

# MD RT. 216 12" WATER MAIN EXTENSION TO FULTON STATION HOWARD COUNTY, MARYLAND

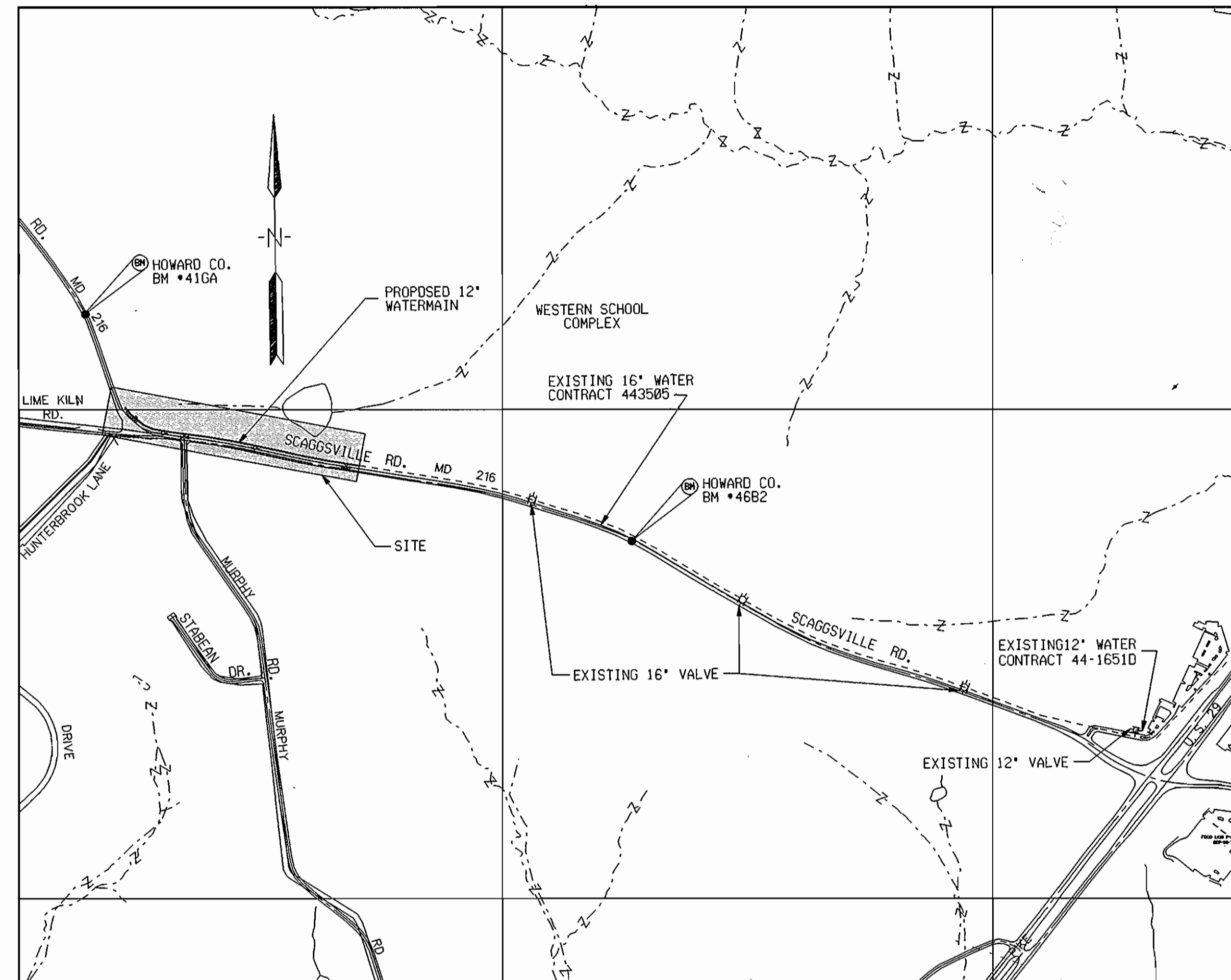
DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT No. W-8221

CONTRACT No. 44-3934

## 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.
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA NGVD88
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 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.
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.....410-865-3803  
 BG&E (CONTRACTOR SERVICES).....410-850-4620  
 BG&E - UNDERGROUND DAMAGE CONTROL.....410-787-9068  
 BUREAU OF UTILITIES (DPW).....410-313-4900  
 CHESAPEAKE & POTOMAC TELEPHONE CO. ....410-597-8585  
 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)313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER MAINS, 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 WATER MAINS SHALL BE D.I.P CLASS 52 UNLESS OTHERWISE NOTED.
13. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
14. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
15. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
16. FIRE HYDRANTS SHALL BE SET TO 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.
17. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.



