
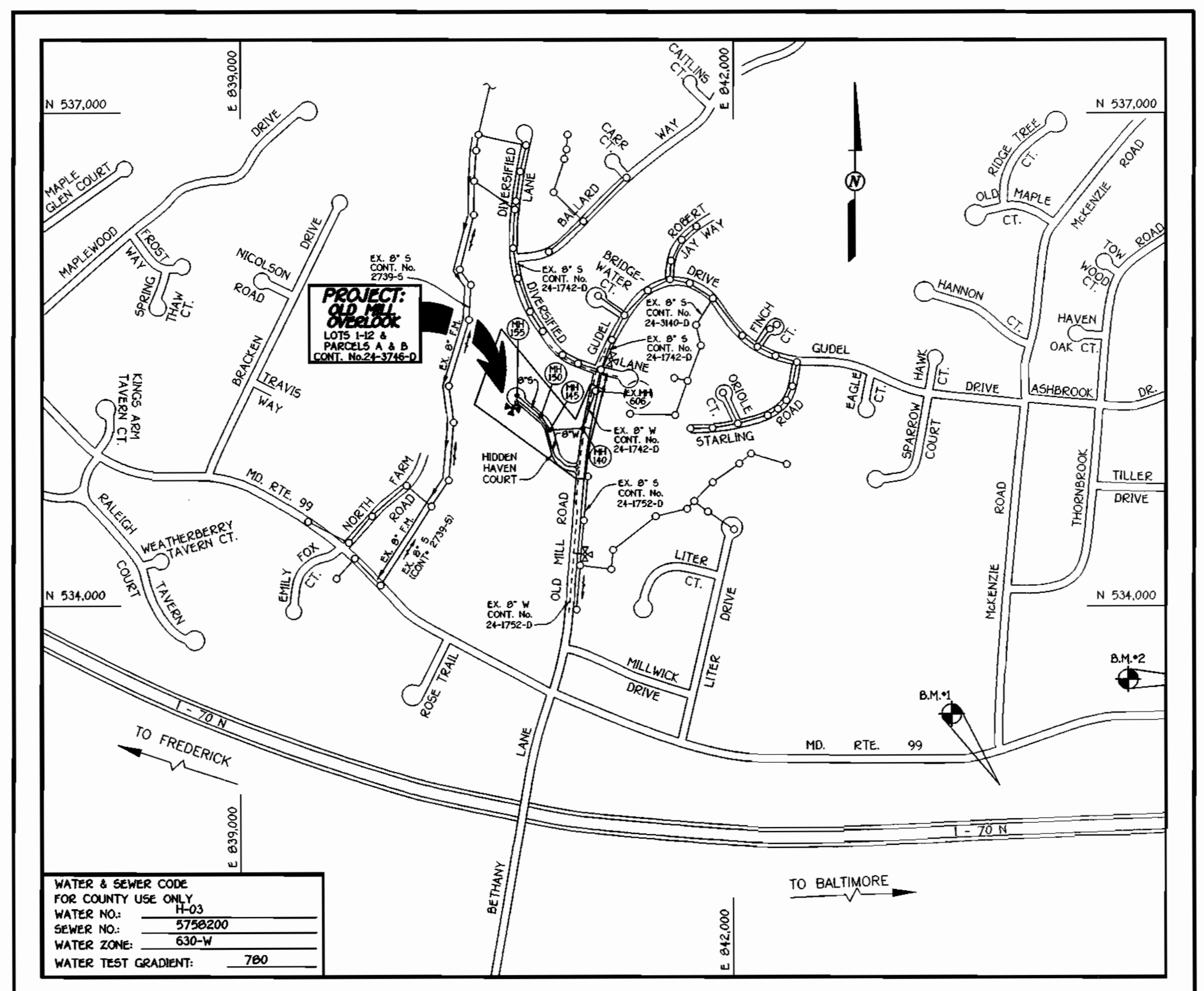


GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM.
- 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 (1991 AMENDMENTS). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- 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 VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION - 531-5533
 - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620
 - BALTIMORE GAS & ELECTRIC CO. - UNDER GROUND DAMAGE CONTROL - 787-9066
 - MISS UTILITY - 1-800-257-7777
 - COLONIAL PIPELINE CO. - 795-1390
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO 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 THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- T.B. DENOTES TEST BORING.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G 5.52.
- WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS, STANDARD DETAIL G.51.
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED AS TO HAVE ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- ALL WATER MAINS SHALL BE D.I.P., CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TREES SHALL BE STRAPPED TO TREES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATION SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS W.111 AND W.213. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATIONS C-153; DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, (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/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 1B.10(A) OF THE HOWARD COUNTY CODE.

QUANTITIES				
ITEM	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
8" SEWER	662 L.F.			
4" SEWER	227 L.F.			
SEWER MANHOLES	4 EACH			
8" WATER	571.67 L.F.			
6" WATER	56.11 L.F.			
4" WATER	43.19 L.F.			
FIRE HYDRANTS	1 EACH			
1-1/2" WATER	24 L.F.			
1" WATER	202 L.F.			
8" x 8" TAPPING SLEEVE & 8" VALVE	1 EACH			
8" x 6" REDUCER	1 EACH			
8" x 6" TEE	1 EACH			
6" x 4" TEE	1 EACH			
6" VALVE	1 EACH			
4" VALVE	1 EACH			
8" - 1/8 H.B.	1 EACH			
8" - 1/16 H.B.	2 EACH			
6" PLUG & BUTTRESS	1 EACH			
4" PLUG & BUTTRESS	1 EACH			
NAME OF UTILITY CONTRACTOR:				
SURVEY & DRAFTING DIVISION AS-BUILT DATE:				



WATER & SEWER CODE FOR COUNTY USE ONLY	TYPE OF BUILDING: RESIDENTIAL SINGLE FAMILY DETACHED
SEWER NO.: 5750200	NUMBER OF LOTS: 12 (10 BUILDABLE)
WATER ZONE: 630-W	NO. OF WATER HOUSE CONNECTIONS: 9
WATER TEST GRADIENT: 7.90	NO. OF SEWER HOUSE CONNECTIONS: 9
	DRAINAGE AREA: PATAPSCO
	TREATMENT PLANT: PATAPSCO WASTEWATER TREATMENT
	PLANT: VIA THE ROUTE 106 PUMPING STATION

VICINITY MAP

SCALE: 1"=600'

PLAN REFERENCE NUMBERS: F-99-57

CONTRACT No. 24-3746-D
OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

NOTE: THESE ORIGINAL CONSTRUCTION PLANS (SHEETS 1 TO 4) WILL SUPERSEDE THE WATER AND SEWER CONSTRUCTION PLANS PREVIOUSLY APPROVED AND SIGNED BY THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION, DEPARTMENT OF PLANNING AND ZONING ON JUNE 7, 1999.

BENCHMARK INFORMATION	
B.M.#1 - HOWARD COUNTY CONTROL STATION 176B	N 993,913.908 E 1,355,731.852
B.M.#2 - HOWARD COUNTY CONTROL STATION 176A	N 994,357.629 E 1,357,519.340

DEVELOPER'S CERTIFICATION
 * I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.*

[Signature] 1/13/00
 SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATION
 * I HEREBY 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.*

[Signature] 1/13/00
 SIGNATURE OF ENGINEER DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

[Signature] 1/21/00
 U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: *[Signature]* 1/21/00
 HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS AND UNDER F-99-57

[Signature] 1/13/00
 SIGNATURE OF DEVELOPER DATE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>[Signature]</i> Jan. 19, 2000 CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>[Signature]</i> 1/27/00 CHIEF, DEVELOPMENT ENGINEERING DIVISION	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL FIRE ELLICOTT CITY, MARYLAND 21114 (410) 461-2955	DESIGNED BY: M.D.T. DRAWN BY: J.C.L. CHECKED BY: M.J.M. DATE: JANUARY, 2000	TITLE SHEET 600' SCALE MAP NO. 17 BLOCK NO. B F.C.C. WORK ORDER NO. 30581 FILE NAME: G:\30581\WATSEW/FINALS/TITLESH.T.DWG	OLD MILL OVERLOOK LOTS 1 THRU 12 AND PARCELS 'A' & 'B' CONTRACT NO. 24-3746-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 1 of 4
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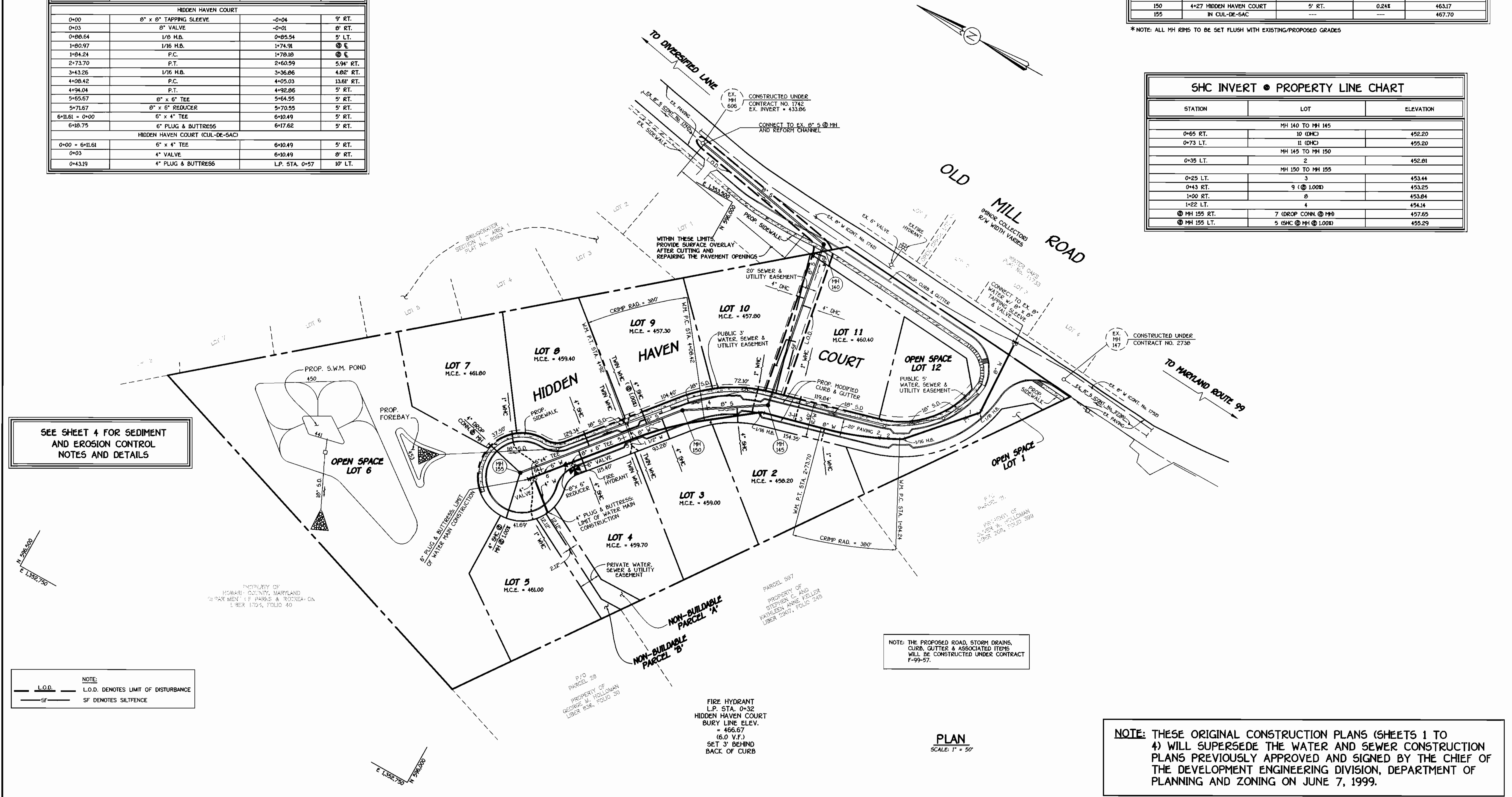
CONTRACT NO. 24-3746-D
 OLD MILL OVERLOOK
 LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

WATER MAIN TABULATION CHART			
WM STATION	AFFURTEHANCE	℄ ROAD STATION	DISTANCE
HIDDEN HAVEN COURT			
0+00	8" x 8" TAPPING SLEEVE	-0+04	9' RT.
0+03	8" VALVE	-0+01	8' RT.
0+08.64	1/8 H.B.	0+05.54	5' LT.
1+00.97	1/16 H.B.	1+74.91	⊙ ℄
1+04.24	P.C.	1+70.18	⊙ ℄
2+73.70	P.T.	2+60.59	5.94' RT.
3+43.26	1/16 H.B.	3+36.86	4.02' RT.
4+08.42	P.C.	4+05.03	13.61' RT.
4+94.04	P.T.	4+92.86	5' RT.
5+65.67	8" x 6" TEE	5+64.55	5' RT.
5+71.67	8" x 6" REDUCER	5+70.55	5' RT.
6+11.61 = 0+00	6" x 4" TEE	6+10.49	5' RT.
6+18.75	6" PLUG & BUTTRESS	6+17.62	5' RT.
HIDDEN HAVEN COURT (CUL-DE-SAC)			
0+00 = 6+11.61	6" x 4" TEE	6+10.49	5' RT.
0+03	4" VALVE	6+10.49	8' RT.
0+43.19	4" PLUG & BUTTRESS	L.P. STA. 0+57	10' LT.

MANHOLE TABULATION CHART				
NO.	℄ ROAD STATION	DISTANCE	SLOPE	RM ELEVATION
140	-----	---	---	451.85
145	3+32 HIDDEN HAVEN COURT	7' RT.	-4.32%	465.64
150	4+27 HIDDEN HAVEN COURT	5' RT.	0.24%	463.17
155	IN CUL-DE-SAC	---	---	467.70

* NOTE: ALL MH RIMS TO BE SET FLUSH WITH EXISTING/PROPOSED GRADES

SHC INVERT @ PROPERTY LINE CHART		
STATION	LOT	ELEVATION
MH 140 TO MH 145		
0+65 RT.	10 (DHC)	452.20
0+73 LT.	11 (DHC)	455.20
MH 145 TO MH 150		
0+35 LT.	2	452.01
MH 150 TO MH 155		
0+25 LT.	3	453.44
0+43 RT.	9 (⊙ 1.00%)	453.25
1+00 RT.	8	453.84
1+22 LT.	4	454.14
⊙ MH 155 RT.	7 (DROP CONN. @ MH)	457.65
⊙ MH 155 LT.	5 (SHC @ MH @ 1.00%)	455.29



