OF 6



**PLAN**  
SCALE: 1" = 50'

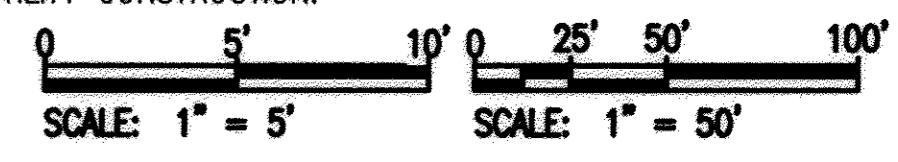
**PROFILE**  
SCALE: VERT. 1" = 5'  
HORIZ. 1" = 50'

MANHOLE COORDINATES		
MANHOLE	NORTH	EAST
1	561,932.36	1,335,291.44
2	561,635.69	1,335,277.25
3	561,388.81	1,335,265.34
4	561,081.50	1,335,254.67



- CONSTRUCTION NOTES**
- CORE INTO EXISTING MANHOLE, INSTALL FIELD SLEEVE, AND RECONFIGURE EXISTING MANHOLE CHANNEL.
  - EXISTING CURB AND GUTTER TO BE REMOVED AND REPLACED AS REQUIRED FOR UTILITY CONSTRUCTION.
  - JACK AND BORE 20 LINEAR FEET OF 20" CASING PIPE.
  - ALL LATERALS FOR SHC'S INTO C-900 MAIN SHALL BE C-900.
  - ALL HATCHED AREAS IN THE VICINITY OF CONSTRUCTION SHALL ALSO BE MILLED AND OVERLAID WITH 2-INCHES OF HMA SURFACE COURSE. THESE AREAS WILL BE MEASURED AND PAID FOR AS A MILL AND OVERLAY, SEPARATE FROM THE UTILITY INSTALLATION. ALL OTHER PAVEMENT RESTORATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE UTILITY CONSTRUCTION.

**AS-BUILT**



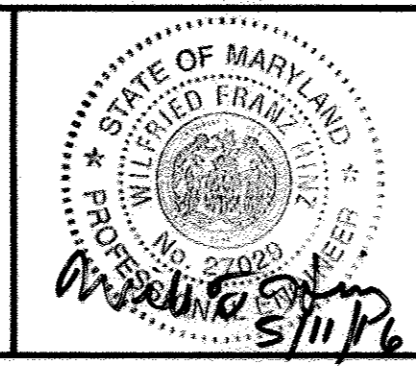
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND.

Director of Public Works: *Laurel A. Stoltz*  
Chief, Bureau of Utilities: *Scott C. Gorman*

DATE: 5/16/16  
DATE: 5/16/16

**WRA**  
Whitman, Reardon & Associates, LLP  
801 South Caroline Street, Baltimore, Maryland 21231



DES:	G.G.				
DRN:	G.G.				
CHK:	W.H.				
DATE:	MAY 2016	BY:	WRA	NO.	AS-BUILTS
REVISION:		DATE:	6/17		

**SEWER PLAN AND PROFILE**

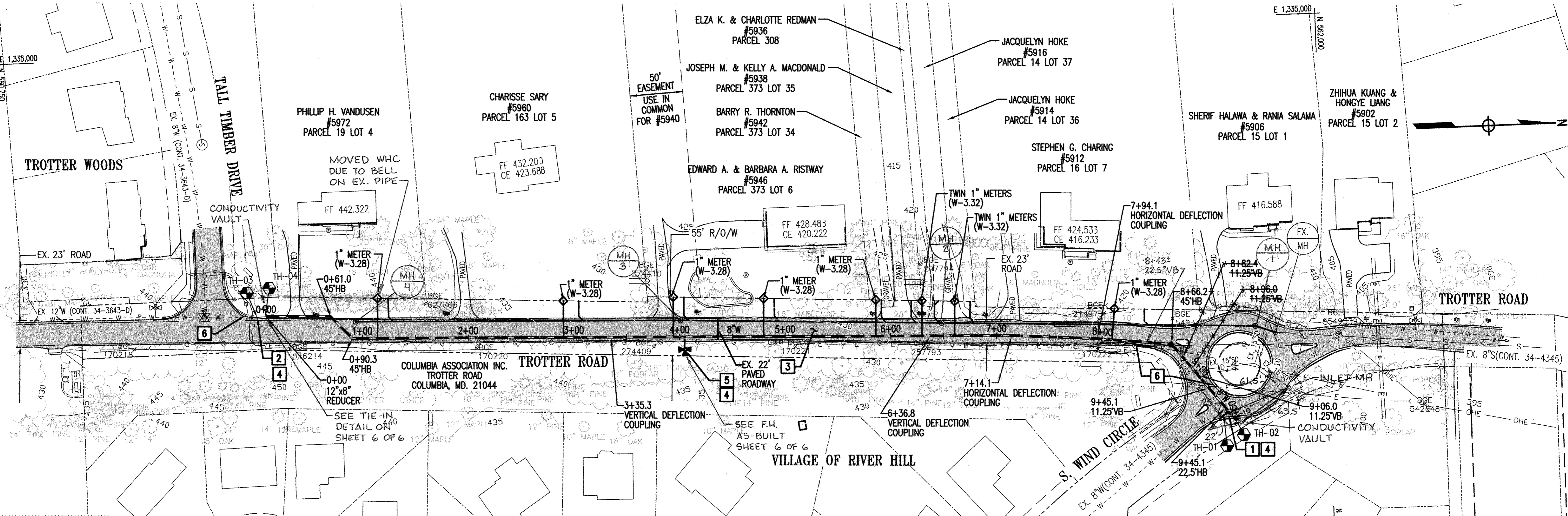
600 SCALE MAP NO. \_\_\_\_\_  
BLOCK NO. \_\_\_\_\_

