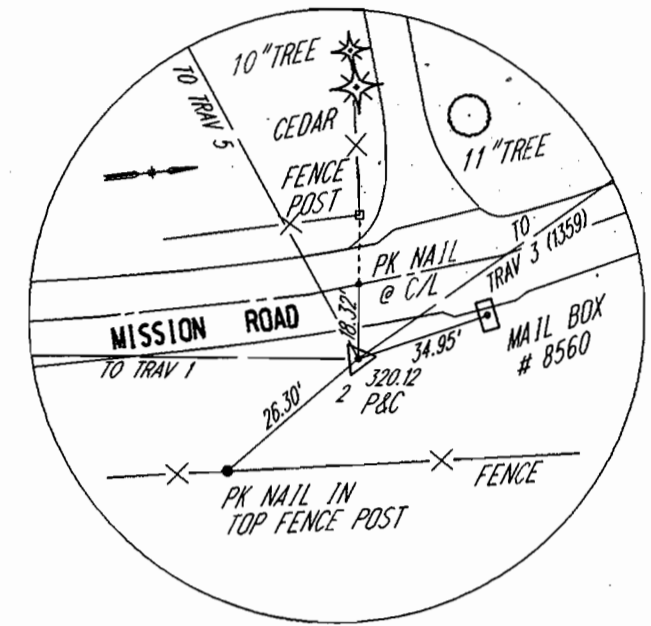
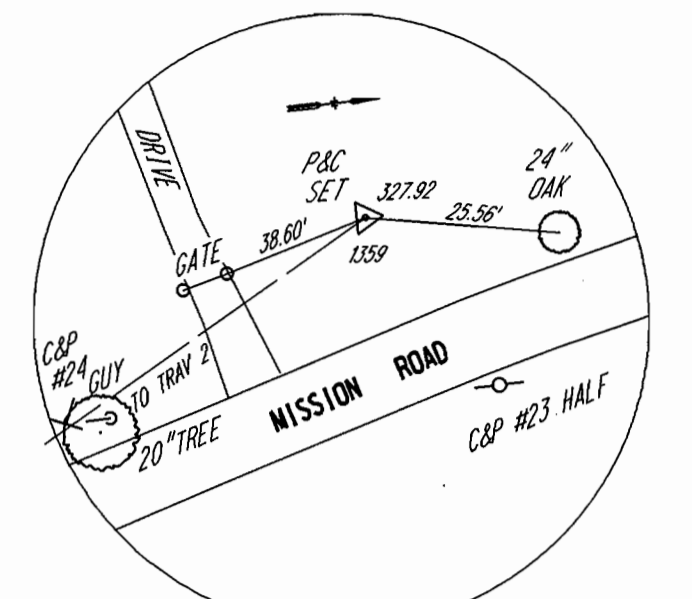