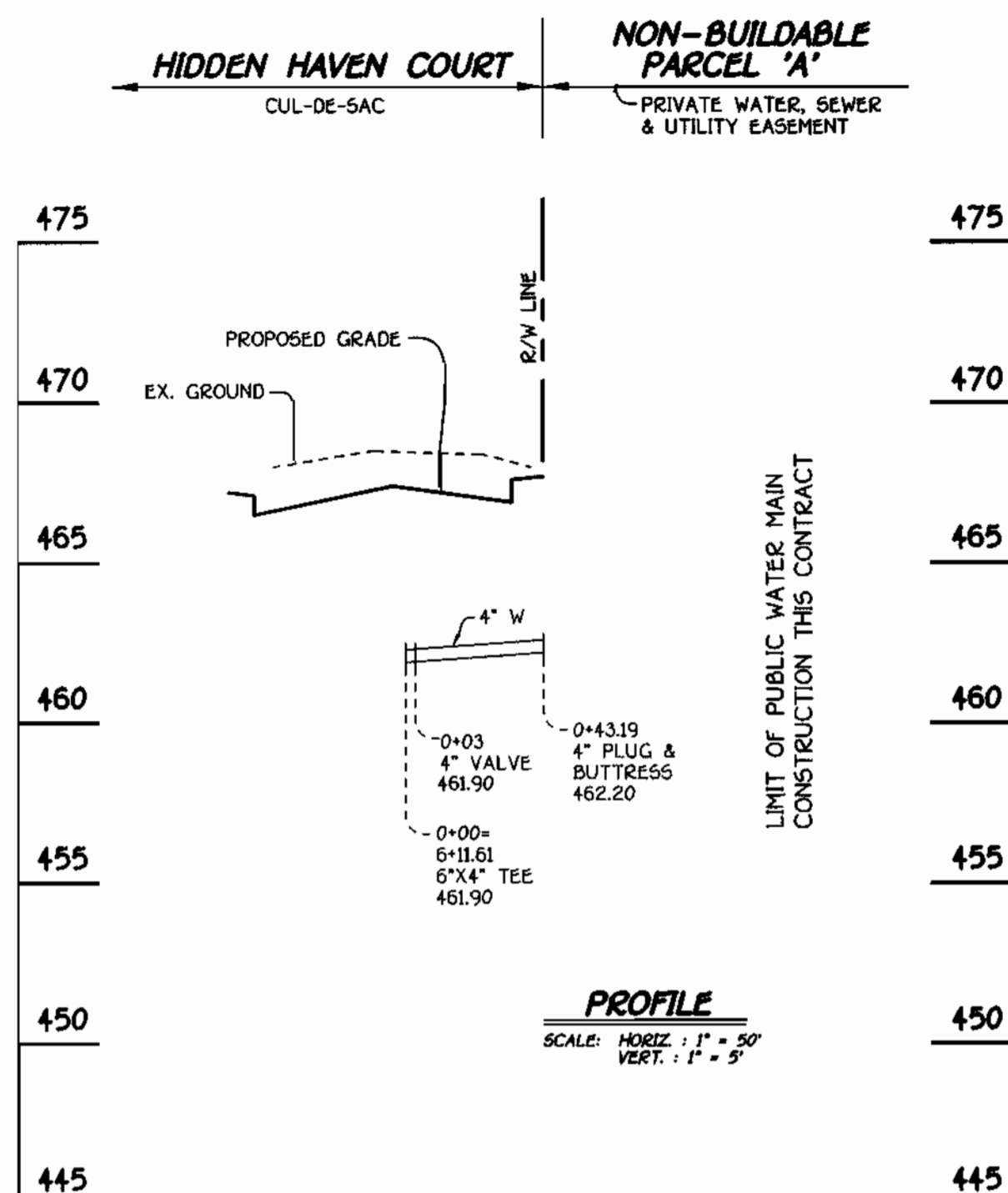
SEE SHEET 4 FOR SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

NOTE:
 L.O.D. DENOTES LIMIT OF DISTURBANCE
 SF DENOTES SILTFENCE

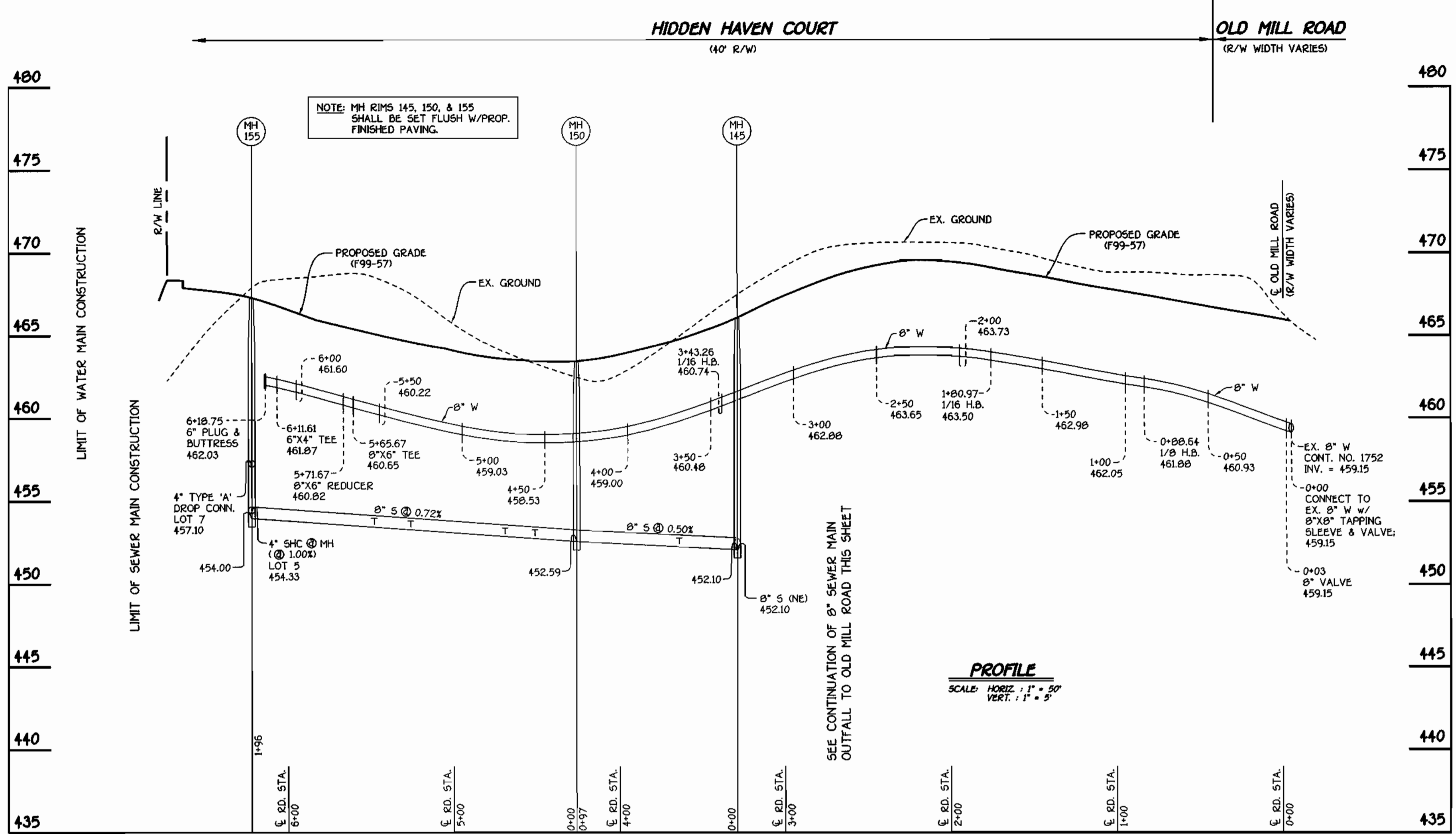
NOTE: THE PROPOSED ROAD, STORM DRAINS, CURB, GUTTER & ASSOCIATED ITEMS WILL BE CONSTRUCTED UNDER CONTRACT F-99-57.

NOTE: THESE ORIGINAL CONSTRUCTION PLANS (SHEETS 1 TO 4) WILL SUPERSEDE THE WATER AND SEWER CONSTRUCTION PLANS PREVIOUSLY APPROVED AND SIGNED BY THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION, DEPARTMENT OF PLANNING AND ZONING ON JUNE 7, 1999.

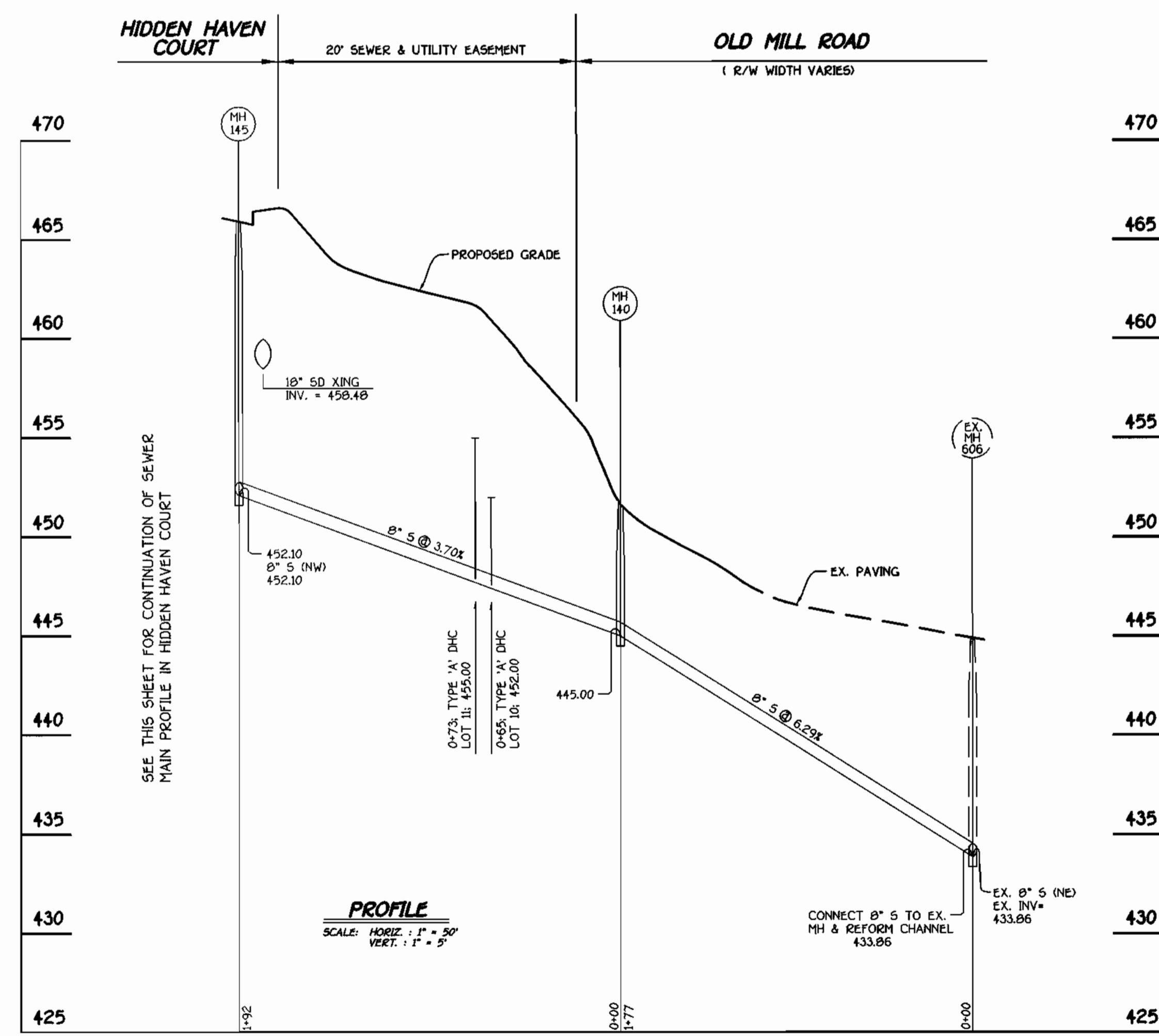
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Robert Beinger Jan 19, 2000 CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND [Signature] 1/23/00 CHIEF, DEVELOPMENT ENGINEERING DIVISION	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21114 (410) 461-2895	STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER NO. 9757 TERRELL A. FISHER	DESIGNED BY: M.D.T. DRAWN BY: J.C.L. CHECKED BY: M.J.H. DATE: JANUARY, 2000	WATER AND SEWER MAINS PLAN VIEW 600' SCALE MAP NO. 17 BLOCK NO. 8 F.C.C. WORK ORDER NO. 30581 FILE NAME: G/30581/WATSEW/PLAN.DWG	CONTRACT NO. 24-3746-D OLD MILL OVERLOOK LOTS 1 THRU 12 AND PARCELS 'A' & 'B' WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 2 OF 4
				BY NO. REVISION DATE	600' SCALE MAP NO. 17 BLOCK NO. 8 F.C.C. WORK ORDER NO. 30581 FILE NAME: G/30581/WATSEW/PLAN.DWG	CONTRACT NO. 24-3746-D OLD MILL OVERLOOK LOTS 1 THRU 12 AND PARCELS 'A' & 'B' WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 2 OF 4



4" WATER MAIN FOR PARCEL 'A'



8" SEWER MAIN AND 8" WATER MAIN: HIDDEN HAVEN COURT



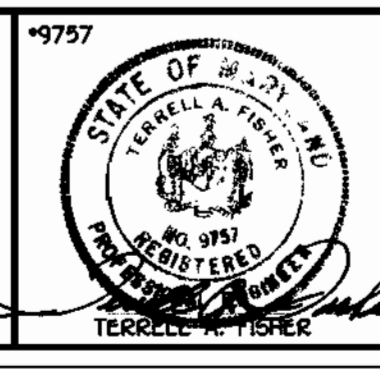
8" SEWER MAIN OUTFALL TO OLD MILL ROAD

NOTE: THESE ORIGINAL CONSTRUCTION PLANS (SHEETS 1 TO 4) WILL SUPERSEDE THE WATER AND SEWER CONSTRUCTION PLANS PREVIOUSLY APPROVED AND SIGNED BY THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION, DEPARTMENT OF PLANNING AND ZONING ON JUNE 7, 1999.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert W. Bainger
CHIEF, BUREAU OF UTILITIES
DATE: Jan 19, 2000

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
Michael J. D...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 1/27/00

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PRZ
ELICOTT CITY, MARYLAND 21042
4109 48 - 2925



DESIGNED BY:	M.D.T.
DRAWN BY:	J.C.L.
CHECKED BY:	M.J.M.
DATE:	JANUARY, 2000
BY NO.	
REVISION	
DATE	

WATER AND SEWER MAINS
PROFILES
600' SCALE MAP NO. 17 BLOCK NO. 8
F.C.C. WORK ORDER NO. 30581
FILE NAME: G:\30581\WATSEW\FINALS\30581PROFILES.DWG

OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
CONTRACT NO. 24-3746-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 3 OF 4

CONTRACT NO. 24-3746-D
OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

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, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS:
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER @ 1/2 GAL./1,000 SQ.FT.)

SEEDING:
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BUSHELS PER ACRE OF ANNUAL RYE @ 2 LBS./ACRE OF WHEEPING LOVEGRASS (07 LBS./1,000 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 SOU.

MULCHING:
APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE OF EMULSIFIED ASPHALT ON FLAT ACRES ON SLOPES 0 FEET OR HIGHER, USE 340 GALLONS PER ACRE @ GAL./1,000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1998 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDING NOTES

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

SEEDBED PREPARATION:
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS:
APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1,000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (14 LBS./1,000 SQ.FT.) BEFORE SEEDING. HARROW DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (4 LBS./1,000 SQ.FT.) AND 600 LBS. PER ACRE (11.5 LBS./1,000 SQ.FT.) OF 10-20-20 FERTILIZER.

SEEDING:
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2.3 LBS./1,000 SQ.FT.) OF KENTUCKY TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS./ACRE (1.4 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WHEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY OPTION (1) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OPTION (2) - 1 TON SOU, OPTION (3) SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDED.

MULCHING:
APPLY 1 TO 2 TONS PER ACRE (50 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE OF EMULSIFIED ASPHALT ON FLAT ACRES, ON SLOPES 0 FEET OR HIGHER USE 340 GALLONS PER ACRE @ GAL./1,000 SQ.FT.) FOR ANCHORING.

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

SEDIMENT CONTROL NOTES

- 1) 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 (513-1055).
- 2) ALL VEGETATIVE 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 DEVISIONS THEREO.
- 3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER 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 PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 50), SOU (SEC. 51), 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 5.98 ACRES
 - AREA DISTURBED 0.20 ACRES
 - AREA TO BE ROOFED OR PAVED N/A ACRES
 - AREA TO BE VEGETATIVELY STABILIZED 0.20 ACRES
 - TOTAL CUT 850 CU.YDS.
 - TOTAL FILL 325 CU.YDS.
 - OFFSITE WASTE/BOGROW AREA LOCATION N/A CU.YDS.
- 8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY NEARBY ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DETERMINED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 1/4 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 PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

SECTION 20 : STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Using vegetation as cover for barren soil to protect it from forces that cause erosion. Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

This practice shall be used on denuded areas as specified on the plan and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, bare soil between construction phases, earth slices, etc. and for Permanent Seeding are lawns, dunes, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration and evaporation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Control devices must remain in place during grading, seeding, preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SEEDBED PREPARATION
i. Temporary Seeding
a. Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the rougher condition with ridges running parallel to the contour of the slope.
b. Apply fertilizer and lime as prescribed on the plans.
c. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

ii. Permanent Seeding
a. Minimum soil conditions required for permanent vegetative establishment:
1. Soil pH shall be between 6.0 and 7.0.
2. Soluble salts shall be less than 500 parts per million (ppm).
3. The soil shall contain less than 40% clay, but enough fine grained material (30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if leucosporia or sericea leucosporia is to be planted, then a sandy soil (50% silt plus clay) would be acceptable.
4. Soil shall contain 2% minimum organic matter by weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
c. Apply soil amendments as per soil test or as included on the plans.
d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and reseed the area. In applications where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

Seed Specifications
i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed have been tested within the 6 months immediately preceding the date of sowing such material on this job.
Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the seed tag, and shall be stored in a cool, dry place. Use the rate recommended rate when hydroseeded. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°F. can weaken bacteria and make the inoculant less effective.

