

SOUTH ENTRANCE ROAD SEWER RELOCATION HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT No. W-8212

CONTRACT No. 20-3991

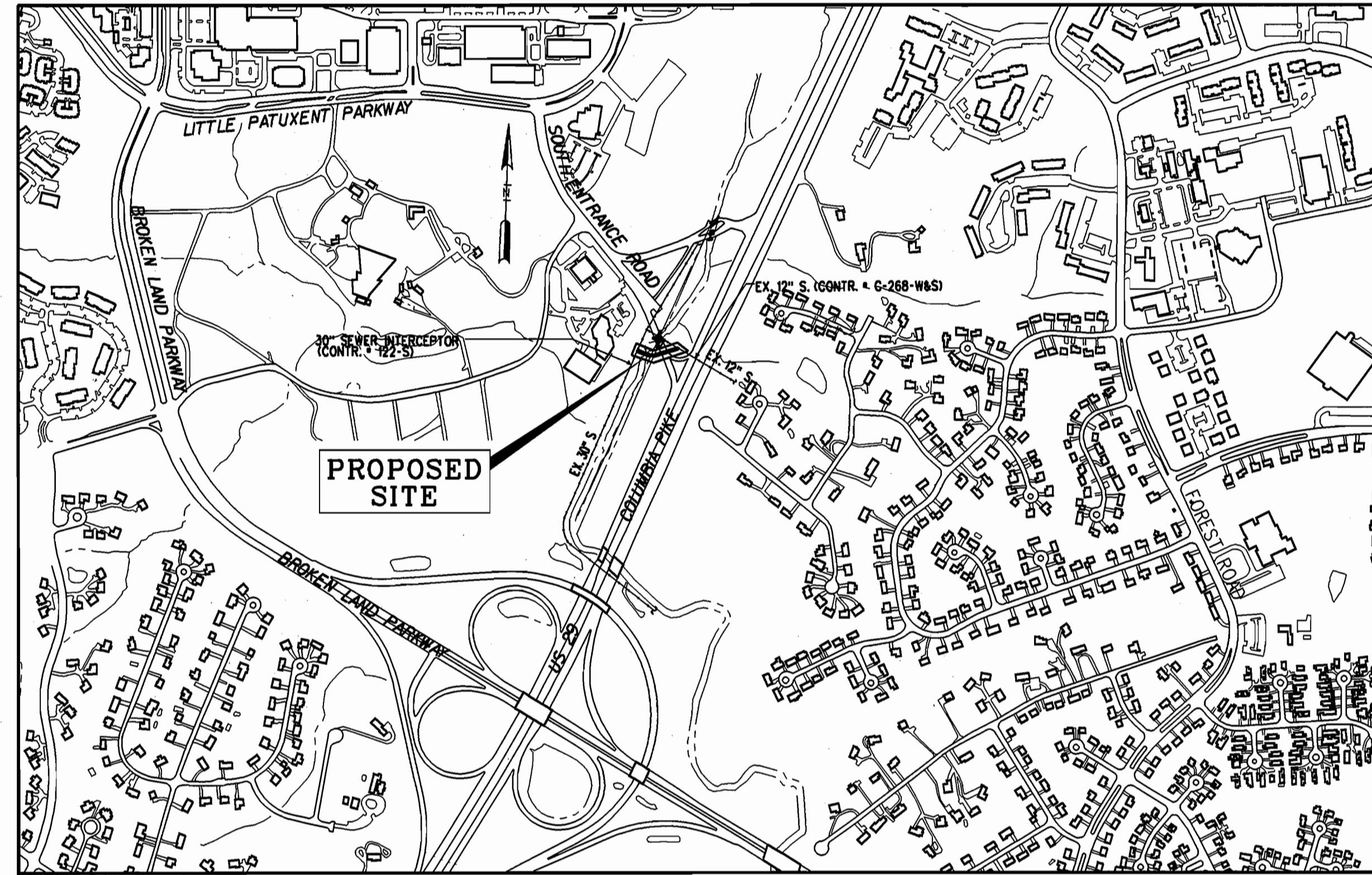
GENERAL NOTES

1. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR EXPENSE.
2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83.
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA NGVD29
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 12". 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 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 MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
6. 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.
7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. 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 TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
8. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T	1-800-526-2000
BG&E (CONTRACTOR SERVICES)	410-850-4620
BG&E - UNDERGROUND DAMAGE CONTROL	410-787-9068
BUREAU OF UTILITIES (DPW)	410-313-4900
VERIZON	410-393-4499
COLONIAL PIPELINE CO.	410-795-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
9. 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.
10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
11. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING 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.
12. ALL SEWER MAINS SHALL BE D.I.P. UNLESS OTHERWISE NOTED.
13. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
14. FORCE MAINS SHALL BE D.I.P. ONLY.
15. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
16. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAME AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
17. HOUSE(S) WITH THE SYMBOL "C.N.S" INDICATES THAT CELLAR CANNOT BE SERVED.

NOTE: TOPOGRAPHIC INFORMATION PROVIDED BY THE MARYLAND STATE HIGHWAY ADMINISTRATION.

INDEX OF SHEETS	
SHEET No.	DESCRIPTION
1	TITLE SHEET
2	SEWER RELOCATION PLAN AND PROFILE
3	EROSION & SEDIMENT CONTROL, NOTES & DETAILS



TYPE OF BUILDING: N.A. NUMBER OF PARCELS: N.A. SEWER CODE (FOR COUNTY USE ONLY): 5530000 HO. CO. SURVEY CONTROL (NEAREST) (HORIZONTAL) NAD 83 (VERTICAL) NGVD 29 No. 36AA DISC 36DB N 562804.852 E 1349906.254 ELEVATION 359.876	SEWER HOUSE CONNECTIONS: N.A. DRAINAGE AREA: PATUXENT BENCH MARK BM • N 559940.818 E 1350945.689 ELEVATION 345.361
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LEGEND	
	DECIDUOUS TREE
	CONIFEROUS TREE
	TRAVERSE POINT
	PROPOSED SANITARY SEWER AND MANHOLE
	EXISTING SANITARY SEWER
	EXISTING BURIED ELECTRIC
	EXISTING GAS
	EXISTING OVERHEAD SERVICE

LOCATION MAP
SCALE: 1" = 600'

RESTORATION SCHEDULE		
LOCATION	DISTANCE	TYPE
MH1 TO MH3	210 L.F.	SEED & MULCH
STREAM	70 L.F.	RIVER STONE

QUANTITIES				
ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
STD. WT MH 4'	EA.	1	1	ATLANTIC
WT. DOG HOUSE MH 4'	EA.	1	1	"
WT. DOG HOUSE MH 5'	EA.	1	1	"
WT MH 4' OVER 6'	VF	10	10	"
WT. MH 5' OVER 6'	VF	2	2	"
12" SEWER DIP	LF	195	195	GRIFFIN
12" SEWER DI PUSH ON RESTRAINED JOINT PIPE	LF	85	85	FIELD LOCKS
NAME OF UTILITY CONTRACTOR: W.F. WILSON				
CHECKBOX				
AS-BUILT DATE: 12-4-2002				
SURVEY AND DRAFTING DIVISION				