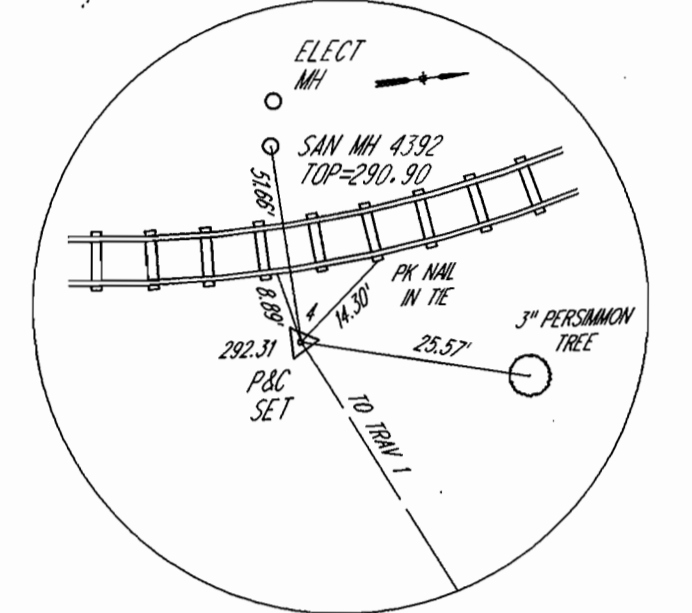
TRAVERSE 1



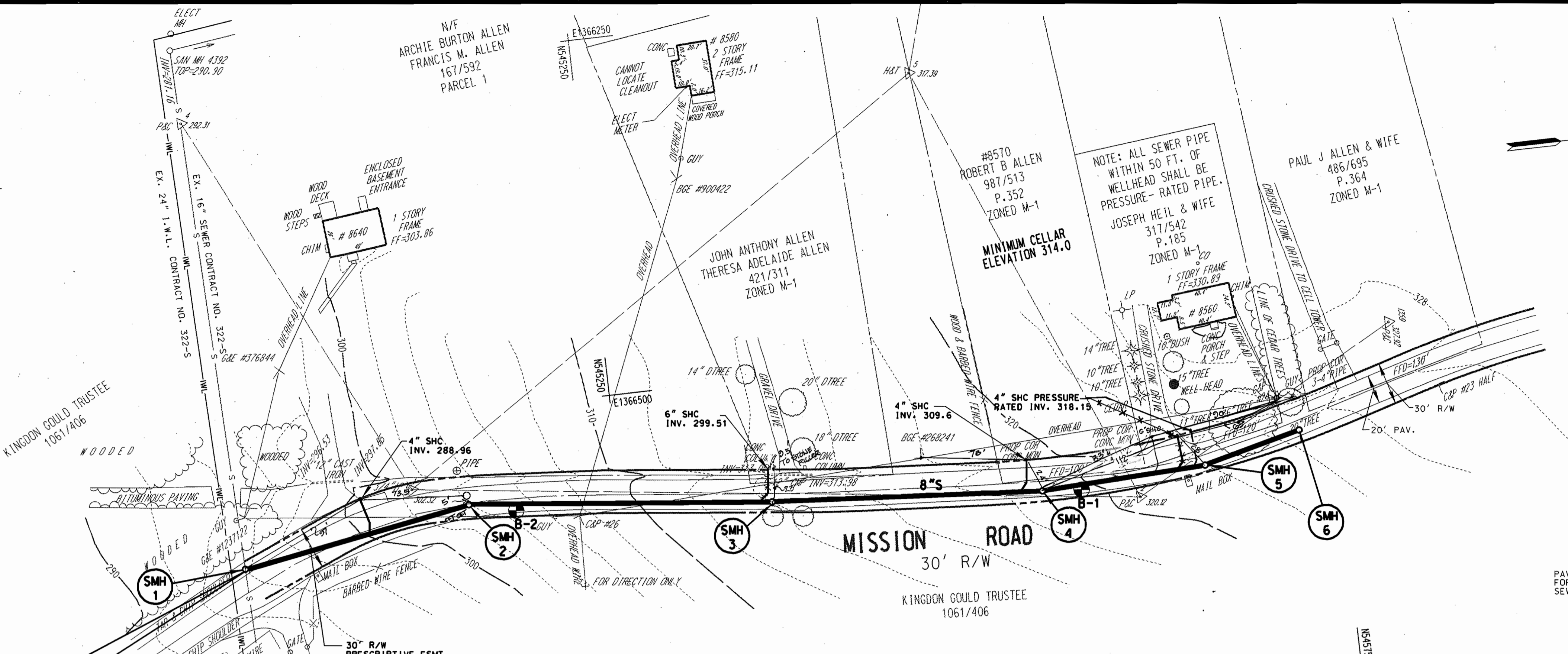
TRAVERSE 2



TRAVERSE 3



TRAVERSE 4



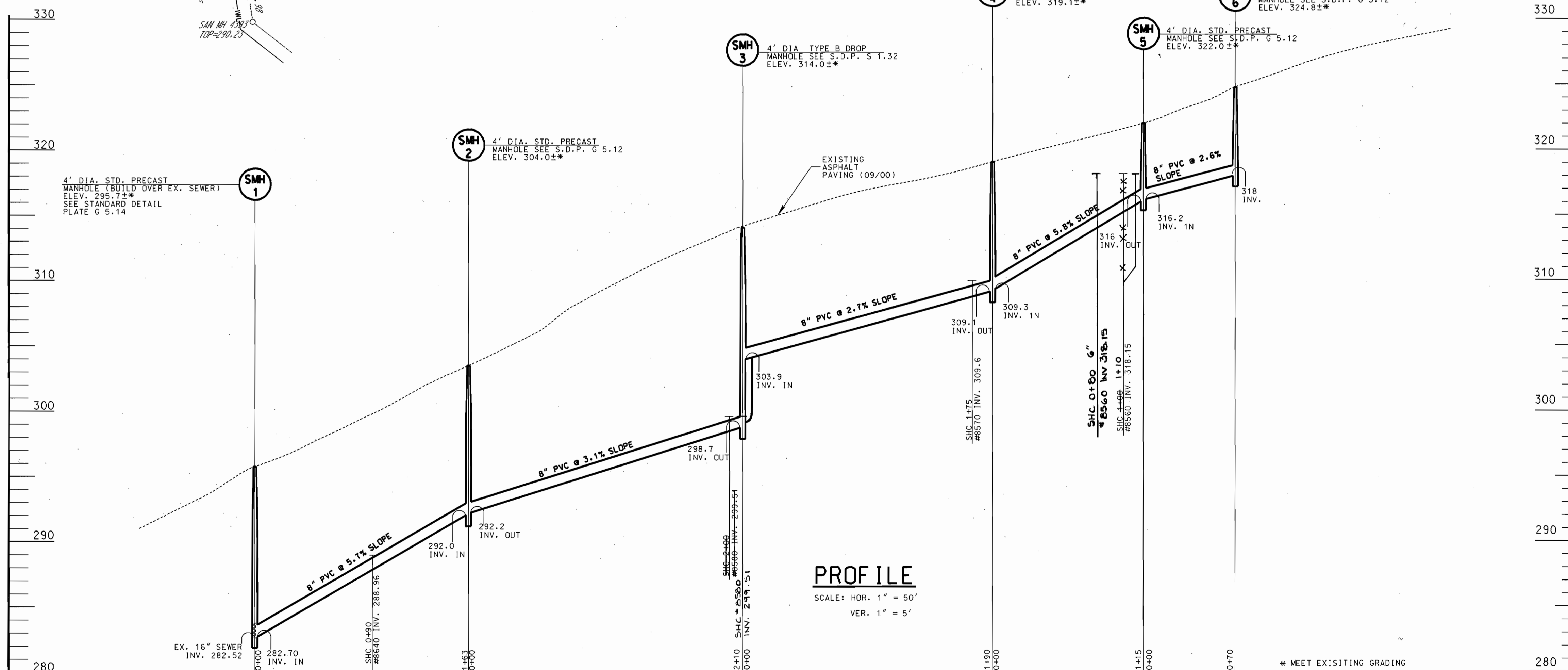
PLAN

SCALE: 1" = 50'

NOTE

PAVEMENT SHALL BE SAW CUT FOR INSTALLATION OF SEWER MAIN AND MANHOLES

BUILD MANHOLE OVER EX. 16" SEWER. BREAK EX. PIPE AND REFORM CHANNEL TO FACILITATE EX. AND NEW PIPES



PROFILE

SCALE: HOR. 1" = 50'  
VER. 1" = 5'

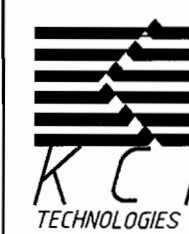
TRAVERSE COORDINATE SCHEDULE			
NUMBER	NORTHING	EASTING	ELEVATION
TRAV. 1	545105.3546	1366550.0130	302.32
TRAV. 2	545610.2796	1366613.8830	320.12
TRAV. 3	545796.2494	1366511.8933	327.92
TRAV. 4	544974.6023	1366276.5221	292.31
TRAV. 5	545483.4576	1366299.9931	317.39