Methods of Seeding
i. Hydroseeding - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seed, or a cultipacker seeder.
a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: maximum of 100 lbs. per acre total of soluble nitrogen, P205 (phosphorous) 200 lbs/acre, L20 (potassium) 200 lbs/acre.
b. Lime - use only ground agricultural limestone. Up to 3 tons per acre may be applied by hydroseeding. Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.

ii. Dry Seeding - This includes use of conventional drop or broadcast spreaders.
a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Schedules or Tables. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
b. Where practical, seed in two directions perpendicular to each other. Apply half the seeding rate in each direction.

iii. Drill or Cultipacker Seeding - Mechanized seeders that apply and cover seed with soil. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
a. Where practical, seed in two directions perpendicular to each other. Apply half the seeding rate in each direction.

Mulch Specifications (in order of preference)
i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
ii. Wood Cellulose Fiber Mulch (WCFM)
a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
c. WCFM (including dye) shall contain no deterioration or growth inhibiting factors.
d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber will disperse in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and retention properties and shall contain a seed in contact with the soil without inhibiting the growth of the grass seedlings.
e. WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 16% maximum and water holding capacity of 90% minimum.

Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
i. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.

ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
iii. Wood cellulose fiber mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

Securing Straw Mulch (Mulch Anchoring) - Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to fibrous mulches. It is not recommended for use on sloping land; this practice should be used on the contour if possible.
ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net weight of 100 lbs. per acre. The binder shall be mixed with water, and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

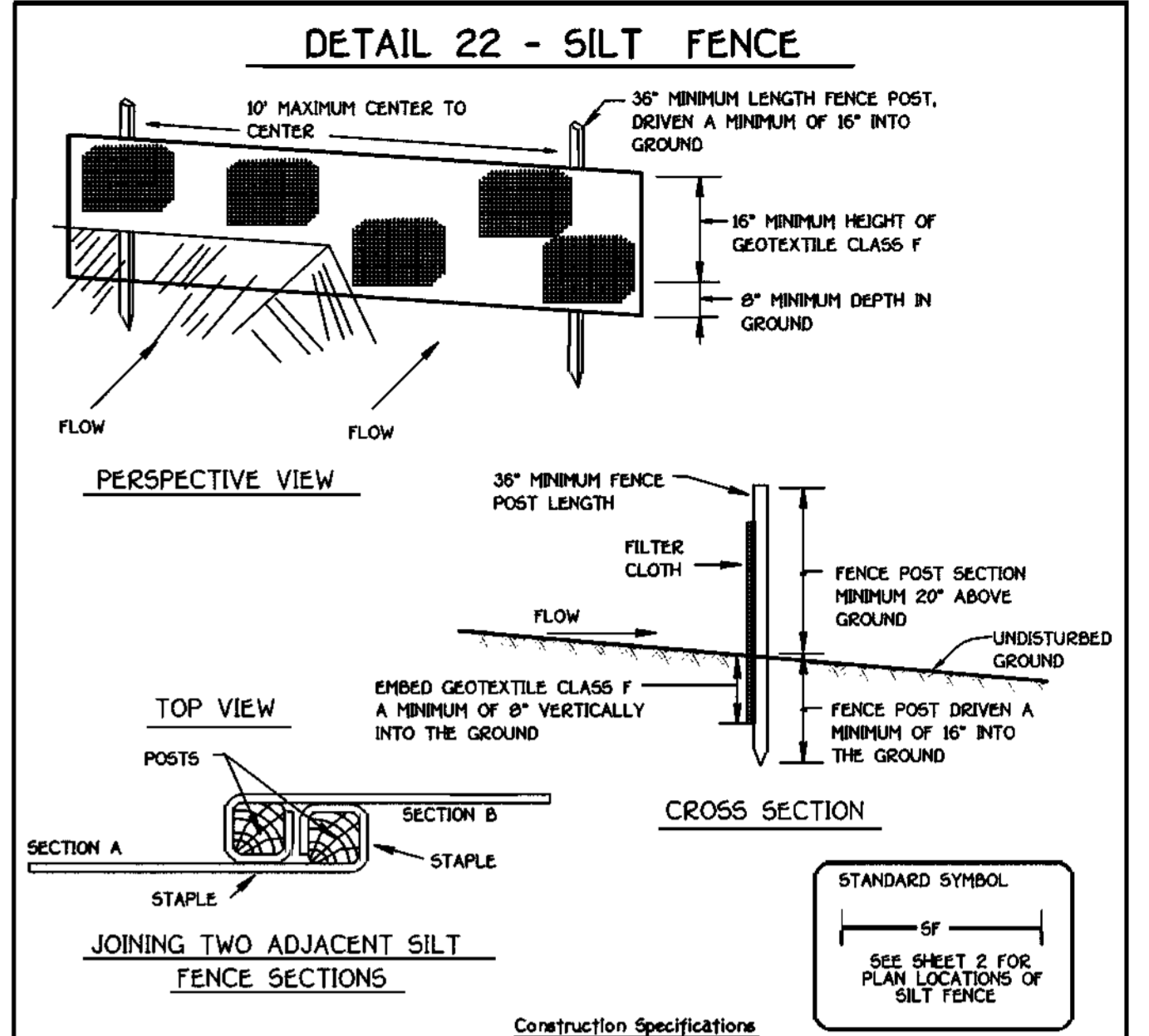
iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as to ridges and crest of embankments. The remainder of area should be uniform binder application. Synthetic binders - such as Acrylic DER (Acro-Tack), DCA-70 Petrosol, Terra Tax II, Terra Tack AK or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

SECTION 21 : STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.
PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
SPECIFICATIONS: A TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND.
B.TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS.
C.TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDELS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5" IN DIAMETER.
D.TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER, AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4" ; AVOID SURFACE IRREGULARITIES.
E.PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN "STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION".
F.TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET CONDITIONS.

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN THE REQUIRED GRADING PERMIT.
- 2. NOTIFY MISS UTILITY 48 HOURS BEFORE BEGINNING ANY WORK (1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK (410-313-1870).
- 3. INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON SHEETS 2 OF THIS CONTRACT (2 DAYS).
- 4. CLEAR AND CRUSH AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION AND INSTALLATION OF THE WATER AND SEWER MAINS, AND ONLY WITHIN THE DESIGNATED WATER, SEWER AND UTILITY EASEMENTS (1 DAY).
- 5. NOTE: THE LENGTH OF OPEN WATER AND/OR SEWER MAIN TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE BACKFILLED AND STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS SHORTER.
- 6. CONSTRUCT THE WATER MAIN/SEWER MAIN AND AFFURTANCES (30 DAYS).
- 7. STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET (2 DAYS).
- 8. FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS, AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES (2 DAYS).



Construction Specifications

SILT FENCE

Silt Fence Design Criteria

Slope Steepness	Φ(θ) (min)	Φ(θ) (max)
Filfter 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 2:1 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.

NOTE: THESE ORIGINAL CONSTRUCTION PLANS (SHEETS 1 TO 4) WILL SUPERSEDE THE WATER AND SEWER CONSTRUCTION PLANS PREVIOUSLY APPROVED AND SIGNED BY THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION, DEPARTMENT OF PLANNING AND ZONING ON JUNE 7, 1999.

CONTRACT NO. 24-3746-D
OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
39757
DESIGNED BY: M.D.T.
DRAWN BY: J.C.L.
CHECKED BY: M.J.M.
DATE: JANUARY, 2000
BY NO. REVISION
DATE

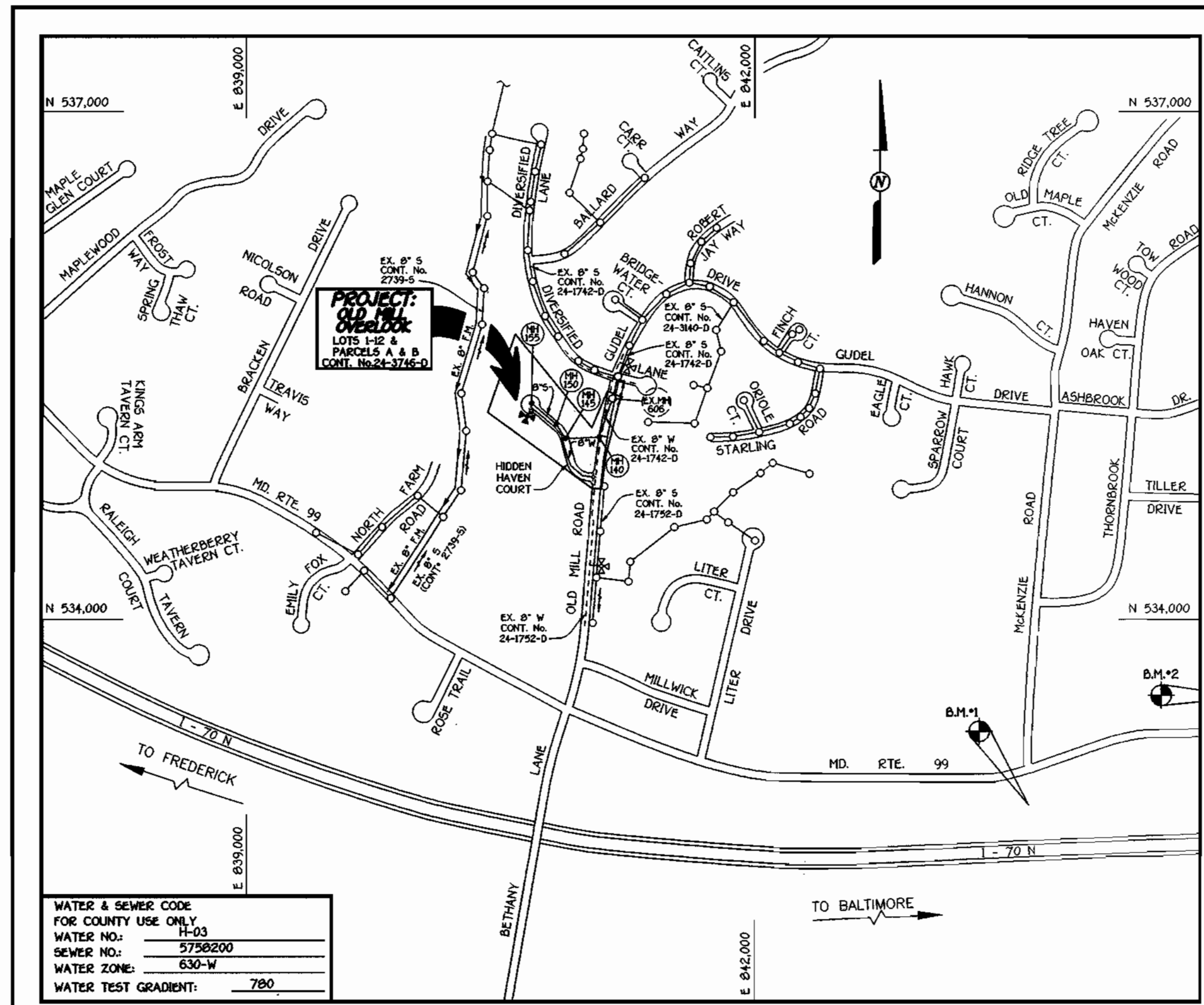
DEPARTMENT OF PUBLIC WORKS
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NOTES AND DETAILS
600' SCALE MAP NO. 17 BLOCK NO. 8
F.C.C. WORK ORDER NO. 30581
FILE NAME: G/30581/WATER/SEW/PLANS/NOTESANDDETAILS.DWG

OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
CONTRACT NO. 24-3746-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 4 OF 4

QUANTITIES				
ITEM	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
8" SEWER	662 L.F.	662 L.F.	SDR 35 PVC	J.H. MANUFACT.
4" SEWER	227 L.F.	227 L.F.	"	"
SEWER MANHOLES	4 EACH	4 EA.	A.S.T.M. C 478	FREDERICK PROBT
FRAME & COVER	4 EACH	4 EA.	"	CAPITOL FOUNDRY
8" WATER	571.67 L.F.	567 L.F.	CL-52 D.I.P.	ATLANTIC STATES
6" WATER	56.11 L.F.	48 L.F.	"	"
4" WATER	43.19 L.F.	43 L.F.	"	"
FIRE HYDRANTS	1 EACH	1 EA.	A-423 CEILING	MUELLER CO.
1-1/2" WATER	24 L.F.	25 L.F.	TYPE K COPPER	READING TUBE
1" WATER	202 L.F.	227 L.F.	"	"
8" x 8" TAPPING SLEEVE & 8" VALVE	1 EACH	1 EA.	M.J. HUB RES/WEDGE	MUELLER CO.
8" x 6" REDUCER	1 EACH	1 EA.	M.J.	UNION FOUNDRY
8" x 6" TEE	1 EACH	1 EA.	M.J. HYDRANT	"
6" x 4" TEE	1 EACH	1 EA.	M.J.	"
6" VALVE	1 EACH	1 EA.	RES/WEDGE	MUELLER CO.
4" VALVE	1 EACH	1 EA.	"	"
8" - 1/8 H.B.	1 EACH	1 EA.	M.J. (45)	UNION FOUNDRY
8" - 1/16 H.B.	2 EACH	2 EA.	M.J. (22 1/2)	"
6" PLUG & BUTTRESS	1 EACH	1 EA.	M.J.	"
4" PLUG & BUTTRESS	1 EACH	1 EA.	"	"

NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED
SURVEY & DRAFTING DIVISION AS-BUILT DATE:



TYPE OF BUILDING:	RESIDENTIAL - SINGLE FAMILY DETACHED
NUMBER OF LOTS:	12 (9 BUILDABLE)
NO. OF WATER HOUSE CONNECTIONS:	9
NO. OF SEWER HOUSE CONNECTIONS:	9
DRAINAGE AREA:	PATAPSCO
TREATMENT PLANT:	PATAPSCO WASTEWATER TREATMENT
PLANT:	VIA THE ROUTE 100 PUMPING STATION

VICINITY MAP

SCALE: 1"=600'

PLAN REFERENCE NUMBERS:
F-99-57

GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM.
- 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 (99) AMENDMENTS. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- 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 VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION - 531-9533
 - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620
 - BALTIMORE GAS & ELECTRIC CO. - UNDER GROUND DAMAGE CONTROL - 787-9068
 - MISS UTILITY - 1-800-257-7777
 - COLONIAL PIPELINE CO. - 795-1390
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-6900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO 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 THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- T.B. DENOTES TEST BORING.
- MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATER-TIGHT FRAME AND COVERS, STANDARD DETAIL G 5.52.
- WHERE WATER-TIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS, STANDARD DETAIL G5.51.
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED AS TO HAVE ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- ALL WATER MAINS SHALL BE D.I.P., CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TREES SHALL BE STRAPPED TO TREES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATION SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS G.W.11 AND W2.13. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATIONS C-153; DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, • (410) 313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT ON ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPV REQUIREMENTS PER SECTION 10.10(A) OF THE HOWARD COUNTY CODE.