SANITARY SEWER STAKEOUT SCHEDULE		
ITEM	COORDINATES	
	NORTHING	EASTING
SMH 1	561255.55	1352755.88
SMH 2	561227.46	1352836.11
SMH 3	561249.24	1353029.88

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
 DIRECTOR OF PUBLIC WORKS DATE: 9-10-02	 CHIEF, UTILITY DESIGN DIVISION DATE: 9-6-02

ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MD. 21030-1888
(410) 316-7800

DES: CSC			
DRN: KFJ			
CHK: TW			
DATE: AUGUST, 02	KCI	AS-BUILT INFORMATION	12-4-2002
	BY	NO.	REVISION

TITLE SHEET

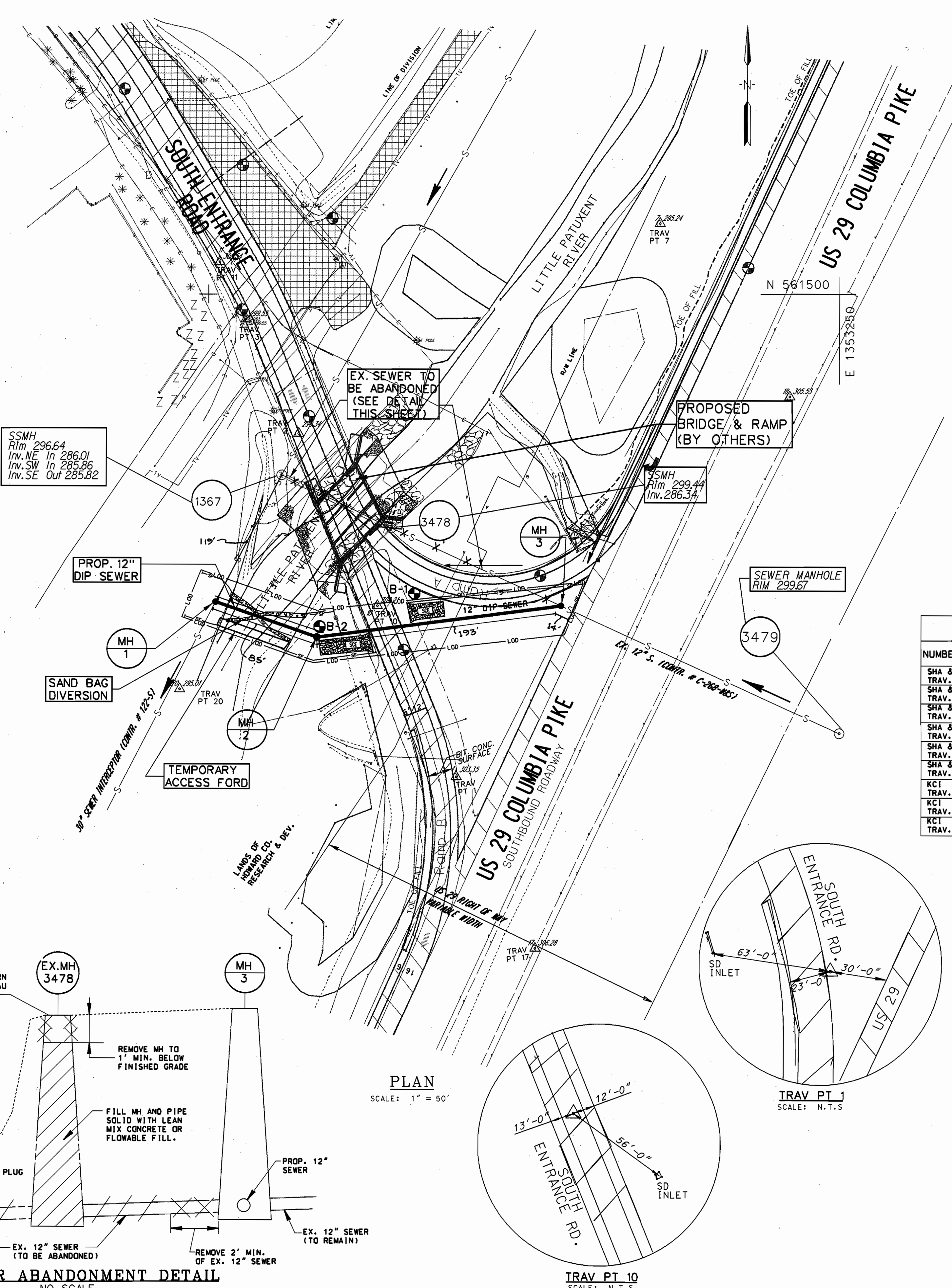
600' SCALE TAX MAP NO. 36 BLOCK NO. 8

SOUTH ENTRANCE ROAD
SEWER RELOCATION

CAPITAL PROJECT No. W-8212
CONTRACT No. 20-3991
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 3

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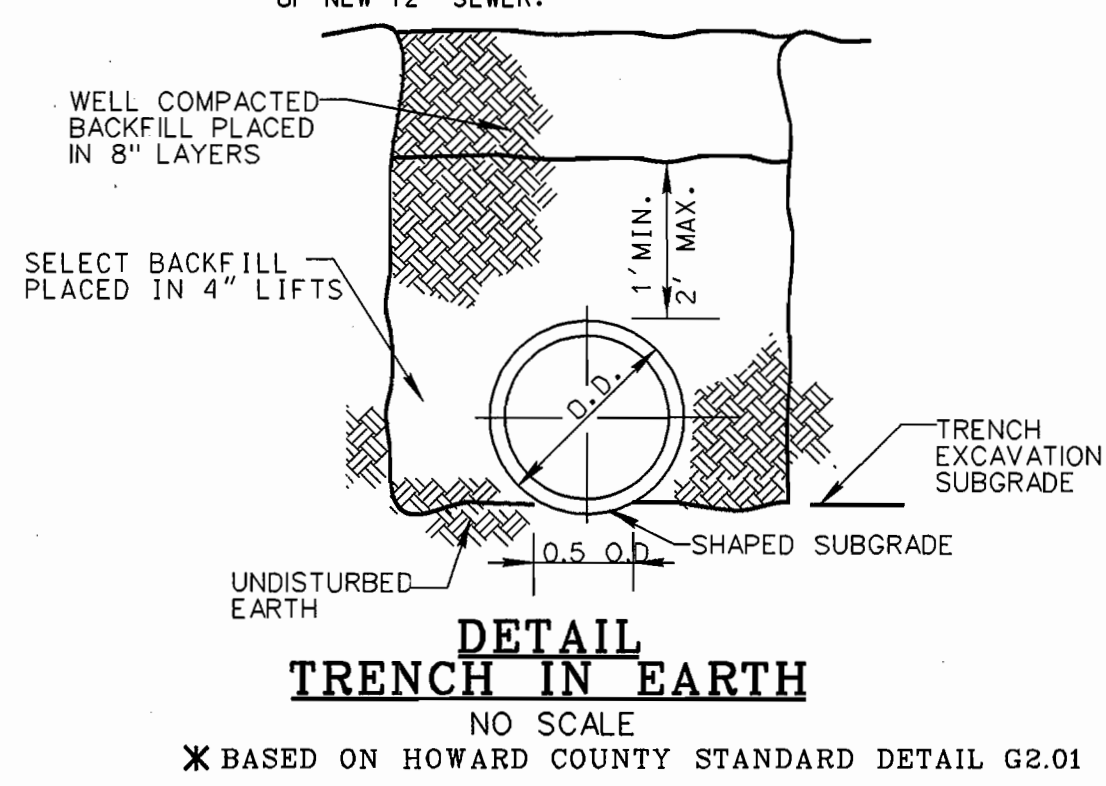
CONDITIONS AND MANAGEMENT PRACTICES FOR WORK CONDUCTED IN NONTIDAL WETLANDS

