

GENERAL NOTES:

- PART I
- 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 SHOWN ARE INVERT ELEVATIONS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MIN. OR TUNNEL AS REQUIRED. ANY COST INCURRED TO THE CONTRACTOR FOR TUNNELING OR BRACING AT POLES SHALL BE INCLUDED IN UNIT PRICES BID FOR CONSTRUCTION OF MAINS.
 - FOR DETAILS NOT SHOWN ON DRAWINGS USE HOWARD COUNTY STANDARD DETAILS.
 - FOR MATERIALS AND CONSTRUCTION METHODS USE HOWARD COUNTY STANDARD SPECIFICATIONS.
 - CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN THE VICINITY OF PROPOSED UTILITIES AT HIS OWN EXPENSE.
 - CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION: 531-5533
 - BALTIMORE GAS AND ELECTRIC CO. - UNDERGROUND ELECTRIC DISTRIBUTION (CUSTOMER SERVICE): 685-0123
 - BALTIMORE GAS AND ELECTRIC CO. - UNDERGROUND GAS DISTRIBUTION (CUSTOMER SERVICE): 685-0123
 - ENGINEERING DAMAGE CONTROL: 234-5621
 - "MISS UTILITY": (1) 559-0100
 - CHESAPEAKE AND POTOMAC (C & P) TELEPHONE COMPANY: 725-9976
 - AMERICAN TELEPHONE AND TELEGRAPH - CABLE LOCATION DIV.: 393-3553
 - COLONIAL PIPELINE COMPANY: 795-1230
 - BUREAU OF UTILITIES HOWARD COUNTY: 992-2366
 - TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EXCAVATION AND BACKFILL.
 - PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.

- PART II
- ALL WATER MAINS SHALL BE D. I. H. L. 12" OR 18" UNLESS OTHERWISE NOTED.
 - TOP OF ALL WATER MAINS TO HAVE A MINIMUM OF 3/2" COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - BLOCK ALL FITTINGS WITH CONCRETE.
 - BURY LINE ELEVATIONS ON FIRE HYDRANTS SHALL BE SET TO THE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT TO BE COMPACTED IN ACCORDANCE WITH SECT. 1003 & 1008 OF THE STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING SYSTEM.
 - ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH ANNA SPECIFICATION C-152 DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.

- PART III
- ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., V.C.P.X., A.C.P. CLASS 2400 OR P.V.C. UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
 - ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
 - MANHOLES SHOWN WITH 12" AND 16" WALLS ARE BRICK MANHOLES ONLY.
 - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, 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 DRAWINGS.

TEMPORARY SEEDING

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED UNDER 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 (14 LBS./1000 SQ. FT.)

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ. FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ. FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOO.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDING

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

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

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ. FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ. FT.) BEFORE SEEDING. BARRON 3X DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ. FT.).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ. FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ. FT.) BEFORE SEEDING. BARRON 3X DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE 1 1/4 OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 80 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 LBS./1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOO. OPTION (3) SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT. OR HIGHER, USE 348 GALS. PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