**TROTTER ROAD WATER AND SEWER EXTENSION**

CAPITAL PROJECT NO. W-8698  
CONTRACT NO. 34-4943

5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
SHEET 2 OF 6  
FINAL



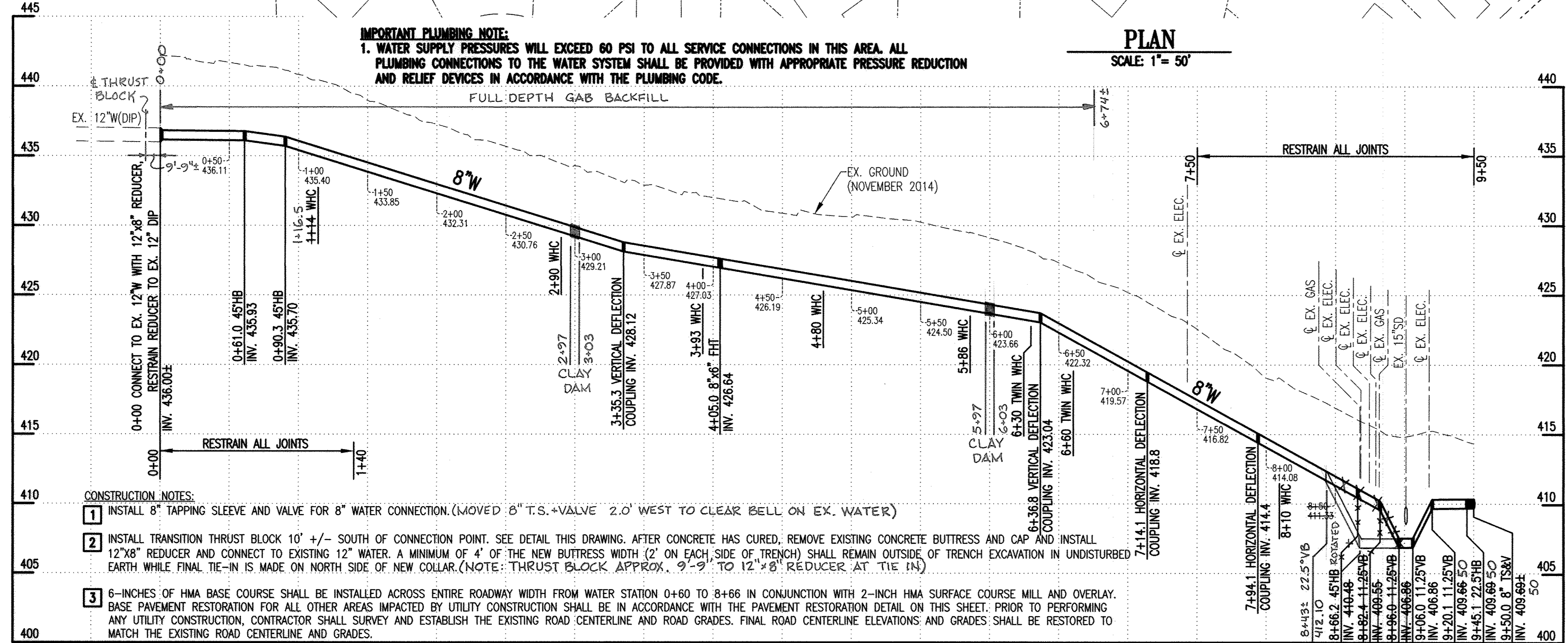
**PLAN**

SCALE: 1" = 50'

**IMPORTANT PLUMBING NOTE:**  
 1. WATER SUPPLY PRESSURES WILL EXCEED 60 PSI TO ALL SERVICE CONNECTIONS IN THIS AREA. ALL PLUMBING CONNECTIONS TO THE WATER SYSTEM SHALL BE PROVIDED WITH APPROPRIATE PRESSURE REDUCTION AND RELIEF DEVICES IN ACCORDANCE WITH THE PLUMBING CODE.

**WATER MAIN STAKEOUT GEOMETRY**

STA.	NAME	NORTHING	EASTING
0+00	12"x8" REDUCER	560,996.85	133,5246.66
0+61	45" HB	561,057.81	133,5248.75
0+90	45" HB	561,077.85	133,5270.22
4+05	8"x6" FHT	561,392.30	133,5281.02
7+14	HORIZ. DEFLECTION COUPLING	561,701.24	133,5291.64
7+94	HORIZ. DEFLECTION COUPLING	561,781.02	133,5297.53
8+66	45" HB	561,852.63	133,5305.65
9+45	22.5" HB	561,901.77	133,5367.37
9+50	8" TAPPING SLEEVE AND VALVE	561,903.13	133,5372.10

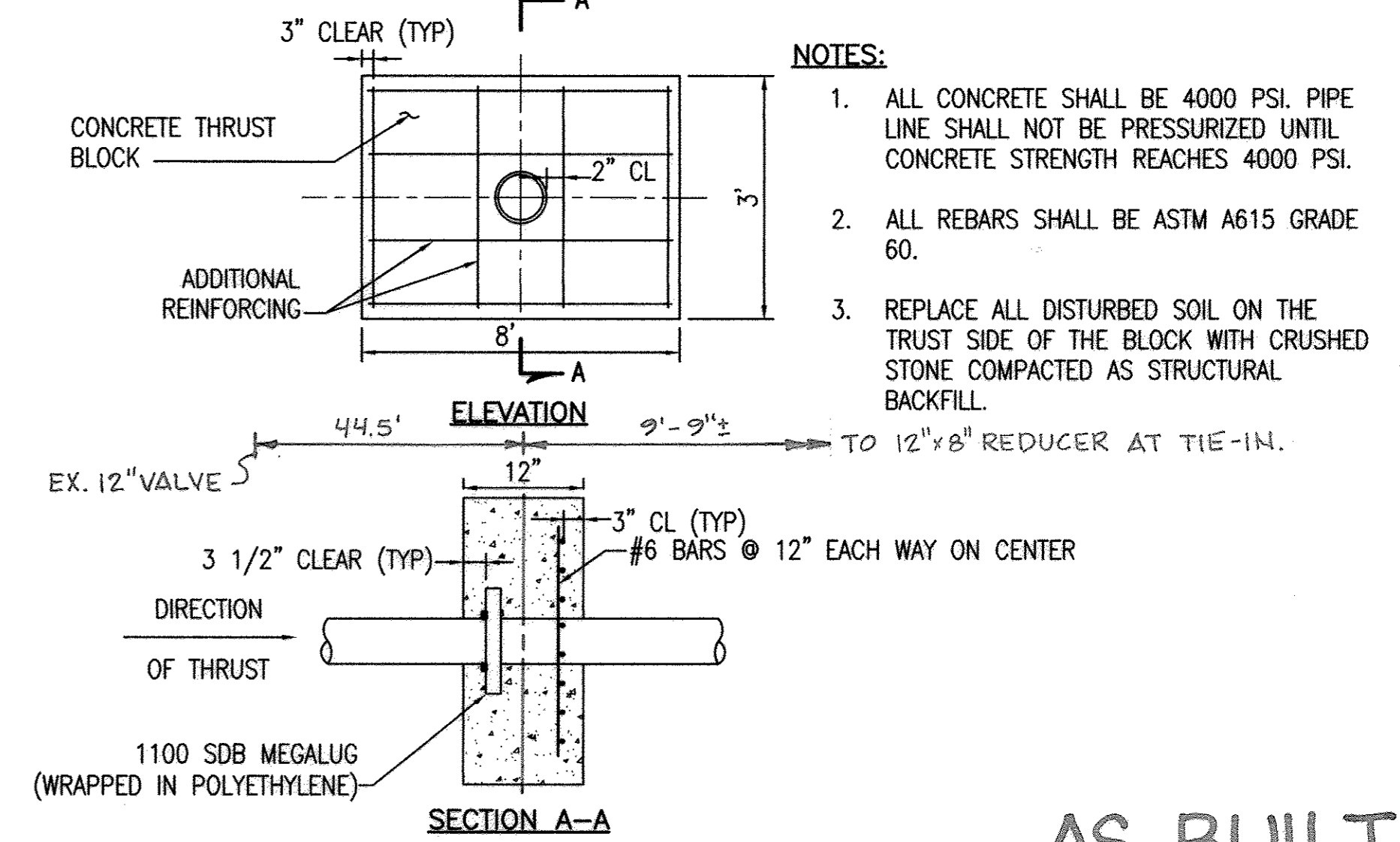


**PROFILE**

SCALE: VERT. 1" = 5'  
 HORIZ. 1" = 50'

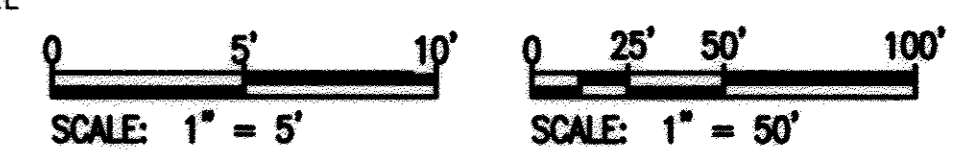
**CONSTRUCTION NOTES CONTINUED:**

- 4. INSTALL TEST STATION PER STANDARD DETAIL W1-1.15.
- 5. INSTALL FIRE HYDRANT 8' OFF EDGE OF ROAD, WITH BURY DEPTH OF 4.5' AND BURY LINE ELEVATION OF 431.0.
- 6. EXISTING CURB AND GUTTER TO BE REMOVED AND REPLACED AS REQUIRED FOR UTILITY CONSTRUCTION.