- Stockpile and maintain separately the top 6"-12" of topsoil material, to be replaced as the top layer of the backfilled material;
- Remove excess fill or construction material or debris to an upland disposal area;
- Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland;
- Maintain the hydrologic regime of the nontidal wetlands upstream, downstream, or adjacent to the sewerline;
- Place heavy equipment on mats or suitable design the equipment to prevent damage to the nontidal wetlands;
- Use previously excavated material as backfill, unless it contains waste metal products, unsightly debris toxic material or other deleterious substances. Use clean borrow material when excavated materials not suitable for use as backfill;
- Stabilization in the wetland and buffer shall be of the following species: Annual Ryegrass (*Lolium multiflorum*), Millet (*Setaria Italica*), Barley (*Hordeum sp.*), Oats (*Avena sp.*) and/or Rye (*Secale cereale*). These species allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Division. Kentucky 31 fescue shall not be utilized in the wetland or buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed;
- Upon completion of the project nontidal wetlands and the 25-foot nontidal wetland buffer will not be mowed or otherwise managed to prevent the re-establishment of the pre-existing cover:
 - After installation has been completed, make post construction grades and elevations of nontidal wetlands the same as the original grades and elevations.

WMA TRACKING No. 200260338
MDE TRACKING No. 01-NT-0467

- BEST MANAGEMENT PRACTICE (BMP) NOTES**
- NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
 - PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
 - DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
 - PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLANDS BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
 - REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT MODIFICATION OF THE 100 YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
 - RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100 YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
 - ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (*LOLIUM MULTIFLORUM*), MILLET (*SETARIA ITALICA*), BARLEY (*HORDEUM SP.*), OATS (*UNIOLA SP.*) AND/OR RYE (*SECALE CEREALE*). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDING AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
 - AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
 - TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:

