


GENERAL NOTES

- 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.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.C.S. DATA NGVD83.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12" CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. 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.
- 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 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.
- 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
 BGE (CONTRACTOR SERVICES) 410-850-4620
 BGE - UNDERGROUND DAMAGE CONTROL 410-787-9068
 BUREAU OF UTILITIES (DPW) 410-313-9900
 BELL ATLANTIC MARYLAND, INC. 1-800-621-9900
 COLONIAL PIPELINE CO. 410-795-1390
 MISS UTILITY 1-800-257-7777
 STATE HIGHWAY ADMINISTRATION 410-531-5633
- 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.
- 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.
- 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(d) OF THE HOWARD COUNTY CODE.
- ALL WATER MAINS SHALL BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR 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 STANDARD 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEMS.
- THE CONTRACTOR TO COORDINATE AND INFORM BUREAU OF UTILITIES AT LEAST 5 WORKING DAYS PRIOR TO TIE IN TO THE EXISTING WATER MAIN.

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, TOXIS 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 SEEDED 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 I 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.

SCARLET OAKS 16" WATER MAIN HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT No. W-8229

CONTRACT No. 44-3826

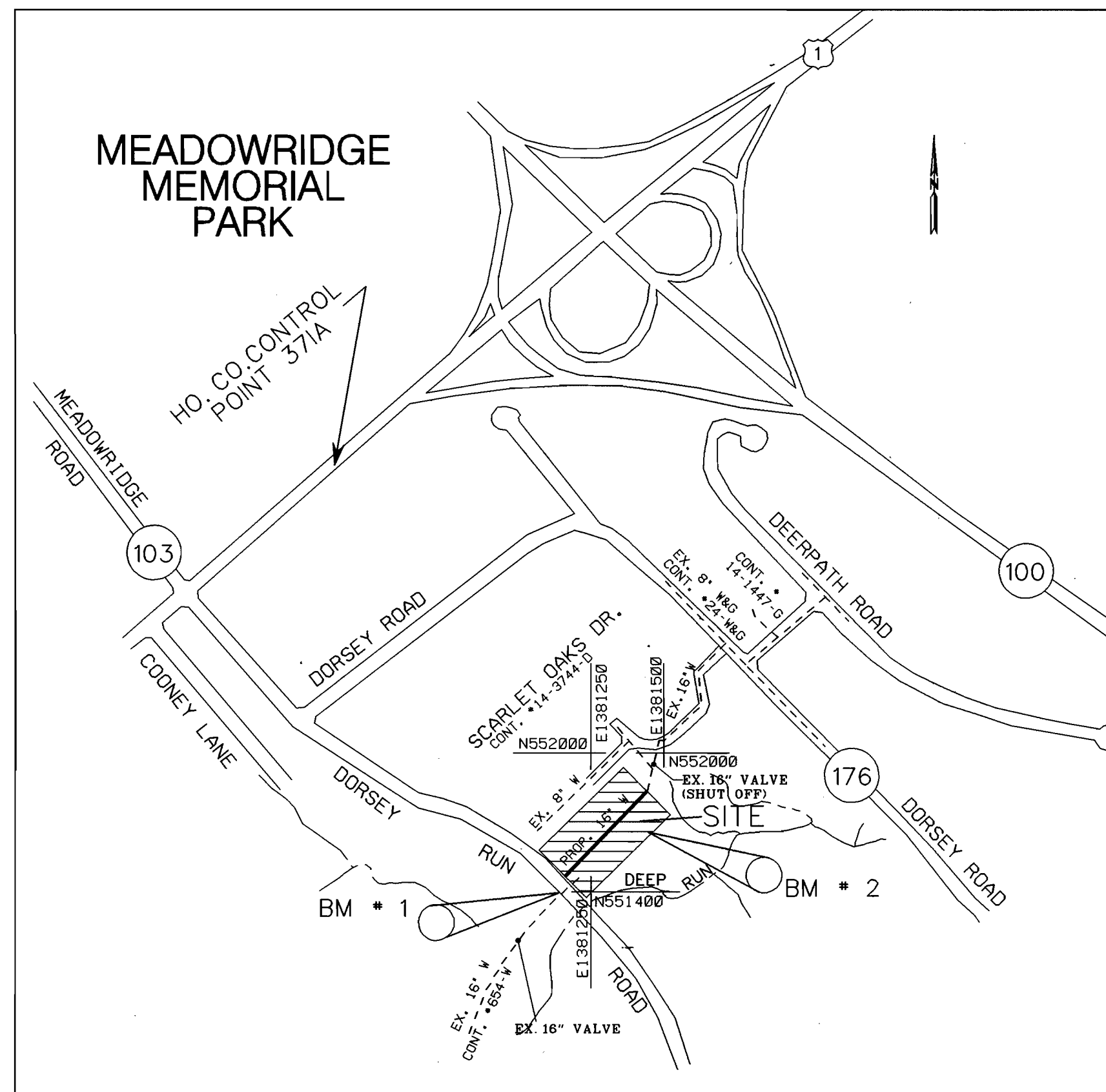
INDEX OF SHEETS

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	16-INCH WATER MAIN - PLAN, PROFILE & NOTES
3	SEDIMENT AND EROSION CONTROL - DETAILS AND NOTES

QUANTITIES				
ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
16" W	L.F.	770	720.7	ATLANTIC STRATES
16" VALVE	EA.	1	1	CLAY VALVE CO.
CONNECTIONS TO EX. PIPING	EA.	2	1	UNION FOUNDRY
10" AIR RELEASE VALVE & MH (V4.11)	EA.	1	1	POB-CAT CLAY VALVE CO. FREDERICK
BLOW OFF & MH	EA.	1	1	CLAY VALVE CO. FREDERICK
NAME OF UTILITY CONTRACTOR:				UTILITIES UNLIMITED
CHECKBOX				
AS-BUILT DATE:				
SURVEY AND DRAFTING DIVISION				

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- LAYOUT ALIGNMENT AT SITE. (2 DAYS)
- INSTALL SEDIMENT CONTROL DEVICES. SILT FENCE TO BE PERPENDICULAR TO THE CURB AND ON THE DOWN-SLOPE SIDE OF CONSTRUCTION.
- EXCAVATE DITCH TO THE GRADE SPECIFIED ON THE PROFILE AND INSTALL WATER MAIN. (14 DAYS)
- STREAM CROSSING TO BE INSTALLED IN ACCORDANCE WITH BMP AS OUTLINED ON SHEET 2. RESTORE STREAM CHANNEL TO ORIGINAL CONDITION (SEE DETAIL ON SHEET 2).
- BACKFILL TRENCH AND RESTORE TO EXISTING CONDITIONS. (3 DAYS)
- CLEAN UP CONSTRUCTION SITE. (1 DAY)
- REMOVE SEDIMENT CONTROL DEVICES AFTER PERMISSION IS GRANTED BY THE SEDIMENT CONTROL INSPECTOR. (1 DAY)
- THE CONSTRUCTION IS TO BE LIMITED TO THAT WHICH CAN BE INSTALLED, BACKFILLED, AND STABILIZED EACH DAY.