BENCHMARK INFORMATION	
B.M.#1 - HOWARD COUNTY CONTROL STATION 17E9	N 593,813.908 E 1,355,731.852
B.M.#2 - HOWARD COUNTY CONTROL STATION 17EA	N 594,357.629 E 1,357,519.340

DEVELOPER'S CERTIFICATION
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

[Signature] 1/13/00
SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATION
I HEREBY 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.

[Signature] 1/13/00
SIGNATURE OF ENGINEER DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

[Signature] 1/21/00
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

APPROVED
[Signature] 1/21/00
HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS AND UNDER F - 99 - 57

[Signature] 1/13/00
SIGNATURE OF DEVELOPER DATE

CONTRACT No. 24-3746-D
OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

NOTE: THESE ORIGINAL CONSTRUCTION PLANS (SHEETS 1 TO 4) WILL SUPERSEDE THE WATER AND SEWER CONSTRUCTION PLANS PREVIOUSLY APPROVED AND SIGNED BY THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION, DEPARTMENT OF PLANNING AND ZONING ON JUNE 7, 1999.

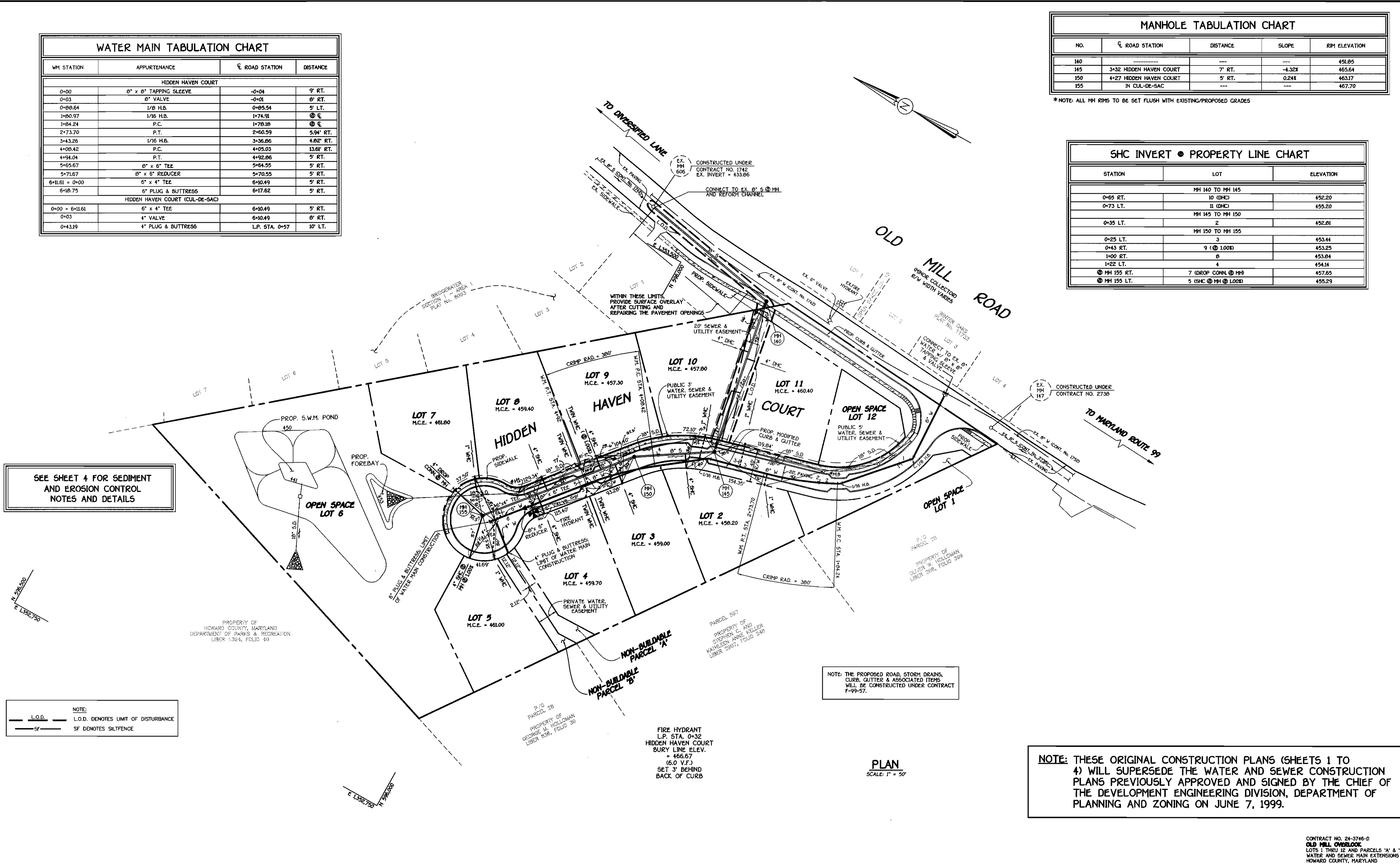
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>[Signature]</i> Jan 19, 2000 CHIEF, BUREAU OF UTILITIES DATE	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>[Signature]</i> 1/27/00 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE ELLSWORTH CITY, MARYLAND 21042 (410) 661 - 2955 STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER NO. 9157 TERRELL A. FISHER	DESIGNED BY: M.D.T. DRAWN BY: J.C.L. CHECKED BY: M.J.M. DATE: JANUARY, 2000 BY NO. KCT 1 ASBUILT CONDITIONS ADDED TO PLAN 4/10/00 REVISION	TITLE SHEET 600' SCALE MAP NO. 17 BLOCK NO. 8 F.C.C. WORK ORDER NO. 30581 FILE NAME: G/30581/WATSEW/FINAL5/TITLESH1.DWG	CONTRACT NO. 24-3746-D OLD MILL OVERLOOK LOTS 1 THRU 12 AND PARCELS 'A' & 'B' WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND OLD MILL OVERLOOK LOTS 1 THRU 12 AND PARCELS 'A' & 'B' CONTRACT NO. 24-3746-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 1 OF 4
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WATER MAIN TABULATION CHART			
WM STATION	APPURTENANCE	℄ ROAD STATION	DISTANCE
HIDDEN HAVEN COURT			
0+00	8" x 8" TAPPING SLEEVE	-0+04	9' RT.
0+03	8" VALVE	-0+01	8' RT.
0+08.64	1/8 H.B.	0+05.54	5' LT.
1+00.97	1/16 H.B.	1+74.91	℄ ℄
1+04.24	P.C.	1+78.18	℄ ℄
2+73.70	P.T.	2+60.59	5.94' RT.
3+43.26	1/16 H.B.	3+36.86	4.82' RT.
4+08.42	P.C.	4+05.03	13.61' RT.
4+94.04	P.T.	4+92.86	5' RT.
5+65.67	8" x 6" TEE	5+64.55	5' RT.
5+71.67	8" x 6" REDUCER	5+70.55	5' RT.
6+11.61 = 0+00	6" x 4" TEE	6+10.49	5' RT.
6+18.75	6" PLUG & BUTTRESS	6+17.62	5' RT.
HIDDEN HAVEN COURT (CUL-DE-SAC)			
0+00 = 6+11.61	6" x 4" TEE	6+10.49	5' RT.
0+03	4" VALVE	6+10.49	8' RT.
0+43.19	4" PLUG & BUTTRESS	LP. STA. 0+57	10' LT.

MANHOLE TABULATION CHART				
NO.	℄ ROAD STATION	DISTANCE	SLOPE	RIM ELEVATION
140	---	---	---	451.85
145	3+32 HIDDEN HAVEN COURT	7' RT.	-4.32%	465.64
150	4+27 HIDDEN HAVEN COURT	5' RT.	0.24%	463.17
155	IN CUL-DE-SAC	---	---	467.70

*NOTE: ALL MH RIMS TO BE SET FLUSH WITH EXISTING/PROPOSED GRADES

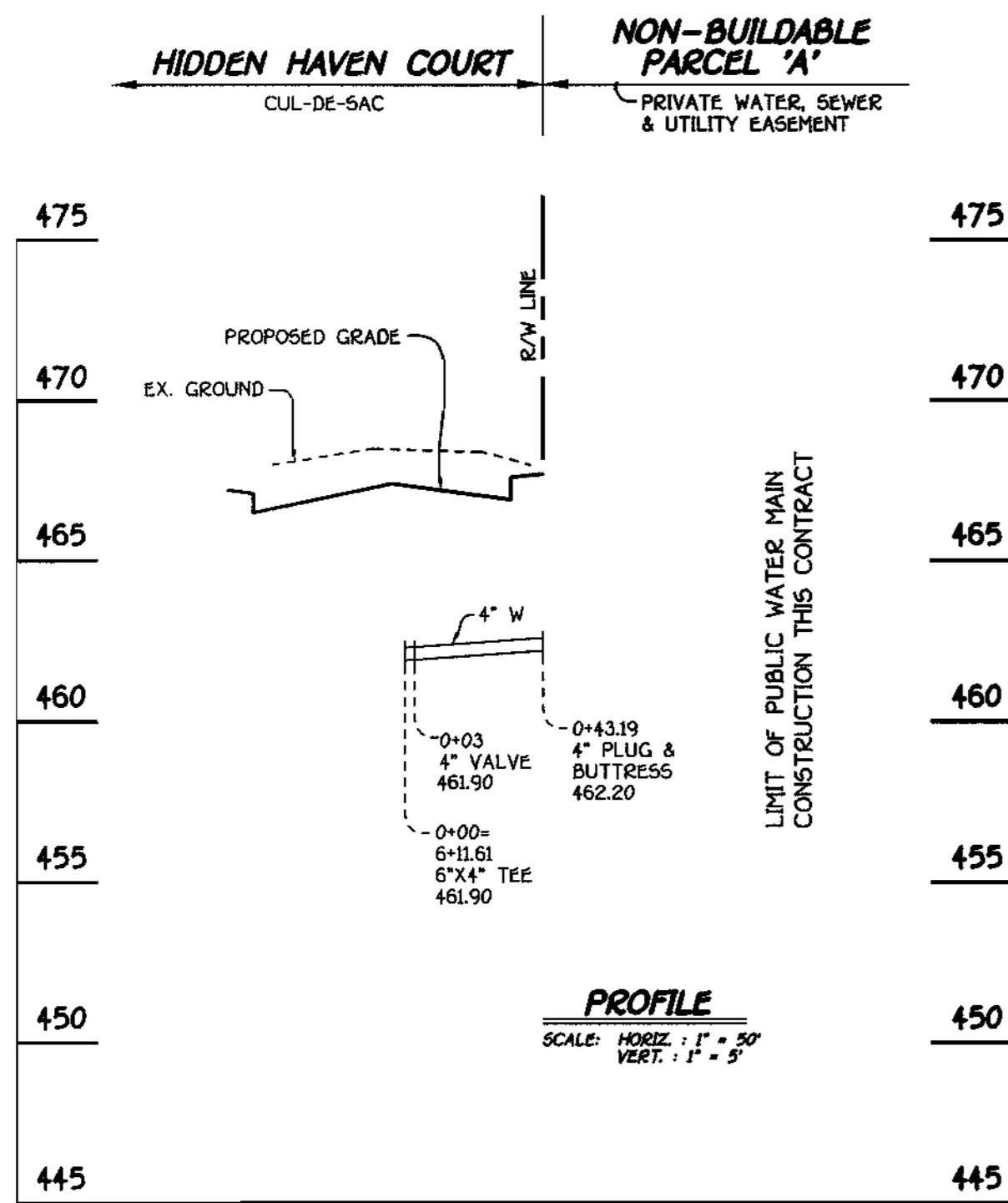
SHC INVERT • PROPERTY LINE CHART		
STATION	LOT	ELEVATION
0+65 RT.	MH 140 TO MH 145	452.20
0+73 LT.	10 (DHC)	455.20
0+35 LT.	MH 145 TO MH 150	452.81
0+25 LT.	2	453.44
0+43 RT.	9 (@ 1.00%)	453.25
1+00 RT.	8	453.84
1+22 LT.	4	454.14
℄ MH 155 RT.	7 (DROP CONNL @ MH)	457.65
℄ MH 155 LT.	5 (SHC @ MH @ 1.00%)	455.29



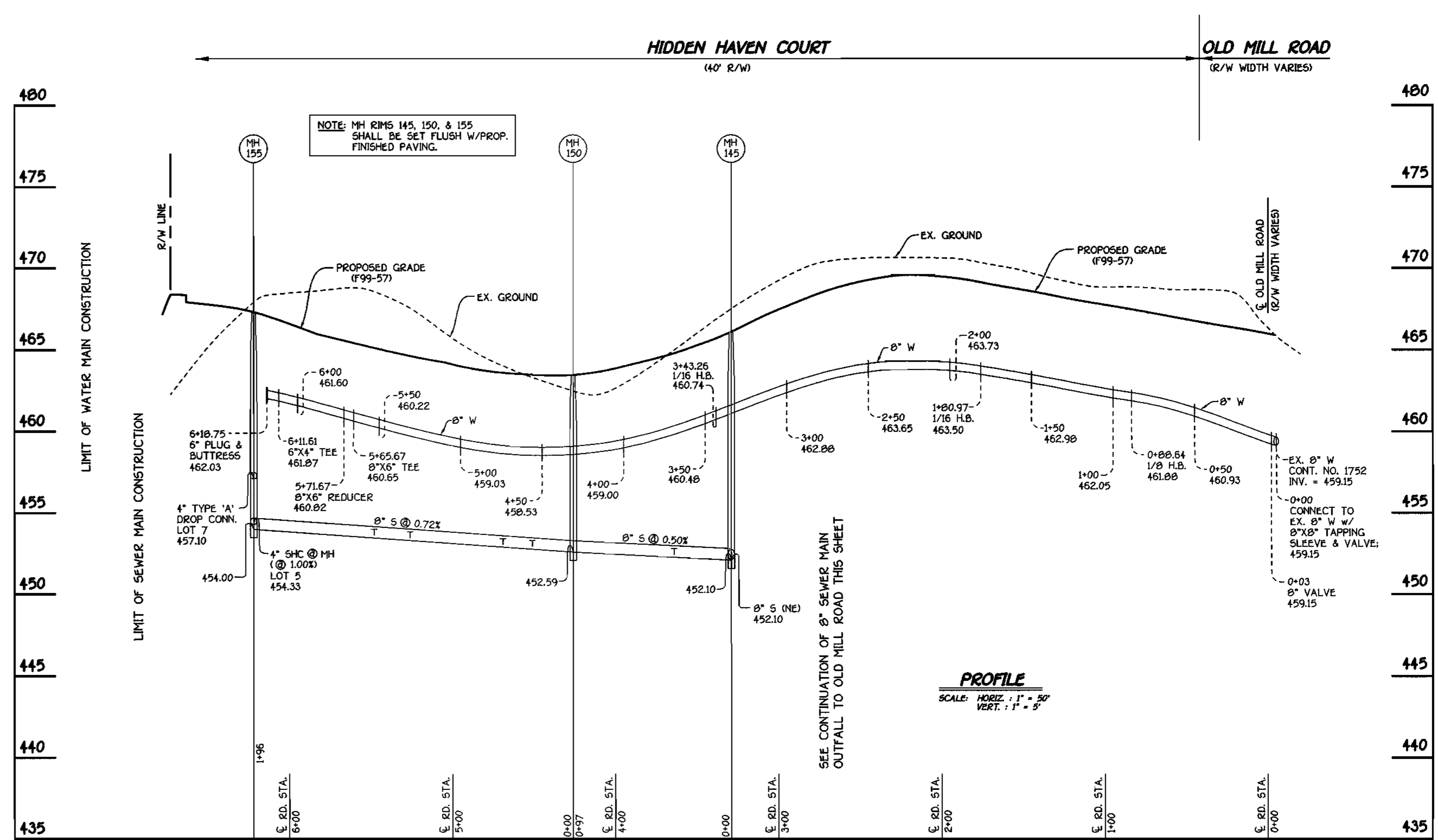
NOTE: THESE ORIGINAL CONSTRUCTION PLANS (SHEETS 1 TO 4) WILL SUPERSEDE THE WATER AND SEWER CONSTRUCTION PLANS PREVIOUSLY APPROVED AND SIGNED BY THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION, DEPARTMENT OF PLANNING AND ZONING ON JUNE 7, 1999.