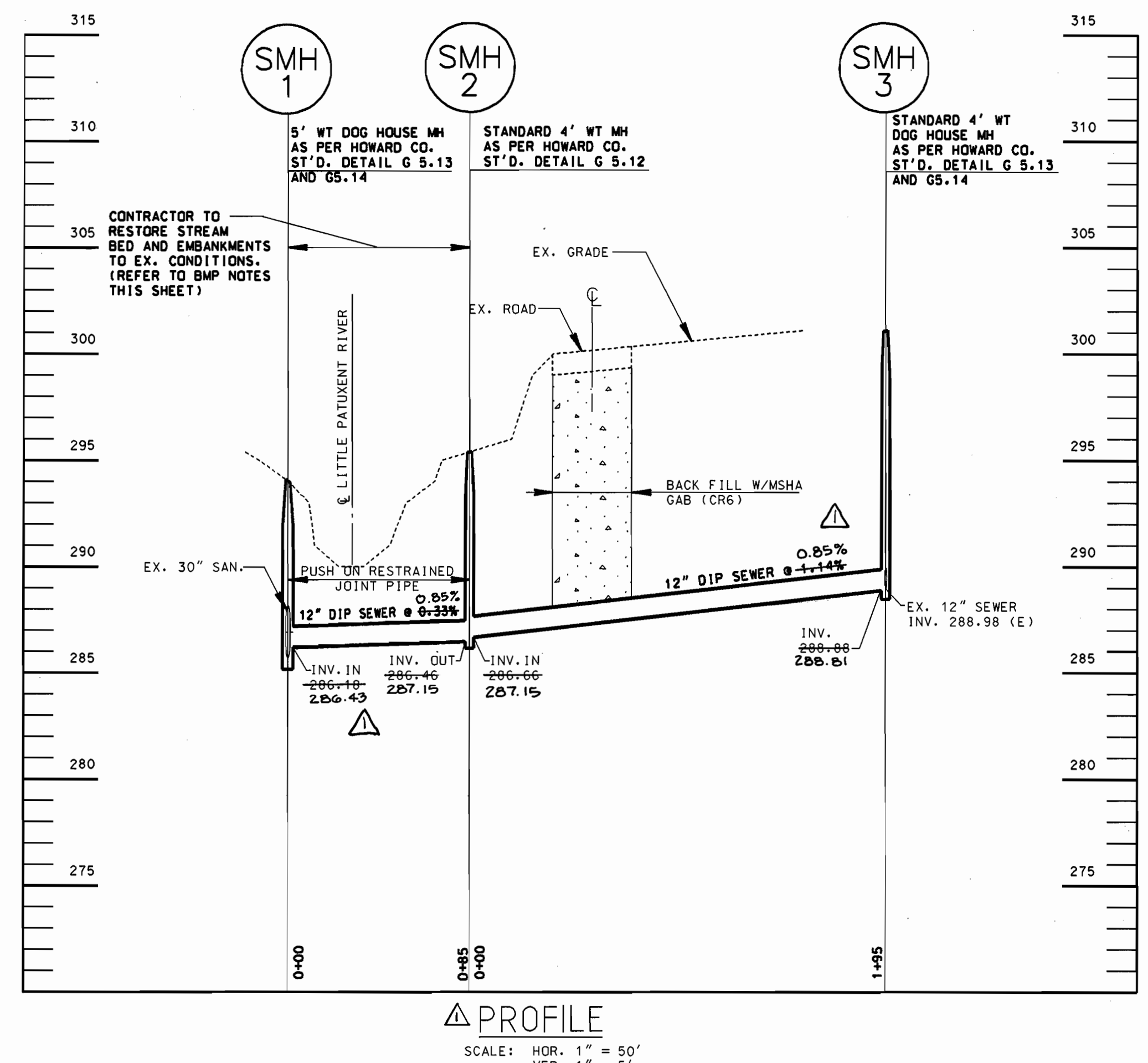
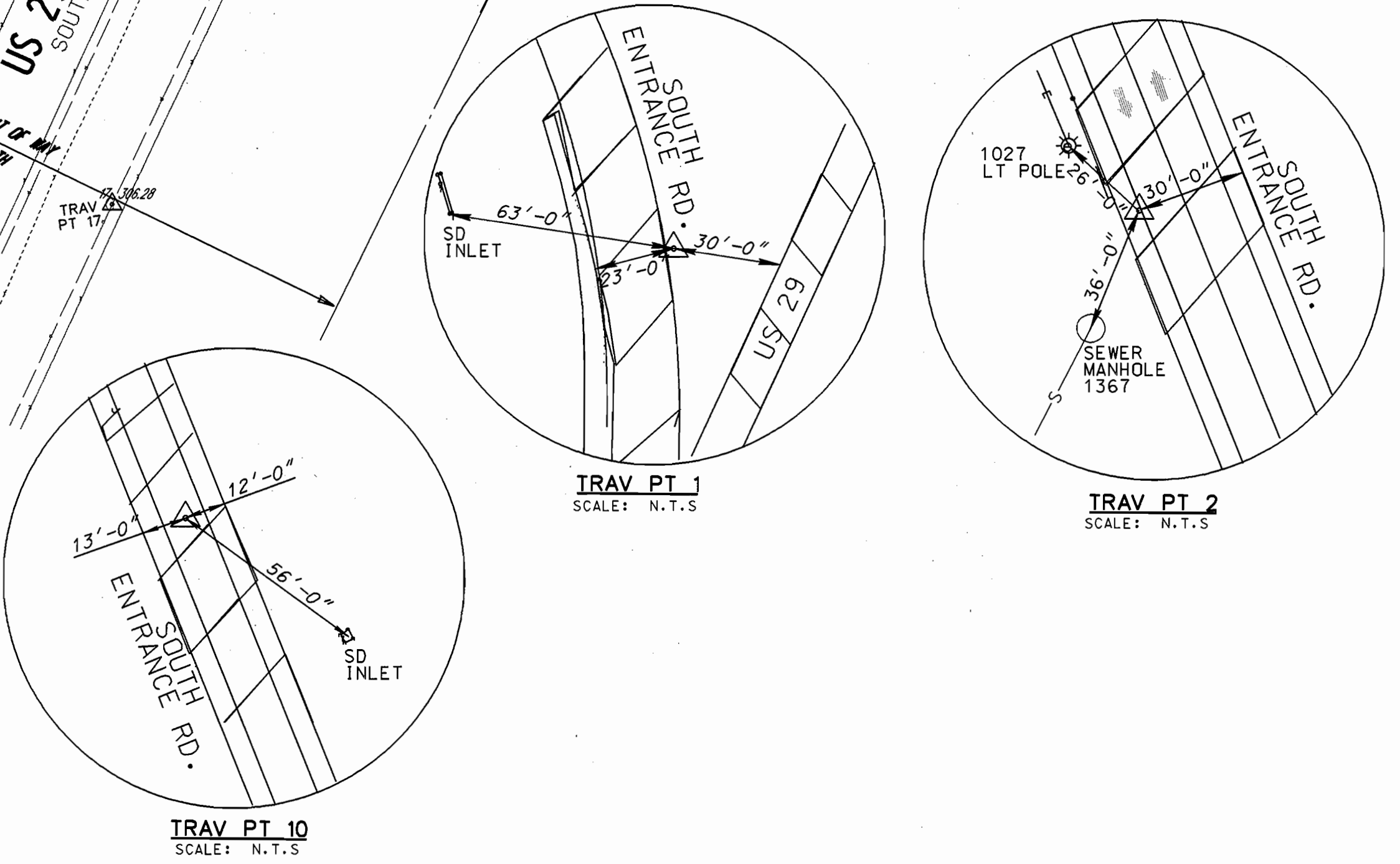
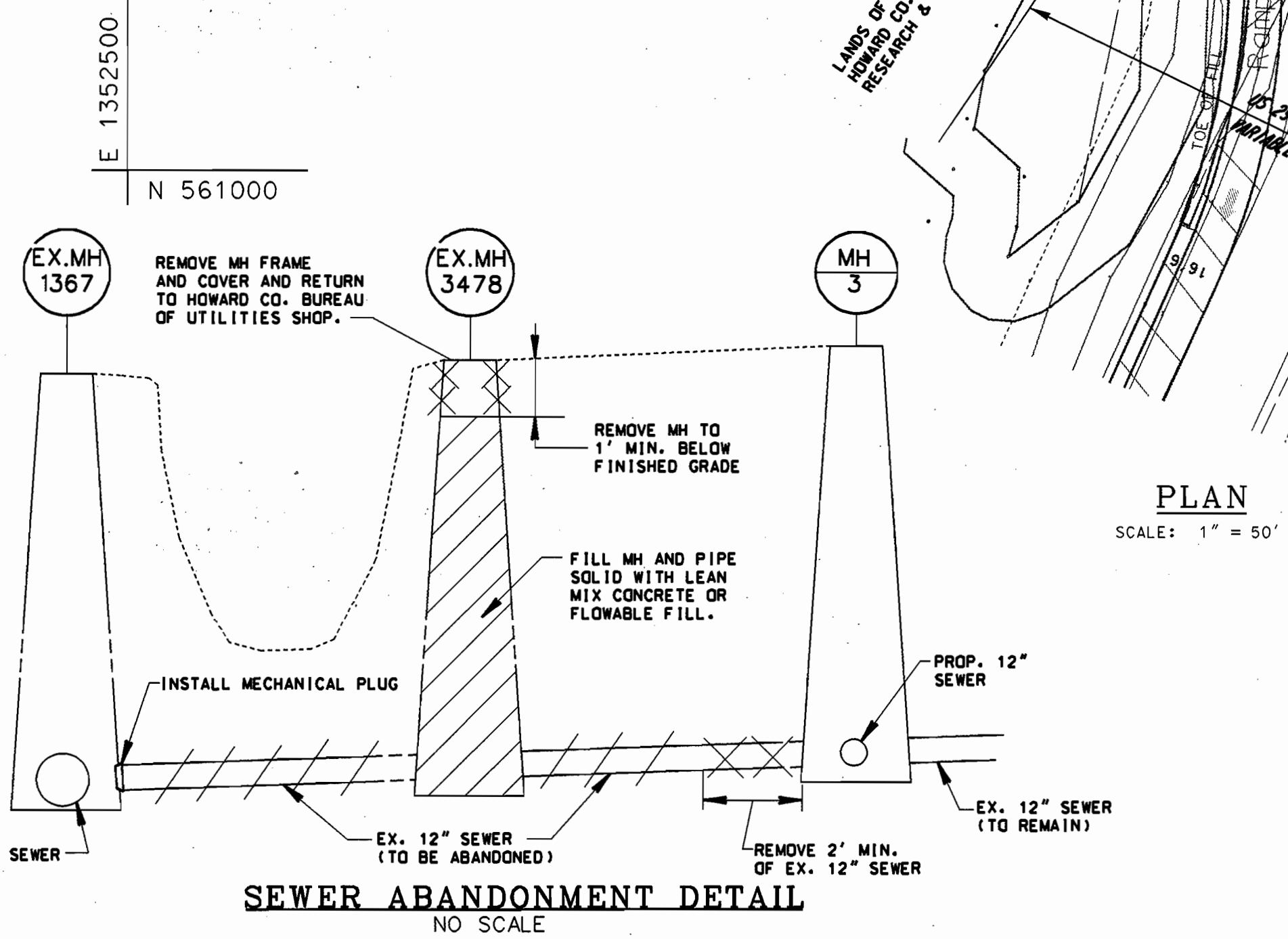
USE 1 WATERS: IN STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
 - STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAYS.
 - CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.