TYPE OF BUILDING: RESIDENTIAL
 NUMBER OF PARCELS: 1 #073
 WATER HOUSE CONNECTIONS: NONE
 DRAINAGE AREA: PATAPSCO

WATER CODE FOR COUNTY USE ONLY: 2-B01
 SEWER CODE FOR COUNTY USE ONLY: N/A

HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 31R1 NAD83(91) (HORIZONTAL) NGVD29 (VERTICAL) PRESSURE ZONE: 400

HO. CO. SURVEY CONTROL
 No. 371A
 DISC
 N 553,315.147
 E 1,379,962.153
 ELEVATION 195.745

No. 4382
 3/4" REBAR
 N 550,654.993
 E 1,378,176.951
 ELEVATION 209.585

BENCH MARKS

BM # 1
 N 551,260.505
 E 1,380,965.268
 ELEVATION 144.36
 BOTTOM OF CURB
 AT DORSEY RUN ROAD

BM # 2
 N 551,737.00
 E 1,381,429.53
 ELEVATION 148.29
 CORNER OF BLDG.
 AT SCARLET OAK COURT

VICINITY MAP
SCALE: 1"=600'

WATERMAIN STAKEOUT COORDINATES SCHEDULE			
STATION	FITTINGS	NORTHING	EASTING
0+00	16"x16" TEE	551,003.00	1,380,762.00
0+06	GATE VALVE	551,007.00	1,380,757.60
0+44	45° HOR. BEND	551,327.11	1,381,024.00
0+65	45° HOR. BEND	551,349.00	1,381,023.60
4+74	AIR RELEASE VALVE	551,603.55	1,381,268.75
6+58	45° HOR. BEND	551,774.76	1,381,435.52
7+23	BLOW OFF	551,800.67	1,381,396.31
7+55	11/4" VER. BEND	551,577.16	1,381,141.30

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.

Timothy V. Wolfe 5/2/00
 DATE

ENGINEER'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.

Timothy V. Wolfe 5/2/00
 DATE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.

Cheryl Simmons 8/31/00
 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION & SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John K. Koblentz 8/31/00
 DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Alan M. Remington 8/18/00
 CHIEF, BUREAU OF PUBLIC WORKS
 DATE

Paul H. Remington 8/2/00
 CHIEF, BUREAU OF ENGINEERING
 DATE

Cheryl Simmons 8/31/00
 CHIEF, BUREAU OF UTILITIES
 DATE

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



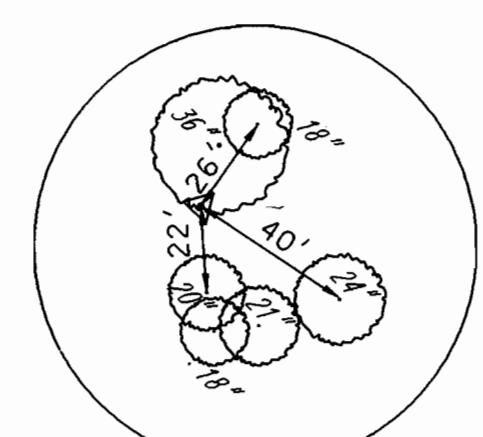
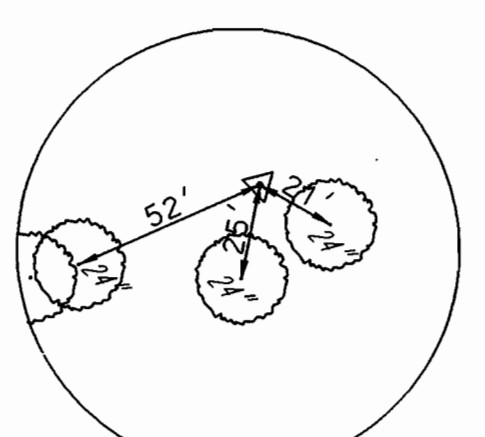
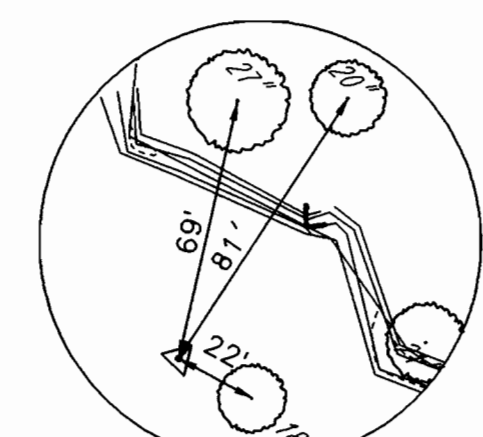
DES+ PS				
DRN+ PS				
CHK: <i>JR</i>				
DATE: 01/00				
BY: <i>H.S.I.</i>	1	AS-BUILT CONDITIONS ADDED TO PLAN TO REFLECT	4/6/00	
NO.		REVISION	DATE	

TITLE SHEET

SCARLET OAKS 16" WATER MAIN
 CAPITAL PROJECT No. W-8229
 CONTRACT No. 44-3826
 ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 1 OF 3

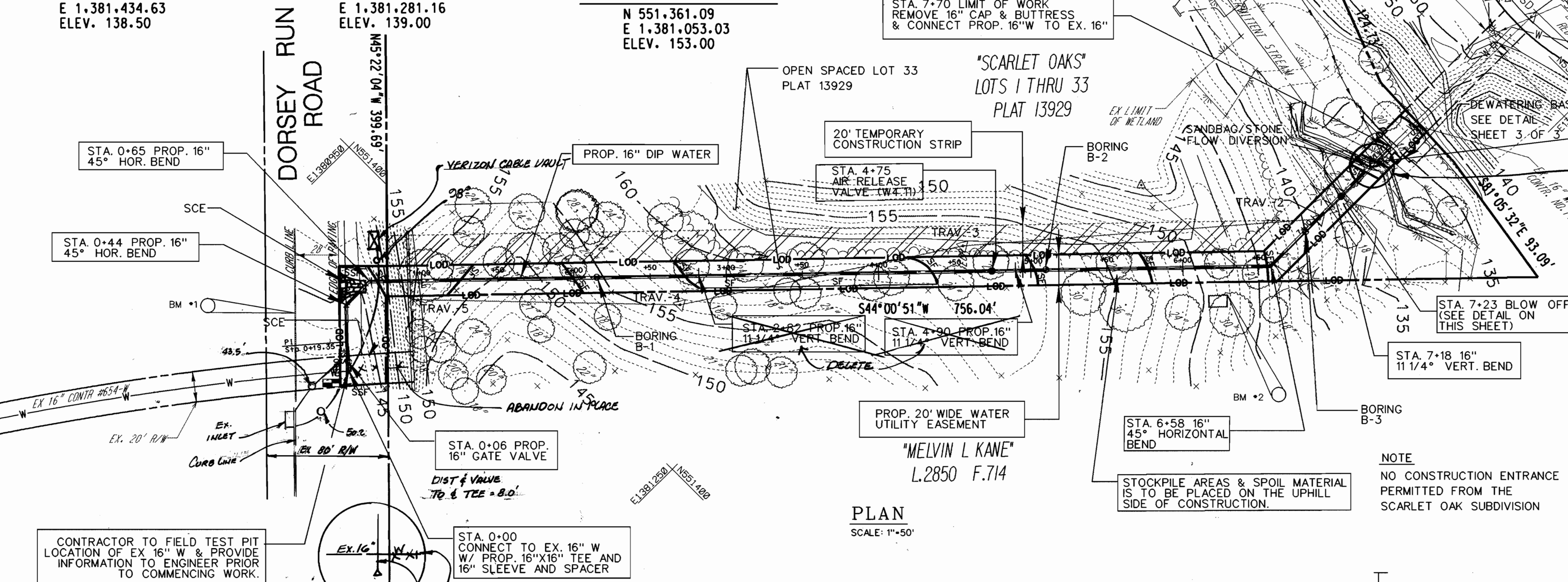
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TRAVERSE POINT #2
 N 551,817.92
 E 1,381,434.63
 ELEV. 138.50