STAKEOUT SCHEDULE		
COORDINATES		
STATION	NORTHING	EASTING
SMH 1	544983.6030	1366591.9620
SMH 2	545143.8070	1366565.0041
SMH 3	545354.4153	1366587.4178
SMH 4	545542.7620	1366601.7000
SMH 5	545657.6560	1366596.7870
SMH 6	545725.5600	1366579.7850

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]*  
DIRECTOR OF PUBLIC WORKS  
DATE: 5-30-01  
CHIEF, BUREAU OF UTILITIES

*[Signature]* 5/25/01  
CHIEF, BUREAU OF ENGINEERING  
DATE: 5-22-01  
CHIEF, UTILITY DESIGN DIVISION



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



DES: CSC			
DRN: KFJ			
CHK: TW			
DATE: 12/00			
BY: K.C.I.	1	ASBUILT DATA	11/14/02
NO.		REVISION	DATE

8" SANITARY SEWER  
PLAN AND PROFILE

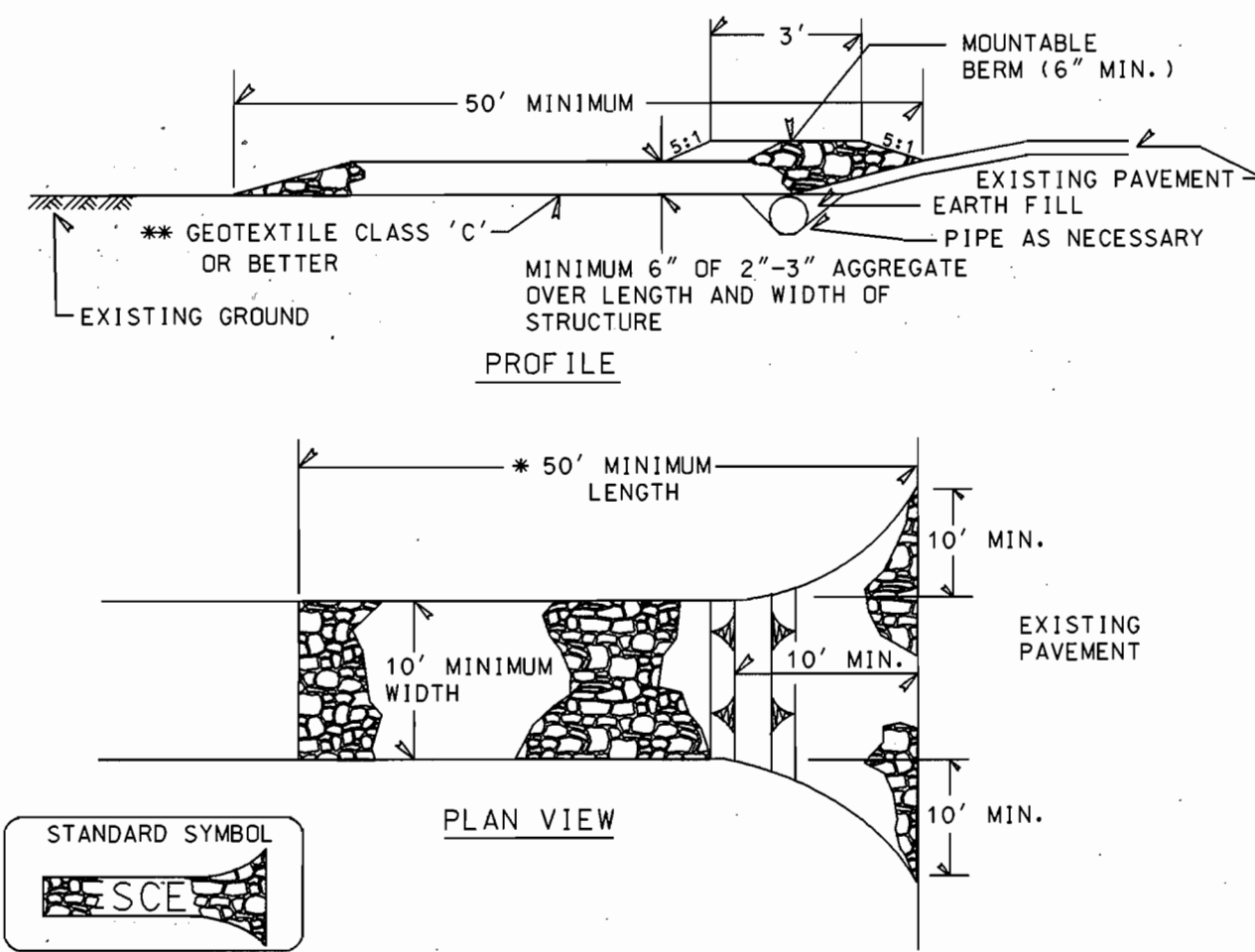
TAX MAP NO. 43 BLOCK 13

MISSION ROAD SEWER EXTENSION

CAPITAL PROJECT No. S-6230  
CONTRACT No. 20-3940  
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 2 OF 3