TRAVERSE COORDINATE SCHEDULE

NUMBER	NORTHING	EASTING	ELEVATION
SHA & KCI TRAV. PT. 1	561116.50	1352946.63	303.35
SHA & KCI TRAV. PT. 2	561389.15	1352821.50	298.34
SHA & KCI TRAV. PT. 3	561480.04	1352779.79	299.55
SHA & KCI TRAV. PT. 7	561556.00	1353107.78	295.24
SHA & KCI TRAV. PT. 10	561252.43	1352884.08	300.21
SHA & KCI TRAV. PT. 11	561525.48	1352758.93	300.54
KCI TRAV. PT. 17	560980.18	1353009.22	306.28
KCI TRAV. PT. 18	561418.27	1353210.66	305.53
KCI TRAV. PT. 20	561186.29	1352727.55	295.01

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
Jim Myers 9/13/02
 DATE
 JOHN W. BARTON 9/13/02
 DATE
 HOWARD S.C.D.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

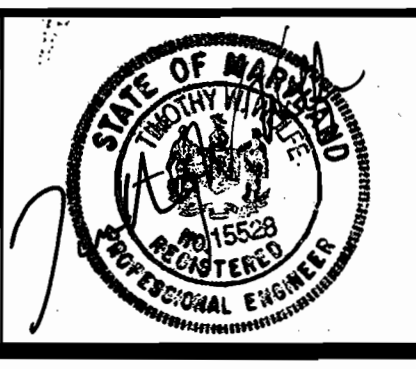
Robert H. Brown 9-10-02
DIRECTOR OF PUBLIC WORKS
CHIEF, BUREAU OF UTILITIES

Paul S. Brown 9/6/02
CHIEF, BUREAU OF ENGINEERING

Paul S. Brown 9-6-02
CHIEF, UTILITY DESIGN DIVISION

ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MD. 21030-1888
(410) 316-7800

KCI TECHNOLOGIES



DES: CSC
DRN: KFJ
CHK: TW

DATE: AUGUST, 02
BY: NO.

AS-BUILT INFORMATION

12-4
2002
DATE

SEWER RELOCATION PLAN & PROFILE

600' SCALE TAX MAP NO. 36 BLOCK NO. 8

SOUTH ENTRANCE ROAD SEWER RELOCATION

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SCALE AS SHOWN
SHEET 2 OF 3

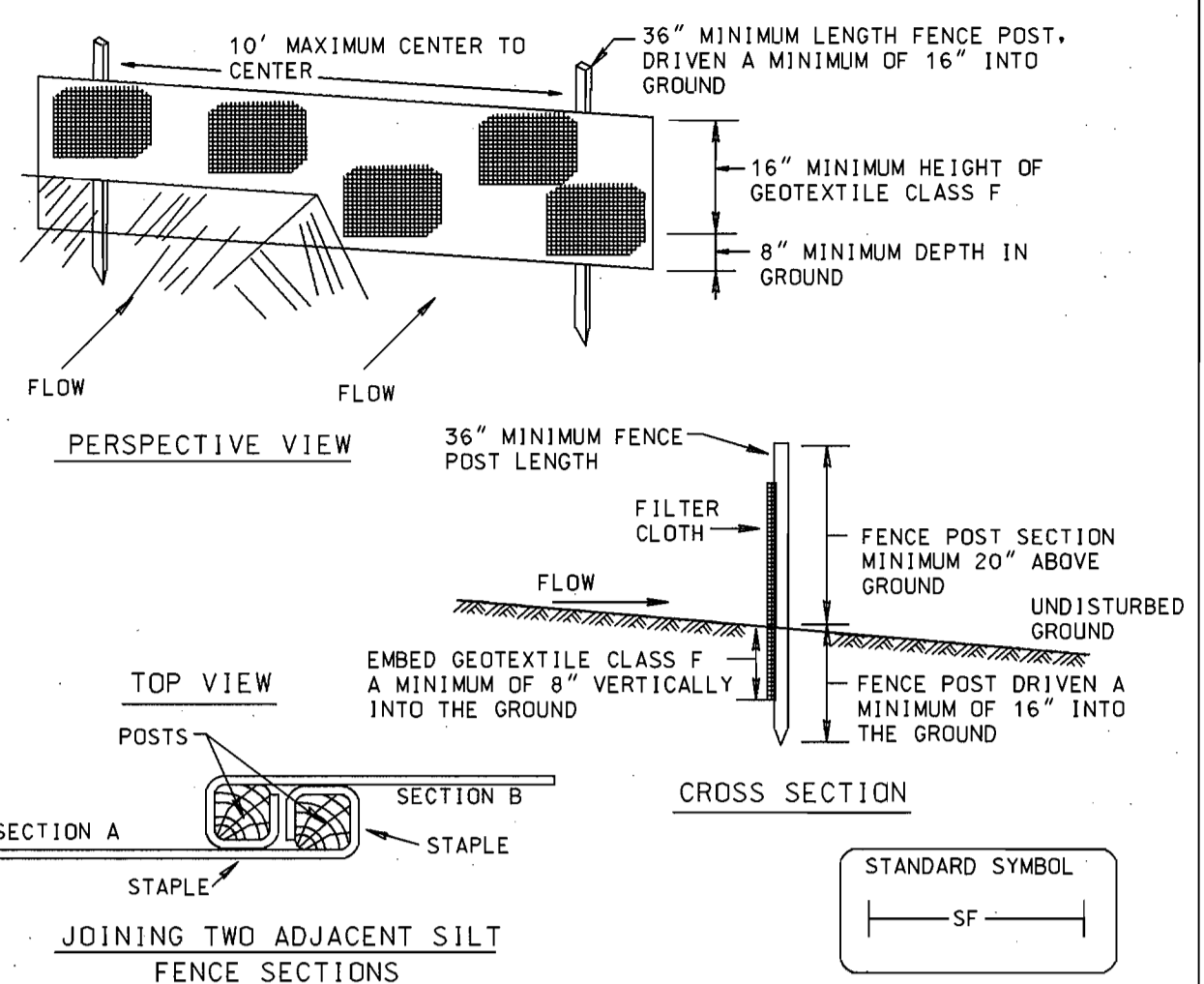
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STANDARD SEDIMENT CONTROL NOTES

- 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).
- ALL VEGETIVE 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 THERE TO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, 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 3:1.
 - 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 (SEC. 620.0) FOR PERMANENT SEEDINGS, SOD, 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.
- SITE ANALYSIS:

TOTAL AREA OF SITE	NA ACRES
AREA DISTURBED	0.26 ACRES
AREA TO BE ROOFED OR PAVED	0.04 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.22 ACRES
TOTAL CUT	CU. YDS.
TOTAL FILL	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	NA
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF THE DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- CONTRACTOR SHALL PLACE EXCAVATED MATERIALS ON UPHILL SIDE OF TRENCH AND PLACE SILT FENCE ON DOWNHILL SIDE OF TRENCH.