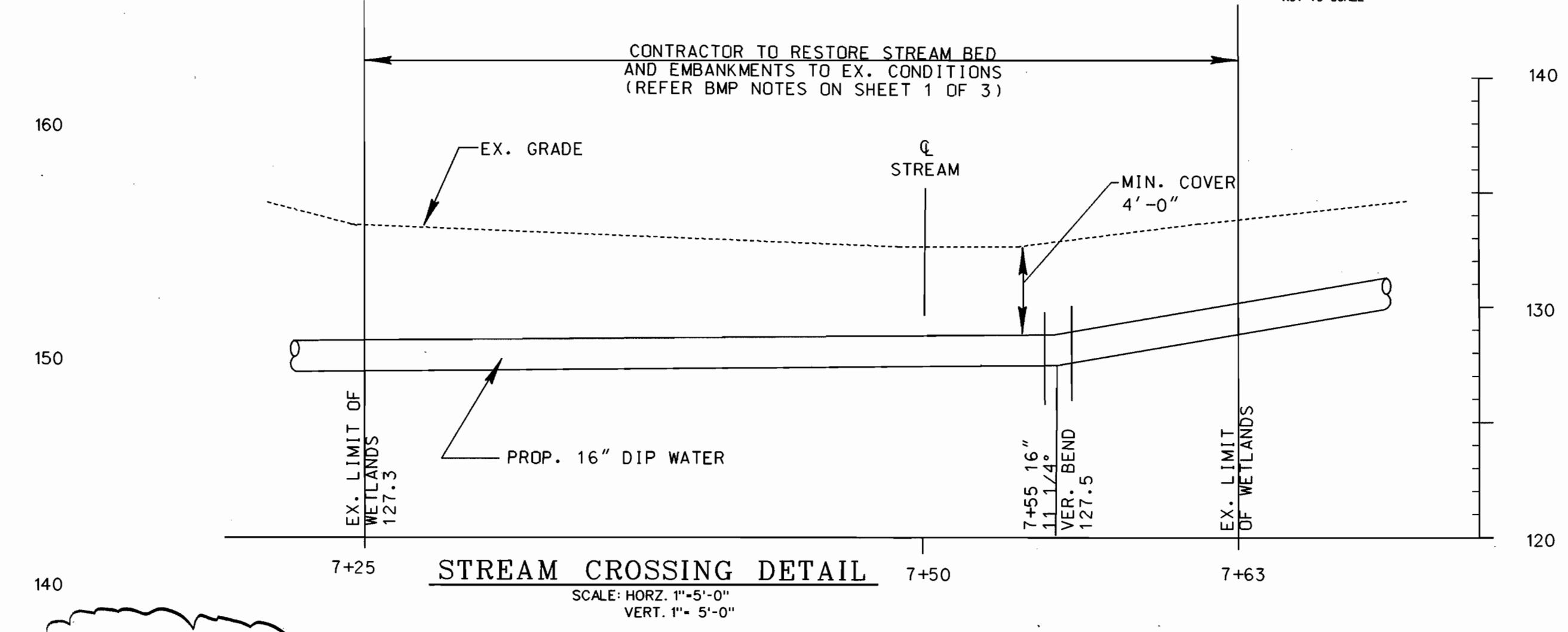
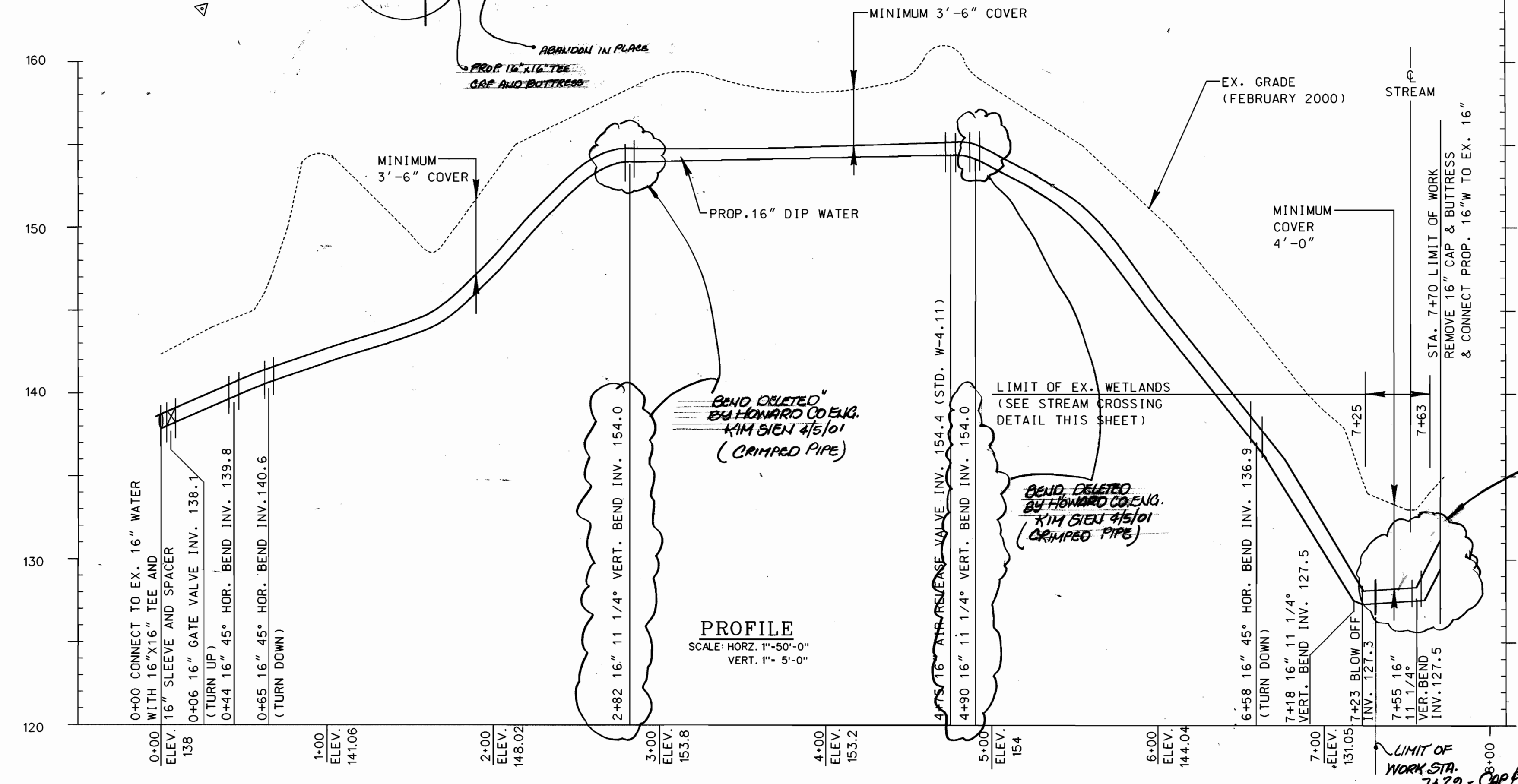
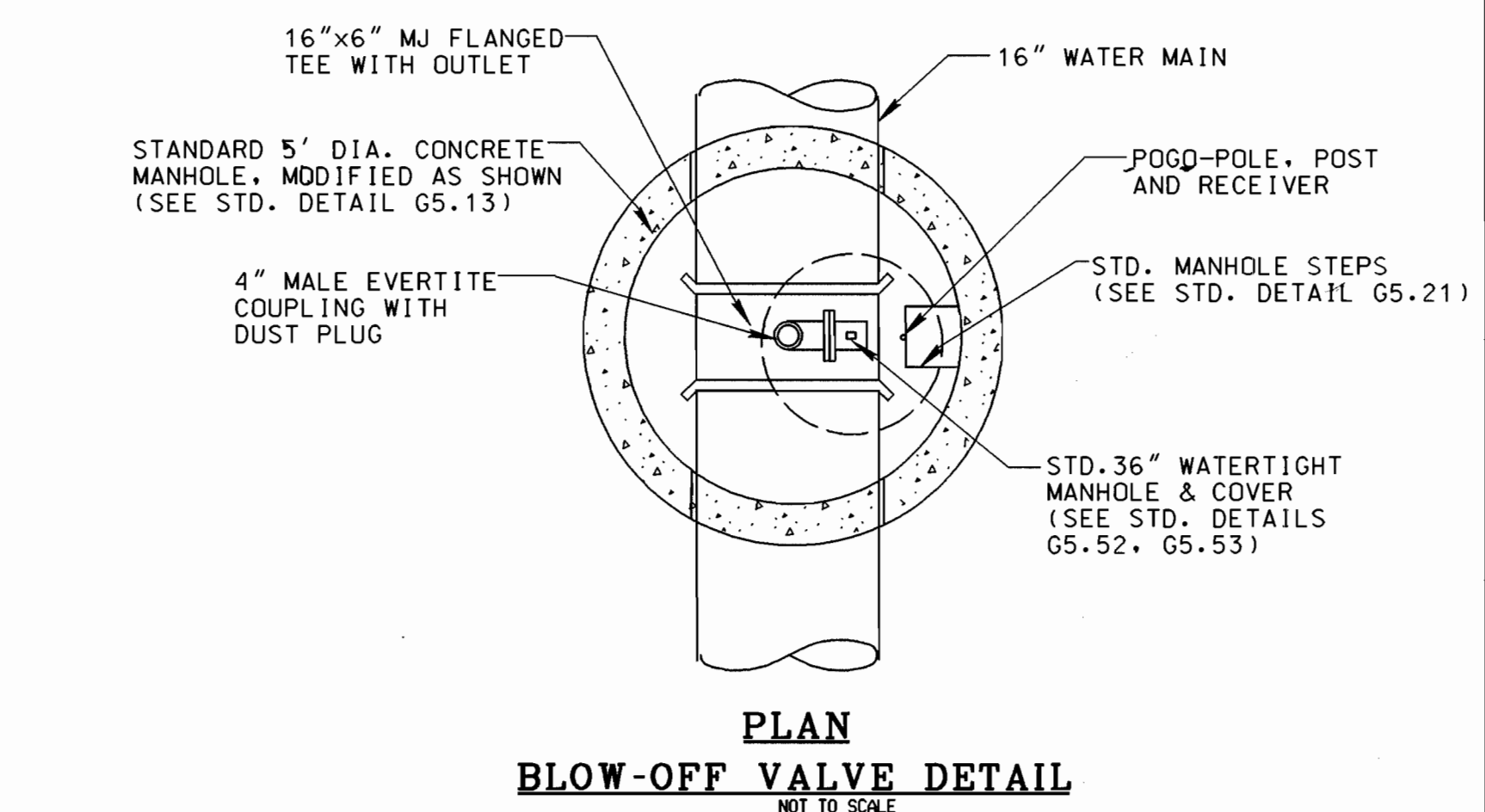