### LOCATION MAP

SCALE: 1" = 600'

TYPE OF BUILDING: COMMERCIAL  
 NUMBER OF PARCELS: N/A  
 WATER HOUSE CONNECTIONS: N/A  
 DRAINAGE AREA: HAMMOND BRANCH  
 PRESSURE ZONE: 550

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

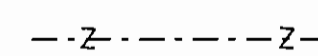
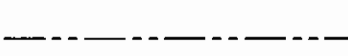
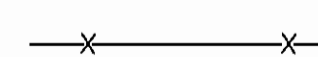
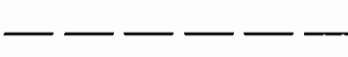


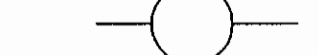
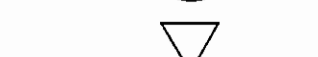
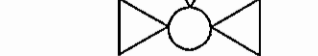
#### HO. CO. SURVEY CONTROL

NAD83(91) (HORIZONTAL)  
 NGVD29 (VERTICAL)  
 No. 41GA  
 DISC  
 N 541399.078  
 E 1333808.248  
 ELEVATION 462.807

No. 41GC  
 DISC  
 N 543290.641  
 E 1331697.830  
 ELEVATION 469.074

No. 46B2  
 DISC  
 N 539987.714  
 E 1337218.435  
 ELEVATION 475.235

#### LEGEND

	STREAM		PROPERTY LINE
	WOOD FENCE		RIGHT OF WAY LINE
	UTILITY POLE		PROPOSED WATER MAIN
	PROPOSED FIRE HYDRANT		
	PROPOSED WATER VALVE		
	PROPOSED BORING		

## INDEX OF SHEETS

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	12" WATER MAIN PLAN AND PROFILE
3	12" WATER MAIN PLAN, PROFILE AND DETAILS
4	EROSION & SEDIMENT CONTROL, NOTES & DETAILS

#### WATERMAIN STAKEOUT COORDINATES SCHEDULE

STATION	FITTINGS	NORTHING	EASTING
0+20	12"x12" VALVE	540,408.14	1,335,499.75
2+20	12"x 6" TEE	540,470.32	1,335,175.68
7+00	12"x 6" TEE	540,538.77	1,334,832.45
10+50	12"x 6" TEE	540,595.13	1,334,487.06
12+12	11 1/4" HB	540,617.56	1,334,334.42
13+62	11 1/4" HB	540,667.80	1,334,193.08
14+00	12"x 6" TEE	540,698.93	1,334,159.42
15+85	12"x 6" TEE	540,498.96	1,334,222.40
15+90	12"x 8" TEE	540,662.37	1,334,067.10

#### QUANTITIES

ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
12" WATER	L.F.	1600	1620	GRIFFIN PIPE CO.
6" WATER	L.F.	60	51	GRIFFIN PIPE CO.
12" VALVE	EA.	2	2	MUELLER CO.
6" VALVE	EA.	5	5	MUELLER CO.
FIRE HYDRANT	EA.	5	5	MUELLER CO.

NAME OF UTILITY CONTRACTOR: HIGHLAND TURF INC.  
 CHECKBOX  
 AS-BUILT DATE: AUGUST 1, 2002  
 SURVEY AND DRAFTING DIVISION

8" WATER	LF	52	57.5	GRIFFIN PIPE CO.
8" VALVE	EA	1	1	MUELLER CO.
24" STEEL CASING	LF	40	40	

#### SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. LAYOUT ALIGNMENT AT SITE. (2 DAYS)
3. INSTALL SEDIMENT CONTROL DEVICES. SILT FENCE TO BE PARALLEL TO THE ROADWAY AND ON THE DOWN-SLOPE SIDE OF CONSTRUCTION.
4. EXCAVATE DITCH TO THE GRADE SPECIFIED ON THE PROFILE AND INSTALL WATER MAIN. BACKFILL TRENCH AND RESTORE TO EXISTING CONDITIONS. (60 DAYS)
5. CLEAN UP CONSTRUCTION SITE. (3 DAYS)
6. REMOVE SEDIMENT CONTROL DEVICES AFTER PERMISSION IS GRANTED BY THE SEDIMENT CONTROL INSPECTOR. (1 DAY)

#### 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."

*Robert J. Rapam* 12/15/00  
 BUREAU OF ENGINEERING  
 DEPARTMENT OF PUBLIC WORKS  
 DATE

#### 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 SOIL CONSERVATION DISTRICT."

*Timothy J. Wolfe* 12-14-00  
 TIMOTHY WOLFE  
 DATE

KCI TECHNOLOGIES  
 10 NORTH PARK DRIVE  
 HUNT VALLEY, MARYLAND 21030

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

*Jim Meyer* 2/22/01  
 NATURAL RESOURCES  
 CONSERVATION SERVICE  
 DATE

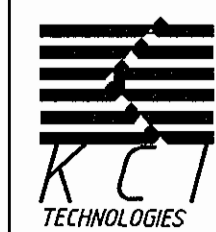
THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION & SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John W. Minter* 2/22/01  
 APPROVED  
 HOWARD S.C.D.  
 DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James J. Van* 12/19/00  
 DIRECTOR OF PUBLIC WORKS  
 DATE