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- 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 SOIL CONSERVATION SERVICE PAGE F - 17 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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 SO FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SO 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 SO FT.).
  - 2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SO FT.) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SO 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 SO 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 SO 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 SO 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 SO FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SO FT.) FOR ANCHORING.
- MAINTENANCE - INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

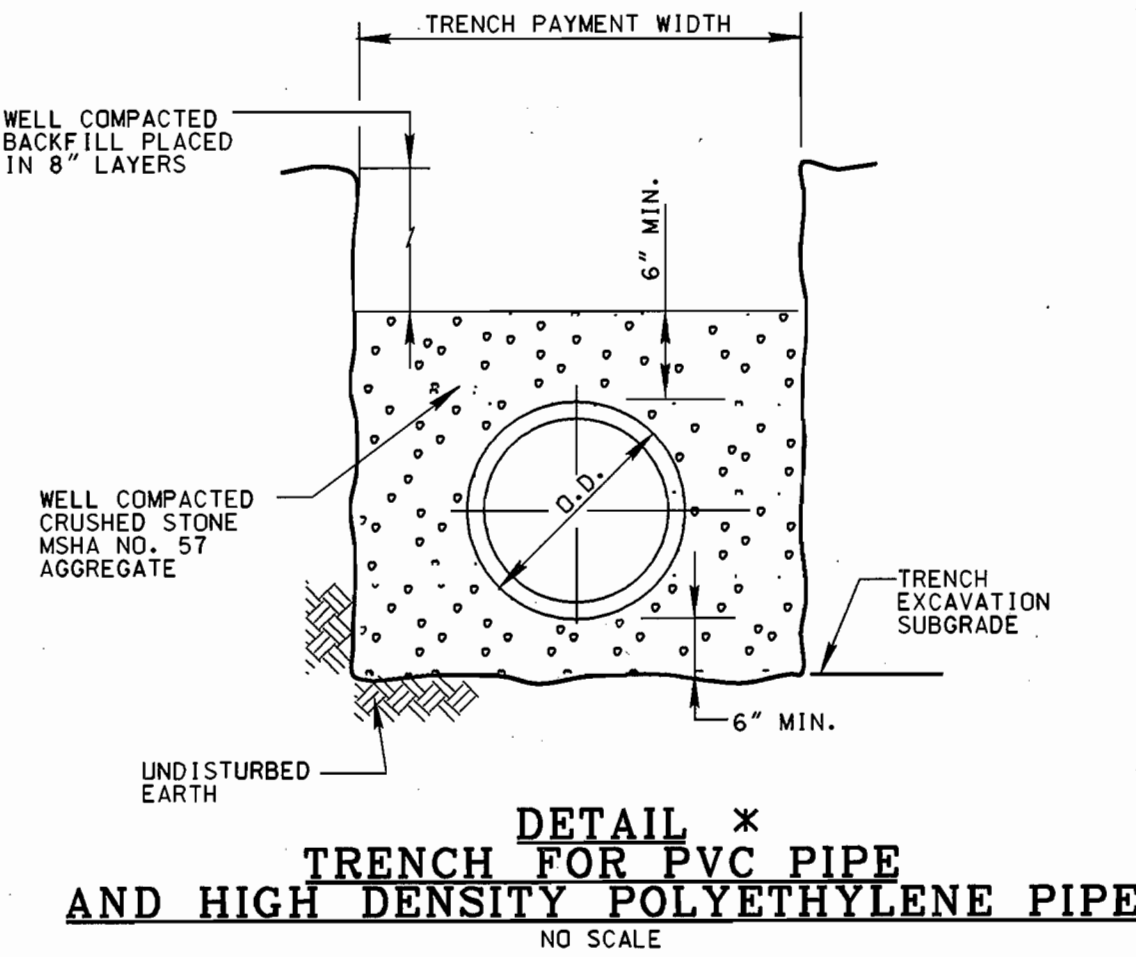
APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