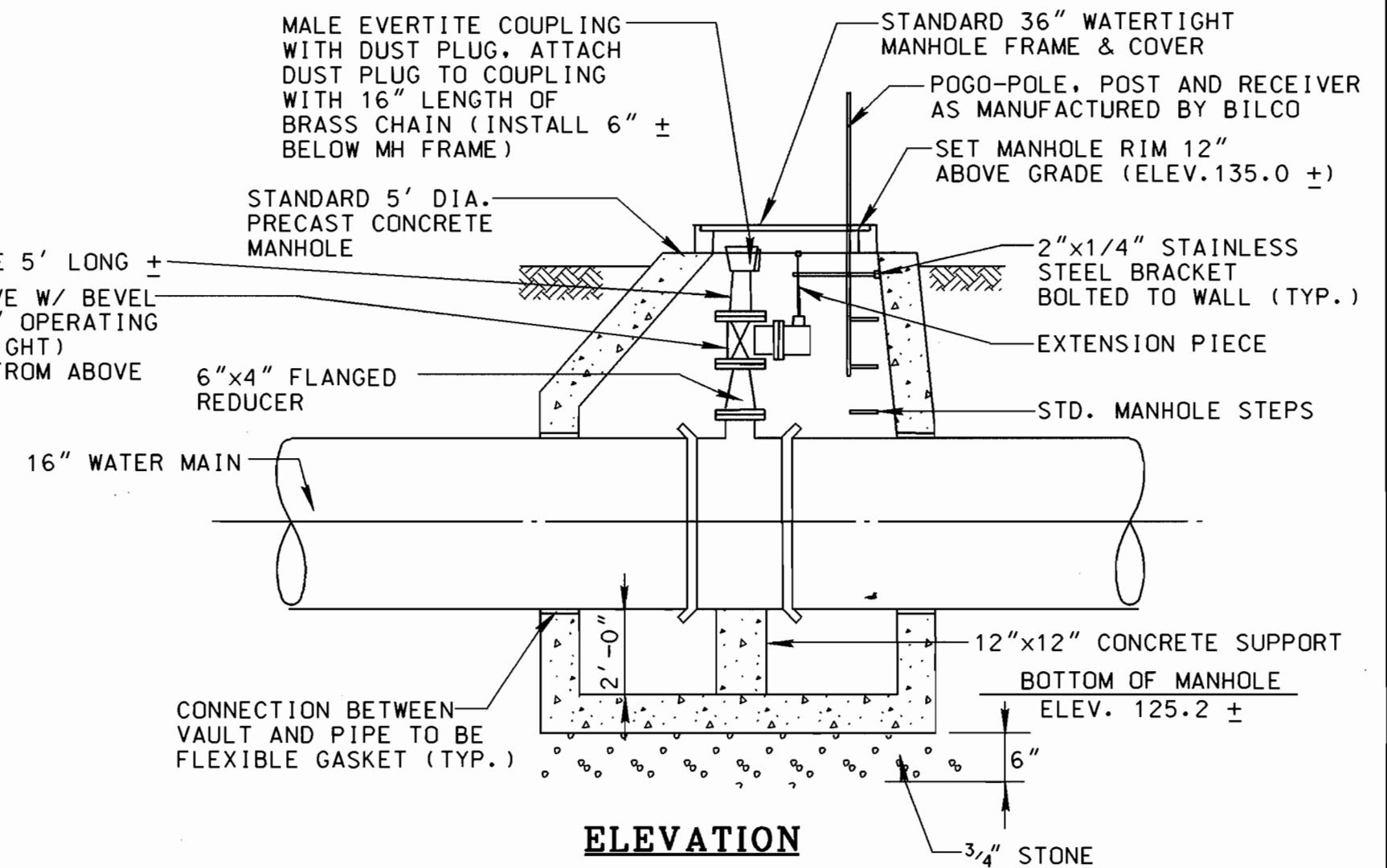
TRAVERSE POINT #3
 N 551,639.28
 E 1,381,281.16
 ELEV. 139.00