SECTION A-A  
 TRANSITION THRUST BLOCK  
 NOT TO SCALE

**AS-BUILT**



"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. 27029, EXPIRATION DATE: 1/25/18."

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND.

*John P. De...* 5/17/16  
 DIRECTOR OF PUBLIC WORKS DATE

*Thomas E. Butler* 9/12/16  
 CHIEF, BUREAU OF ENGINEERING DATE

*Steve C. Gorn* 5/17/16  
 CHIEF, BUREAU OF UTILITIES DATE

*WD* DATE

**WRA**  
 Whitman, Reardon & Associates, LLP  
 801 South Caroline Street, Baltimore, Maryland 21231



DES:	G.G.			
DRN:	G.G.			
CHK:	W.H.			
MAY 2016				
BY:	NO.	AS-BUILTS	6/17	
REVISION				

**WATER MAIN PLAN AND PROFILE**

600 SCALE MAP NO. BLOCK NO.

**TROTTER ROAD WATER AND SEWER EXTENSION**

CAPITAL PROJECT NO. W-8698  
 CONTRACT NO. 34-4943

5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 3 OF 6  
 FINAL

**GENERAL SEDIMENT CONTROL NOTES**

- FOR UTILITY INSTALLATIONS, ALL DISTURBED AREAS SHALL BE STABILIZED THE SAME DAY, IF UNFORESEEN CONDITIONS REQUIRE THAT AN EXCAVATION MUST REMAIN OPEN BEYOND THE WORK DAY, THE FOLLOWING PROVISIONS MUST BE FOLLOWED:
  - AT GRADE INLET PROTECTION, CURB INLET PROTECTION, TEMPORARY SILT FENCE SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN ONE DAY; AND
  - ANY PILES OF EXCAVATION SPOILS MATERIALS MUST BE SECURELY COVERED TO ENSURE THAT SEDIMENTS ARE NOT TRANSPORTED FROM THE PILE.
- PAVEMENTS ADJACENT TO THE EXCAVATION MUST REMAIN SECURELY COVERED. CONTRACTOR SHALL PLACE PLASTIC SHEETING BENEATH THE EXCAVATED MATERIAL PILES, AND SWEEP PAVEMENTS CLEAN OF SEDIMENTS AS REQUIRED.
- A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROVIDED AT THE DIRECTION OF THE SEDIMENT AND EROSION CONTROL INSPECTOR.
- ALL SPOILS FROM THE EXCAVATION ARE TO BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

**STANDARD SEDIMENT CONTROL NOTES**

- A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE CLEARLY MARKED IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
  - PRIOR TO THE START OF EARTH DISTURBANCE.
  - UPON COMPLETION OF THE INSTALLATION OF PERIMETER CONTROLS BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
  - PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
  - PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO INSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERMITS, DICES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT/AND OR FILL STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHMARKED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
- 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 CID.

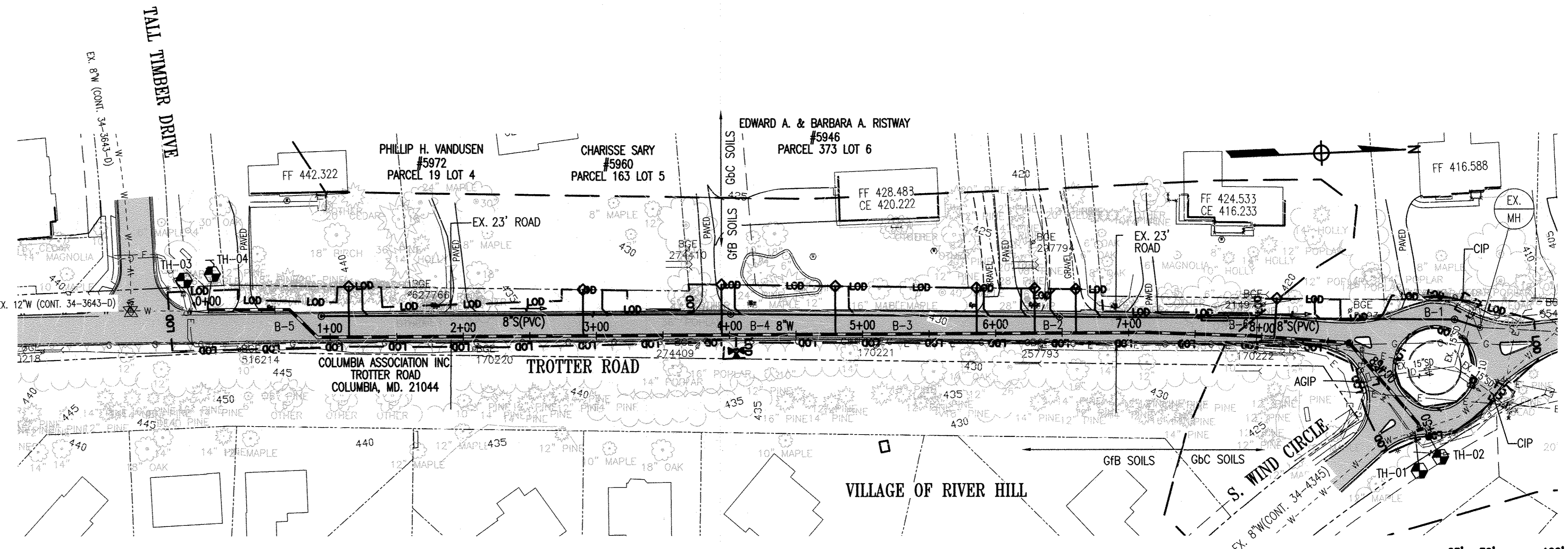
**6. SITE ANALYSIS**

TOTAL AREA OF SITE:	1.50	ACRES
AREA DISTURBED:	0.95	ACRES
AREA TO BE ROOFED OR PAVED:	0.81	ACRES
AREA TO BE VEGETATIVELY STABILIZED:	0.34	ACRES
TOTAL CUT:	4,000	CU. YDS.
TOTAL FILL:	4,000	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION:	N/A	ACRES

- ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY, AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE BY REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
  - INSPECTION DATE
  - INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
  - NAME AND TITLE OF INSPECTOR
  - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
  - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G. PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
  - EVIDENCE OF SEDIMENT DISCHARGES
  - IDENTIFICATION OF PLAN DEFICIENCIES
  - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
  - IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
  - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
  - PHOTOGRAPHS
  - MONITORING/SAMPLING
  - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
  - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDC)

- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED AT THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY BE ALLOWED BY THE CID PER THE LIST OF APPROVED HSCD-APPROVED FIELD CHANGES.
- DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PROCEEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
- TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
- ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.
- STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
  - USE I AND IP MARCH 1 - JUNE 15
  - USE III AND IIP OCTOBER 1 - APRIL 30
  - USE IV MARCH 1 - MAY 31
- A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