CONTRACT NO. 24-3746-D
OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

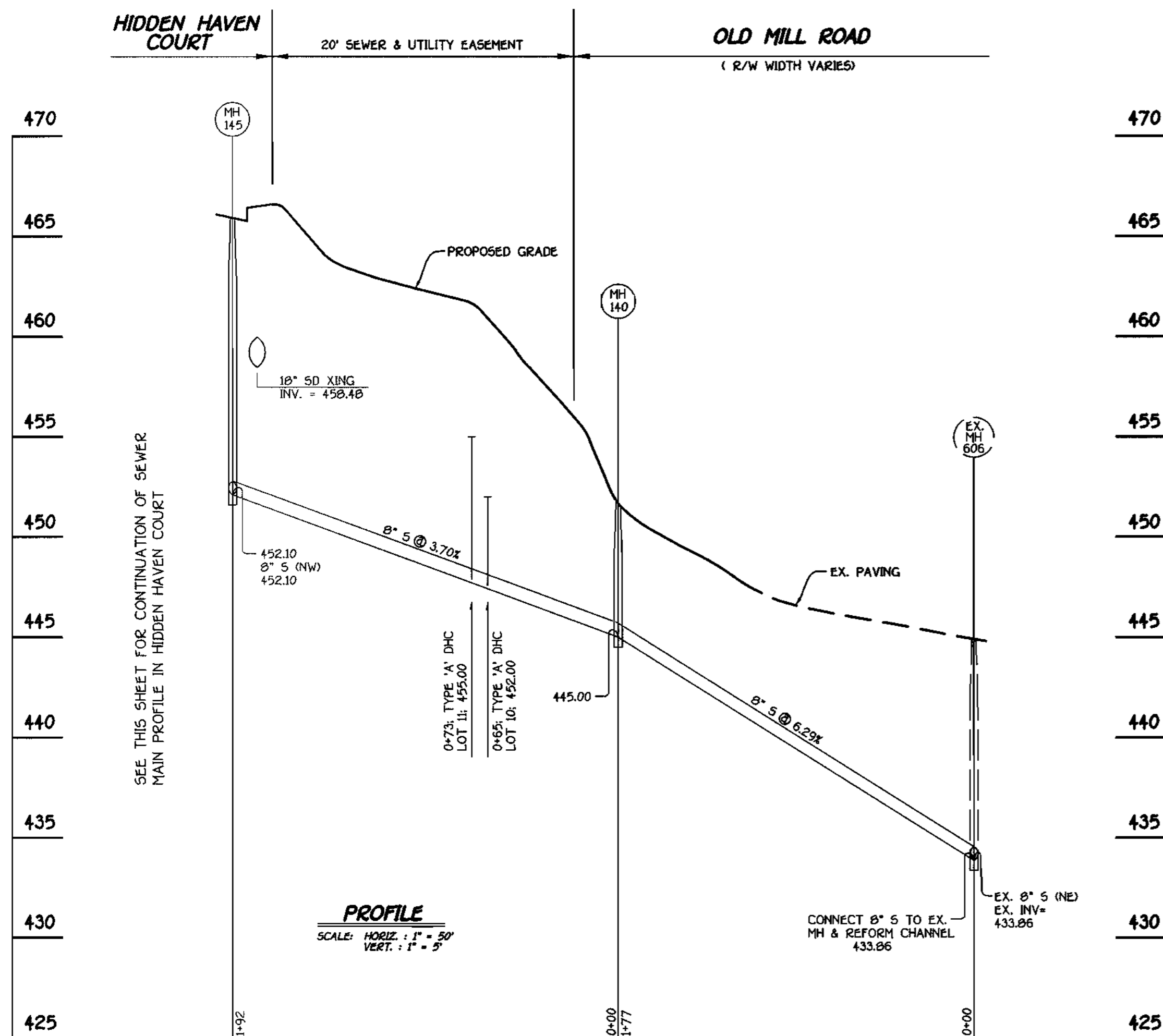
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Robert Beaman Jan 19, 2000 CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND [Signature] 1/27/00 CHIEF, DEVELOPMENT ENGINEERING DIVISION	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS 1040 14th St., Suite 200 ELKLOTT CITY, MARYLAND 21042 (410) 381-2000	STATE OF MARYLAND TERRILL A. FISHER PROFESSIONAL ENGINEER No. 9787	DESIGNED BY: M.D.T. DRAWN BY: J.C.L. CHECKED BY: M.J.M. DATE: JANUARY, 2000 BY NO. KCI 1 ASBUILT CONDITIONS ADDED TO PLAN DATE: 4/10/00	WATER AND SEWER MAINS PLAN VIEW 600' SCALE MAP NO. 17 BLOCK NO. B F.C.C. WORK ORDER NO. 30581 FILE NAME: G/30581/WATSEW/PLAN.DWG	OLD MILL OVERLOOK LOTS 1 THRU 12 AND PARCELS 'A' & 'B' CONTRACT NO. 24-3746-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 2 OF 4
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4" WATER MAIN FOR PARCEL 'A'



8" SEWER MAIN AND 8" WATER MAIN: HIDDEN HAVEN COURT



8" SEWER MAIN OUTFALL TO OLD MILL ROAD

NOTE: THESE ORIGINAL CONSTRUCTION PLANS (SHEETS 1 TO 4) WILL SUPERSEDE THE WATER AND SEWER CONSTRUCTION PLANS PREVIOUSLY APPROVED AND SIGNED BY THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION, DEPARTMENT OF PLANNING AND ZONING ON JUNE 7, 1999.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL GARAGE OFFICE PARK - 10072 BALTIMORE NATIONAL PRZ
ELLSWORTH CITY, MARYLAND 21042
(410) 481-2255



DESIGNED BY:	M.D.T.
DRAWN BY:	J.C.L.
CHECKED BY:	H.J.M.
DATE:	JANUARY, 2000
BY NO.	
REVISION	
DATE	

**WATER AND SEWER MAINS
PROFILES**

600' SCALE MAP NO. 17 BLOCK NO. 8
F.C.C. WORK ORDER NO. 30581
FILE NAME: G/30581/WATSEW/FINALS/30581PROFILES.DWG

OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
CONTRACT NO. 24-3746-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN
SHEET
3 OF 4

Robert W. Bainger Jan 19, 2000
CHIEF, BUREAU OF UTILITIES

Michael J. Danaher 1/27/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION

CONTRACT NO. 24-3746-D
OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

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, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS
APPLY 500 LBS. PER ACRE 10-10-10 FERTILIZER (4 LBS./1,000 SQ.FT.)

SEEDING
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BUSHELS PER ACRE OF ANNUAL RYE (3 LBS./ACRE) OF WEEPING LOVEGRASS (0.7 LBS./1,000 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 SOU.

MULCHING
APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 200 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES ON SLOPES 5 FEET OR HIGHER, USE 348 GALLONS PER ACRE (6 GAL./1,000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1998 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDING NOTES

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

SEEDBED PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS
APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1,000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (4 LBS./1,000 SQ.FT.) BEFORE SEEDING HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREA/FORM FERTILIZER (4 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE (1.5 LBS./1,000 SQ.FT.) OF 10-20-20 FERTILIZER.

SEEDING
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2.3 LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS./ACRE (1.4 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY OPTION (1) - TWO TONS PER ACRE OF WELL-ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OPTION (2) - USE SOU, OPTION (3) - SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL-ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDED.

MULCHING
APPLY 1 TO 2 TONS PER ACRE (50 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES, ON SLOPES 5 FEET OR HIGHER USE 348 GALLONS PER ACRE (6 GAL./1,000 SQ.FT.) FOR ANCHORING.

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

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 (303-1655).
- ALL VEGETATIVE 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 THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 30 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1. IN 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, FOR PERMANENT SEEDING (SEC. 50), SOU (SEC. 54), 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	5.96 ACRES
AREA DISTURBED	0.20 ACRES
AREA TO BE ROOFED OR PAVED	N/A ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.20 ACRES
TOTAL CUT	330 CU.YDS.
TOTAL FILL	325 CU.YDS.
OFFSITE WASTE/BOSSHOW AREA LOCATION	N/A CU.YDS.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF 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 LITERAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

SECTION 20 : STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Using vegetation as cover for barren soil to protect it from erosion. Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

DEFINITION
Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES
This practice shall be used on denuded areas as specified on the plan and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dunes, cut and fill slopes and other areas of final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY
Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, percolation, and groundwater recharge. Vegetation over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

- SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS**
- Site Preparation**
 - Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
 - Soil Amendments (Fertilizer and Lime Specifications)**
 - Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
 - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark, and verbiage of the producer.
 - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted which contains at least 50% lime oxide) plus maximum oxide. Limestone shall be ground to such fineness that at least 50% will pass through a #20 mesh sieve and 98-100% will pass through a #20 mesh sieve.
 - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

- Seeded Preparation**
 - Temporary Seeding**
 - Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or disced smooth, but left in the rounded condition. Sloped areas greater than 3:1 should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
 - Permanent Seeding**
 - Minimum soil conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.0.
 - Soluble salts shall be less than 500 parts per million (ppm).
 - The soil shall contain less than 40% clay, but enough fine grained material (200silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if loesslike or serecia loesslike soils to be planted, then a sandy soil (30% silt plus clay) would be acceptable.
 - Soil shall contain 1% minimum organic matter by weight.
 - Soil must contain sufficient pore space to permit adequate root penetration.
 - If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 and specifications for topsoil.
 - Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface. Scarification shall be done to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
 - Apply soil amendments as per soil test or as included on the plans.
 - Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for application, where site condition will not permit small seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the surface in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

- Seed Specifications**
 - All seed must meet the requirements of the Maryland Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
 - Seed tags shall be made available to the inspector to verify type and rate of seed used.
 - Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria for the species for which the inoculant is intended. It shall be applied to the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°F (24°C) will weaken the inoculant's effectiveness.
- Methods of Seeding**
 - Hydroseeding** - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
 - If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: maximum of 100 lbs/acre total of soluble nitrogen, P205 (phosphorous); 200 lbs/acre; K2O (potassium); 200 lbs/acre.
 - Lime - use only ground agricultural limestone, (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
 - Dry Seeding** - This includes use of conventional drop or broadcast spreaders.
 - Seed spreader dry shall be incorporated into the substrate at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 266. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
 - Where directional seeding is required, seeding shall be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
 - Drill or Cultipacker Seeding** - Methods of seeding that apply and cover seed with soil.
 - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
 - Where directional seeding is required, seeding shall be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

- Mulch Specifications (in order of preference)**
 - Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
 - Wood Cellulose Fiber Mulch (WCFF)
 - WCFF shall consist of specially prepared wood cellulose processed into a uniform fibrous cellulose wite.
 - WCFF shall be dried green or contain a green dye in the package that will provide an appropriate visual indication of the uniformity of the material.
 - WCFF, including dye, shall contain no germination or growth inhibiting factors.
 - WCFF materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application having moisture absorption and wickability properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - WCFF material shall contain no elements or compounds at concentration levels that will be phytotoxic.
 - WCFF must conform to the following physical requirements: fiber length to approximately 10 mm, diameter approximately 1 mm, pH range of 4.0 to 8.5, ash content of 10% maximum and water holding capacity of 300% minimum.

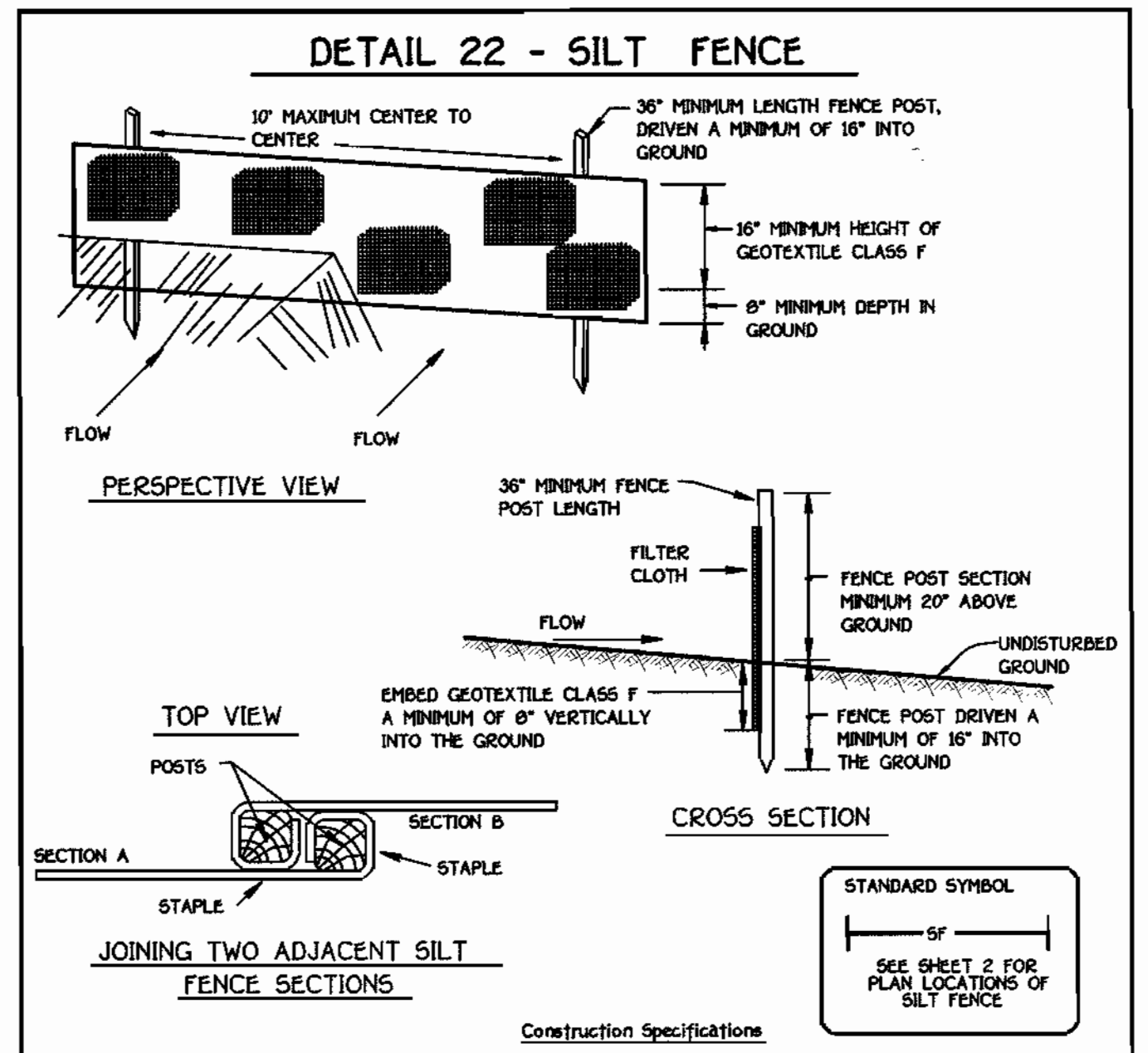
- Mulching Seeded Areas** - Mulch shall be applied to all seeded areas immediately after seeding.
 - If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
 - When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform 1" and 2" - Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
 - Wood cellulose fiber mulch shall be applied at a rate of 2.5 tons/acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
- Securing Straw Mulch (Mach Anchoring)** - Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon weather conditions:
 - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to operation on dry, firm soil. This practice should be used on the contour if possible.
 - Wood cellulose fiber mulch shall be applied with a wood cellulose fiber binder that shall be applied at a rate of 750 pounds/acre for anchor mulch. The wood cellulose fiber binder shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and should be applied more uniformly after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petro-Tack, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
 - Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

SECTION 21 : STANDARD AND SPECIFICATIONS FOR TOPSOIL

- DEFINITION** - PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.
- PURPOSE** - TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
- SPECIFICATIONS**
 - TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND.
 - TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS.
 - TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CHINCHES, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
 - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4" - AVOID SURFACE IRREGULARITIES.
 - PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN "STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION".
 - TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET CONDITIONS.
- APPLICATION**

SEQUENCE OF CONSTRUCTION

- OBTAIN THE REQUIRED GRADING PERMIT.
- NOTIFY MISS UTILITY 48 HOURS BEFORE BEGINNING ANY WORK (1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK (410)33-1870.
- INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON SHEETS 2 OF THIS CONTRACT (2 DAYS).
- CLEAR AND GROUND AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION AND INSTALLATION OF THE WATER AND SEWER MAINS, AND ONLY WITHIN THE DESIGNATED WATER, SEWER AND UTILITY EASEMENTS (1 DAY).
- NOTE: THE LENGTH OF OPEN WATER AND/OR SEWER MAIN TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE BACKFILLED AND STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS SHORTER.
- CONSTRUCT THE WATER MAINS/SEWER MAIN AND APPURTENANCES (30 DAYS).
- STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET (2 DAYS) FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS, AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES (2 DAYS).