*Robert J. Rapam* 12/15/00  
 CHIEF, BUREAU OF ENGINEERING  
 DATE



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



DES:	CSC				
DRN:	CK				
CHK:	TW				
DATE:	12/2000	BY:	NO.	REVISION	DATE
				AS BUILT	01/02

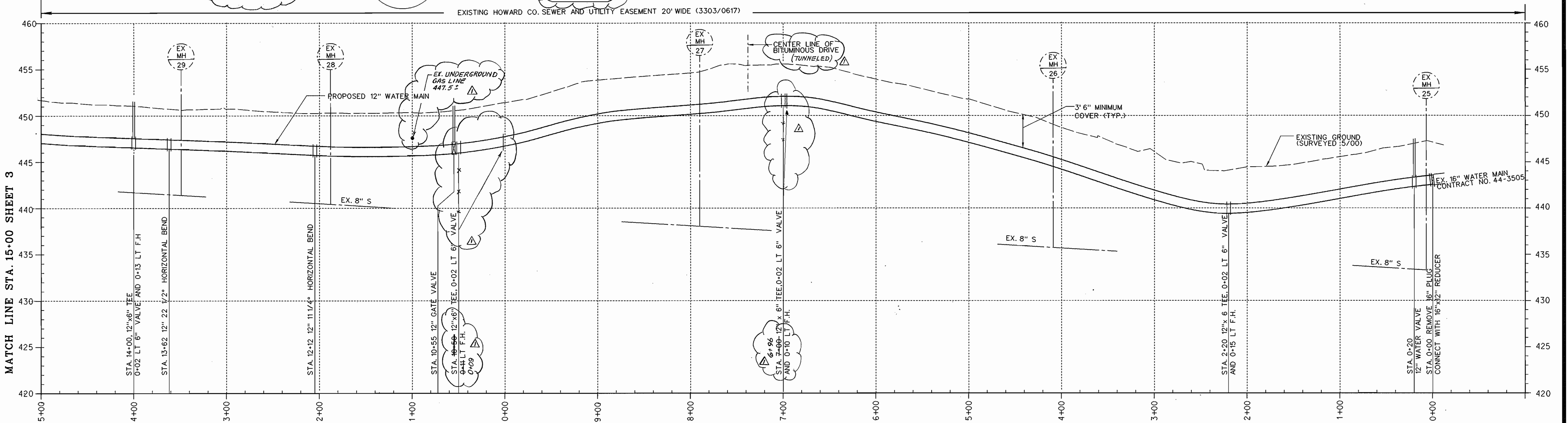
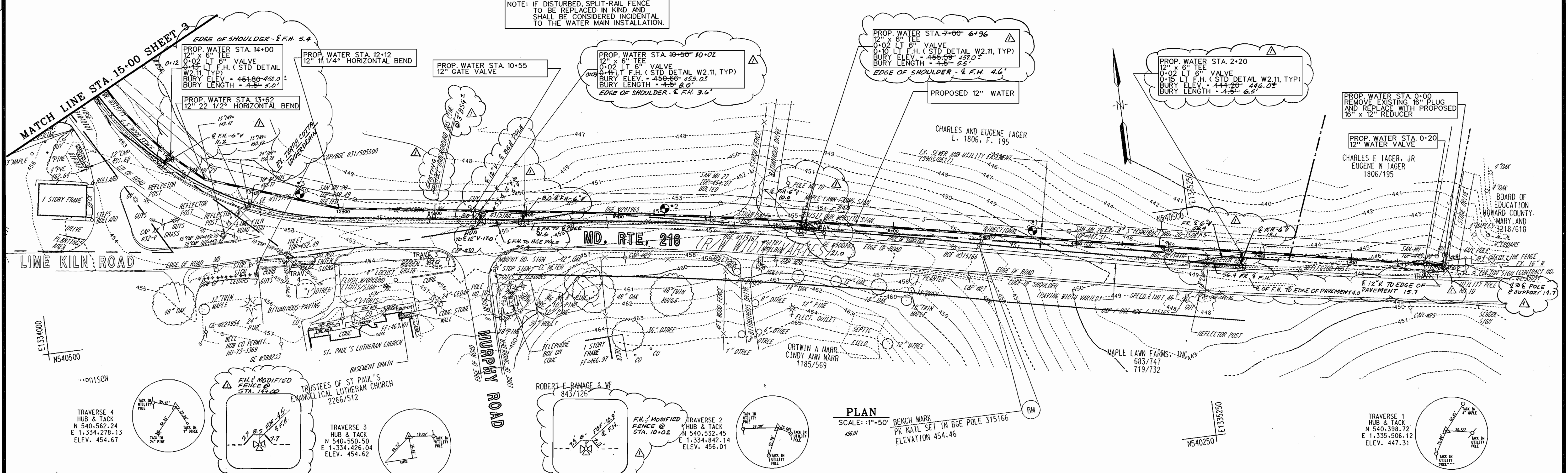
### TITLE SHEET

MD RT. 216 12" WATER MAIN  
 EXTENSION TO FULTON STATION

CAPITAL PROJECT No. W-8221  
 CONTRACT No. 44-3934  
 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 1 OF 4

NOTE: IF DISTURBED, SPLIT-RAIL FENCE TO BE REPLACED IN KIND AND SHALL BE CONSIDERED INCIDENTAL TO THE WATER MAIN INSTALLATION.



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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. Slavin* 12/15/00  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Johnson* 12/15/00  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert J. Johnson* 12-15-00  
CHIEF, BUREAU OF UTILITIES DATE

*Robert J. Johnson* 12-15-00  
CHIEF, UTILITY DESIGN DIVISION DATE

**KCI TECHNOLOGIES**

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



DES:	CSC				
DRN:	CK				
CHK:	TW				
DATE:	12/2000				
BY:	LFN	AS BUILT			
NO.:					
REVISION:					
DATE:					

**12"-WATER MAIN  
PLAN AND PROFILE**

600' SCALE TAX MAP NO. 41. BLOCK NO.