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 SO 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 SO FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SO 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 SO 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 SO FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SO FT.) FOR ANCHORING.
- REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- LAYOUT ALIGNMENT AT SITE. (3 DAY)
- INSTALL SEDIMENT CONTROL DEVICES (INLET PROTECTION DEVICES) AS SHOWN ON PLAN.
- EXCAVATE DITCH TO THE GRADE SPECIFIED ON THE PROFILE.  
INSTALL SEWER MAIN AND BACKFILL TRENCH AND RESURFACE WITH BITUMINOUS PAVING (30 DAYS)  
TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO 25' OF PIPE LENGTH OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- CLEAN UP CONSTRUCTION SITE. (1 DAY)
- REMOVE SEDIMENT CONTROL DEVICES AFTER PERMISSION IS GRANTED BY THE SEDIMENT CONTROL INSPECTOR. (1 DAY)



DETAIL X  
TRENCH FOR PVC PIPE  
AND HIGH DENSITY POLYETHYLENE PIPE  
NO SCALE

\* BASED ON HOWARD COUNTY STANDARD DETAIL G2.01

STANDARD SEDIMENT CONTROL NOTES

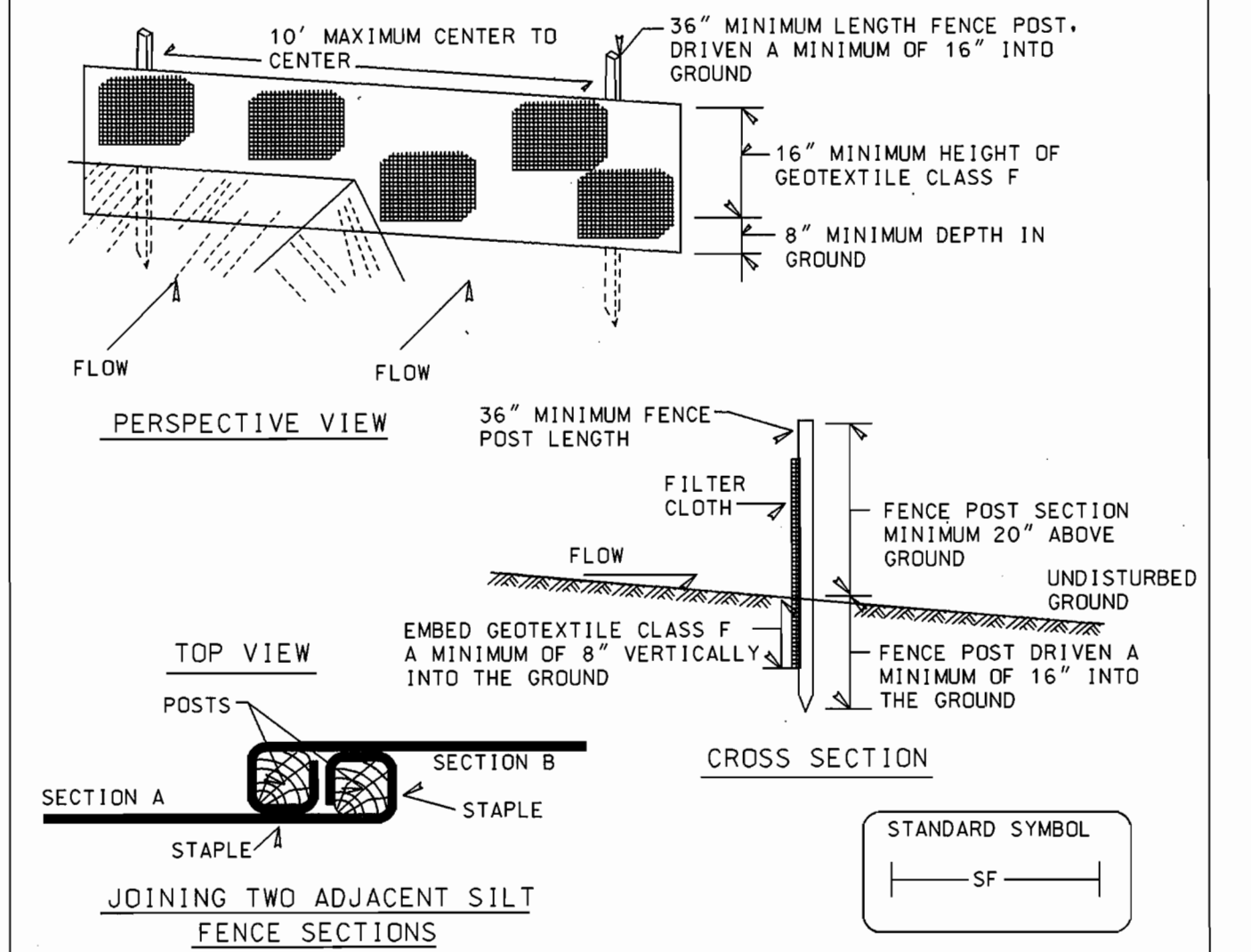
- A MINIMUM OF 24 HOURS MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS, PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).
  - ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
  - 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. I, 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 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (Sec. 51), SOD (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.
  - 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	0.07	ACRES
AREA TO BE ROOFED OR PAVED	NA	ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.07	ACRES
TOTAL CUT	NA	CU. YDS.
TOTAL FILL	NA	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 25' OF 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.
- 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.

TRAFFIC MAINTENANCE