TRAVERSE POINT #5
 N 551,361.09
 E 1,381,053.03
 ELEV. 153.00

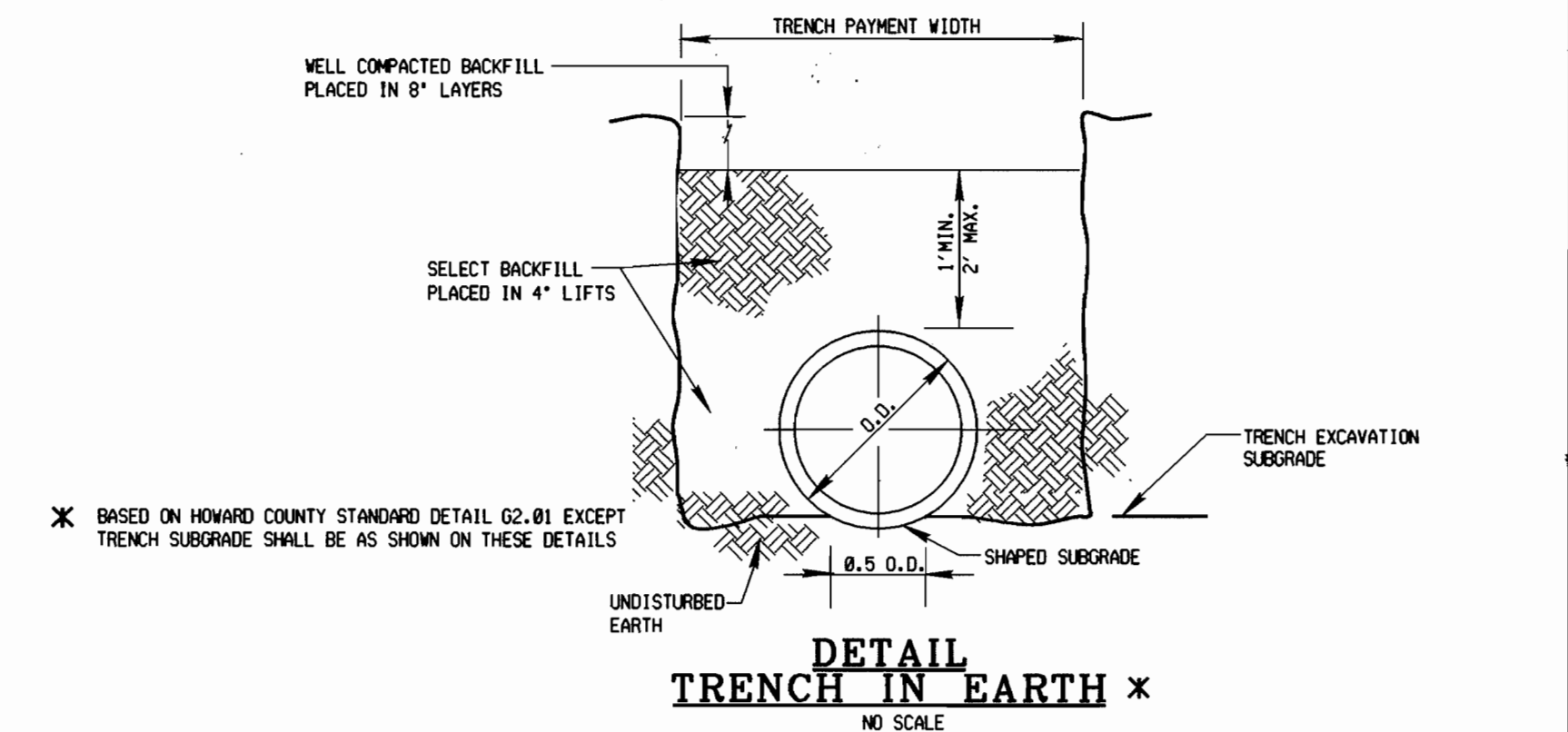


PROPERTY LINE INFORMATION TAKEN FROM HOWARD COUNTY RECORD PLAT "SCARLET OAKS" LOTS 1 THRU 33 RECORDED AS PLAT # 13929 DATED 9/10/99

NUMBER	NORTHING	EASTING
TRAV. 1	552,010.47	1,381,438.71
TRAV. 2	551,817.92	1,381,434.63
TRAV. 3	551,639.28	1,381,281.16
TRAV. 4	551,480.49	1,381,177.14
TRAV. 5	551,361.09	1,381,053.03



LOCATION	DISTANCE	TYPE
0+00 TO 7+25	LOD	SEEDING
7+25 TO 7+63	LOD	STREAM RESTORATION
7+63 TO 7+70	LOD	SEEDING



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director: *Alan M. Bergman* 8/16/00
 Chief, Bureau of Utilities: *Nicholas A. ...* 8/16/00

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

DES:	PS
DRN:	PS
CHK:	JW
DATE:	01/00
BY:	K.C.I.
NO.:	1
REVISION:	AS BUILT CONDITIONS ADDED TO PLAN
DATE:	6/6/01

600' SCALE TAX MAP NO. 43 BLOCK NO. 5/6

SCARLET OAKS 16" WATER MAIN
 CAPITAL PROJECT No. W-8229
 CONTRACT No. 44-3826
 ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 2 OF 3

FILE NAME: \\M:\71999\019180.B\ C-2.DGN
 PENTEL\UPDSH.TBL

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 PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT.) AND 100 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 100 LBS PER ACRE 10-10-10 FERTILIZER (14 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 SOIL. 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 (18 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.