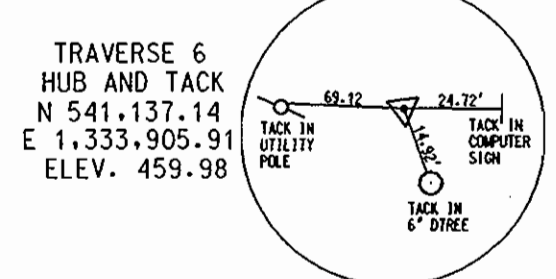
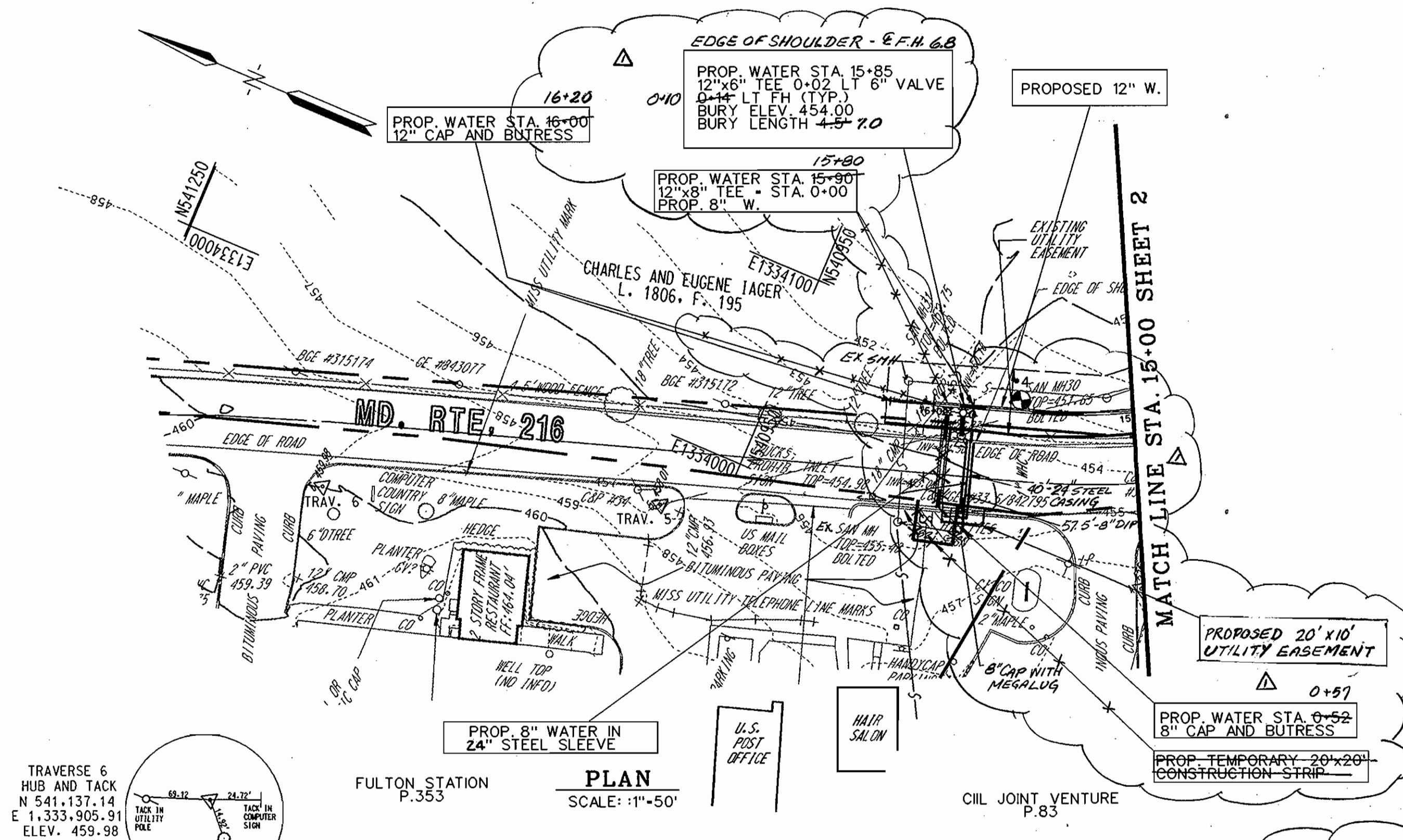
**MD RT. 216 12" WATER MAIN  
EXTENSION TO FULTON STATION**

SCALE AS SHOWN

SHEET 2 OF 4

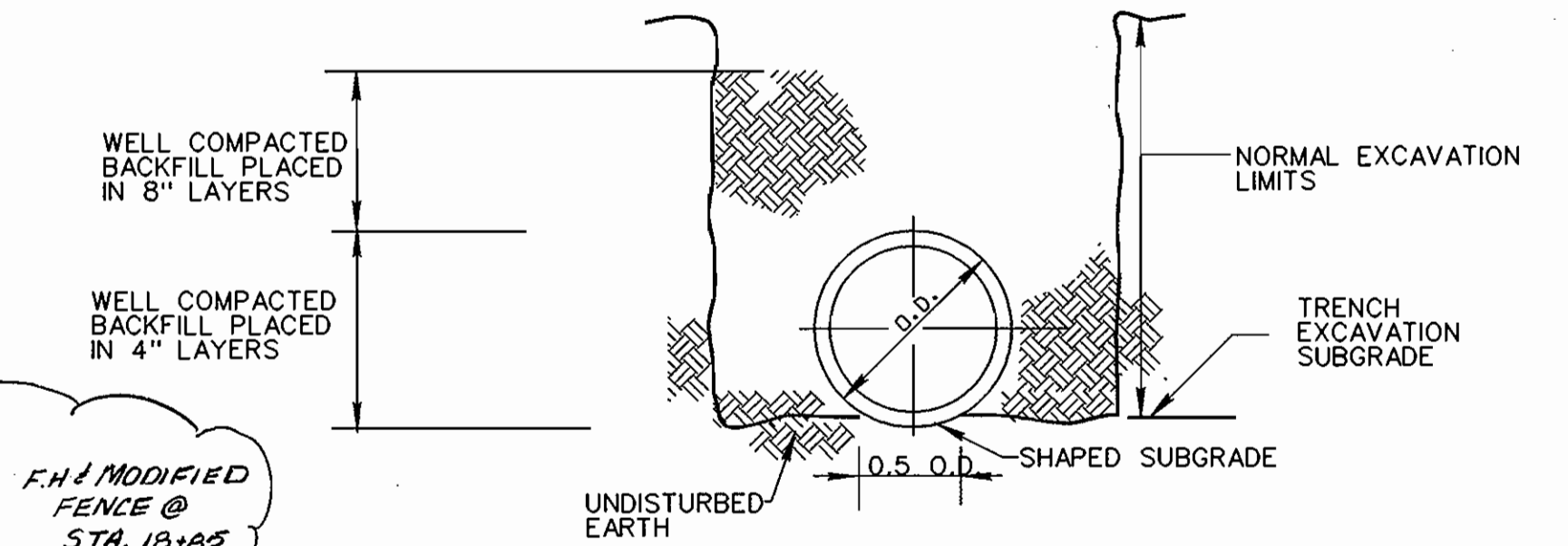
CONTRACT No. 44-3934  
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