- Fence posts shall be a minimum of 36" long driven 15" 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 100 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: MSHT 509
Tensile Modulus	2.0 lbs/in (min)	Test: MSHT 509
Flow Rate	0.3 gal ft / minute (max.) ²	Test: MSHT 322
Filtering Efficiency	75% (min)	Test: MSHT 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.

SILT FENCE

Silt Fence Design Criteria

NOTE: THESE ORIGINAL CONSTRUCTION PLANS (SHEETS 1 TO 4) WILL SUPERSEDE THE WATER AND SEWER CONSTRUCTION PLANS PREVIOUSLY APPROVED AND SIGNED BY THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION, DEPARTMENT OF PLANNING AND ZONING ON JUNE 7, 1999.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Robert J. ... Jan 19, 2000
DATE

... 1/27/00
DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL OFFICE: 6722 PINE - SUITE 1022 BALTIMORE NATIONAL FREE
ELLCOTT CITY, MARYLAND 21042
(410) 461-2895

STATE OF MARYLAND
TERRELL A. FISHER

DESIGNED BY: M.D.T.

DRAWN BY: J.C.L.

CHECKED BY: M.J.M.

DATE: JANUARY, 2000

BY NO. REVISION

NOTES AND DETAILS

600' SCALE MAP NO. 17 BLOCK NO. 8

F.C.C. WORK ORDER NO. 30581

FILE NAME: G:\30581\WATSEW\FINALS\nOTESANDDETAILS.DWG

OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'

CONTRACT NO. 24-3746-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

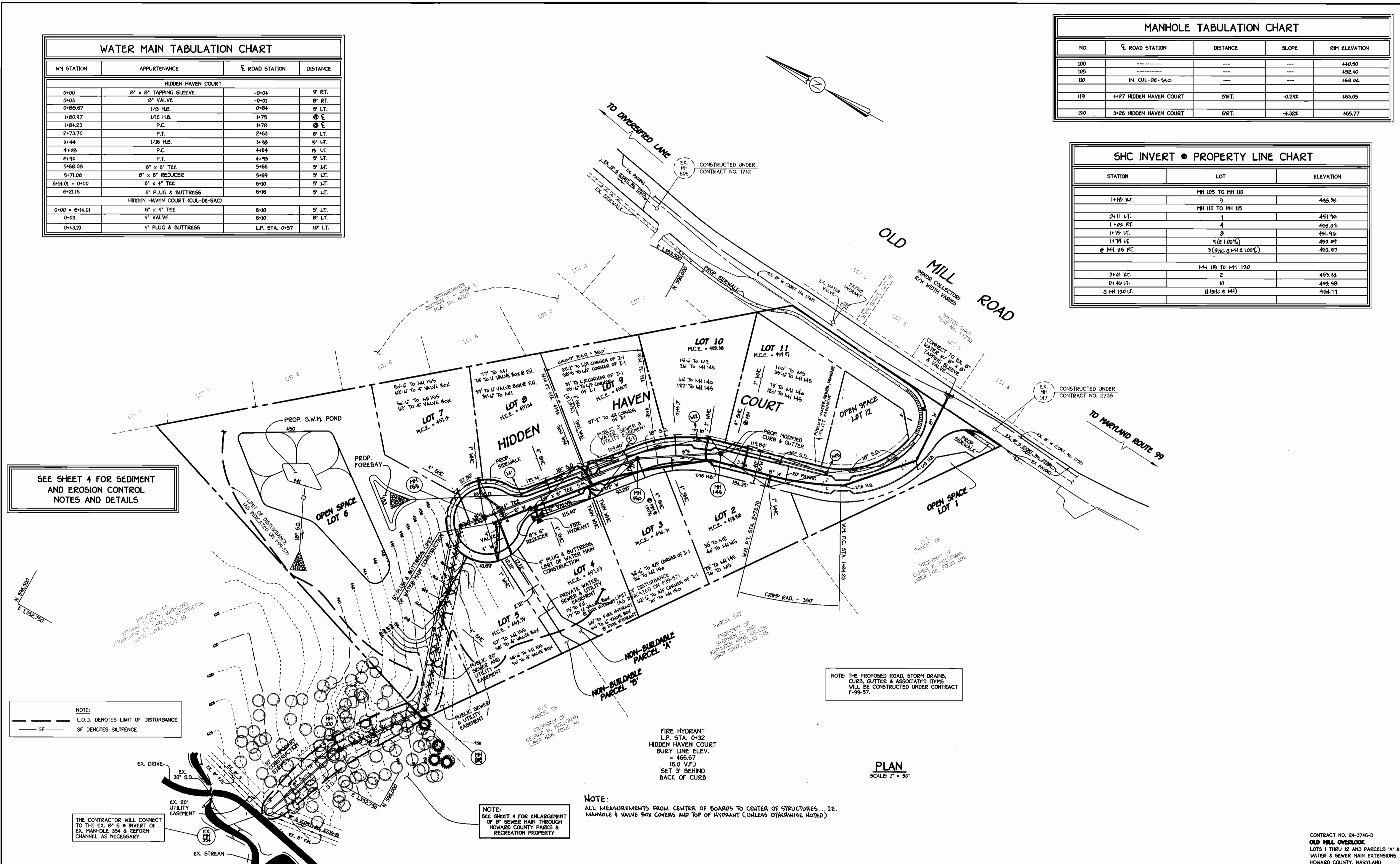
SCALE AS SHOWN

SHEET 4 OF 4

WATER MAIN TABULATION CHART			
WM STATION	APPURTENANCE	℄ ROAD STATION	DISTANCE
HIDDEN HAVEN COURT			
0+00	8" x 8" TAPPING SLEEVE	-0+04	9' RT.
0+03	8" VALVE	-0+01	8' RT.
0+08.57	1/8 H.B.	0+04	5' LT.
1+00.97	1/16 H.B.	1+75	⑦ ℄
1+04.23	P.C.	1+78	⑦ ℄
2+73.70	P.T.	2+63	6' LT.
3+44	1/16 H.B.	3+38	5' LT.
4+08	P.C.	4+04	19' LT.
4+72	P.T.	4+78	5' LT.
5+68.08	8" x 6" TEE	5+66	5' LT.
5+71.08	8" x 6" REDUCER	5+69	5' LT.
6+14.01 = 0+00	6" x 4" TEE	6+10	5' LT.
6+21.16	6" PLUG & BUTTRESS	6+16	5' LT.
HIDDEN HAVEN COURT (CUL-DE-SAC)			
0+00 = 6+14.01	6" x 4" TEE	6+10	5' LT.
0+03	4" VALVE	6+10	8' LT.
0+43.19	4" PLUG & BUTTRESS	L.P. STA. 0+57	10' LT.

MANHOLE TABULATION CHART				
NO.	℄ ROAD STATION	DISTANCE	SLOPE	RM ELEVATION
100	-----	---	---	440.50
105	-----	---	---	452.40
110	IN CUL-DE-SAC	---	---	468.04
115	4+27 HIDDEN HAVEN COURT	5' RT.	-0.24%	463.05
120	3+26 HIDDEN HAVEN COURT	6' RT.	-4.32%	465.77

SHC INVERT • PROPERTY LINE CHART		
STATION	LOT	ELEVATION
MH 105 TO MH 110		
1+18 RT.	5	448.09
MH 110 TO MH 115		
0+11 LT.	7	491.96
1+02 RT.	4	462.03
1+19 LT.	8	461.96
1+79 LT.	9 (E 1.00%)	462.07
@ MH 115 RT.	3 (SHC @ MH 100%)	462.07
MH 115 TO MH 120		
0+41 RT.	2	459.32
0+40 LT.	10	499.58
C-MH 120 LT.	11 (SHC @ MH)	464.71



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert W. Beinger
5-28-99
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

How...
10/7/99
DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

TERRELL A. FISHER

DESIGNED BY: M.D.T.
DRAWN BY: J.C.L.
CHECKED BY: M.J.M.
DATE: JANUARY 29, 1998

REVISIONS PER DEVELOPER'S COMMENTS
ADDRESS COUNTY COMMENTS

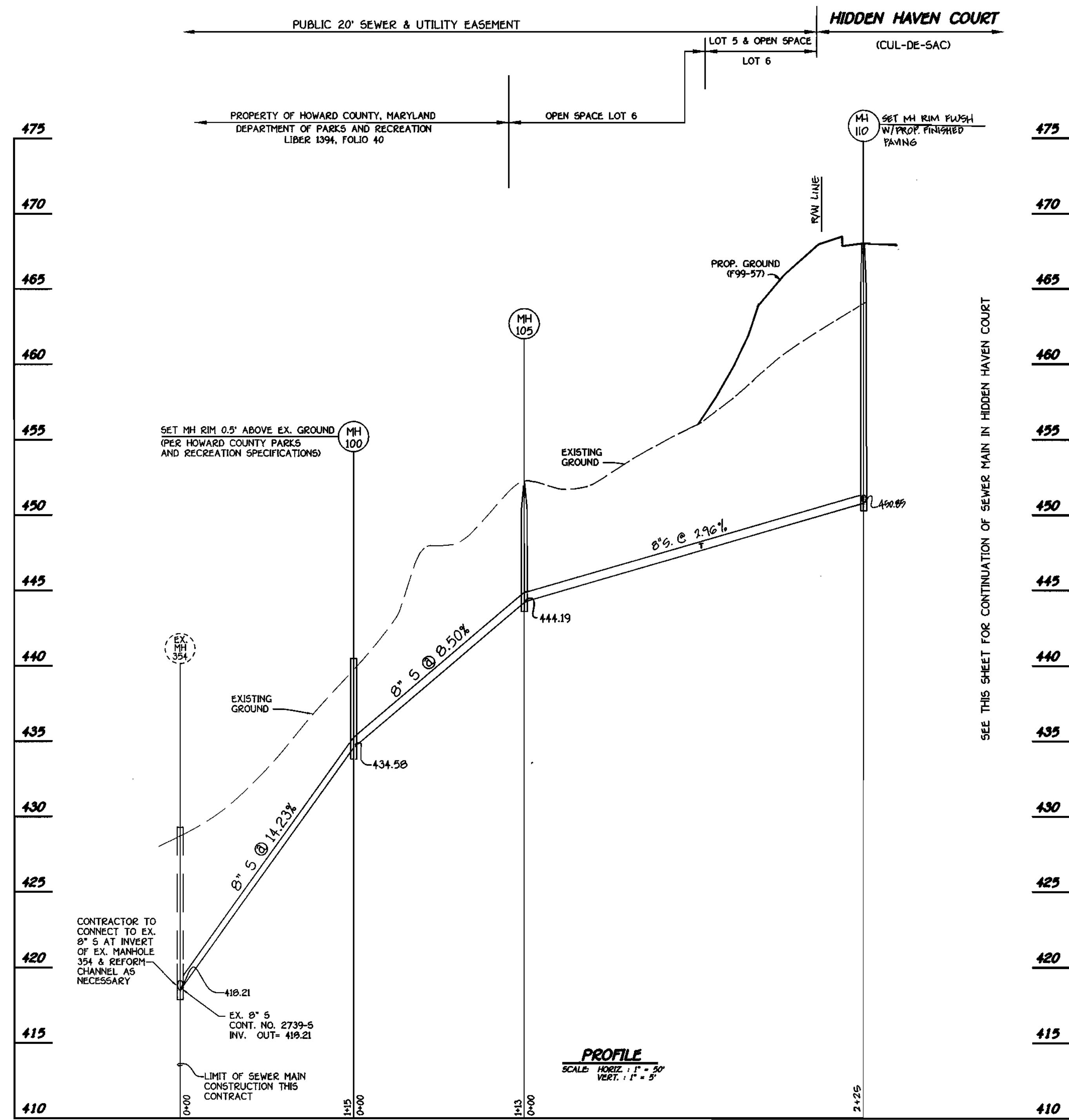
WATER AND SEWER MAINS
PLAN VIEW

600' SCALE MAP NO. 17 BLOCK NO. B
F.C.C. WORK ORDER NO. 30581
FILE NAME: G/30501/WATSEW/PLANDWG

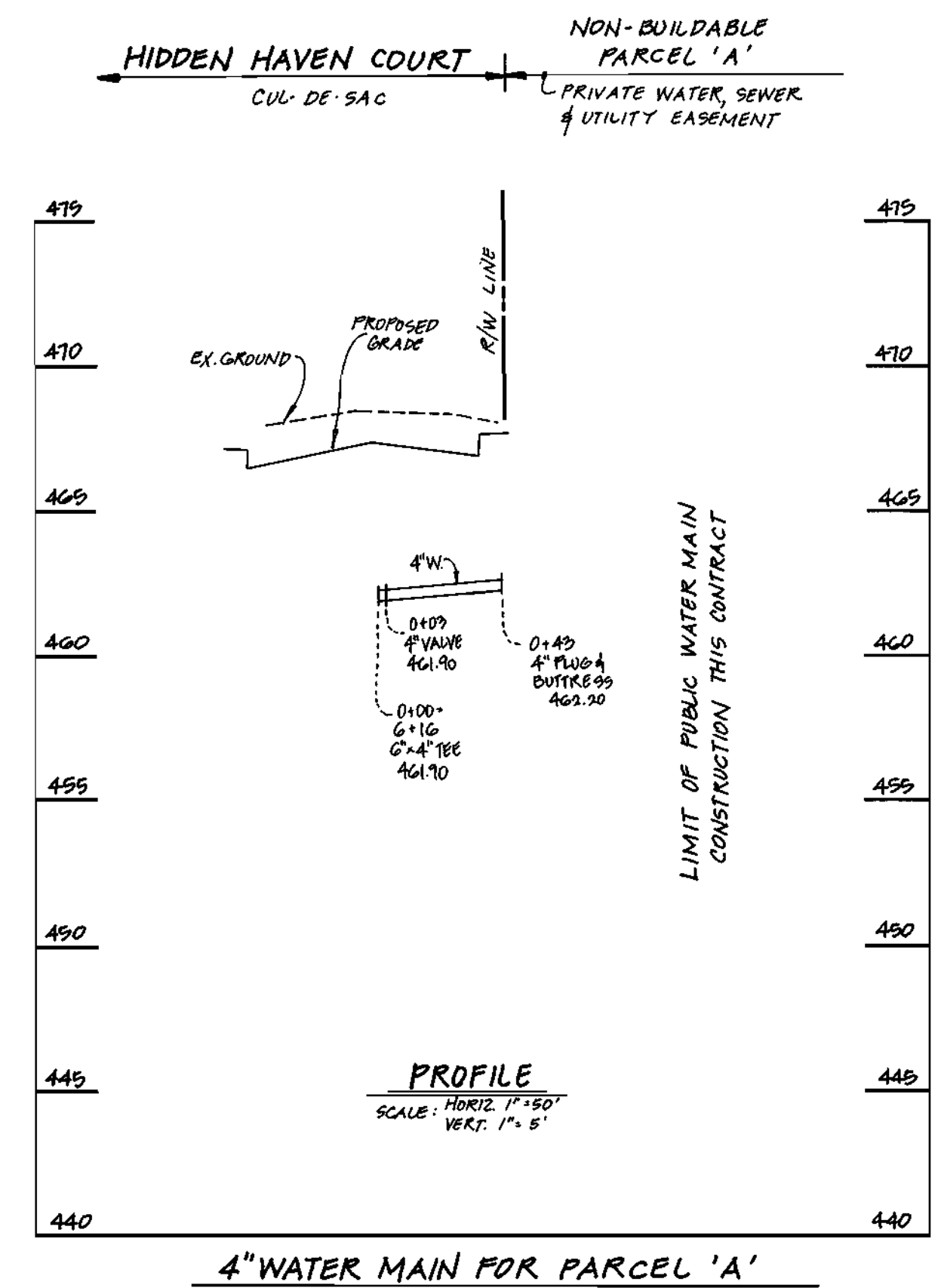
CONTRACT NO. 24-3746-D
OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
CONTRACT NO. 24-3746-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