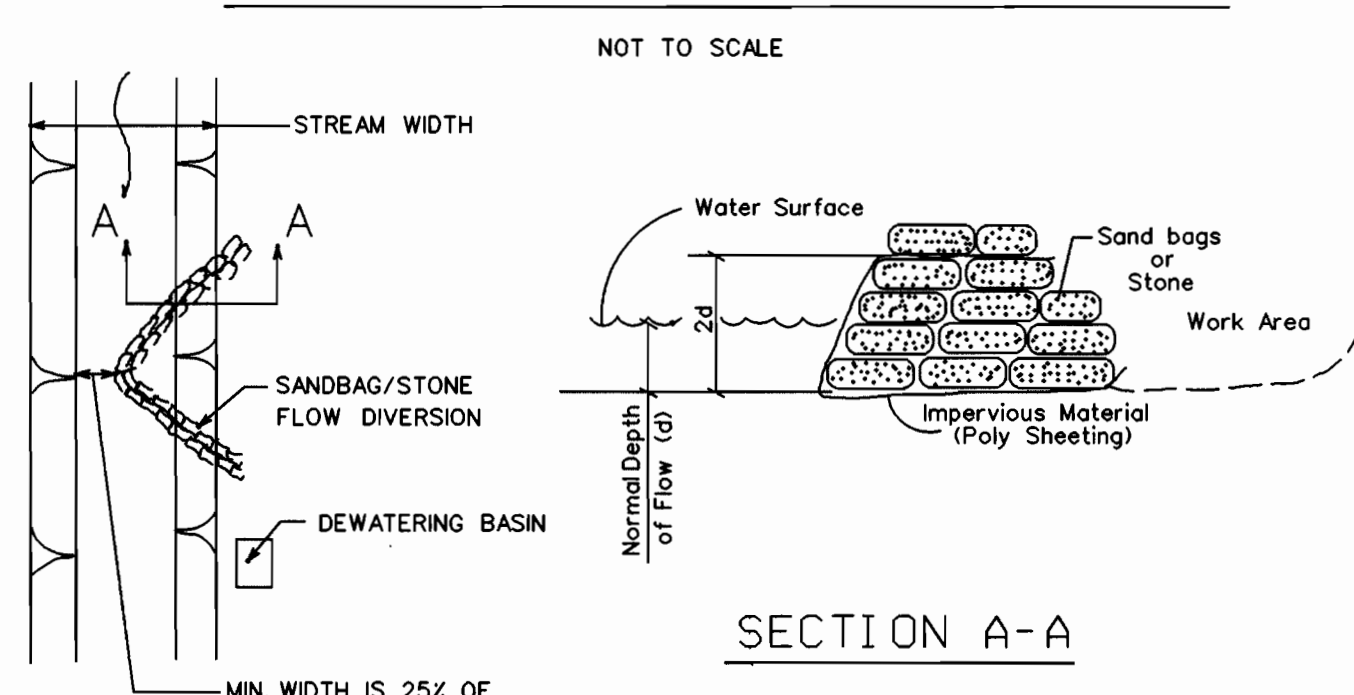
SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: - APPLY 60 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 SOIL.

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 (18 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



- NOT TO SCALE
- MIN. WIDTH IS 25% OF STREAM WIDTH
- NOTES:
1. 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. THE EXTENT OF THE SHEETING.
 2. WHENEVER SHEETING IS OVERLAPPED IT SHALL BE FROM UPSTREAM TO DOWNSTREAM. EXAMPLE: <<<<< FLOW >>>>> SHEETING OVERLAP
 3. 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 channel such as bank stabilization or bridge abutment construction.
- II. Material Specifications
1. Sandbags: Sandbags shall consist of materials which are resistant to ultra-violet radiation, tearing and puncture and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
 2. Stone: Stone shall be washed and have a minimum diameter of 6 inches.
 3. Sheeting: Sheeting shall consist of polyethylene or other material which is impervious and resistant to puncture and tearing.
- III. Construction Requirements
1. All erosion and sediment control devices shall be installed as the first order of work.
 2. The diversion structure shall be installed from upstream to downstream.
 3. 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.
 4. 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.
 5. All dewatering of the construction area shall be pumped to a dewatering basin prior to re-entering the stream.
 6. Sheeting shall be overlapped such that the upstream portion covers the downstream portion with at least an 18-inch overlap.
 7. 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.

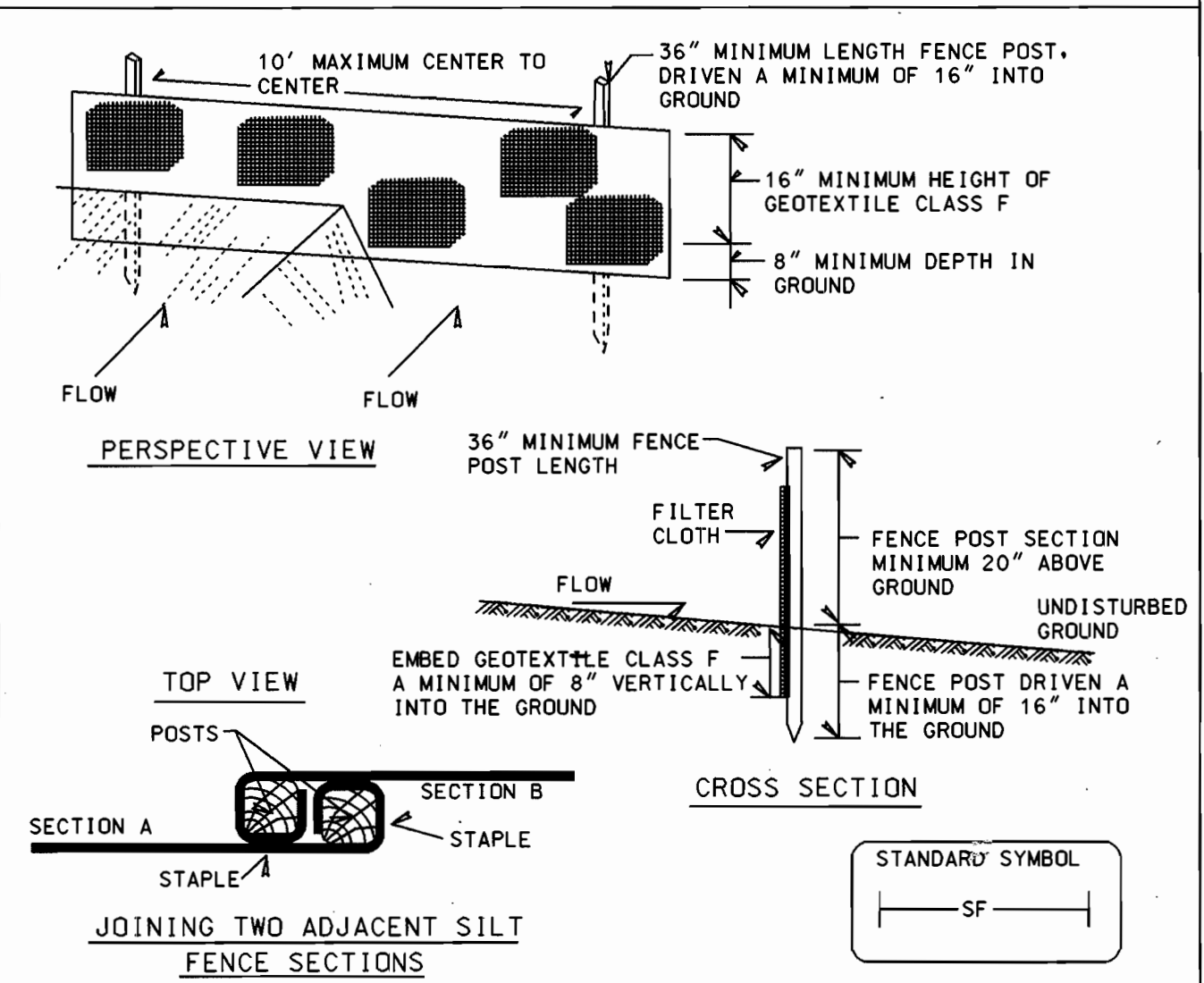
STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 24 HOURS MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS, PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, 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 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (Sec. 51), SODI (Sec. 52), 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	NA	ACRES
AREA TO BE ROOFED OR PAVED	0.11	ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.009	ACRES
TOTAL CUT	NA	CU. YDS.
TOTAL FILL	NA	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	NA	
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF THE DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS 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 (3) PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. CONTRACTOR SHALL PLACE EXCAVATED MATERIALS ON UPHILL SIDE OF TRENCH AND PLACE SILT FENCE ON DOWNHILL SIDE OF TRENCH.