FILE NAME: M:\1999\0199180.N

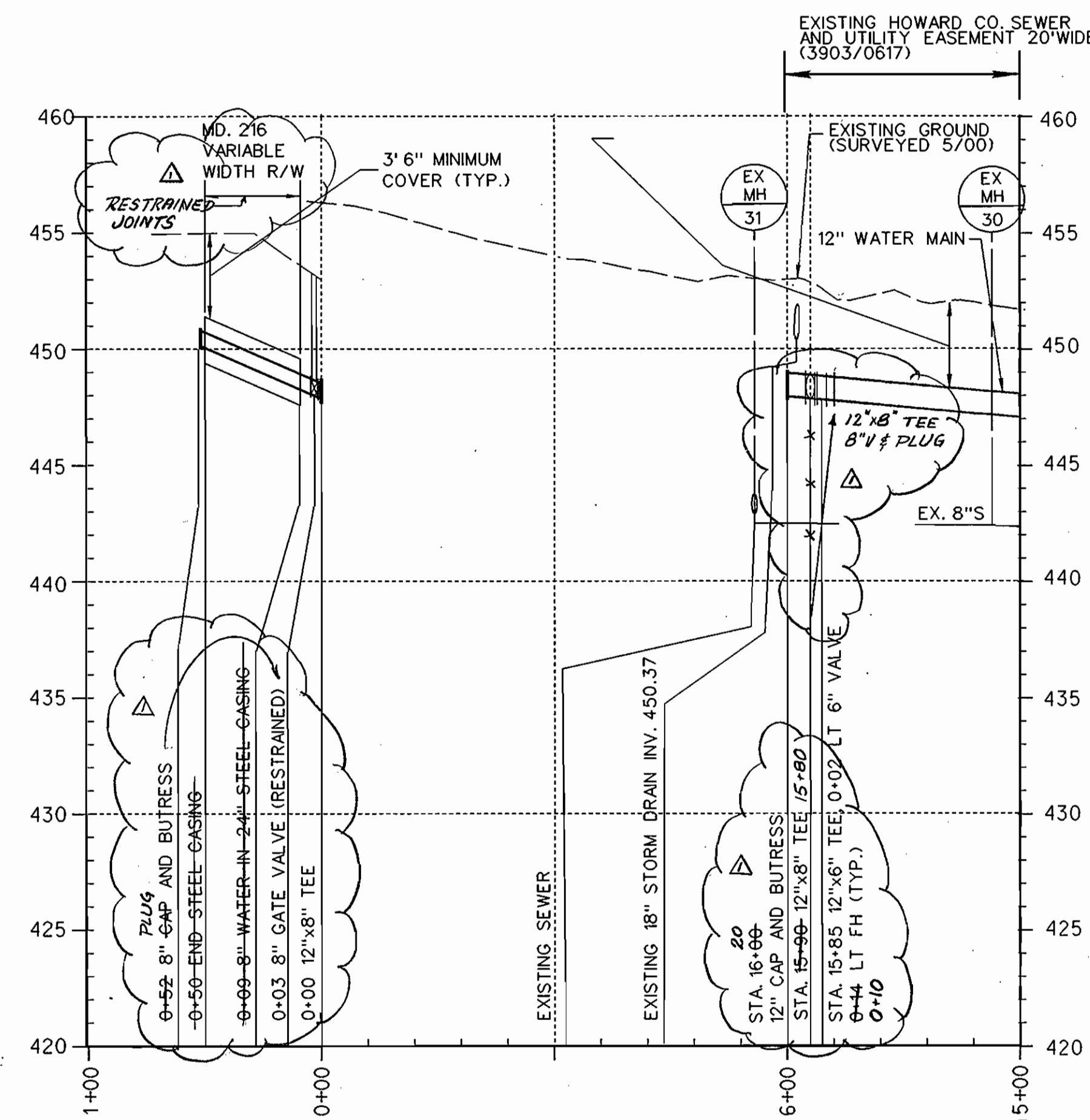


**PLAN**  
SCALE: 1"=50'

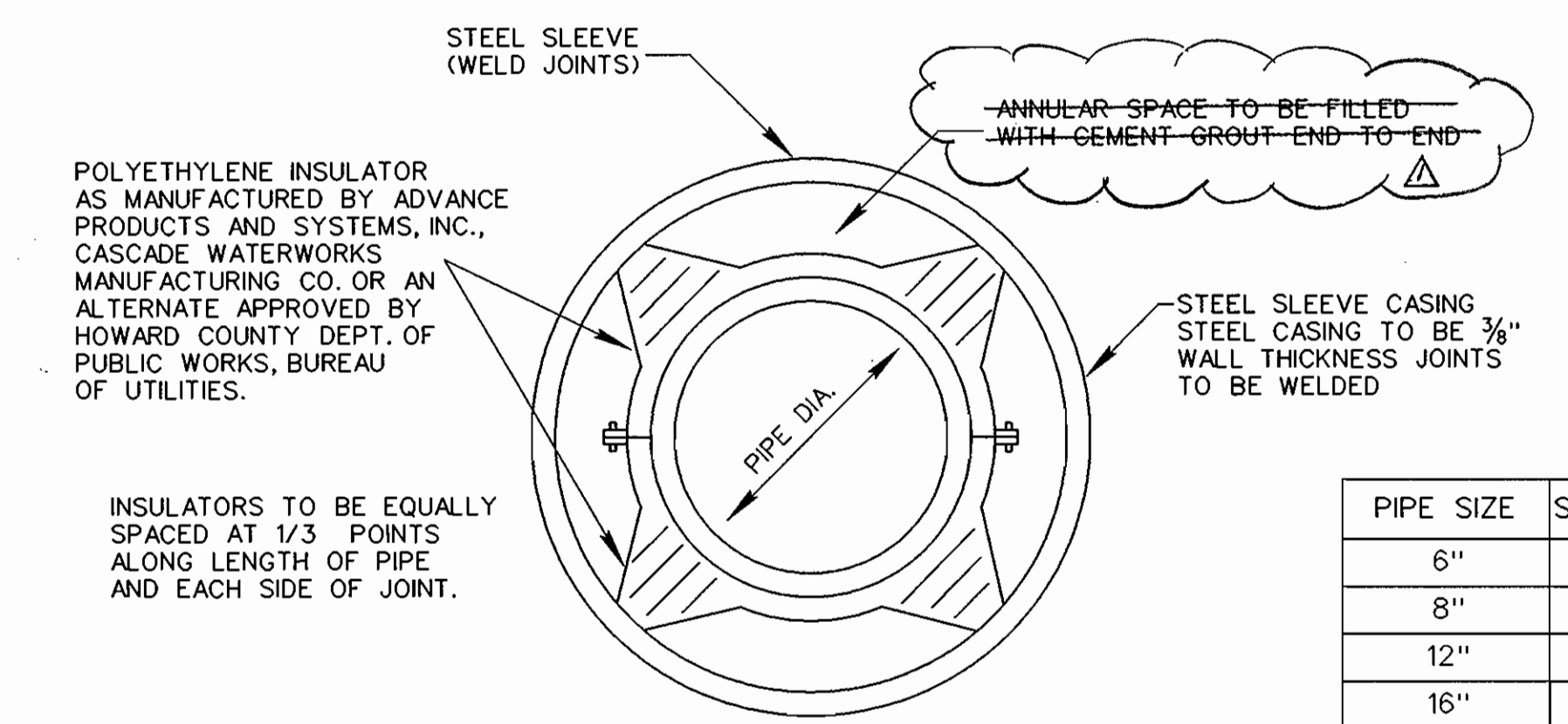
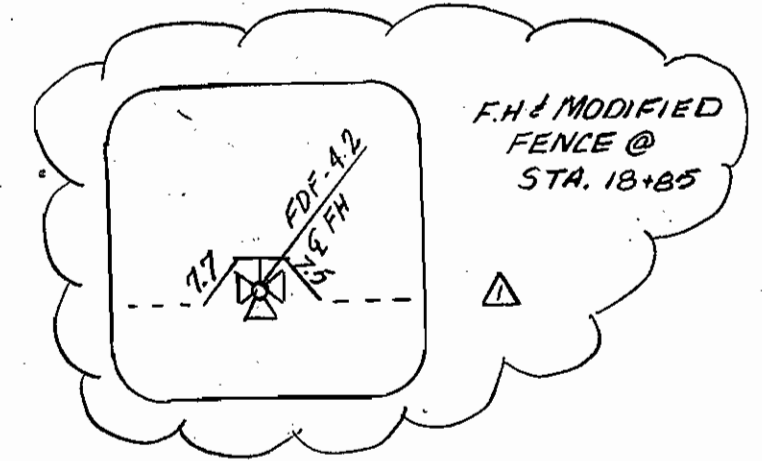
TRAVERSE COORDINATE SCHEDULE			
NUMBER	NORTHING	EASTING	ELEVATION
TRAV. 1	540.398.72	1,335,506.12	447.31
TRAV. 2	540.531.25	1,334,842.16	456.01
TRAV. 3	540.550.50	1,334,426.04	454.62
TRAV. 4	540.562.24	1,334,278.13	454.67
TRAV. 5	540.978.04	1,333,963.71	458.01
TRAV. 6	541.137.14	1,333,905.91	459.98



**DETAIL TRENCH IN EARTH**  
NO SCALE



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



PIPE SIZE	SLEEVE SIZE
6"	20"
8"	24"
12"	36"
16"	48"
20"	60"
24"	72"