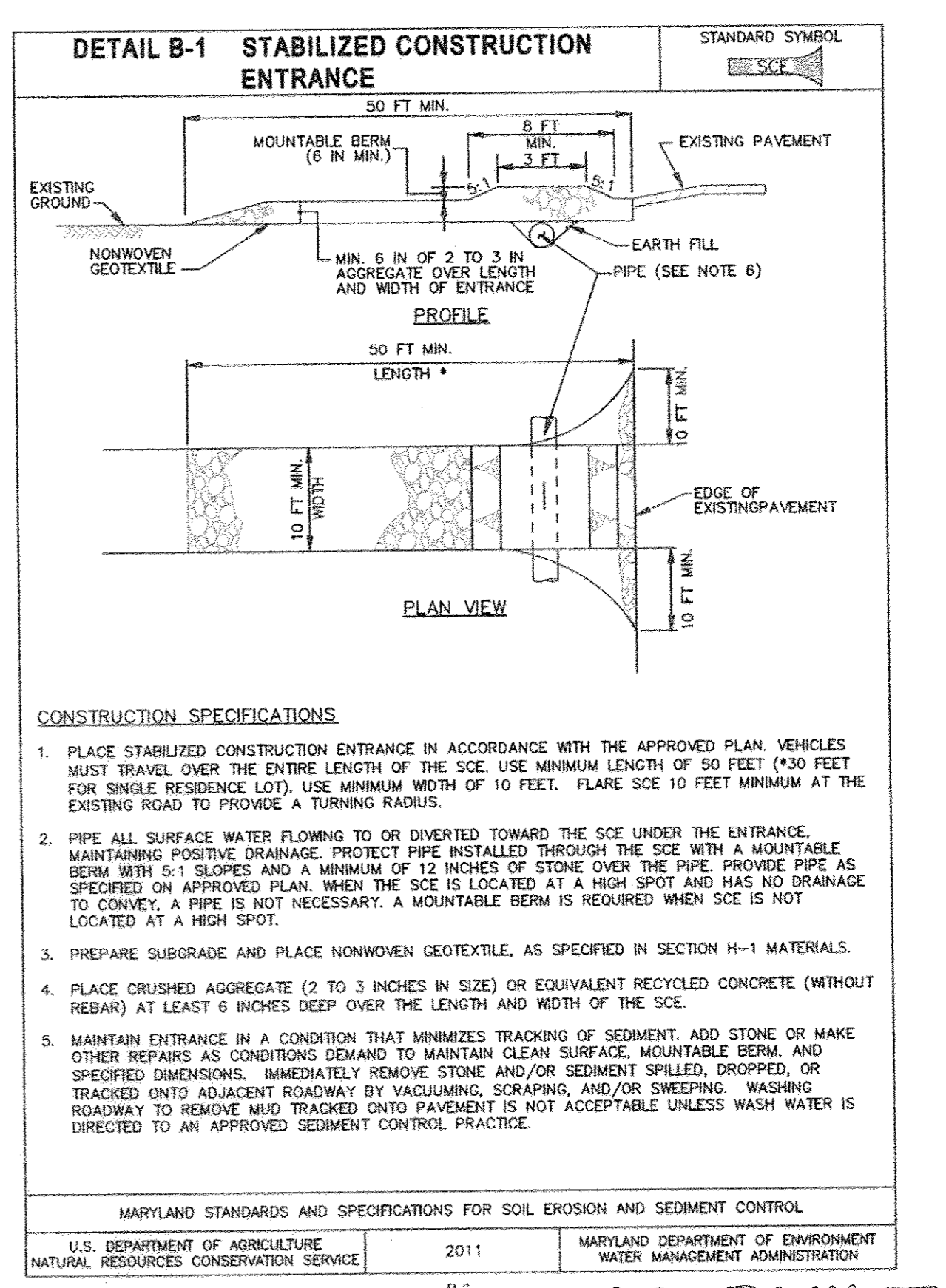
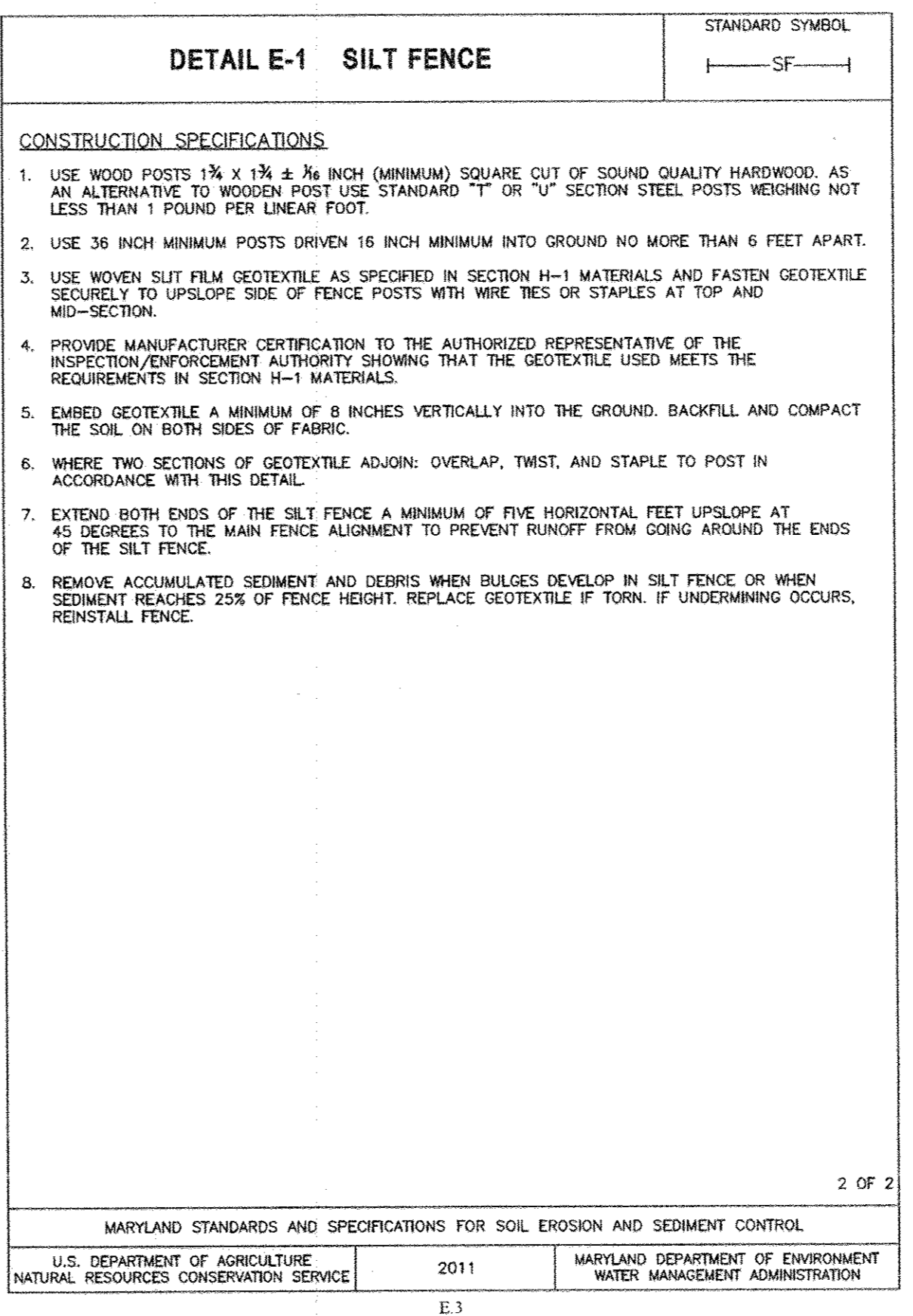
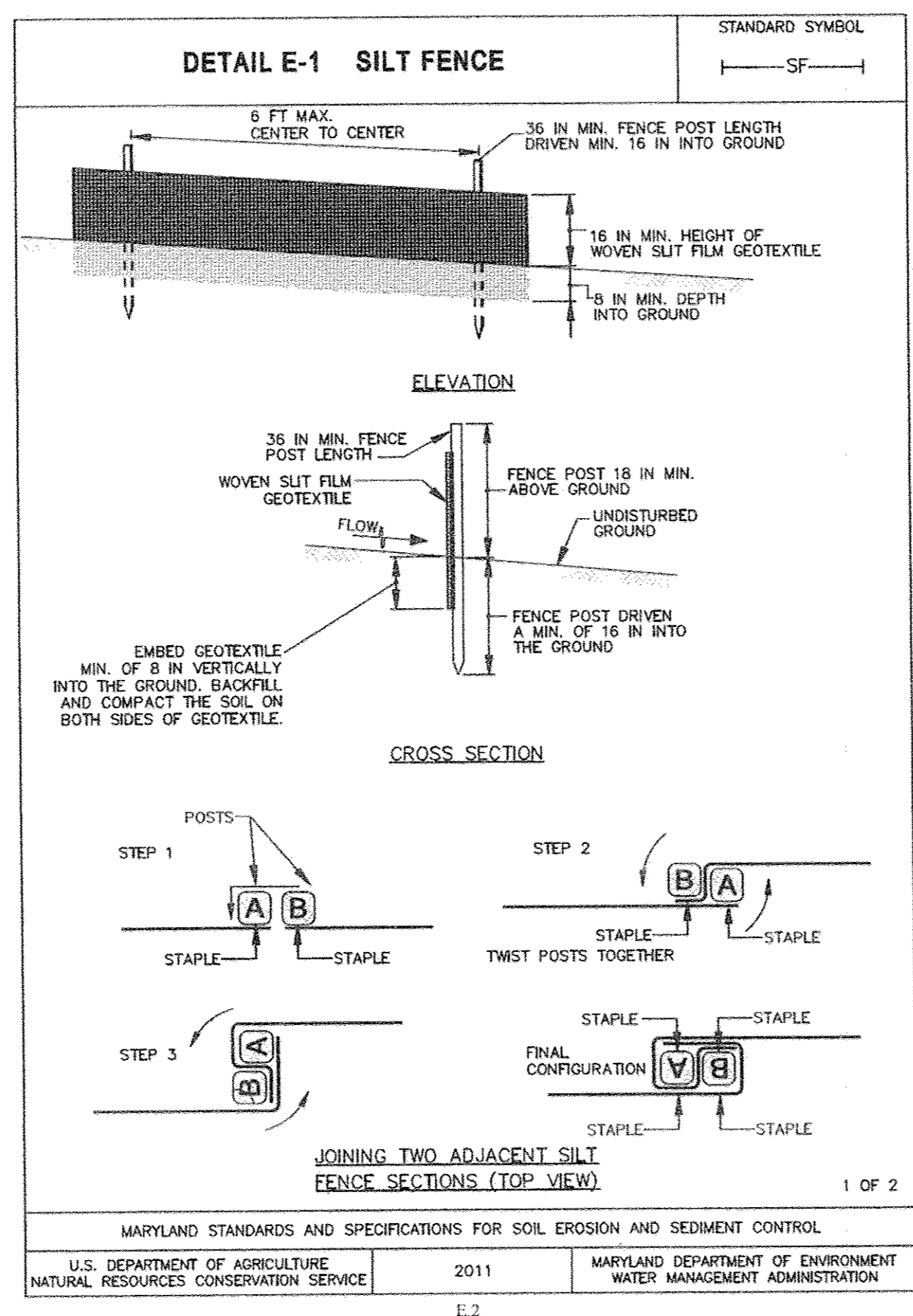
- OVERALL PROJECT SEQUENCE OF CONSTRUCTION**
- OBTAIN A GRADING PERMIT FROM HOWARD COUNTY. (1 WEEK)
  - CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS BEFORE ANY CONSTRUCTION IS TO BEGIN. (1 WEEK)
  - NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION AT LEAST 2 DAYS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE A PRE CONSTRUCTION MEETING. (2 DAYS)
  - INSTALL AND STABILIZE SEDIMENT CONTROL MEASURES AS REQUIRED BY SEDIMENT AND EROSION CONTROL INSPECTOR. (2 DAYS)
  - BEFORE PROCEEDING WITH ANY EARTH DISTURBANCE OR GRADING, NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION UPON INSTALLATION OF SEDIMENT CONTROL MEASURES. (1 WEEK)
  - EXCAVATE FOR AND INSTALL SEWER AND WATER MAINS. EXCAVATION FROM TRENCHING OPERATIONS SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH. (12 WEEKS)
  - VEGETATIVELY STABILIZE BACKFILLED TRENCH OR TEMPORARILY STABILIZE ANY PAVED AREAS WITH TEMPORARY HOTMIX THAT IS DISTURBED AS WORK PROGRESSES. (ON-GOING THROUGHOUT PROJECT)
  - NOTIFY HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (CID, 410-313-1880) AND OBTAIN APPROVAL TO REMOVE EROSION AND SEDIMENT CONTROL MEASURES. (2 DAYS)
  - REMOVE CONTROLS AND PERMANENTLY STABILIZE ANY AREAS DISTURBED DURING REMOVAL OF CONTROLS. (2 DAYS)