NOTE: SEDIMENT CONTROL TO BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE STANDARDS AND SPECIFICATIONS (VOL. IV) OF THE HOWARD COUNTY DESIGN MANUAL AND THIS PLAN.

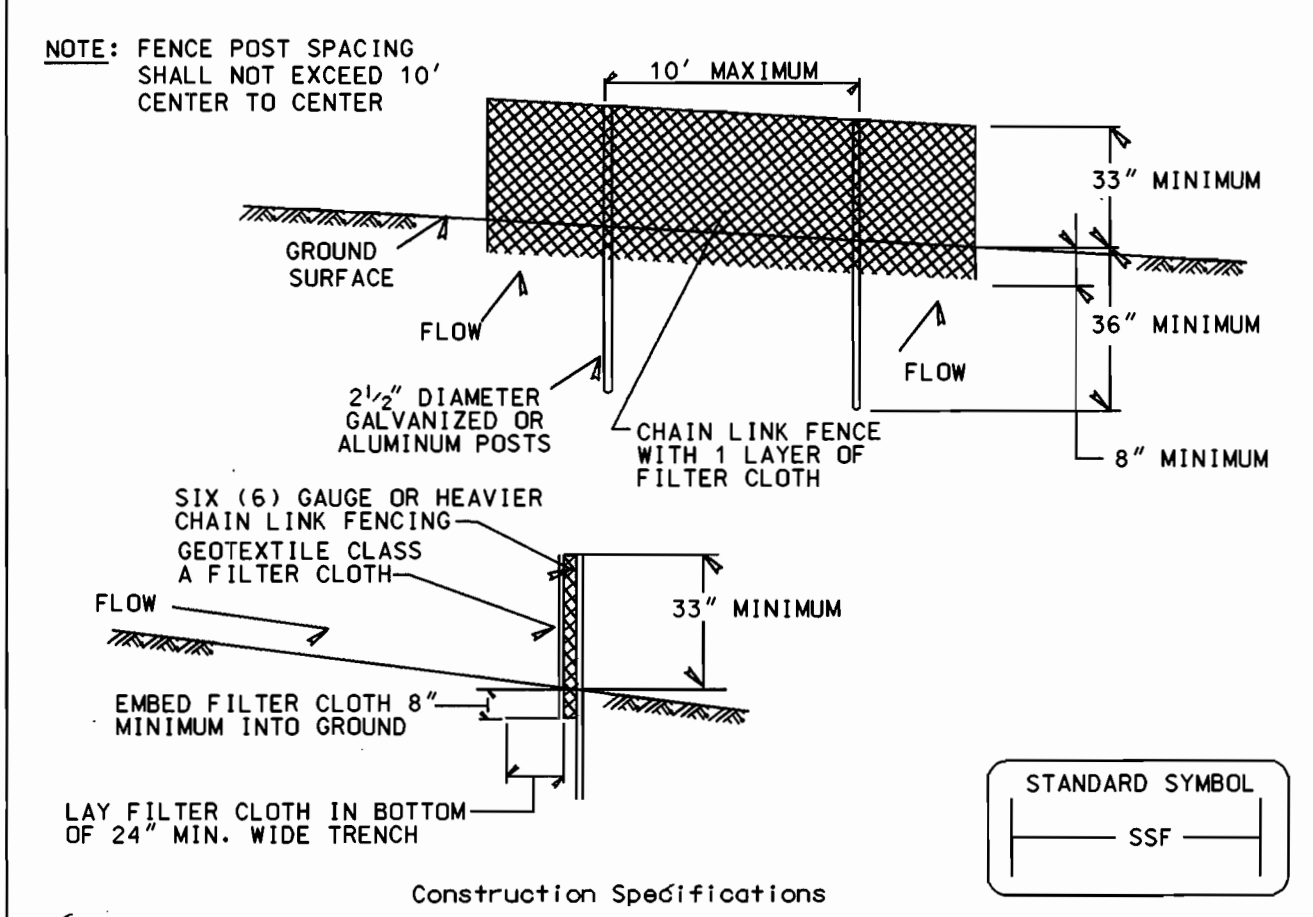
DETAIL 22 - SILT FENCE



- Construction Specifications
1. 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 1/2" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.
 2. 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:

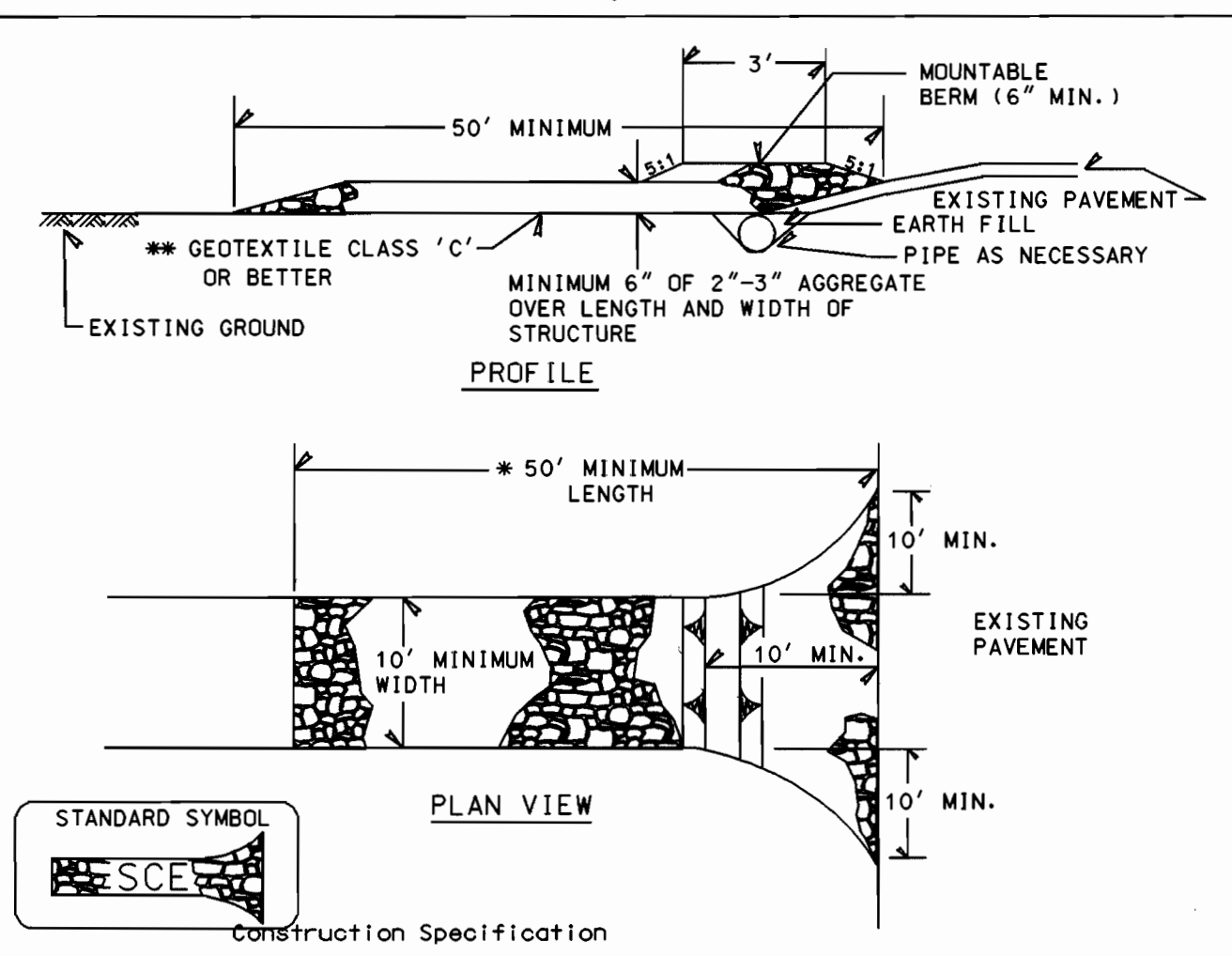
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft ² /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
 3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.
- | | | |
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DETAIL 33 - SUPER SILT FENCE