- NOTES:**
1. PROVIDE 8" THICK BULKHEAD AT EACH END OF CASING AS SHOWN ON HOWARD COUNTY STANDARD DETAIL G 9.01. PROVIDE A JOINT IN THE MAIN WITHIN 2'-0" OF THE END OF THE CASING.
  2. 24" STEEL CASING PIPE 3/8" MIN. WALL THICKNESS IN 10' LENGTHS. TO BE WELDED FULL CIRCUMFERENCE.
  3. FILL ANNULAR SPACE WITH CEMENT GROUT. PROVIDE CASING SPACERS TO PREVENT FLOTATION OF PIPE WHILE FILLING THE ANNULAR SPACE WITH CEMENT GROUT. PROVIDE 2"-2" DRAINS THROUGH BRICK BULKHEAD WHILE FILLING CEMENT GROUT TO PREVENT POCKETS OF WATER IN CASING.
  4. VERIFY THE LOCATION AND ELEVATION OF THE EXISTING WATER MAINS PRIOR TO THE START OF ANY CONSTRUCTION.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. Allen* 12/14/06  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Larson* 12/15/06  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert J. Larson* 12-19-00  
CHIEF, BUREAU OF UTILITIES DATE

*Robert J. Larson* 12-15-00  
CHIEF, UTILITY DESIGN DIVISION DATE

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



DES: CSC				
DRN: CK				
CHK: TW				
DATE: 12/2000	BY: LFN	NO. AS BUILT	REVISION	DATE: 8/15/04

**12"-WATER MAIN  
PLAN, PROFILE AND DETAILS**

600' SCALE TAX MAP NO. 41 BLOCK NO.

**MD RT. 216 12" WATER MAIN  
EXTENSION TO FULTON STATION**

CAPITAL PROJECT No. W-8221  
CONTRACT No. 44-3934  
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 3 OF 4

FILE NAME: M:\1999\0199180.N7

**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 500 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 210 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 SEEDING 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 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 210 GALLONS 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.

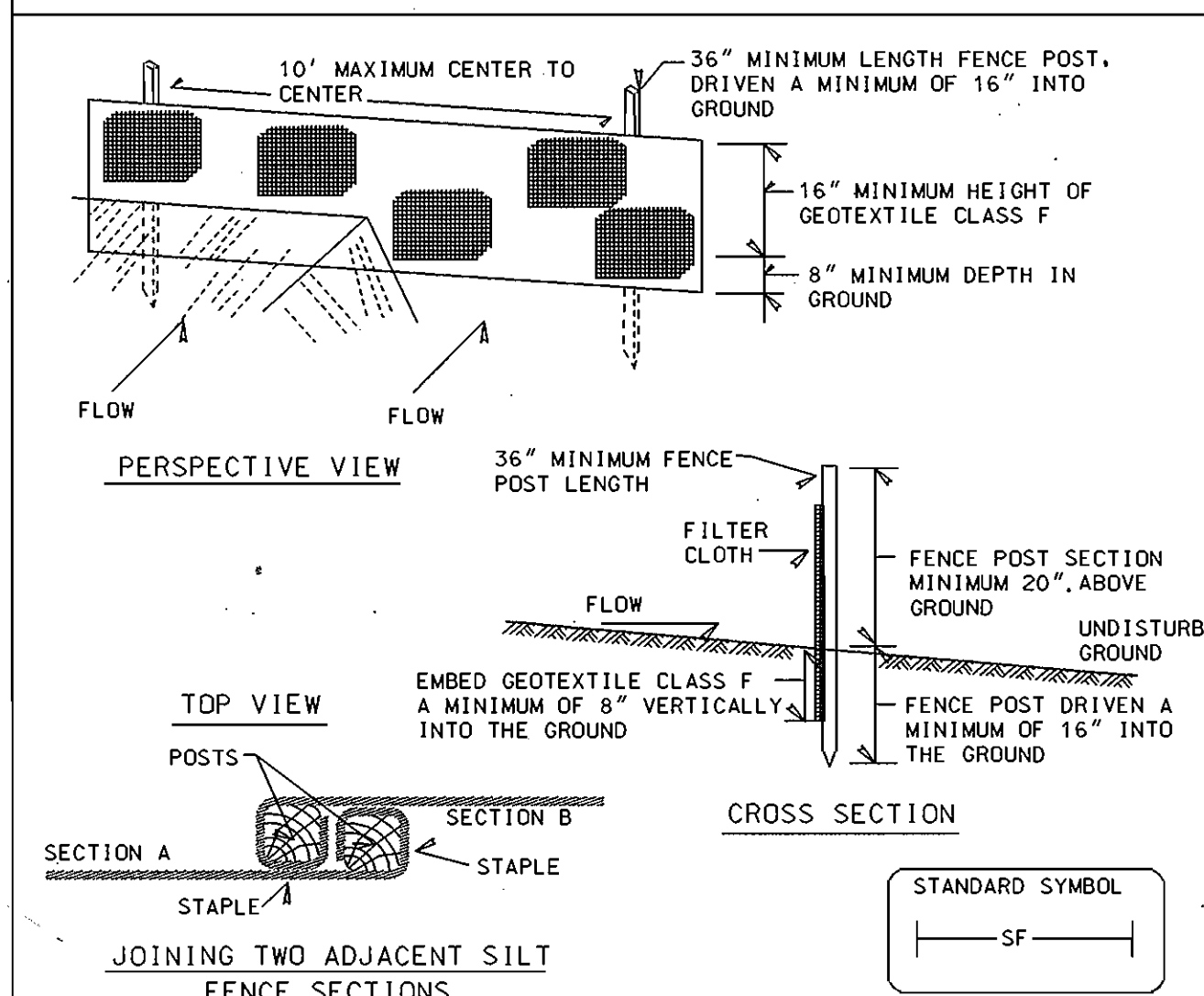
**STANDARD SEDIMENT CONTROL NOTES**

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 1994 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.
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 DISTURBED		ACRES
AREA TO BE ROOFED OR PAVED		ACRES
AREA TO BE VEGETATIVELY STABILIZED	NA	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 <sup>2</sup> /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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**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.