**SOIL INFORMATION**

- PER NRCS SOIL MAPS, ALL SOILS WITHIN THE PROJECT AREA ARE CLASSIFIED AS GIB - GLADSTONE URBAN 0 TO 8% SLOPES, WITH SOIL EROSION FACTOR OF 0.20 AND Gbc GLADSTONE LOAM, 3 TO 8% SLOPES, WITH SOIL EROSION FACTOR OF 0.20. SEE MAP ABOVE FOR LIMITS OF EACH SOIL WITHIN PROJECT AREA.

**PLAN**  
SCALE: 1" = 50'

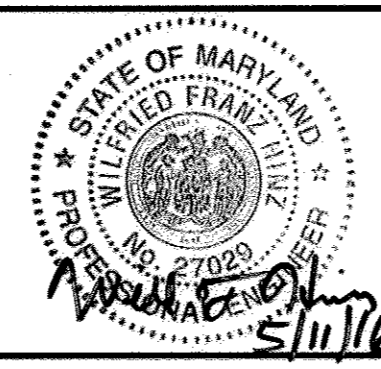


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**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND.

Director of Public Works: *John J. Stroh* DATE: *9/12/16*  
 Chief, Bureau of Utilities: *Steve C. ...* DATE: *...*  
 Chief, Utility Design Division: *Thomas E. Buller* DATE: *9/12/16*  
 Chief, Bureau of Utilities: *...* DATE: *...*

**WRA**  
Whitman, Reardon & Associates, LLP  
801 South Carolina Street, Baltimore, Maryland 21231



DES:	G.G.				
DRN:	G.G.				
CHK:	W.H.				
MAY 2016	BY	NO.	AS-BUILTS	6/17	
REVISION			DATE	600 SCALE MAP NO.	BLOCK NO.

**EROSION AND SEDIMENT CONTROL PLAN, NOTES AND DETAILS**

**TROTTER ROAD WATER AND SEWER EXTENSION**  
CAPITAL PROJECT NO. W-8698  
CONTRACT NO. 34-4943  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

AS-BUILT  
SC-1  
SCALE AS SHOWN  
SHEET 4 OF 8  
FINAL

B-4.2 STANDARDS AND SPECIFICATIONS

FOR

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established.

Criteria

- A. Soil Preparation
1. Temporary Stabilization
a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment...

B.12

- d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means.

B. Topsoiling

- 1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth.
2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications...

B.13

and seedbed preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)

- 1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more.
2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment.