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

FALLING WATERS

DEPARTMENT OF PUBLIC WORKS

6th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

CONTRACT NO 34-1758-D

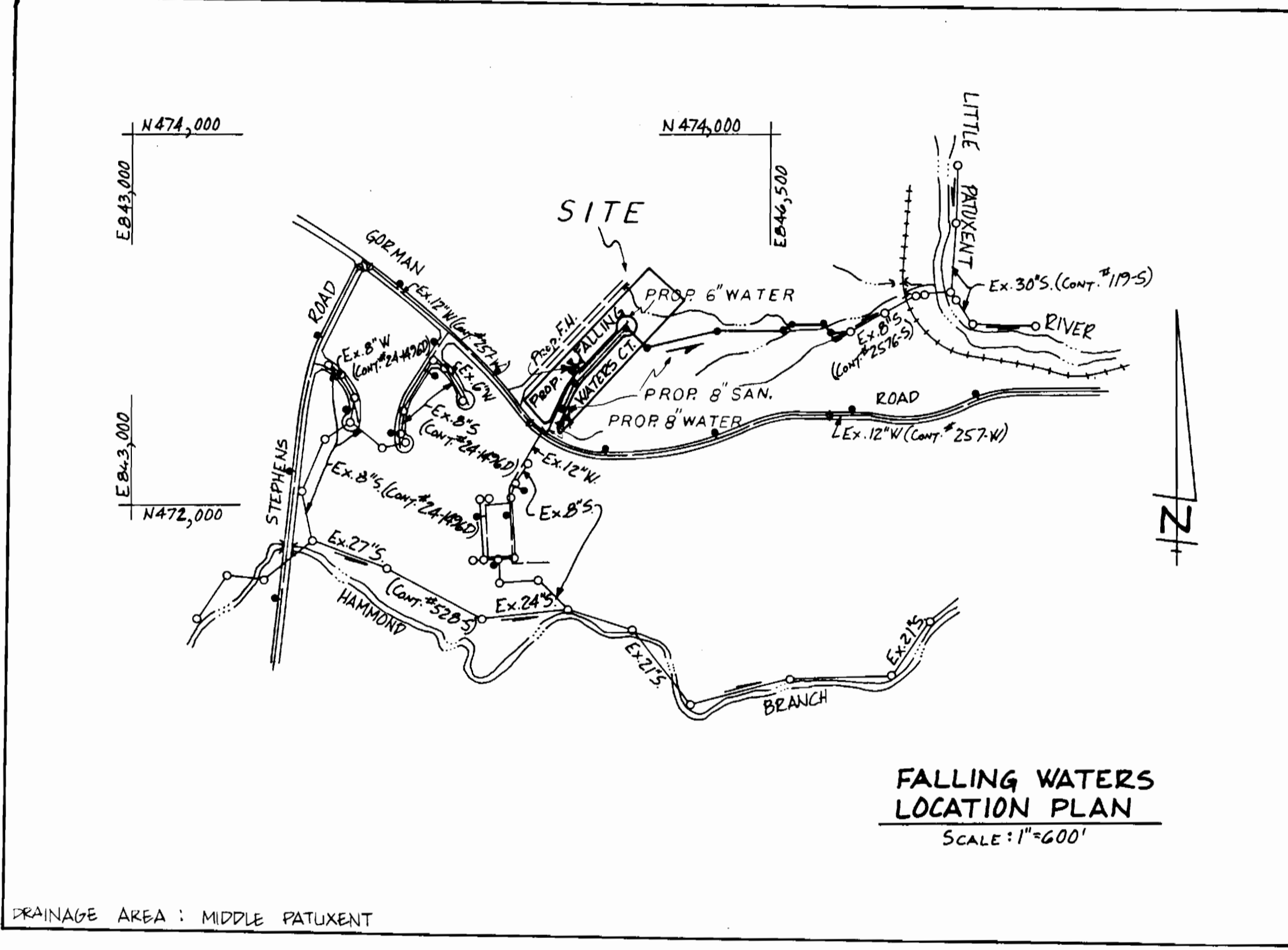
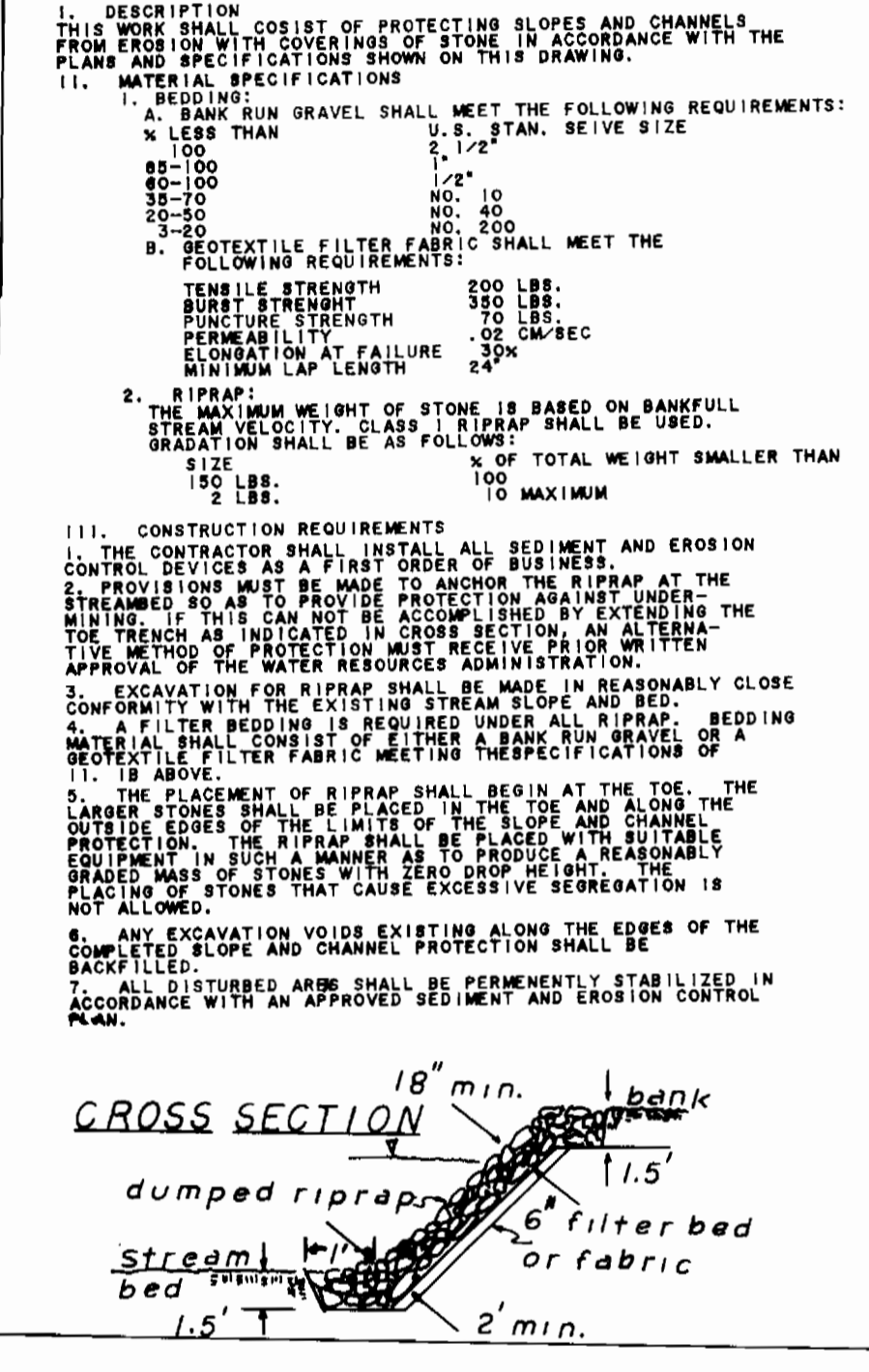
BENCH MARK - P.H.R. & A. #22
60' d NAIL IN CMP POLE # 24 NORTH SIDE OF GORMAN ROAD
18' LEFT OF STA. 11+40 ELEVATION - 302.16