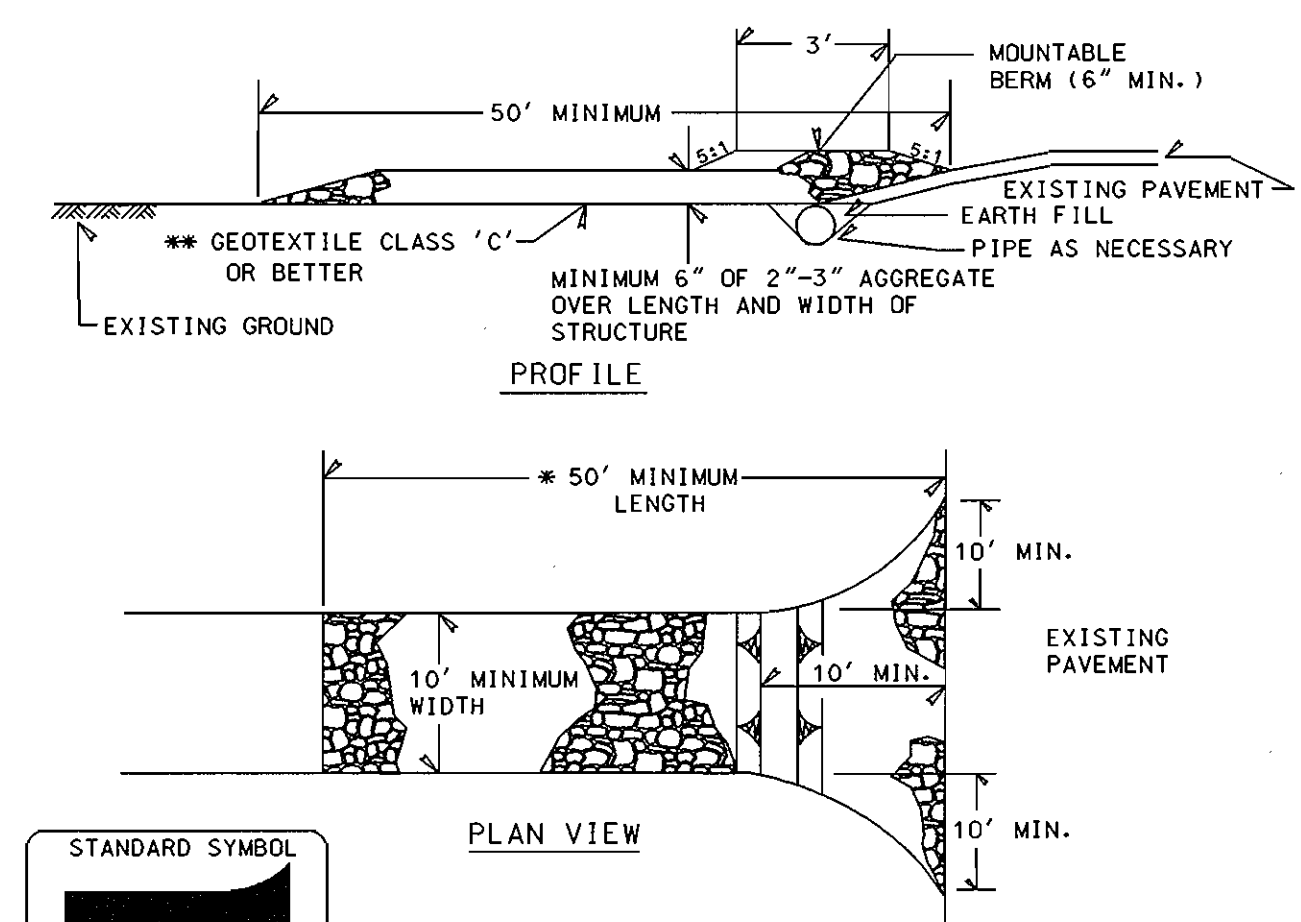
**Silt Fence Design Criteria**

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

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

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**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**



- Construction Specification**
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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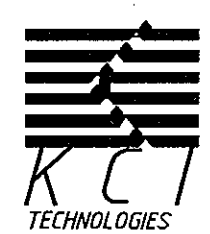
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Shaw* 12/19/00  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Spam* 12/15/00  
CHIEF, BUREAU OF ENGINEERING DATE

*W. D. Williams* 12-19-00  
CHIEF, BUREAU OF UTILITIES DATE

*W. D. Williams* 12-15-00  
CHIEF, UTILITY DESIGN DIVISION DATE



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



DES: CSC			
DRN: CK			
CHK: TW			
DATE: 12/2000	BY	NO.	REVISION

SEDIMENT AND EROSION CONTROL  
DETAILS AND NOTES

MD RT. 216 12" WATER MAIN  
EXTENSION TO FULTON STATION  
CAPITAL PROJECT No. W-8221  
CONTRACT No. 44-3934  
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 4 OF 4

FILE NAME - M1/1999/0199180.N