B.14

B-4.3 STANDARDS AND SPECIFICATIONS

FOR

SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

- A. Seeding
1. Specifications
a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory...

B.15

PERMANENT STABILIZATION

Table with columns: Hardiness Zone, Seed Mixture, Application Rate, Seeding Dates, Seeding Depths, Fertilizer Rate (N, P2O5, K2O), Lime Rate. Includes rows for SWITHGRASS, CREEPING RED FESCUE, BUSH CLOVER.

Table with columns: Hardiness Zone, Seed Mixture, Application Rate, Seeding Dates, Seeding Depths, Fertilizer Rate (N, P2O5, K2O), Lime Rate. Includes rows for CREEPING RED FESCUE, WHITE CLOVER.

MAINTENANCE FERTILIZATION FOR PERMANENT SEEDINGS USE SOIL TEST RESULTS OR RATES SHOWN BELOW

Table with columns: SEEDING MIXTURE, TYPE, LB/AC, LB/1000 SF, TIME, MOWING. Lists various seed mixtures like TALL FESCUE, CROWNWETCH, FAIRLY UNIFORM STAND OF TALL FESCUE, etc.

B-4.4 STANDARDS AND SPECIFICATIONS

FOR

TEMPORARY STABILIZATION

Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

- 1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths.
2. For sites having soil tests performed, use and show the recommended rates by the testing agency.

Temporary Seeding Summary

Table with columns: Hardiness Zone, Seed Mixture, Application Rate, Seeding Dates, Seeding Depths, Fertilizer Rate, Lime Rate. Includes rows for ANNUAL RYEGRASS, CEREAL RYE, FOXTAIL MILLET, PEARL MILLET.

B.18

- b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil coverage.
ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.

B.16

- 2. Application
a. Apply mulch to all seeded areas immediately after seeding.
b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches.
3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water.

B.17

B. Mulching

- 1. Mulch Materials (in order of preference)
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color.
b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.

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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND. Includes signatures of Director of Public Works, Chief, Bureau of Engineering, and Chief, Utility Design Division.

WRA Whitman, Reardon & Associates, LLP 801 South Caroline Street, Baltimore, Maryland 21231