TYPE OF BUILDING	SINGLE FAMILY
NUMBER OF LOTS	18
NUMBER OF S.H.C.'S	18
NUMBER OF W.H.C.'S	18
DRAINAGE AREA	PATUENT
SEWER CODE	6100000
WATER CODE	C03

QUANTITIES

ITEM	UNIT	ESTIMATED	AS-BUILT	MATERIAL/SUPPLIER
8" Water	1.f.	745		
6" Water	1.f.	20		
12" x 8" Tap, Slv. & Valve	Each	1		
8" x 6" Tee	Each	1	2	
Fire Hydrant Incl. valve	Each	2		
Reducing Tee 8" x 6" x 6"	Each	1		
1" House Conn.	1.f.	160		
3/4" House Conn.	1.f.	201		
6" Cap	Each	1		
3" Blowoff	Each	1		
Manholes incl. frames & covers	Each	9		
8" Sanitary Sewer	1.f.	1,957		
8" x 6" Wyes	Each	2		
San. Drop Conn. Incl. V's & Bends	1.f.	30		
6" Sanitary House Connection	1.f.	412		
8" Plug	Each	1		
Test Pit	Each	1		
4" Water	1.f.	27		

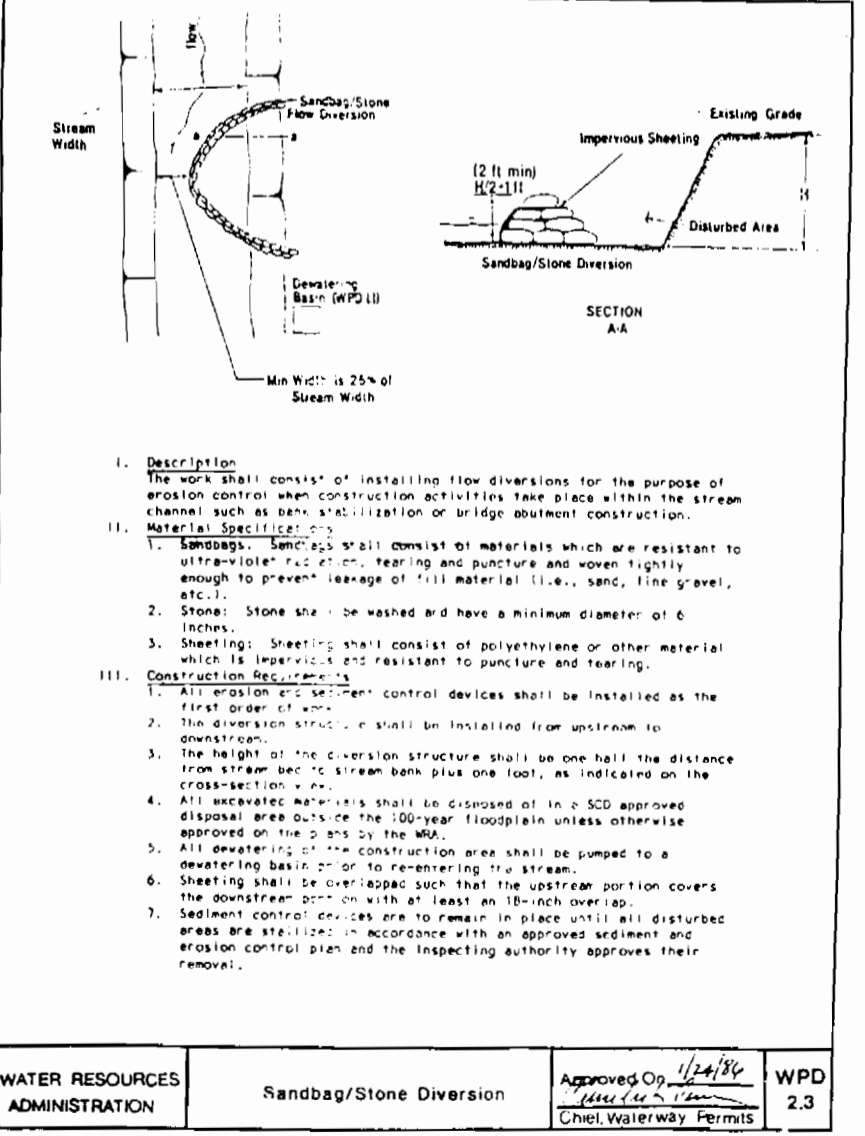
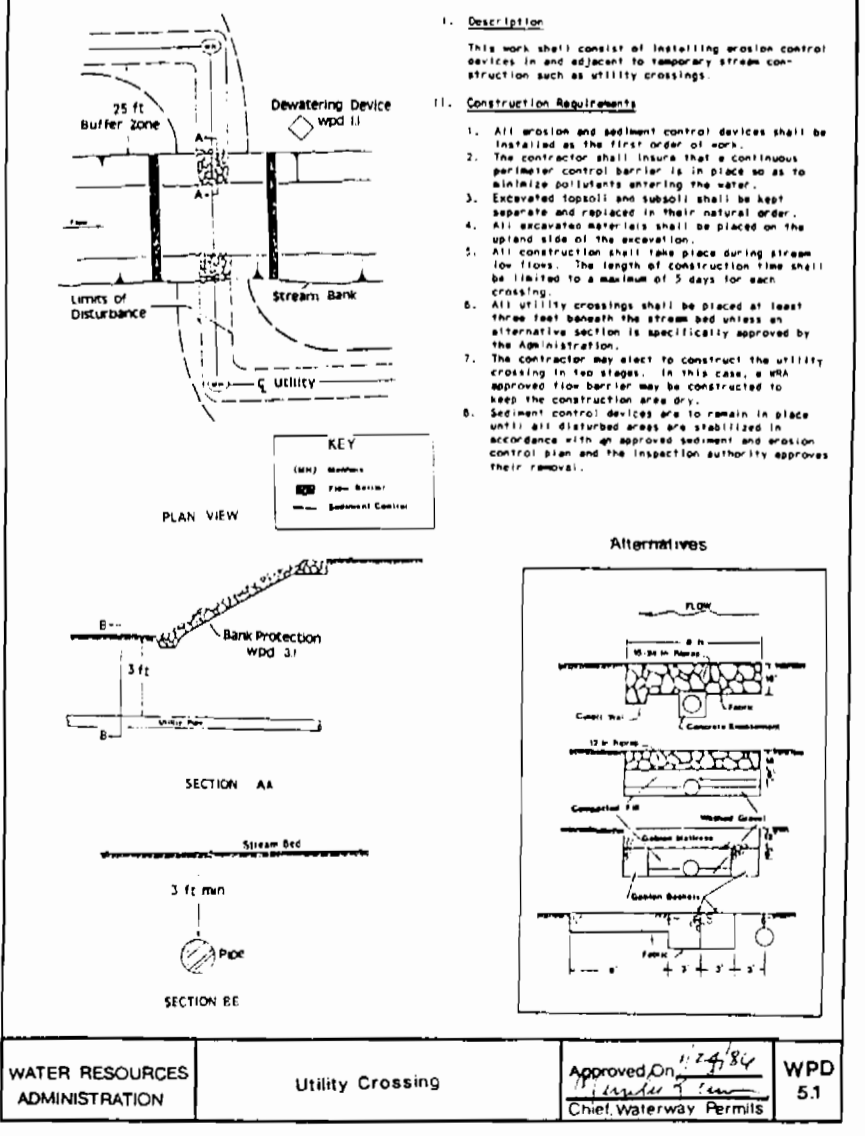
RIPRAP DETAIL