- Construction Specifications
1. Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The (SHA) specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.
 2. The posts do not need to be set in concrete.
 3. Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fencing shall be six (6) gauge or heavier.
 4. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
 5. Filter cloth shall be embedded a minimum of 8" into the ground.
 6. When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.
 7. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
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DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

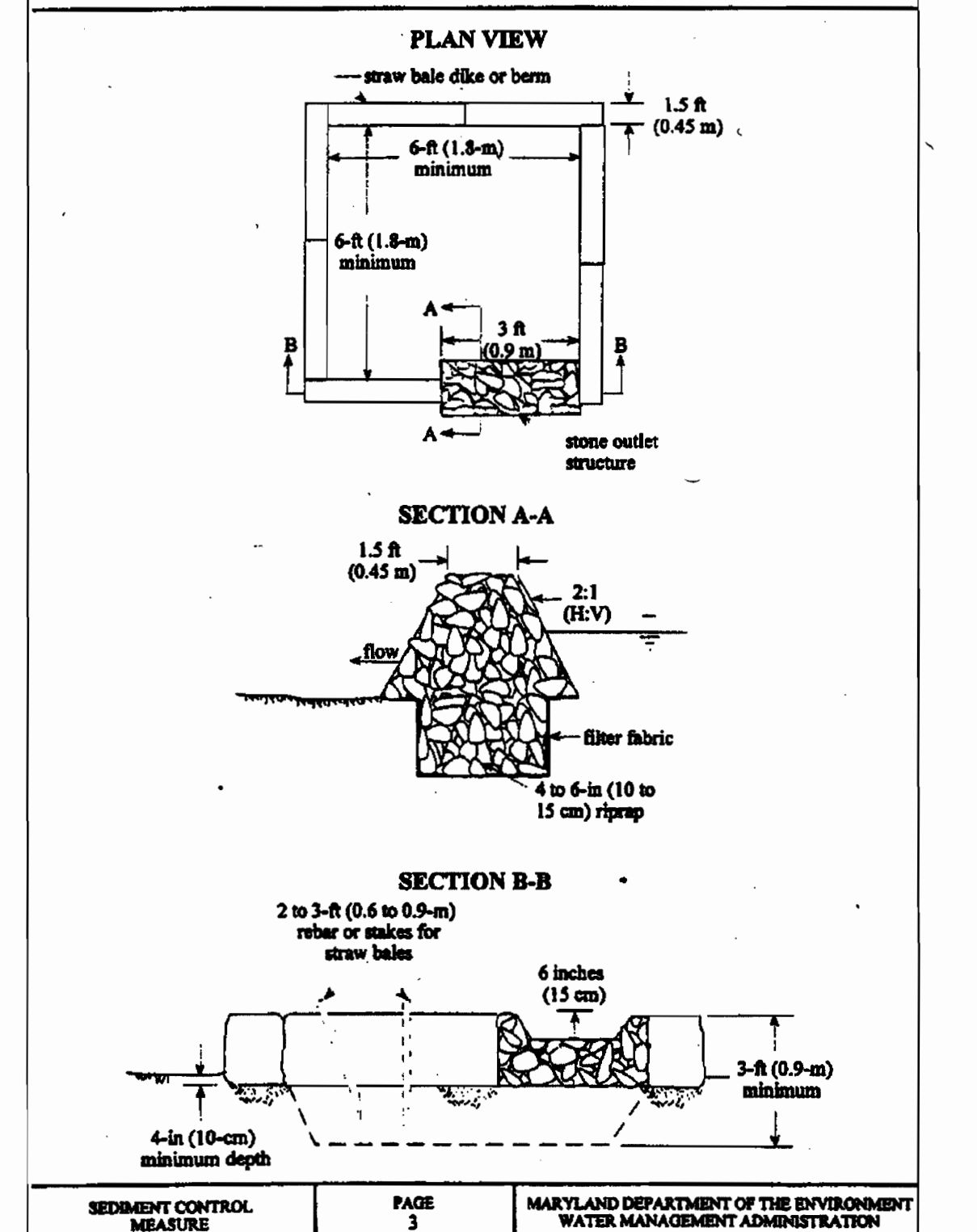


- Construction Specifications
1. Length - minimum of 50' (#30' for single residence lot).
 2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
 3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
 4. 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.
 5. 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.
 6. 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.
- | | | |
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SILT FENCE

- Construction Specifications
1. A detail of the silt fence shall be shown on the plan, and contain the following minimum requirements:
 - a. The type, size, and spacing of fence posts.
 - b. The type of filter cloth used.
 - c. The method of fastening the filter cloth to the fencing support.
 - d. Accumulated sediment must be removed when it reaches 50% of the height of the fabric.
 2. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 3. Design computations are not required.
 4. All silt fences shall be placed as close to the contour as possible.
 5. The area below the fence must be undisturbed or stabilized.
 6. Silt Fence Fabric: The fabric shall meet the Filter fabric specifications listed in Table 27.
 7. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts, 2"x 2", with a minimum cross sectional area of 3.0 square inches will be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.
- | Slope Steepness | Silt Fence Design Criteria | |
|-------------------|----------------------------|-----------------------------|
| | (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.
- | | | |
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DETAIL 1.1: DEWATERING BASINS



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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND



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



DES: PS
DRN: PS
CHK: JN
DATE: 01/00

SEDIMENT AND EROSION CONTROL DETAILS AND NOTES

SCARLET OAKS 16" WATER MAIN
CAPITAL PROJECT No. W-8229
CONTRACT No. 44-3826
ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 3
FILE NAME: M:\1999\0199180.B\7-C-3-DGN