DES: G.G. DRN: G.G. CHK: W.H. MAY 2016 BY NO. AS-BUILTS REVISION DATE 6/17

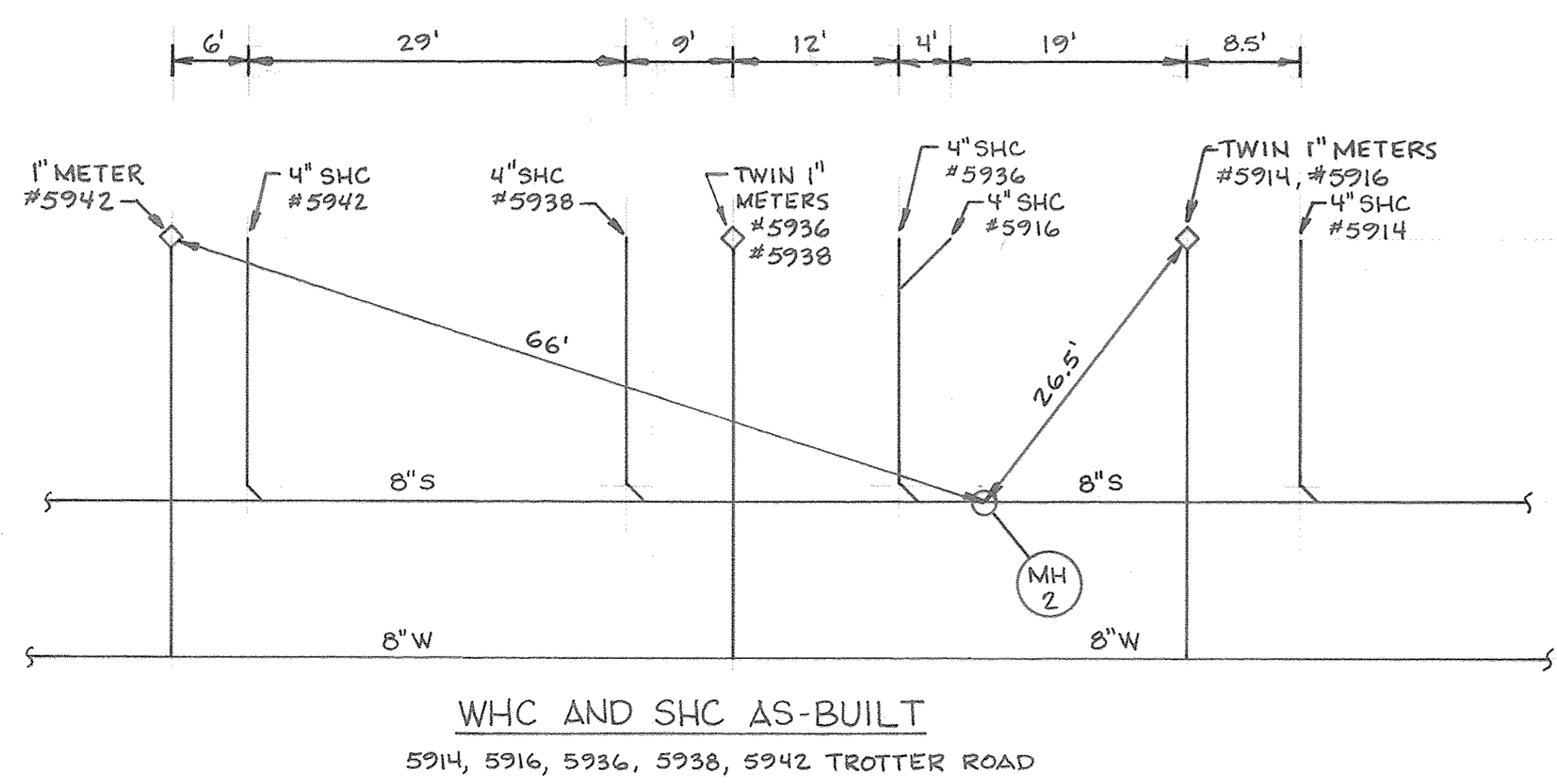
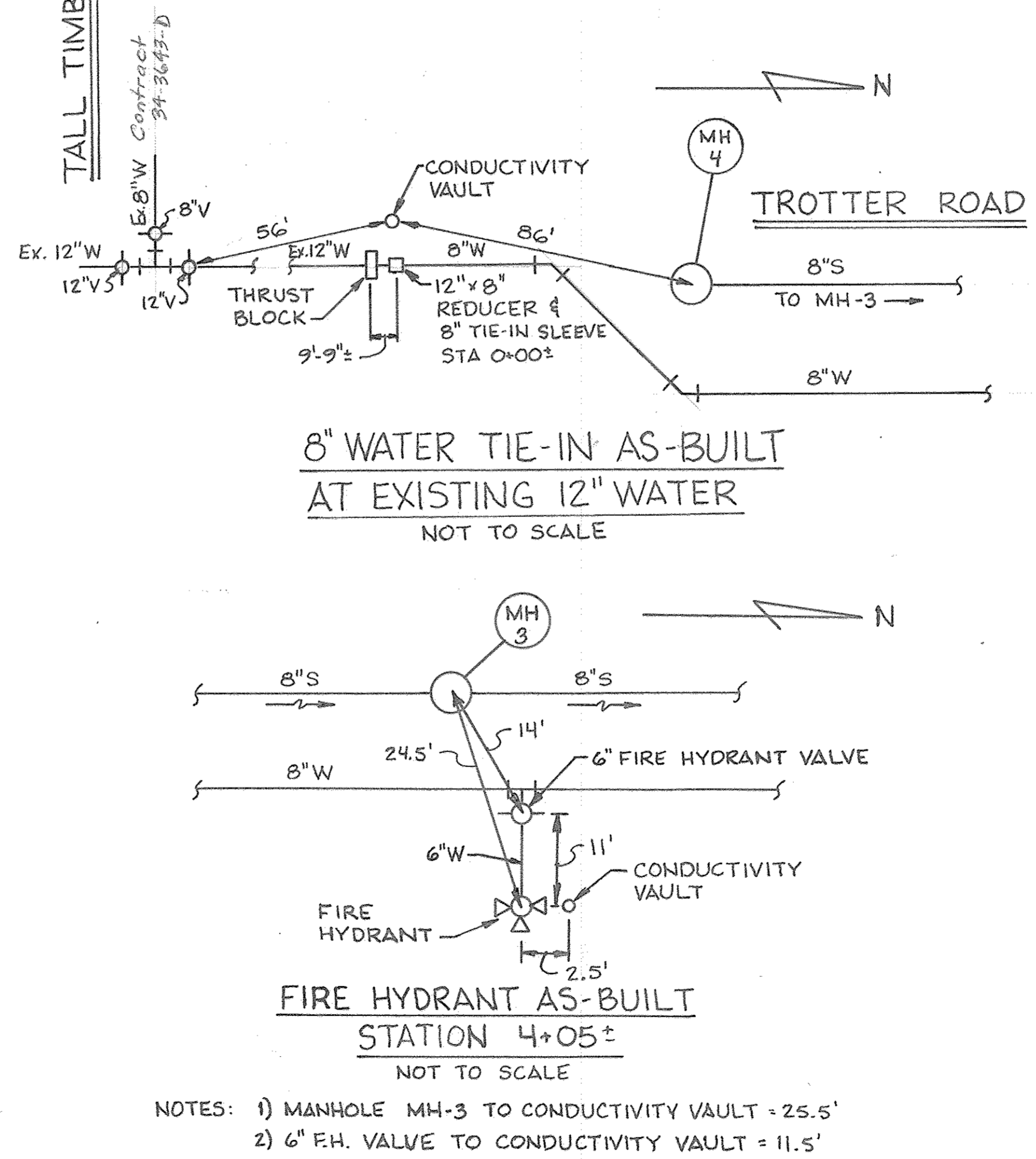
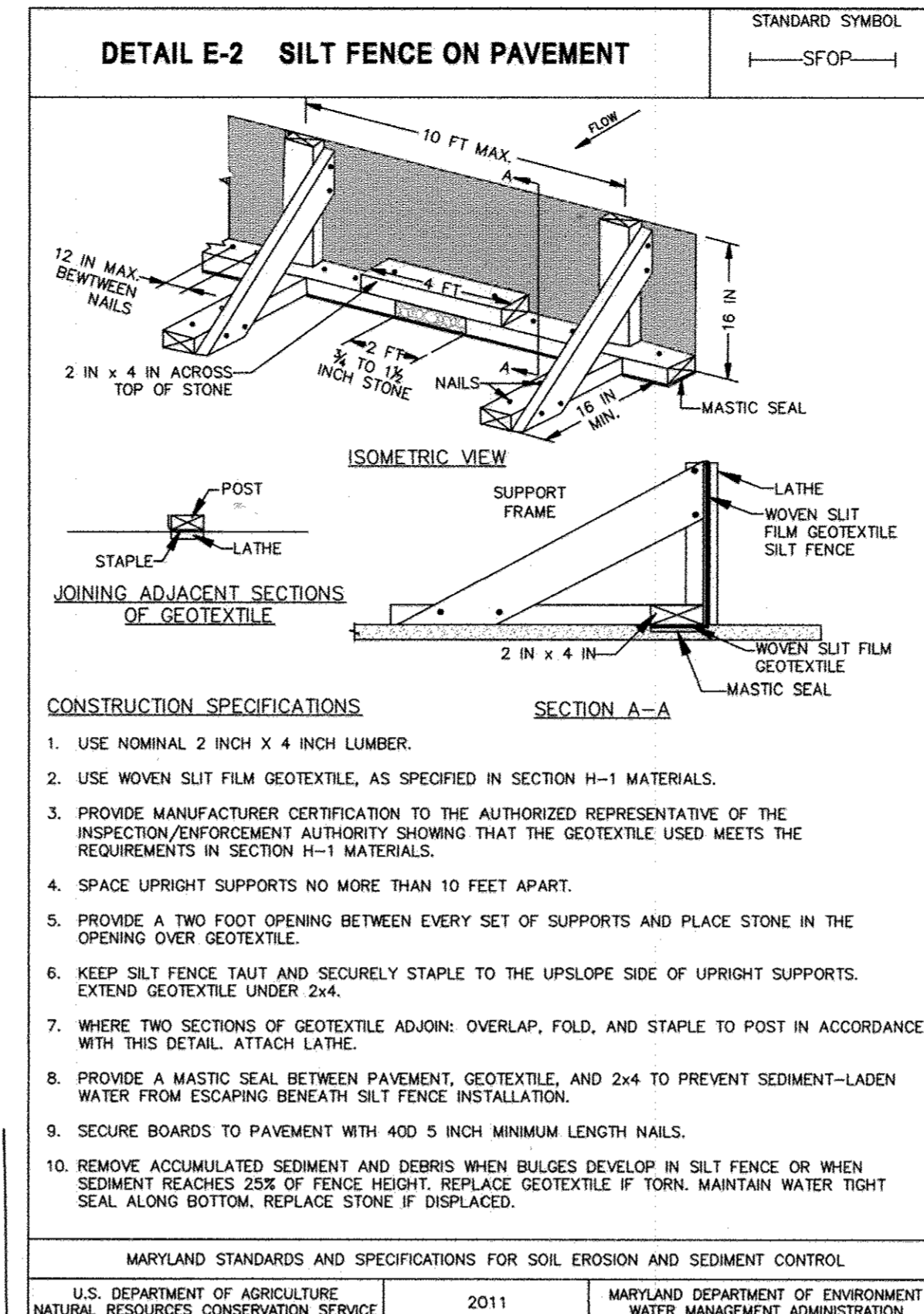
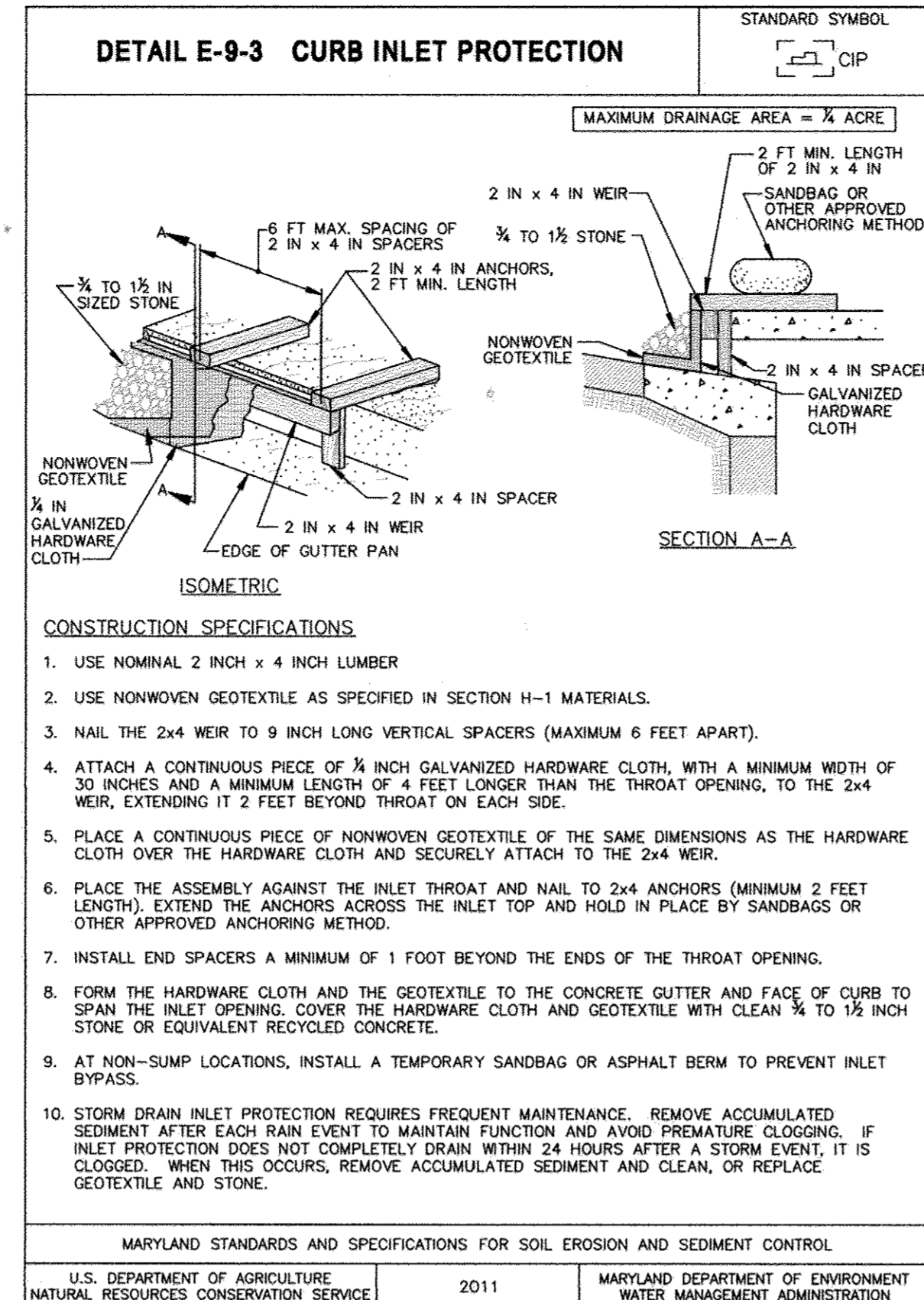
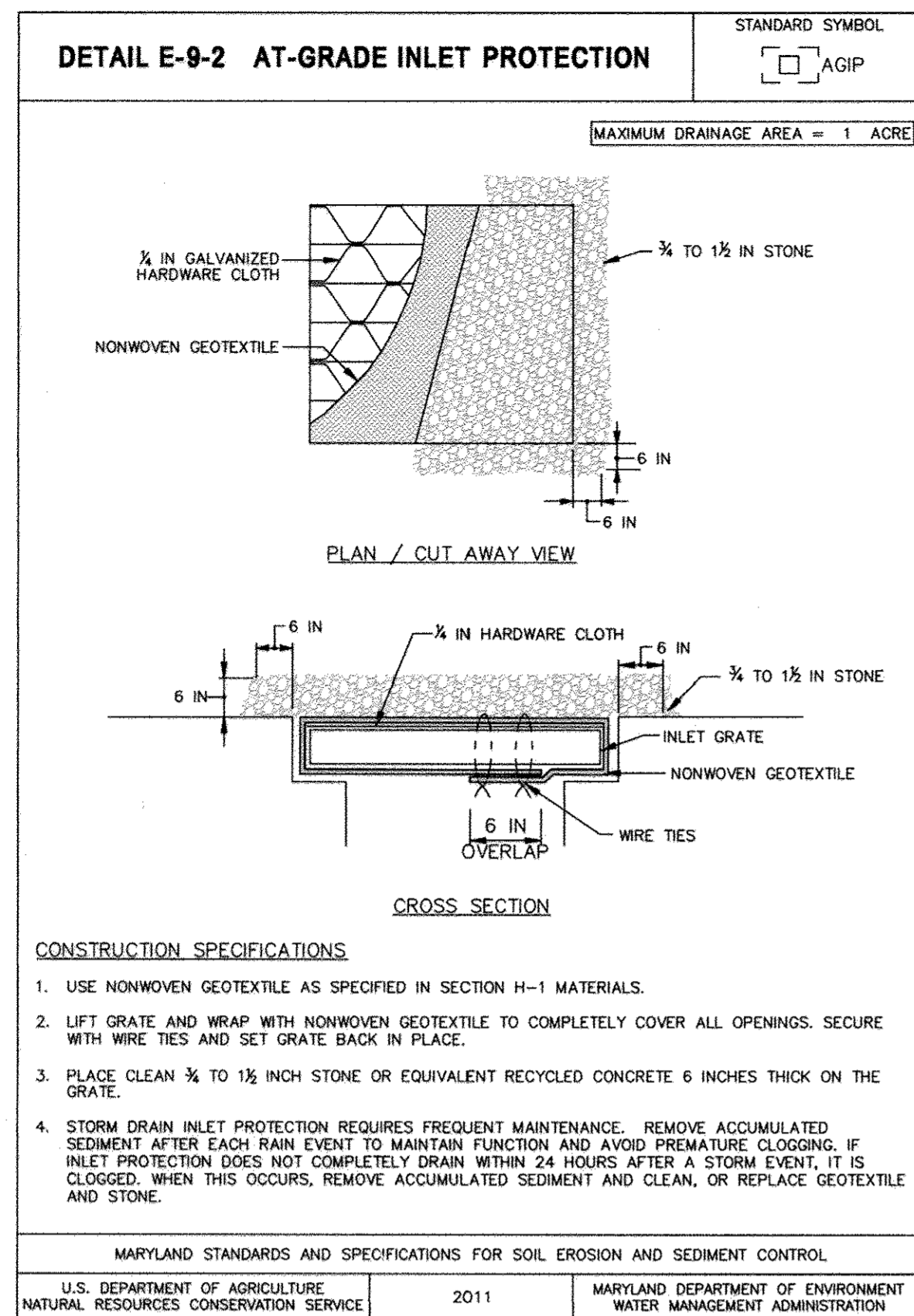
EROSION AND SEDIMENT CONTROL DETAILS 600 SCALE MAP NO. BLOCK NO.

TROTTER ROAD WATER AND SEWER EXTENSION CAPITAL PROJECT NO. W-8698 CONTRACT NO. 34-4943 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

AS-BUILT SC-2

SCALE AS SHOWN SHEET 5 OF 6

FINAL



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**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* DATE: 5/12/16  
Chief, Bureau of Utilities: *[Signature]* DATE: 5/12/16

Chief, Bureau of Engineering: *[Signature]* DATE: 5/12/16  
Chief, Utility Design Division: *[Signature]* DATE: 5/12/16

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MAY 2016	WRA	AS-BUILTS	6/17
BY NO.	NO.	REVISION	DATE

**EROSION AND SEDIMENT CONTROL DETAILS**

600 SCALE MAP NO. BLOCK NO.

**TROTTER ROAD WATER AND SEWER EXTENSION**  
CAPITAL PROJECT NO. W-8698  
CONTRACT NO. 34-4943

5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**AS-BUILT** SC-3

SCALE AS SHOWN

SHEET 6 OF 6

FINAL