SEDIMENT CONTROL FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND THE STANDARD SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS, AND ALSO AS SHOWN ON FINAL PLANS F-88-208.

INDEX OF SHEETS

SHEET NO.	DISCRIPTION
1	TITLE SHEET
2	ON SITE WATER & SEWER
3	OFF SITE SEWER



REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT

James McNeil 7-29-88
Signature Date
U.S. SOIL CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT

Approved: *Stephen S. Fisher* 7/29/88
Signature Date
HOWARD S.C.D.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James McNeil 6/1/88
DIRECTOR OF PUBLIC WORKS - DATE

Robert S. Smith 7/22/88
CHIEF - BUREAU OF UTILITIES - DATE

THE ARUNDEL CORPORATION
ARUNDEL CORPORATE CENTER, SUITE 100
110 WEST RD. TOWSON MD 21204
(301) 296-6400
LAND PLANNERS, LAND SURVEYORS, CIVIL ENG.

C. Robert Shinham 7/12/88
Signature Date
C. ROBERT SHINHAM

DES.	DRN.	CHK.	DATE	BY	NO.	REVISION	DATE
M.T.Y.	M.T.Y.	C.R.S.	7-4-88				

TITLE SHEET

FALLING WATERS

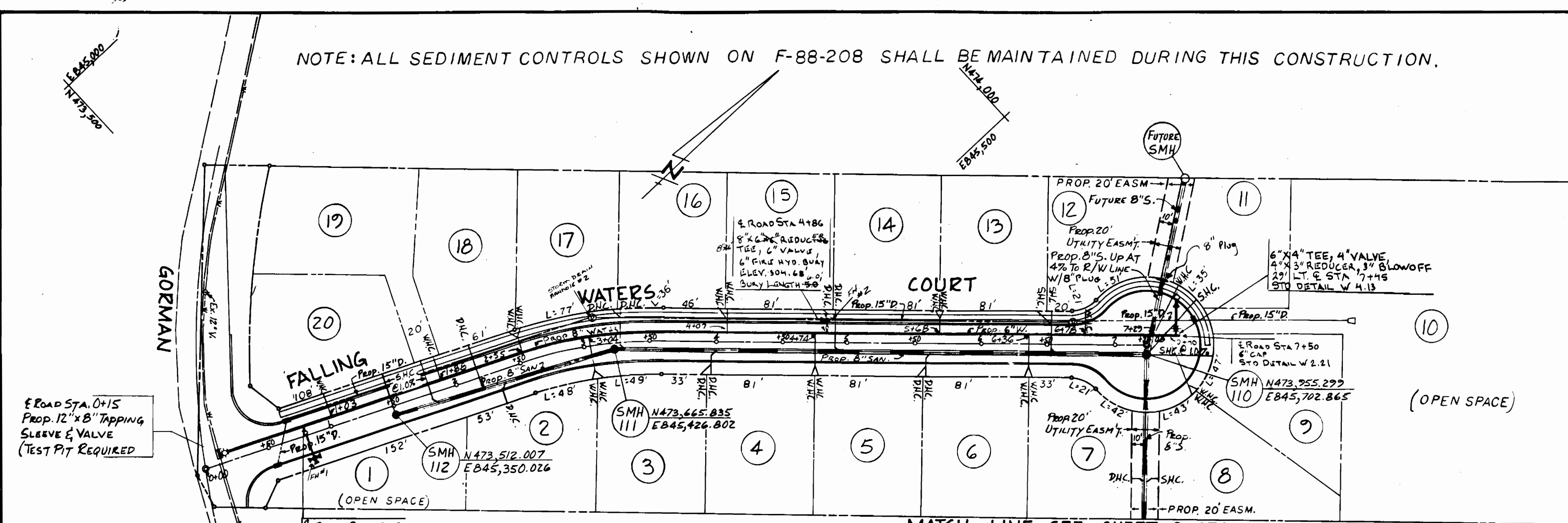
CONTRACT 34-1758-D

6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 2

NOTE: ALL SEDIMENT CONTROLS SHOWN ON F-88-208 SHALL BE MAINTAINED DURING THIS CONSTRUCTION.