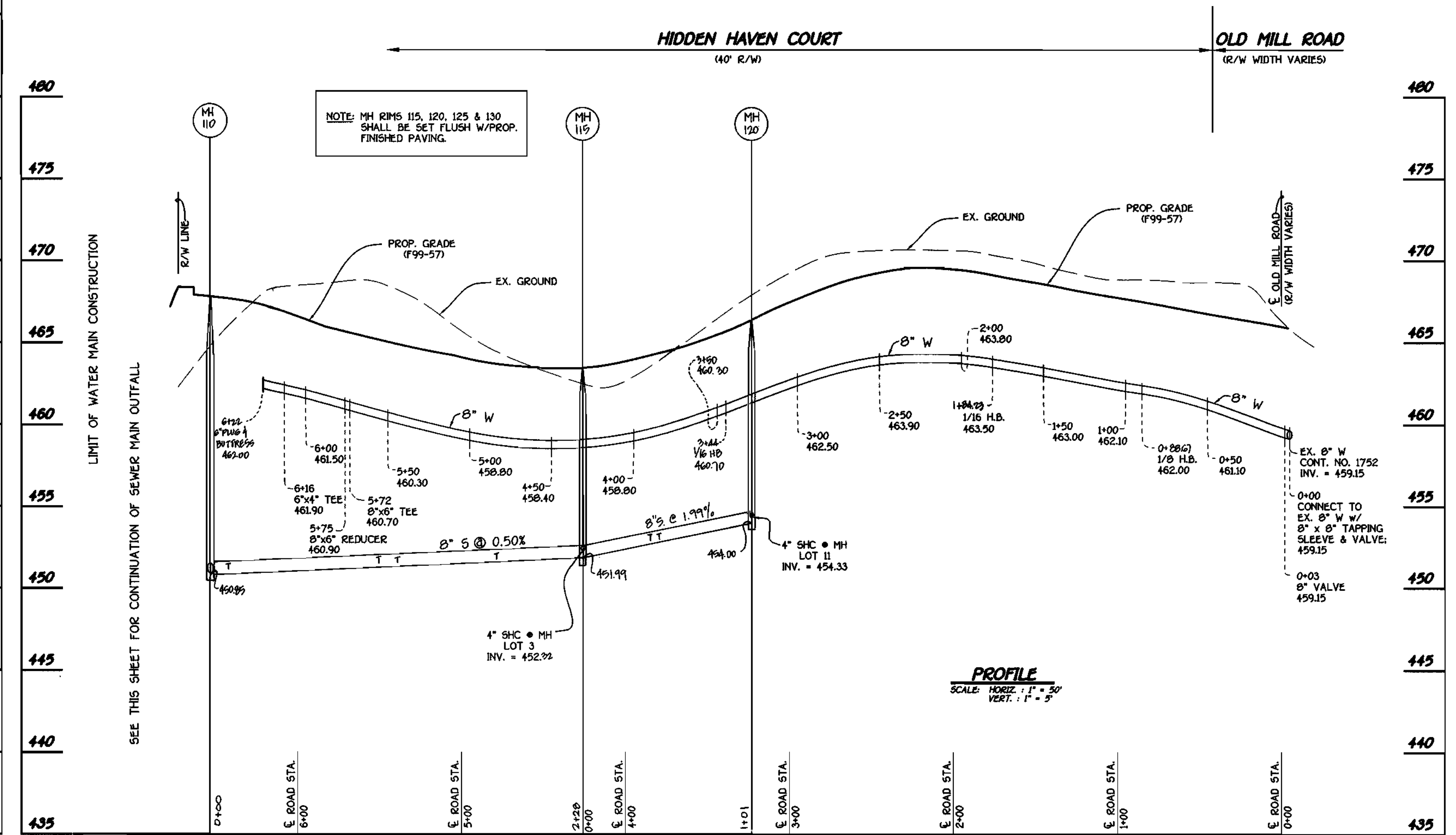
SCALE AS SHOWN
SHEET 2 OF 4



8" SEWER MAIN OUTFALL



4" WATER MAIN FOR PARCEL 'A'



8" SEWER MAIN AND 8" WATER MAIN: HIDDEN HAVEN COURT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M. Deisinger
CHIEF, BUREAU OF UTILITIES

5-28-99
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Harold J. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION

6/2/99
DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PRX
ELLESCOTT CITY, MARYLAND 21042
(410) 461-2255

Terrell A. Fisher
TERRELL A. FISHER

DESIGNED BY: M.D.T.

DRAWN BY: J.C.L.

CHECKED BY: M.J.M.

DATE: JANUARY 29, 1999

NO.	REVISION	DATE
1	REVISIONS PER DEVELOPER'S COMMENTS	4/20/99
2	ADDRESS COUNTY COMMENTS	2/24/99

WATER AND SEWER MAINS PROFILES

600' SCALE MAP NO. 17 BLOCK NO. 8

F.C.C. WORK ORDER NO. 30581

FILE NAME: G/30581/WATSEW/WATSEWPROFILES.DWG

OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'

CONTRACT NO. 24-3746-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 3 OF 4

CONTRACT NO. 24-3746-D
OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

TEMPORARY SEEDING NOTES

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

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

SOIL AMENDMENTS:
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (4 LBS./1,000 SQ.FT.)

SEEDING:
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BUSHELS PER ACRE OF ANNUAL RYE (0.2 LBS./ACRE OF WHEEPING LOVEGRASS (07 LBS./1,000 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 SOU.

MULCHING:
APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 210 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF ENHANCED ASPHALT ON FLAT AREAS ON SLOPES 3 FEET OR HIGHER, USE 340 GALLONS PER ACRE (6 GAL./1,000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1980 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDING NOTES

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

SEEDING PREPARATION:
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS:
APPLY TWO TONS PER ACRE DOLOMITE LIMESTONE (92 LBS./1,000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (4 LBS./1,000 SQ.FT.) BEFORE SEEDING HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE (0.5 LBS./1,000 SQ.FT.) OF 10-20-20 FERTILIZER.

SEEDING:
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2.3 LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS./ACRE (1.4 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND (4 LBS./1,000 SQ.FT.) OF WHEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 15 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOU. OPTION (3) - SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDING.

MULCHING:
APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF ENHANCED ASPHALT ON FLAT AREAS, ON SLOPES 3 FEET OR HIGHER, USE 340 GALLONS PER ACRE (6 GAL./1,000 SQ.FT.) FOR ANCHORING.

MAINTENANCE:
INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

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 (315-8655).
- ALL VEGETATIVE 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 THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, (b) 14 DAYS AS TO ALL OTHERS DISTURBED AREAS OR GRADES 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, FOR PERMANENT SEEDING (SEC. 20, 500 (SEC. 94), 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 PRESSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:**
TOTAL AREA OF SITE: 5.96 ACRES
AREA DISTURBED: 0.20 ACRES
AREA TO BE ROOFED OR PAVED: N/A ACRES
AREA TO BE VEGETATIVELY STABILIZED: 0.20 ACRES
TOTAL CUT: 330 CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION: N/A CU.YDS.
TOTAL FILL: 325 CU.YDS.
- 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 PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

SECTION 20 : STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Using vegetation as cover for barren soil to protect it from erosion. DEFINITION: Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources. This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are lawns, dunes, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc. and for Permanent Seeding are lawns, dunes, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY: Infiltration vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff. Infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1: VEGETATIVE STABILIZATION METHODS AND MATERIALS

- Site Preparation**
 - Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, waterways, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 - Schedule reduced soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
- Soil Amendments (Fertilizer and Lime Specifications)**
 - Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
 - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted which contains at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve) and shall be applied to the top 3-5" of soil by disking or other suitable means.
 - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
- Seeded Preparation**
 - Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

- Temporary Seeding**
 - Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

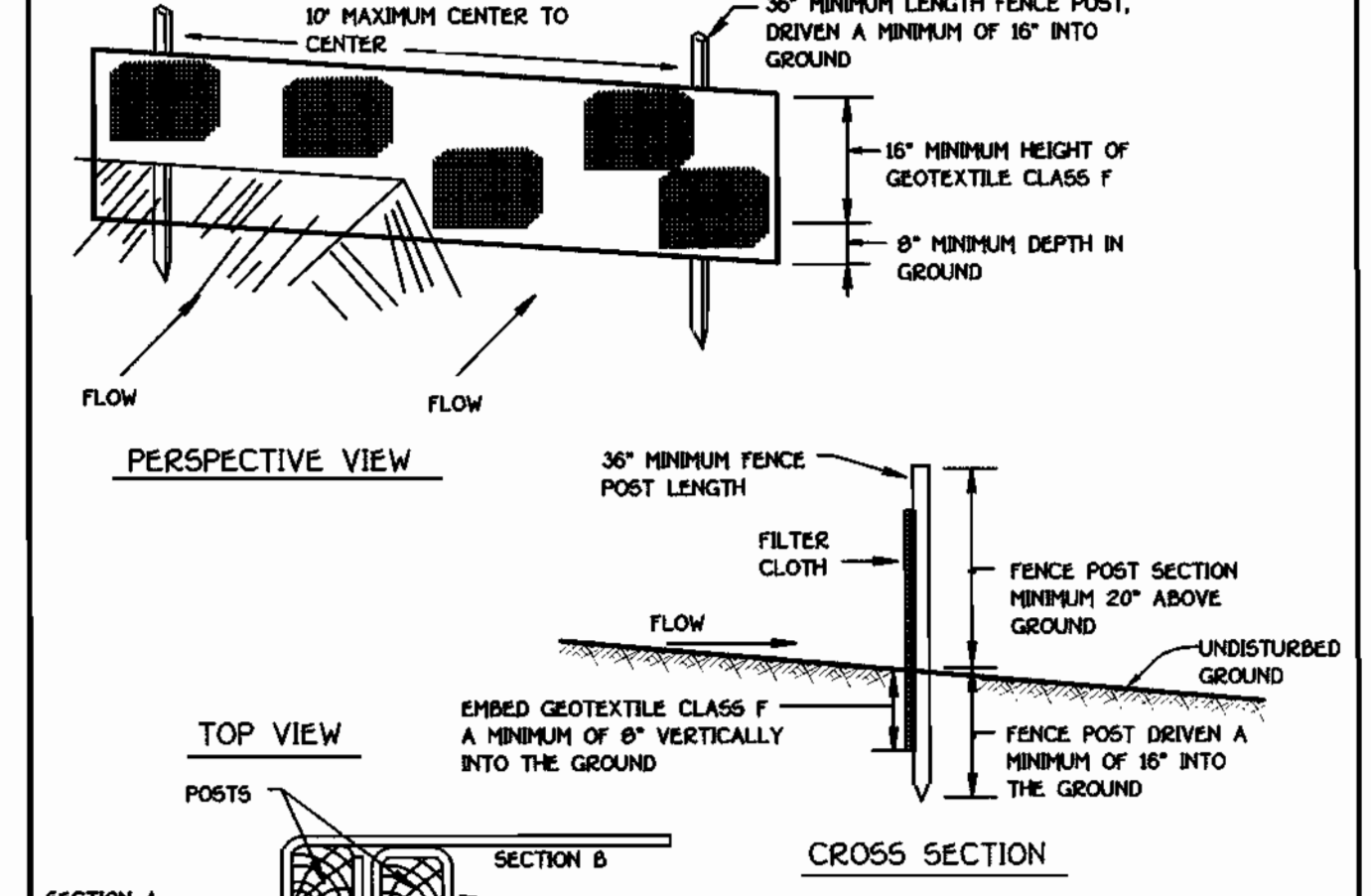
- Seed Specifications**
 - All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on the job.
 - Incubant - The incubant for testing legume seed in the seed mixtures shall be a pure culture of *Aspergillus niger* (ATCC 9142) or other suitable species. Incubants shall not be used later than the date indicated on the container. Add fresh incubant as directed on package. Use four times the amount of incubant as specified on the package. It is very important to keep incubant as cool as possible until used. Temperatures above 75-80° F. can weaken bacteria and make the incubant less effective.
- Methods of Seeding**
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
 - If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: Nitrogen maximum of 100 lbs. per acre total of soluble nitrogen. P205 (phosphorous) 200 lbs/acre; K2O (potassium) 200 lbs/acre.
 - Lime - use only ground agricultural limestone, 40 to 5 tons per acre may be applied by hydroseeding. Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
 - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - Seeding spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 266. The seeded area shall be tracked roller to provide good seed to soil contact.
 - Where practical, seed should be applied in two directions perpendicular to each other.
 - Apply half the seeding rate in each direction.
 - Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded areas shall be firm after planting.
 - Where practical, seed should be applied in two directions perpendicular to each other.
 - Apply half the seeding rate in each direction.

- Mulch Specifications (in order of preference)**
 - Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed or excessively dusty and shall be free of noxious weed seeds specified in the Maryland Seed Law.
 - Wood Cellulose Fiber Mulch (WCFF)
 - WCFF shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WCFF shall be dried green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the material.
 - WCFF, including dye, shall contain no germination or growth inhibiting factors.
 - WCFF materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a barrier-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - WCFF material shall contain no elements or compounds that will be phytotoxic.
 - WCFF must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 10% maximum and water holding capacity of 50% minimum.

- Notes:**
 - If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
 - When straw mulch is used it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
 - Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1500 lbs. per acre. The wood cellulose fiber shall be applied at a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

- Securing Straw Mulch (Mulch Anchoring):** Mulch anchoring shall be performed immediately following mulch application. This may be done by one of the following methods listed by preference, depending upon size of area and erosion hazard.
 - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
 - Wood cellulose fiber (WCFF) may be used for mulch anchoring. WCFF fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crests of banks. The remainder of area should be applied uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), A-70 (Fetropet), Terra Tack II, Terra Tack AS or other equal may be used at rates recommended by the manufacturer to anchor mulch.
 - Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

DETAIL 22 - SILT FENCE



JOINING TWO ADJACENT SILT FENCE SECTIONS

STAPLE

STANDARD SYMBOL

SEE SHEET 2 FOR PLAN LOCATIONS OF SILT FENCE.

- 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" (greater 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 100 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: MHMT 509
Tensile Modulus	20 lbs/in (min)	Test: MHMT 509
Flow Rate	0.3 gal ft / minute (max)	Test: MHMT 322
Filtering Efficiency	75% (min)	Test: MHMT 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.