DETAIL 22 - SILT FENCE



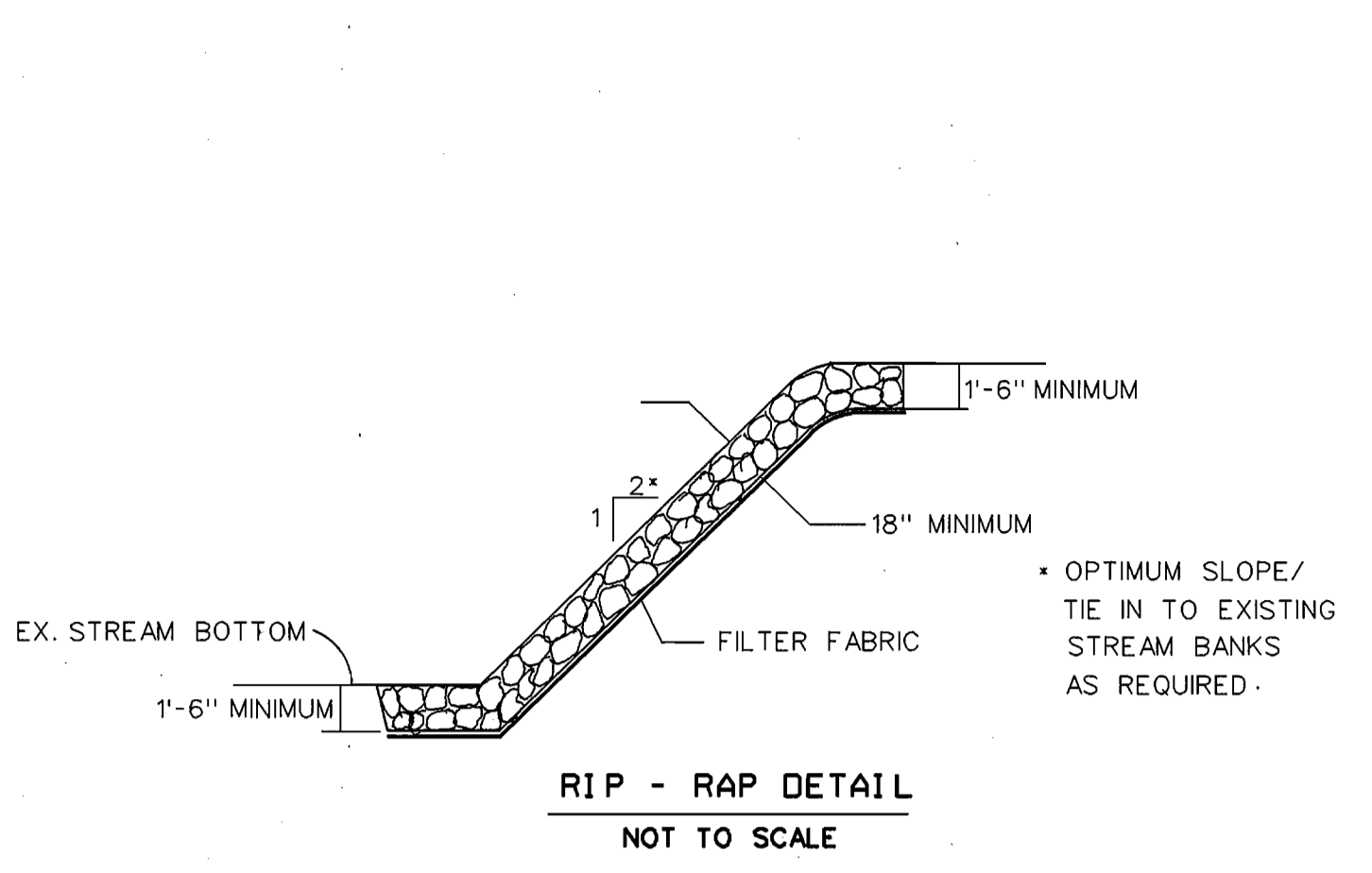
Construction Specifications

- 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.

U.S. DEPARTMENT OF AGRICULTURE PAGE E-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

DETAIL - RIPRAP

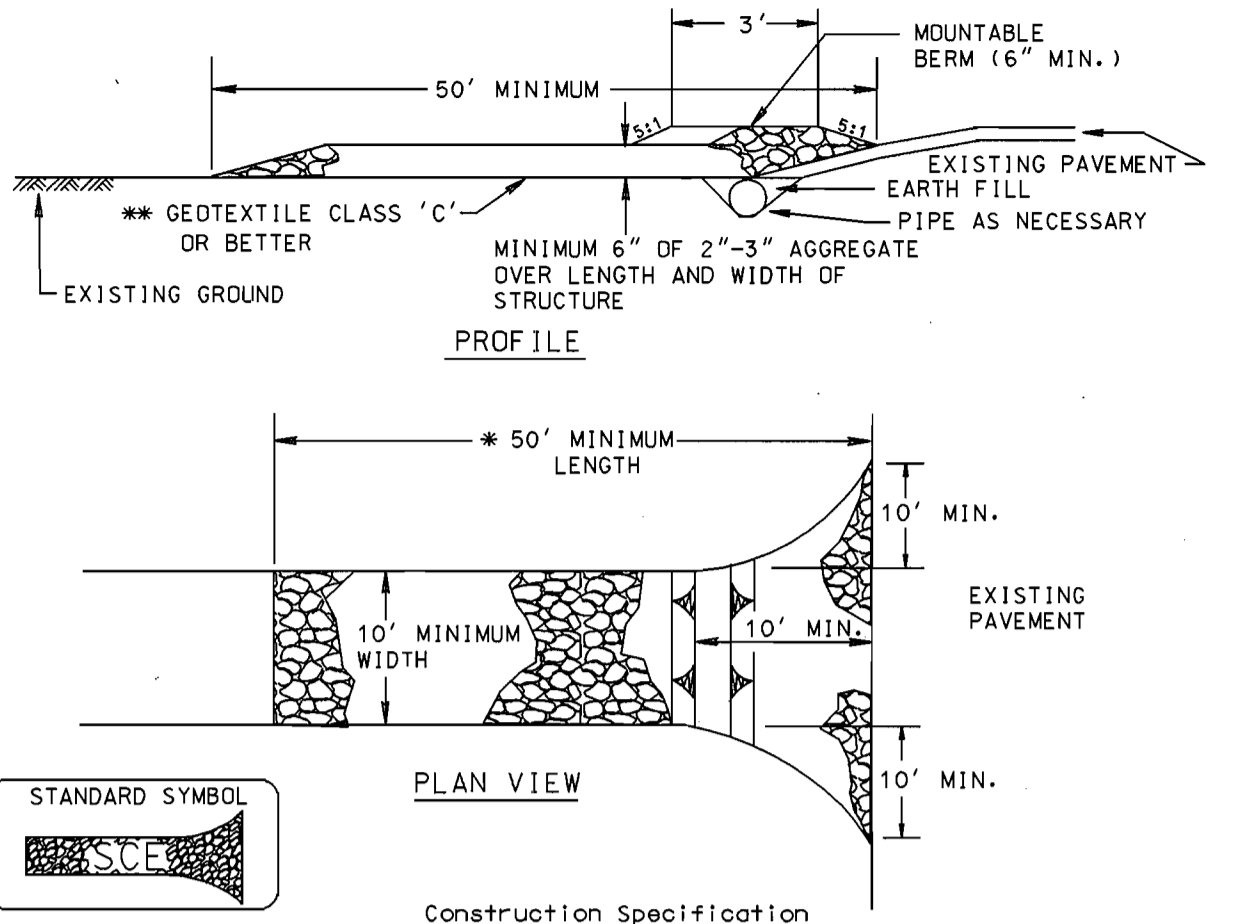


Construction Specifications

- Bedding: Geotextile filter fabric shall be Miraf1405 Dupont Typar #3341 or approved equivalent.
- Riprap: The stone shall have a minimum diameter of 12 inches and weigh at least 100 lbs. each.
- Construction Requirements:
 - The contractor shall install all sediment and erosion control devices as a first order of business.
 - Provisions must be made to anchor the riprap at the stream bed so as to provide protection against undermining. If this cannot be accomplished by extending the toe trench as indicated in Cross Section, an alternative method of protection must be provided prior written approval of the Administration.
 - Excavation for riprap shall be made in reasonably close conformity with the existing stream slope and bed.
 - A filter bedding is required under all riprap. Bedding material shall consist of either a bank run gravel or a geotextile filter fabric meeting the specifications of #15 above.
 - The placement of riprap shall begin with the toe. The larger stones shall be placed in the toe and along the outside edges of the limits of the slope and channel protection. The riprap shall be placed with suitable equipment in such a manner as to produce a reasonably graded mass of stones with zero drop height. The piling of stones that cause excessive stragglings is not allowed.
 - Any excavation voids existing along the edges of the completed slope and channel protection shall be backfilled.
 - All disturbed areas shall be permanently stabilized in accordance with an approved sediment and erosion control plan.