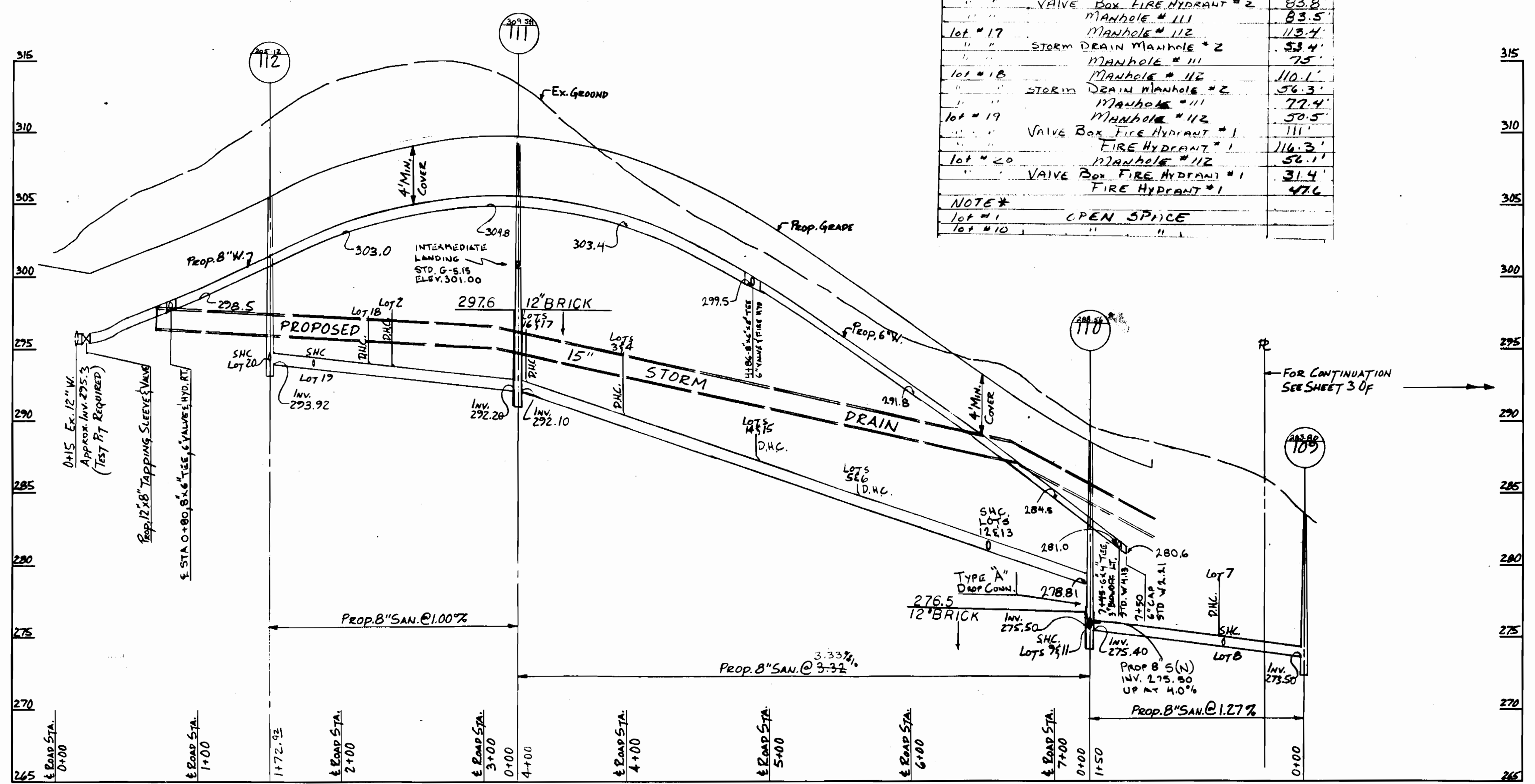


WATER AS-BUILT		SEWER HOUSE CONNECTION	
LOT #	DESCRIPTION	LOT NUMBER	PROF. STATION
Lot # 2	Manhole # 112	2	0+90
Lot # 3	Manhole # 111	3	3+30
Lot # 4	Manhole # 111	4	1+64
Lot # 5	Manhole # 111	5	0+72
Lot # 6	Manhole # 110	6	0+00
Lot # 7	Manhole # 110	7	0+72
Lot # 8	Manhole # 110	8	0+00
Lot # 9	Manhole # 110	9	0+72
Lot # 10	Manhole # 110	10	0+00
Lot # 11	Manhole # 110	11	0+72
Lot # 12	Manhole # 110	12	0+00
Lot # 13	Manhole # 110	13	0+72
Lot # 14	Manhole # 110	14	0+00
Lot # 15	Manhole # 110	15	0+72
Lot # 16	Manhole # 110	16	0+00
Lot # 17	Manhole # 110	17	0+72
Lot # 18	Manhole # 110	18	0+00
Lot # 19	Manhole # 110	19	0+72
Lot # 20	Manhole # 110	20	0+00

LOT #	DESCRIPTION	ELEVATION
Lot # 2	Manhole # 112	86.5'
Lot # 3	Manhole # 111	67.3'
Lot # 4	Manhole # 111	72.4'
Lot # 5	Manhole # 110	172.2'
Lot # 6	Manhole # 110	166.5'
Lot # 7	Manhole # 110	89.1'
Lot # 8	Manhole # 110	71.0'
Lot # 9	Manhole # 110	55.9'
Lot # 10	Manhole # 110	46.0'
Lot # 11	Manhole # 110	61.5'
Lot # 12	Manhole # 110	51.0'
Lot # 13	Manhole # 110	89.7'
Lot # 14	Manhole # 111	169.5'
Lot # 15	Manhole # 111	25.0'
Lot # 16	Manhole # 111	31.8'
Lot # 17	Manhole # 111	31.6'
Lot # 18	Manhole # 112	76.1'
Lot # 19	Manhole # 112	43.8'
Lot # 20	Manhole # 112	37.8'

SCALE: 1"=50'