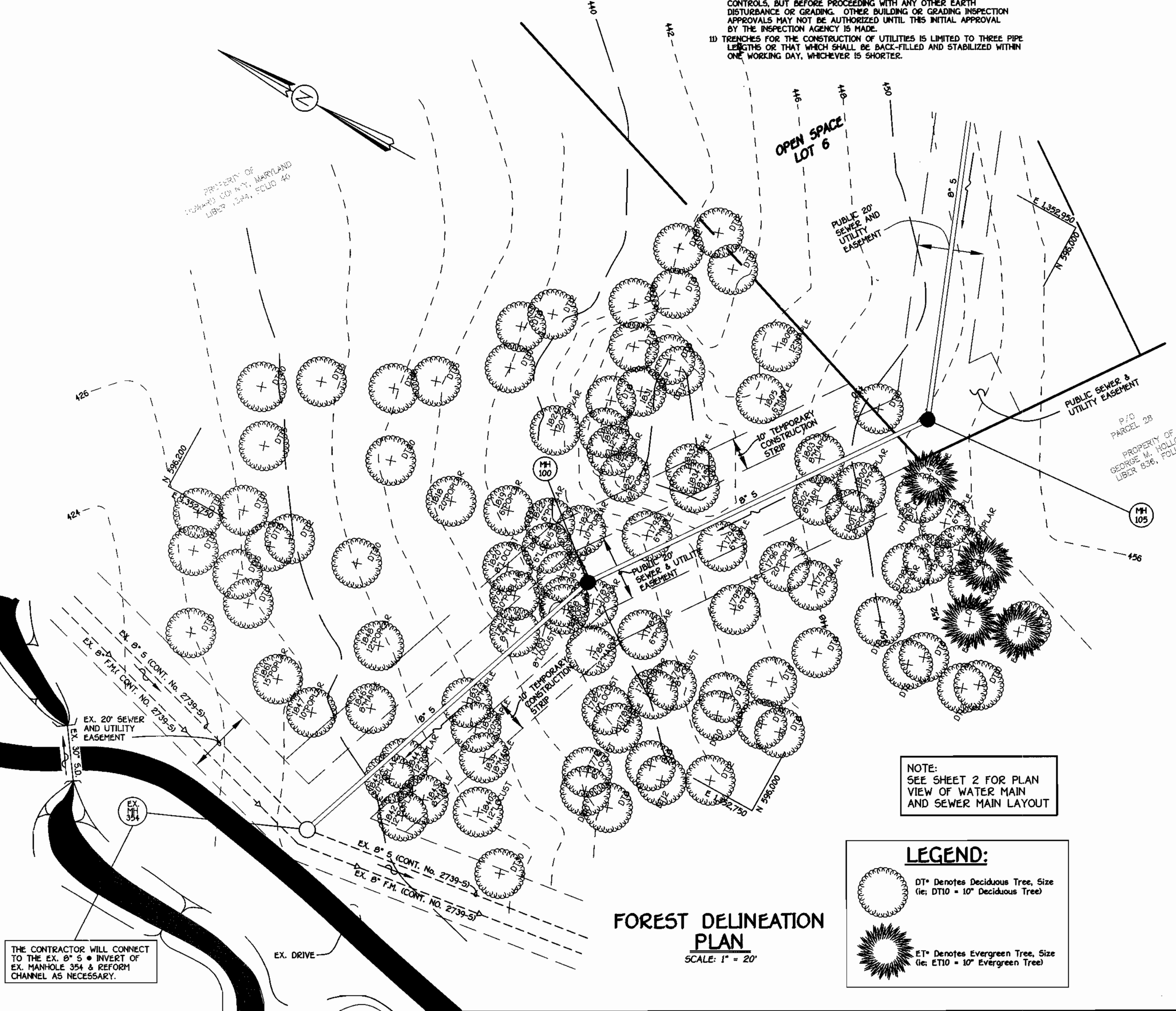
SECTION 21 : STANDARD AND SPECIFICATIONS FOR TOPSOIL

- DEFINITION:** PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.
- PURPOSE:** TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
- SPECIFICATIONS:** A TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS. C-TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERES, GRAVEL, STICKS, ROOTS, BRUSH OR OTHER MATERIALS LARGER THAN 1.5" IN DIAMETER. A-TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 6" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4"; AVOID SURFACE IRREGULARITIES. REPLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION. C-TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET CONDITIONS.

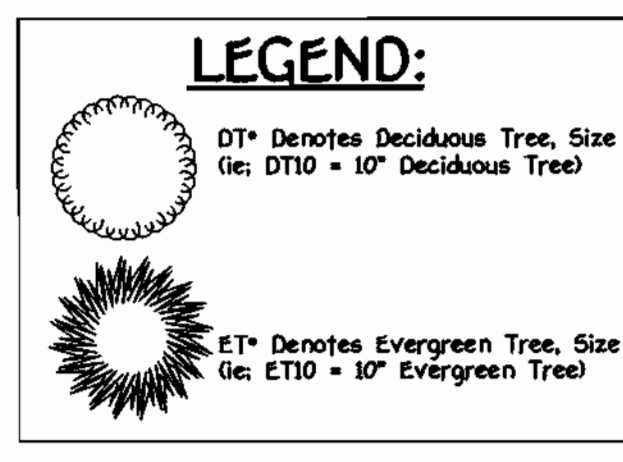
SEQUENCE OF CONSTRUCTION

- OBTAIN THE REQUIRED GRADING PERMIT.
- NOTIFY MESS UTILITY 48 HOURS BEFORE BEGINNING ANY WORK (1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK (410-313-8700).
- INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON SHEETS 2 (2 DAYS).
- CLEAR AND GRUB AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION AND INSTALLATION OF THE WATER AND SEWER MAINS AND ONLY WITHIN THE DESIGNATED WATER, SEWER AND UTILITY EASEMENTS (1 DAY).
- NOTE: THE LENGTH OF OPEN WATER AND/OR SEWER MAIN TRENCHES SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE BACKFILLED AND STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS SHORTER.
- CONSTRUCT THE WATER MAIN/SEWER MAIN AND APPURTENANCES (30 DAYS).
- STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET (2 DAYS).
- FOLLOWING SEDIMENT CONTROL, STABILIZATION OF ALL DISTURBED AREAS, AND AFTER PRESSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES (2 DAYS).

CONTRACT NO. 24-3746-D
OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
WATER & SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND



NOTE:
SEE SHEET 2 FOR PLAN VIEW OF WATER MAIN AND SEWER MAIN LAYOUT



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert Beinger
CHIEF, BUREAU OF UTILITIES

5-28-99
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Chief, Development Engineering Division

6/7/99
DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

1900 481 - 2095

DESIGNED BY: H.D.T.
DRAWN BY: J.C.L.
CHECKED BY: M.J.M.
DATE: JANUARY 29, 1999

TERRELL A. FISHER

DESIGNED BY:	DATE:	REVISIONS PER DEVELOPER'S COMMENTS	DATE:
H.D.T.	1/29/99		
J.C.L.	2/24/99		
M.J.M.			

NOTES AND DETAILS

600' SCALE MAP NO. 17 BLOCK NO. 8

F.C.C. WORK ORDER NO. 30781

FILE NAME: G:\30581\WATSEW\TRSEESCENOTESANDDETAILS.DWG

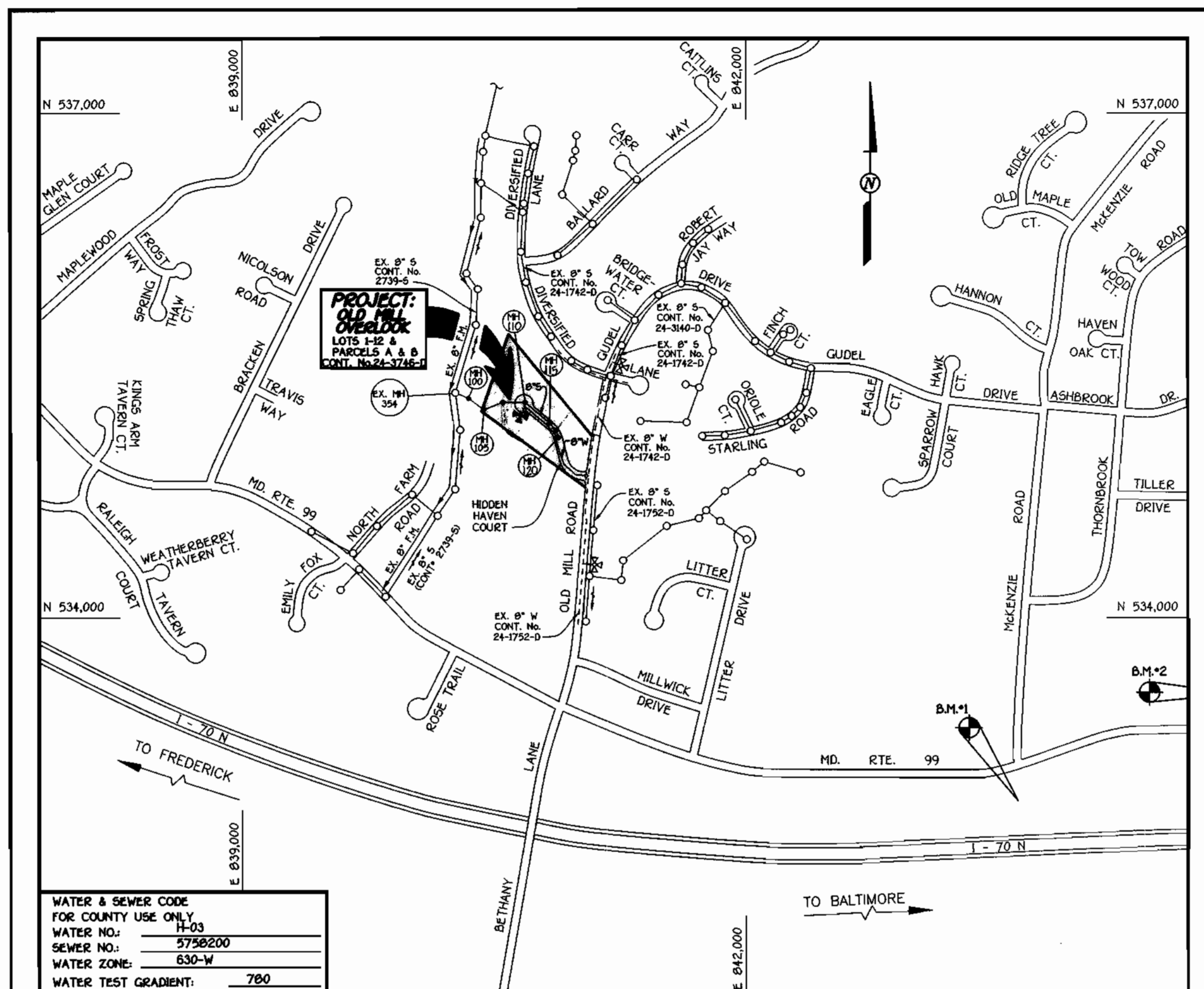
OLD MILL OVERLOOK
LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
CONTRACT NO. 24-3746-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 4 OF 4

QUANTITIES				
ITEM	ESTIMATED QUANTITIES	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
8" SEWER	782 L.F.	663 L.F.	50R 35 PVC	J-M MANUFACTURING
4" SEWER	204 L.F.	278 L.F.	50R 35 PVC	J-M MANUFACTURING
SEWER MANHOLES	5 EACH	4 EACH	A.S.T.M. C-47B	FREDERICK PRECAST
FRAME & COVER	4 EACH	4 EACH		CAPITOL FOUNDRY
8" WATER	575 L.F.	507 L.F.	CL52 D.I.P.	ATLANTIC STATES
6" WATER	47 L.F.	48 L.F.	CL52 D.I.P.	ATLANTIC STATES
4" WATER	43 L.F.	43 L.F.	CL52 D.I.P.	ATLANTIC STATES
FIRE HYDRANTS	1 EACH	1 EACH	A423 CENTURION	MUELLER CO.
1-1/2" WATER	24 L.F.	25 L.F.	TYPE 'M' COPPER	READING TUBE
1" WATER	202 L.F.	227 L.F.	TYPE 'M' COPPER	READING TUBE
8" x 8" TAPPING SLEEVE & 8" VALVE	1 EACH	1 EACH	MJ HWS RES/WEDGE	MUELLER CO.
8" x 6" REDUCER	1 EACH	1 EACH	MJ	UNION FOUNDRY
8" x 6" TEE	1 EACH	1 EACH	MJ HYDRANT	UNION FOUNDRY
6" x 4" TEE	1 EACH	1 EACH	MJ	UNION FOUNDRY
6" VALVE	1 EACH	1 EACH	RES/WEDGE	MUELLER CO.
4" VALVE	1 EACH	1 EACH	RES/WEDGE	MUELLER CO.
8" - 1/8" HB.	1 EACH	1 EACH	MJ (AS)	UNION FOUNDRY
8" - 1/16" HB.	2 EACH	2 EACH	MJ (22%)	UNION FOUNDRY
6" PLUG & BUTTRISS	1 EACH	1 EACH	MJ	UNION FOUNDRY
4" PLUG & BUTTRISS	1 EACH	1 EACH	MJ	UNION FOUNDRY

NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED
SURVEY & DRAFTING DIVISION AS-BUILT DATE:



WATER & SEWER CODE FOR COUNTY USE ONLY
 WATER NO.: H-03
 SEWER NO.: 575B200
 WATER ZONE: 630-W
 WATER TEST GRADIENT: 780

TYPE OF BUILDING: RESIDENTIAL SINGLE FAMILY DETACHED
 NUMBER OF LOTS: 14 (9 BUILDABLE)
 NO. OF WATER HOUSE CONNECTIONS: 9
 NO. OF SEWER HOUSE CONNECTIONS: 9
 DRAINAGE AREA: PATAPSCO
 TREATMENT PLANT: PATAPSCO WASTEWATER TREATMENT PLANT VIA THE ROUTE 100 PUMPING STATION

PLAN REFERENCE NUMBERS:
F-99-57

VICINITY MAP

SCALE: 1"=600'

GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6'. CLEAR ALL POLES BY 2'-0" MINIMUM.
- 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 (091 AMENDMENTS) THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL \square 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 VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION - 531-2533
 - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 850-4680
 - BALTIMORE GAS & ELECTRIC CO. - UNDER GROUND DAMAGE CONTROL - 787-9068
 - MES UTILITY - 1-800-257-7777
 - COLONIAL PIPELINE CO. - 795-1390
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO 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 THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- T.B. DENOTES TEST BORING.
- MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G 5.52.
- WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- HOUSES WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS, STANDARD DETAIL G5.51.
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED AS TO HAVE ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- ALL WATER MAINS SHALL BE D.I.P., CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TREES SHALL BE STRAPPED TO TREES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATION SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS (W11 AND W2.13). SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATIONS C-153; DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, # (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/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.

DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

SIGNATURE OF DEVELOPER _____ DATE _____

ENGINEER'S CERTIFICATION

I HEREBY 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.

James A. Fisher 3/19/99
SIGNATURE OF ENGINEER _____ DATE _____

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Cheryl Simmons 6/19/99
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: *John L. Britton* 6/13/99
HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS AND UNDER F - 99 - 57

SIGNATURE OF DEVELOPER _____ DATE _____

CONTRACT No. 24-3746-D
OLD MILL OVERLOOK
 LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

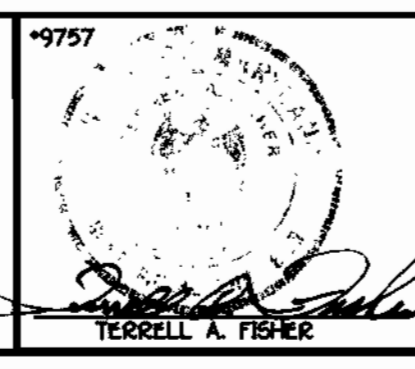
BENCHMARK INFORMATION
 B.M.#1 - HOWARD COUNTY CONTROL STATION 176B
 N 593,813.908
 E 1,355,731.852
 B.M.#2 - HOWARD COUNTY CONTROL STATION 176A
 N 594,357.629
 E 1,357,819.340

CONTRACT NO. 24-3746-D
 OLD MILL OVERLOOK
 LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
Robert M. Bainger 5-28-99
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND
John L. Britton 6/19/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CONTINENTAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FEE
 ELLICOTT CITY, MARYLAND 21114
 (410) 461 - 2855



DESIGNED BY: M.D.T.
 DRAWN BY: J.C.L.
 CHECKED BY: M.J.M.
 DATE: JANUARY 29, 1999
 BY NO. _____ REVISION _____

TITLE SHEET
 600' SCALE MAP NO. 17 BLOCK NO. 8
 F.C.C. WORK ORDER NO. 30981
 FILE NAME: G:\30581\WATSEW\1111sheet.dwg

SCALE AS SHOWN
OLD MILL OVERLOOK
 LOTS 1 THRU 12 AND PARCELS 'A' & 'B'
 CONTRACT NO. 24-3746-D
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SHEET 1 OF 4