U.S. DEPARTMENT OF AGRICULTURE PAGE H-29-6A MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

- Length - minimum of 50' (#30' for single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE PAGE F-17-3 MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LEAF 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 PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT.) AND 600 LBS PER 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 PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ FT.).
- 2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT.) AND 1000 LBS PER 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 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 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 SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED 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.

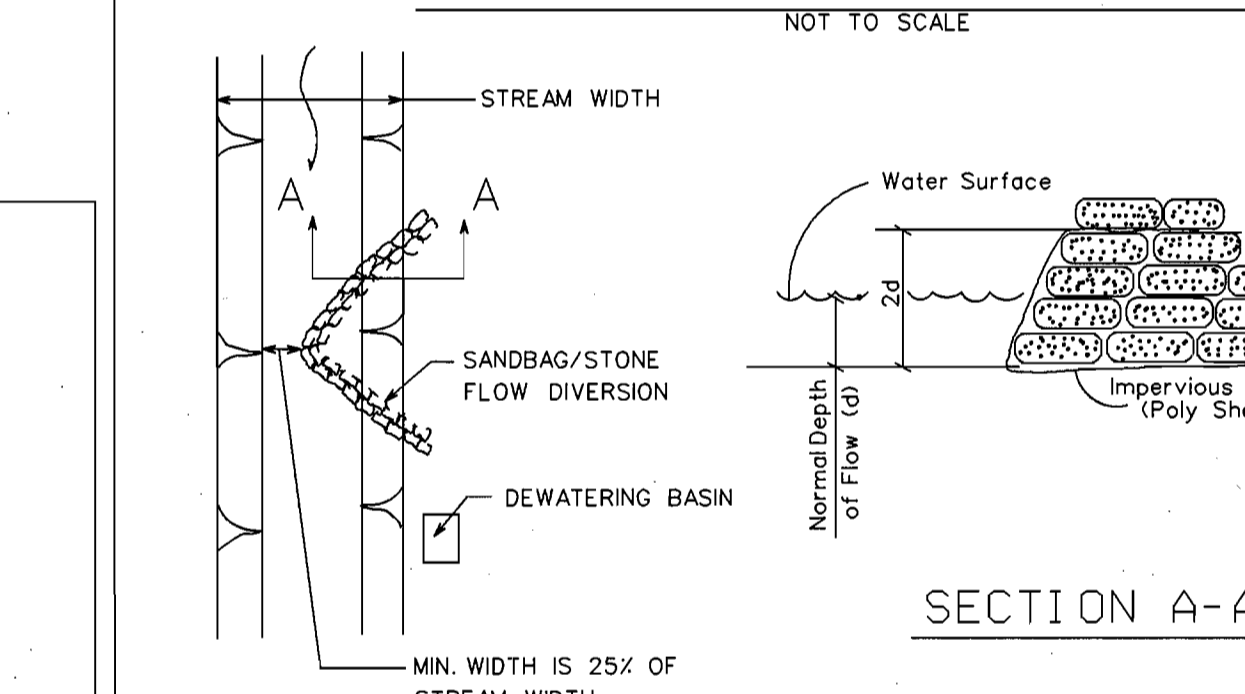
SOIL AMENDMENTS: - APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT.).

SEEDING - FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER 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 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 GAL PER ACRE (5 GAL/1000 SQ FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 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 RATE AND METHODS NOT COVERED.

INSTREAM FLOW DIVERSION STRUCTURE



NOTES:

- THE HEIGHT OF THE DIKE SHALL BE TWICE THE NORMAL DEPTH OF FLOW FOR EXAMPLE: AT 1' OF FLOW DEPTH, THE DIKE SHOULD BE 2' HIGH AT THE EXTENT OF THE POLY SHEETING.
- WHENEVER SHEETING IS OVERLAPPED IT SHALL BE FROM UPSTREAM TO DOWNSTREAM. EXAMPLE: <<<<<< FLOW >>>>>>
- AN UPLAND DEWATERING PIT SHOULD BE CONSTRUCTED TO PUMP ANY SEEPAGE FROM THE WORK AREA.

I. Description

The work shall consist of installing flow diversions for the purpose of erosion control when construction activities take place within the stream channels such as bank stabilization or bridge abutment construction.

II. Material Specifications

- Sandbags: Sandbags shall consist of materials which are resistant to ultraviolet radiation, tearing and puncture and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
- Stone: Stone shall be washed and have a minimum diameter of 6 inches.
- Sheeting: Sheeting shall consist of polyethylene or other material which is impermeable and resistant to puncture and tearing.

III. Construction Requirements

- All erosion and sediment control devices shall be installed as the first order of work.
- The diversion structure shall be installed from upstream to downstream.
- The height of the diversion structure shall be one half the distance from stream bed to stream bank plus one foot, as indicated on the cross-section view.
- All excavated materials shall be disposed of in a SCD approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the WRA.
- All dewatering of the construction area shall be pumped to a dewatering basin prior to re-entering the stream.
- Sheeting shall be overlapped such that the upstream portion covers the downstream portion with at least an 18-inch overlap.
- Sediment control devices are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.