FOR TRAFFIC MAINTENANCE REQUIREMENTS SEE SPECIFICATION DOCUMENT D, PARAGRAPH 4.16.

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 weighing 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 <sup>2</sup> /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 reaches 50% of the fabric height.
- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 15 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SILT FENCE

- Construction Specifications
- A detail of the silt fence shall be shown on the plan, and contain the following minimum requirements:
    - The type, size, and spacing of fence posts.
    - The type of filter cloth used.
    - The method of fastening the filter cloth to the fencing support.
    - Accumulated sediment must be removed when it reaches 50% of the height of the fabric.
  - Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
  - Design computations are not required.
  - All silt fences shall be placed as close to the contour as possible.
  - The area below the fence must be undisturbed or stabilized.
  - Silt Fence Fabric: The fabric shall meet the Filter fabric specifications listed in Table 27.
  - 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.
- Silt Fence Design Criteria
- | Slope Steepness   | (Maximum)    | (Maximum)         |
|-------------------|--------------|-------------------|
|                   | Slope Length | 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.
- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 15 - 3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]*  
DIRECTOR OF PUBLIC WORKS  
DATE 5-30-01  
CHIEF, BUREAU OF UTILITIES

*[Signature]* 5/25/01  
CHIEF, BUREAU OF ENGINEERING  
DATE 5-22-01  
CHIEF, UTILITY DESIGN DIVISION



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



DES: CSC			
DRN: KFJ			
CHK: TW			
DATE: 12/00	DEC	AS BUILT	11/14/02
BY NO.		REVISION	DATE

DETAILS AND NOTES

TAX MAP NO. 43 BLOCK 13

MISSION ROAD SEWER EXTENSION

CAPITAL PROJECT NO. S-6230  
CONTRACT NO. 20-3940  
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 3 OF 3