MATCH LINE SEE SHEET 3 OF 3

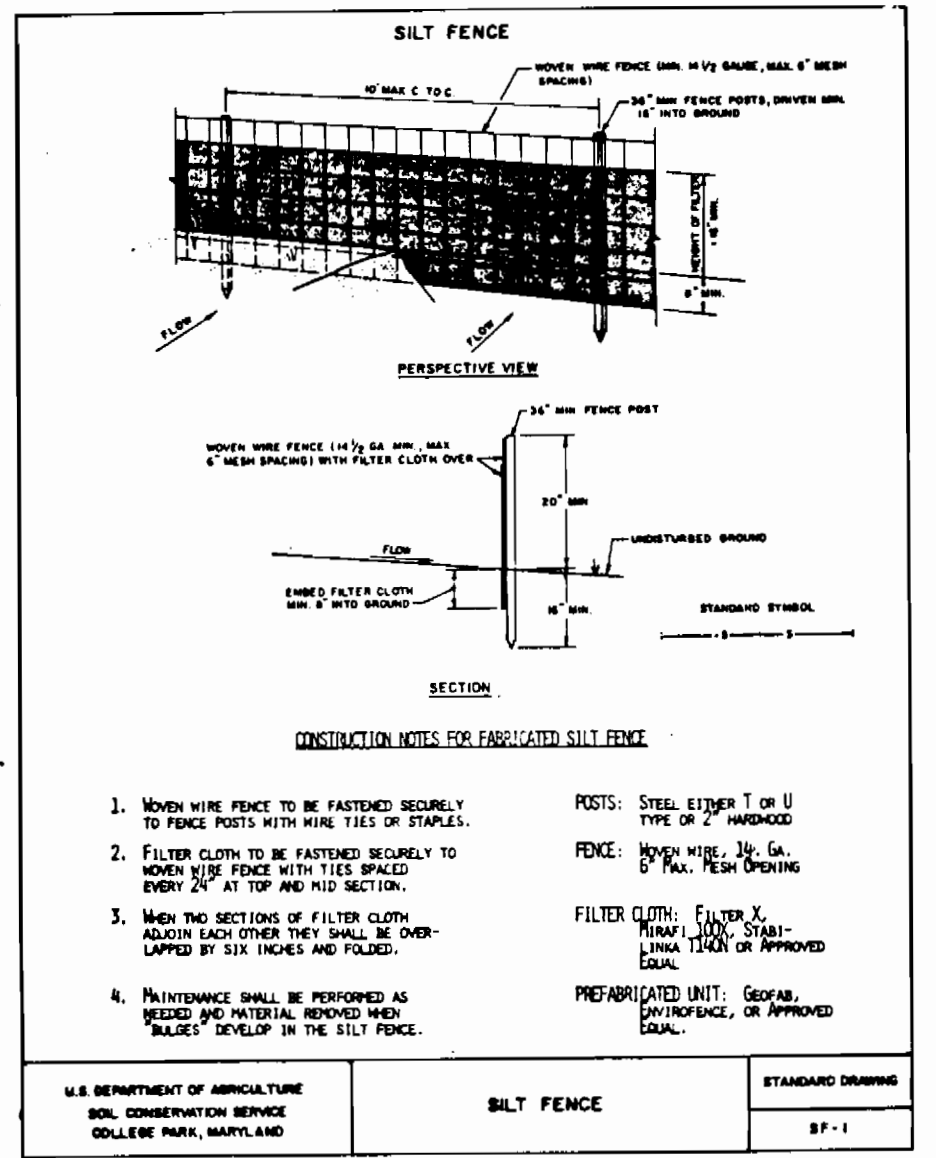


P.V.C. S.D.R. 35 ENCASED IN GRAVEL, CLASS 3300 A.C.P., D.I.P. CLASS 52
 MANHOLE WALL TO MANHOLE WALL OR LOW CRADLE V.C.R.X. OR
 C.S.R.X. WITHIN THE LIMITS SHOWN.

SCALES: HOR-1"=50'
 VER-1"=5'

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director: James J. ... Chief - Bureau of Utilities: ...	THE ARUNDEL CORPORATION ARUNDEL CORPORATE CENTER, SUITE 100 110 WEST RD. TOWNSON MD 21204 (301) 296-6400 LAND PLANNERS, LAND SURVEYORS, CIVIL ENG.	STATE OF MARYLAND ROBERT SHINHAM 7/18/88	DES: C.R.S. DRN: M.T.Y. CHK: C.R.S. DATE: 2-4-88	WATER & SEWER	FALLING WATERS CONTRACT 34-1758-D 6th. ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 2 OF 3
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SEE SHEET NO. 1 FOR DETAIL OF
SEDIMENT CONTROL FOR UTILITY CROSSING