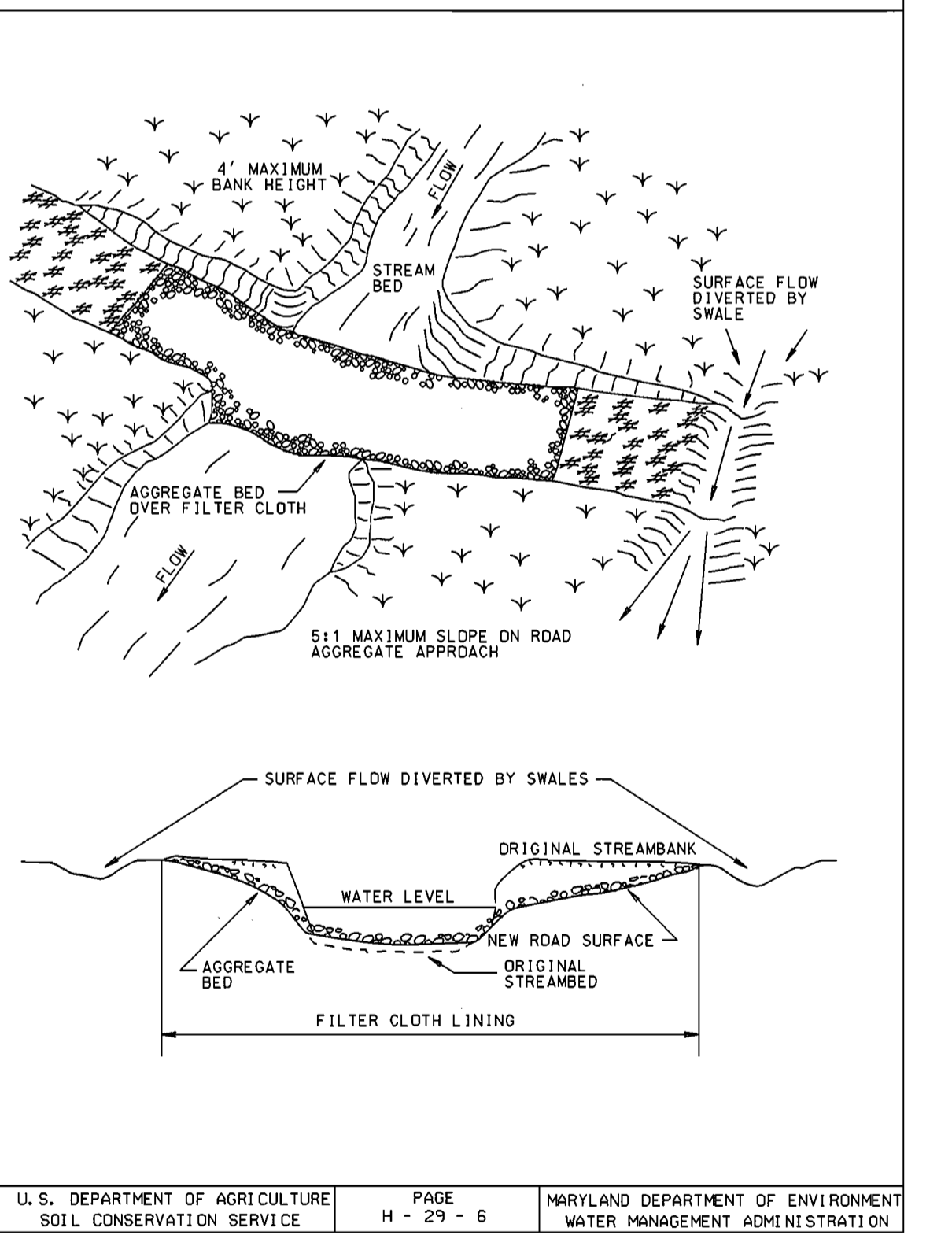
TEMPORARY ACCESS FORD

Construction Specifications

- Restrictions - Use or removal of a temporary access will not be permitted between October 1 and April 30 for all Class III and Class IV Trout Waters. For other streams, use or removal of a temporary ford will be prohibited from March 1 through June 15 of each year because fish are spawning during this period.
- The approaches to the structure shall consist of stone pads. The entire ford approach (where banks were cut) shall be covered with filter cloth and protected with aggregate to a depth of 4".
- Fords shall be prohibited when the stream banks are 4' or more in height above the invert of the stream and a bridge or culvert crossing can easily be constructed.
- The approach roads at the cut banks shall be no steeper than 5:1. Spoil material from the banks shall be stored out of the flood plain and stabilized.
- One layer of filter cloth shall be placed on the streambed, streambanks, and road approaches prior to placing the bedding material on the stream channel or approaches. The filter cloth shall extend a minimum of 6" and a maximum 1' beyond bedding material.
- The bedding material shall be coarse aggregate or gabion mattresses filled with coarse aggregate.
- Aggregate used in ford construction shall be SHA 4" - 7" stone.
- All fords shall be constructed to minimize the blockage of stream flow and shall allow free flow over the ford. The placing of any material in the waterway bed will cause some upstream ponding. The depth of this ponding will be equivalent to the depth of the material placed within the stream and therefore should be kept to a minimum height. However, in no case will the bedding material be placed deeper than 12" or 1/2 the height of the existing banks, whichever is smaller.
- Stabilization - All areas disturbed during ford installation shall be stabilized within 14-calendar days of that disturbance in accordance with the Standards for "Critical Area Stabilization With Permanent Seeding".

U.S. DEPARTMENT OF AGRICULTURE PAGE H-29-6A MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

DETAIL 34 - TEMPORARY ACCESS FORD



U.S. DEPARTMENT OF AGRICULTURE PAGE H-29-6 MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

ENGINEER'S CERTIFICATION

"I/WE 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 COUNTY SOIL CONSERVATION DISTRICT."

APPROVED: *Timothy W. Wolfe* DATE: 8/21/02

KCI TECHNOLOGIES
10 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND 21030

SEQUENCE OF CONSTRUCTION

- OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
- CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION DIVISION (313-1870) PRIOR TO STARTING DATE. (1 DAY)
- INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS PRESENTED ON THE DRAWINGS AND PER SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL, IV. (2 DAYS)
- CLEAR AND GRUB SITE. (3 DAYS)
- EXCAVATE AND INSTALL PROPOSED 12" SEWER MAIN. CONTRACTOR SHALL SCHEDULE WORK SUCH THAT CROSSING THE STREAM WITH EQUIPMENT IS LIMITED TO 2 OR 3 TIMES TOTAL. FOR STREAM CROSSING, INSTALL TEMPORARY ACCESS FORD. STARTING AT M33, INSTALL SANDBAG DIVERSION AND DEWATER INTO DEWATERING BASIN. INSTALL SEWER ENCASE-BACKFILL TRENCH AND STABILIZE STREAM BANK WITH RIP-RAP. REMOVE SANDBAG DIVERSION FROM UPSTREAM TO DOWNSTREAM AND STABILIZE. INSTALL REMAINING UPSTREAM PORTION OF SEWER ACROSS THE STREAM. AS ABOVE.
- RESTORE EARTH TRENCHES TO THEIR ORIGINAL CONDITION PER HOWARD COUNTY STANDARD. TRENCH TO BE BACKFILLED AND STABILIZED ON SAME DAY. TOTAL DURATION 28 DAYS FOR EXCAVATION, BACKFILL AND RESTORATION)
- RESTORE STREAM TO EX. CONDITIONS AND ALL DISTURBED AREAS. STABILIZE WITH PERMANENT SEEDING. (7 DAYS)
- UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES. (2 DAYS)

DEVELOPER'S CERTIFICATION

"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."

BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS

DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Shaw 9/6/02
DIRECTOR OF PUBLIC WORKS DATE

Paul J. Sisson 9-6-02
CHIEF, BUREAU OF ENGINEERING DATE

John J. Sisson 9-6-02
CHIEF, BUREAU OF UTILITIES DATE

John J. Sisson 9-6-02
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MD. 21030-1888
(410) 316-7800

KCI TECHNOLOGIES

DES: CSC

DRN: KFJ

CHK: TW

DATE: AUGUST, 02

BY: DFC

NO.:

AS-BUILT SET

REVISION

DATE: 12-4-2006

EROSION & SEDIMENT CONTROL NOTES & DETAILS

600' SCALE TAX MAP NO. 36 BLOCK NO. 8

SOUTH ENTRANCE ROAD SEWER RELOCATION

CAPITAL PROJECT No. W-8212
CONTRACT No. 20-3991

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 3 OF 3

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