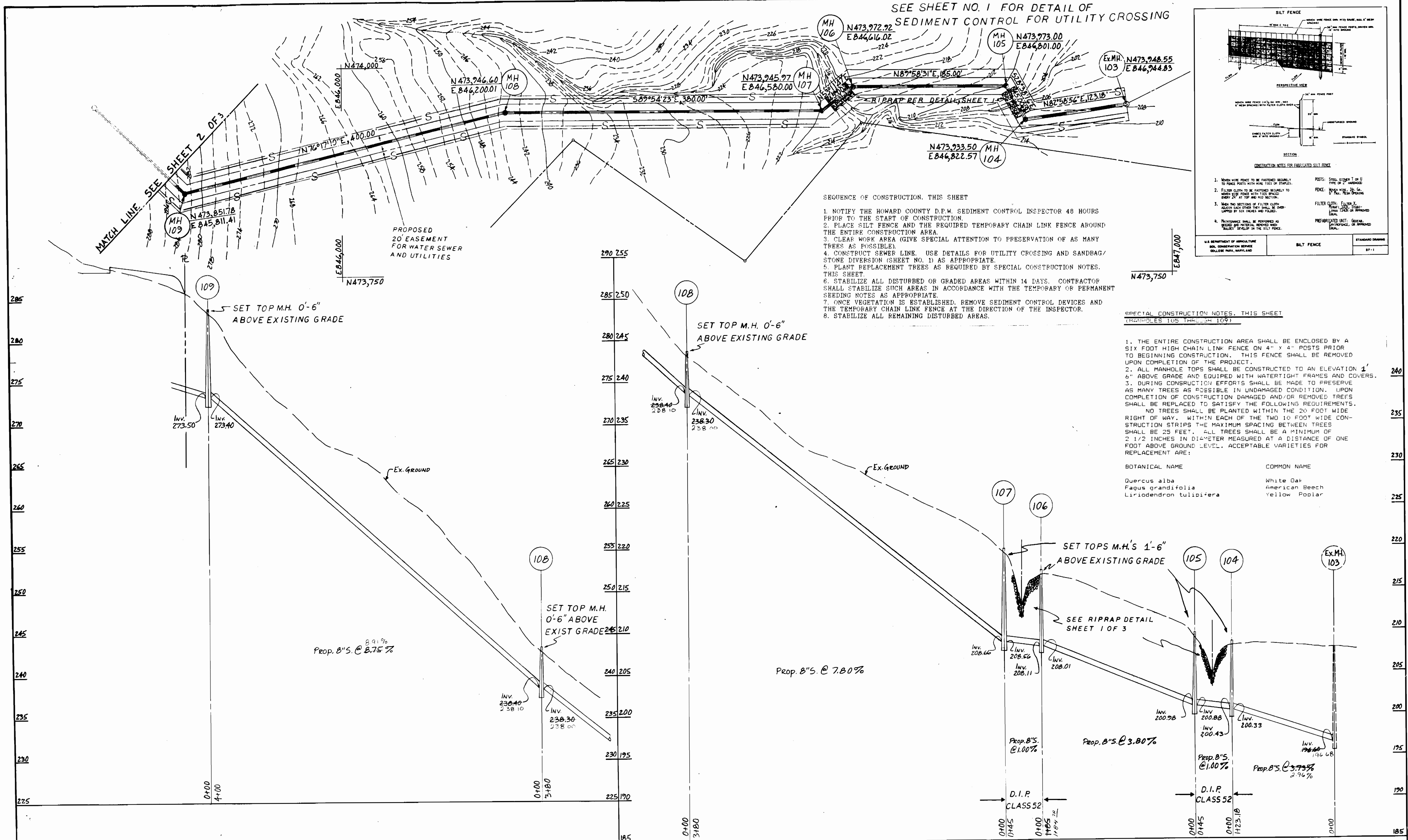
SEQUENCE OF CONSTRUCTION. THIS SHEET

1. NOTIFY THE HOWARD COUNTY D.E.W. SEDIMENT CONTROL INSPECTOR 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
2. PLACE SILT FENCE AND THE REQUIRED TEMPORARY CHAIN LINK FENCE AROUND THE ENTIRE CONSTRUCTION AREA.
3. CLEAR WORK AREA (GIVE SPECIAL ATTENTION TO PRESERVATION OF AS MANY TREES AS POSSIBLE).
4. CONSTRUCT SEWER LINE. USE DETAILS FOR UTILITY CROSSING AND SANDBAG/STONE DIVERSION (SHEET NO. 1) AS APPROPRIATE.
5. PLANT REPLACEMENT TREES AS REQUIRED BY SPECIAL CONSTRUCTION NOTES. THIS SHEET.
6. STABILIZE ALL DISTURBED OR GRADED AREAS WITHIN 14 DAYS. CONTRACTOR SHALL STABILIZE SUCH AREAS IN ACCORDANCE WITH THE TEMPORARY OR PERMANENT SEEDING NOTES AS APPROPRIATE.
7. ONCE VEGETATION IS ESTABLISHED, REMOVE SEDIMENT CONTROL DEVICES AND THE TEMPORARY CHAIN LINK FENCE AT THE DIRECTION OF THE INSPECTOR.
8. STABILIZE ALL REMAINING DISTURBED AREAS.

SPECIAL CONSTRUCTION NOTES. THIS SHEET
(MANHOLES 105 THROUGH 109)

1. THE ENTIRE CONSTRUCTION AREA SHALL BE ENCLOSED BY A SIX FOOT HIGH CHAIN LINK FENCE ON 4" X 4" POSTS PRIOR TO BEGINNING CONSTRUCTION. THIS FENCE SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
2. ALL MANHOLE TOPS SHALL BE CONSTRUCTED TO AN ELEVATION 1' ABOVE GRADE AND EQUIPPED WITH WATERTIGHT FRAMES AND COVERS.
3. DURING CONSTRUCTION EFFORTS SHALL BE MADE TO PRESERVE AS MANY TREES AS POSSIBLE IN UNDAUNTED CONDITION. UPON COMPLETION OF CONSTRUCTION DAMAGED AND/OR REMOVED TREES SHALL BE REPLACED TO SATISFY THE FOLLOWING REQUIREMENTS:
NO TREES SHALL BE PLANTED WITHIN THE 20 FOOT WIDE RIGHT OF WAY. WITHIN EACH OF THE TWO 10 FOOT WIDE CONSTRUCTION STRIPS THE MAXIMUM SPACING BETWEEN TREES SHALL BE 25 FEET. ALL TREES SHALL BE A MINIMUM OF 2 1/2 INCHES IN DIAMETER MEASURED AT A DISTANCE OF ONE FOOT ABOVE GROUND LEVEL. ACCEPTABLE VARIETIES FOR REPLACEMENT ARE:

BOTANICAL NAME	COMMON NAME
Quercus alba	White Oak
Fagus grandifolia	American Beech
Liriodendron tulipifera	Yellow Poplar



DUCTILE IRON PIPE BETWEEN MANHOLES
104 AND 105 AND BETWEEN 106 AND 107
PER HO. CO. STD. S.311

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James W. Sikes
DIRECTOR OF PUBLIC WORKS — DATE

Robert Shinham
CHIEF - BUREAU OF UTILITIES — DATE

THE ARUNDEL CORPORATION
ARUNDEL CORPORATE CENTER, SUITE 100
110 WEST RD. TOWSON MD 21204
(301) 296-6400
LAND PLANNERS, LAND SURVEYORS, CIVIL ENG.

STATE OF MARYLAND
ROBERT SHINHAM
DATE 7/18/88

DES: M.T.Y.					
DRN: M.T.Y.					
CHK: C.R.S.					
DATE: 10-21-87	BY: NO.	REVISION	DATE		

OFF SITE SEWER

FALLING WATERS
CONTRACT 34-1758-D
6th. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 3