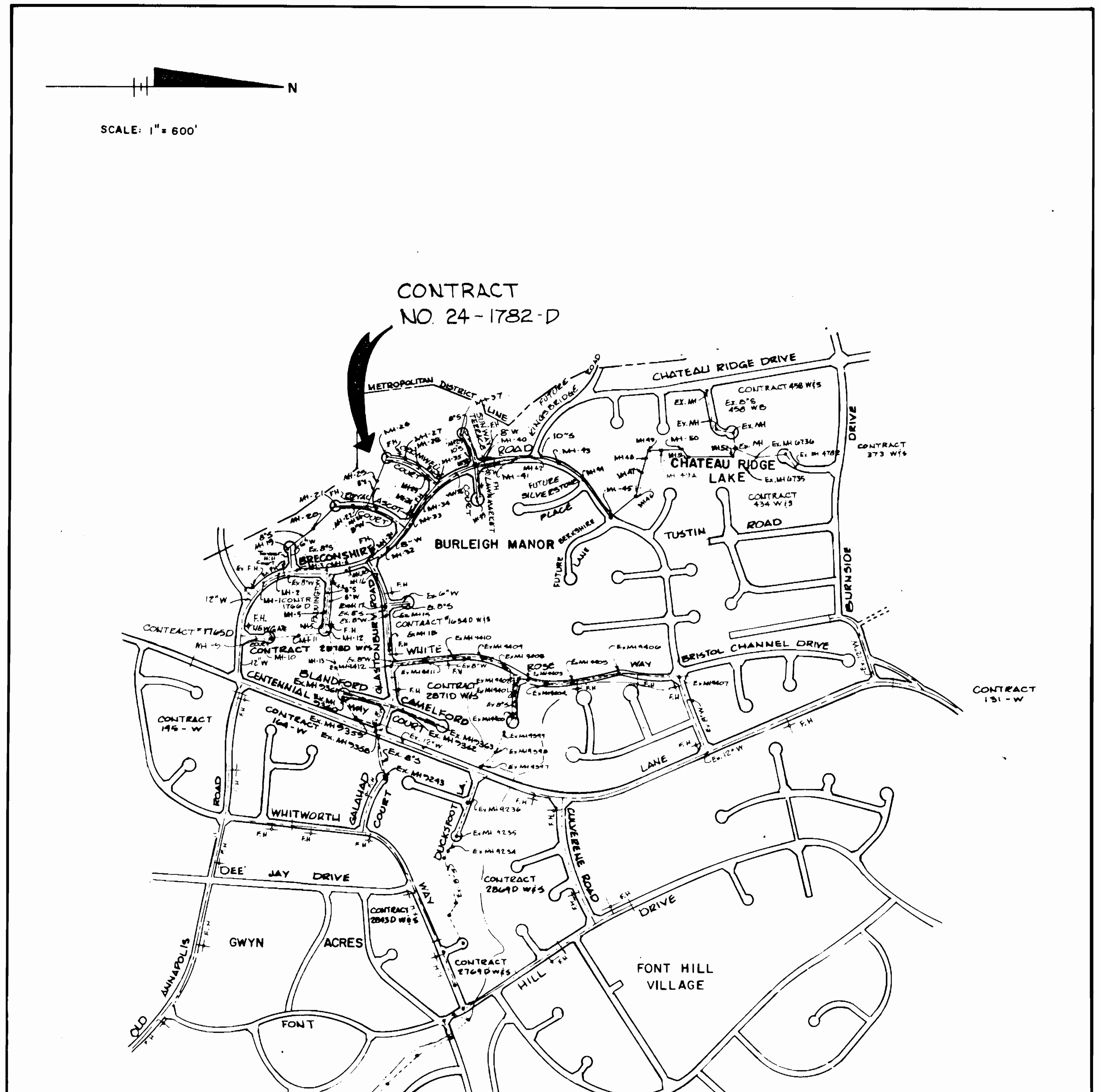


Wastewater Disposal: Patapsco
Drainage Area: Little Patuxent River
Type of Buildings: Single Family
No. of SHC: 88
No. of WHC: 78
No. of Lots: 80

WATER & SEWER CODE
County Use
Water: J01
Sewer: 5882900

QUANTITIES			
ITEM	BID	AS BUILT	MATERIAL/SUPPLIER
10" Sewer L.F.	1450		
8" Sewer L.F.	5130		
Sewer Manholes	35		
8" Water L.F.	3350		
6" Water L.F.	720		
Fire Hydrants (Ea)	7		
8" Valve Ea	8		
6" V (Except F.H.)	3		
1" WHC L.F.	420		
3/4" WHC L.F.	1620		
6" SHC L.F.	2150		
3" Blowoff	2		

GENERAL NOTES

1. 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.
2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED.
6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS USED HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL ◪ AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RUSULTS 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.
8. 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 AND ELECTRIC CO. - CONTRACTOR SERVICES 850-4620
   - BALTIMORE GAS AND ELECTRIC CO. - UNDER GROUND DAMAGE CONTROL - 859-9004
   - BALTIMORE GAS AND ELECTRIC CO. - TROUBLE SHOOTING - 298-9001
   - MISS UTILITY - 1 - 559-0100
   - COLONIAL PIPELINE CO. - 795-1390/C&P TELEPHONE CO. - 1-800-257-7777
   - BUREAU OF UTILITIES HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 992-2366
9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO A MAXIMUM EXTENT. TREES AND SHRUBS, LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION.
11. ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
12. TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2' COVER UNLESS OTHERWISE NOTED.
13. VALVES ADJACENT TO TEES SHALL BE STRAPFED TO TEES.
14. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
15. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE 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 SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1003 THE STANDARD SPECIFICATIONS.
16. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
17. ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTINGS. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
18. ALL W.H.C.'S.SHALL BE 3/4" UNLESS OTHERWISE NOTED.
19. ALL COPPER WATER HOUSE CONNECTIONS SHALL UTILIZE FLARED FITTINGS.
20. ALL SEWER MAINS SHALL BE C.S.P.X., D.I.P., V.C.P.X., A.C.P. CLASS 2400 OR P.V.C. UNLESS OTHERWISE NOTED.
21. THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
22. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
23. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
24. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS. STANDARD DETAIL G5.52 WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1.5' ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
25. STRAW BALE DIKE AND SILT FENCE ARE INTERCHANGEABLE.
26. FOR MANHOLES IN OPEN SPACE OR OUTFALL. SET TOP OF FRAME 1.5' ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
27. ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATION C-153 DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.

CONTRACT NO. 24-1782-D
BURLEIGH MANOR
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT

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

HOWARD S.C.D — DATE

Sediment Control Measures for this Contract will be implemented in accordance with Section 219 of the Standard Specifications and Road Construction Drawings F-88-146

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE
CHIEF - BUREAU OF ENGINEERING — DATE 6-21-88
CHIEF - BUREAU OF UTILITIES — DATE 6-20-88
CHIEF - LAND DEVELOPMENT DIVISION - DATE

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST PAUL ST
BALTIMORE, MARYLAND

DES S.J.G.
DR R.L.P.
CHK R.B.N.
DATE 1-26-88

BY	NO	REVISION	DATE
SJG	3	Quantity Changes [illegible]	[illegible]

VICINITY MAP AND GENERAL NOTES

600 SCALE MAP NO. 24 BLOCK NO.

BURLEIGH MANOR
SECTION 3 AREA 4
LOTS 442-522
ELECTION DISTRICT NO. 2
CONTRACT NO. 24-1782-D

SCALE 1" = 600'

SHEET 1 OF 9

W.O. 40335

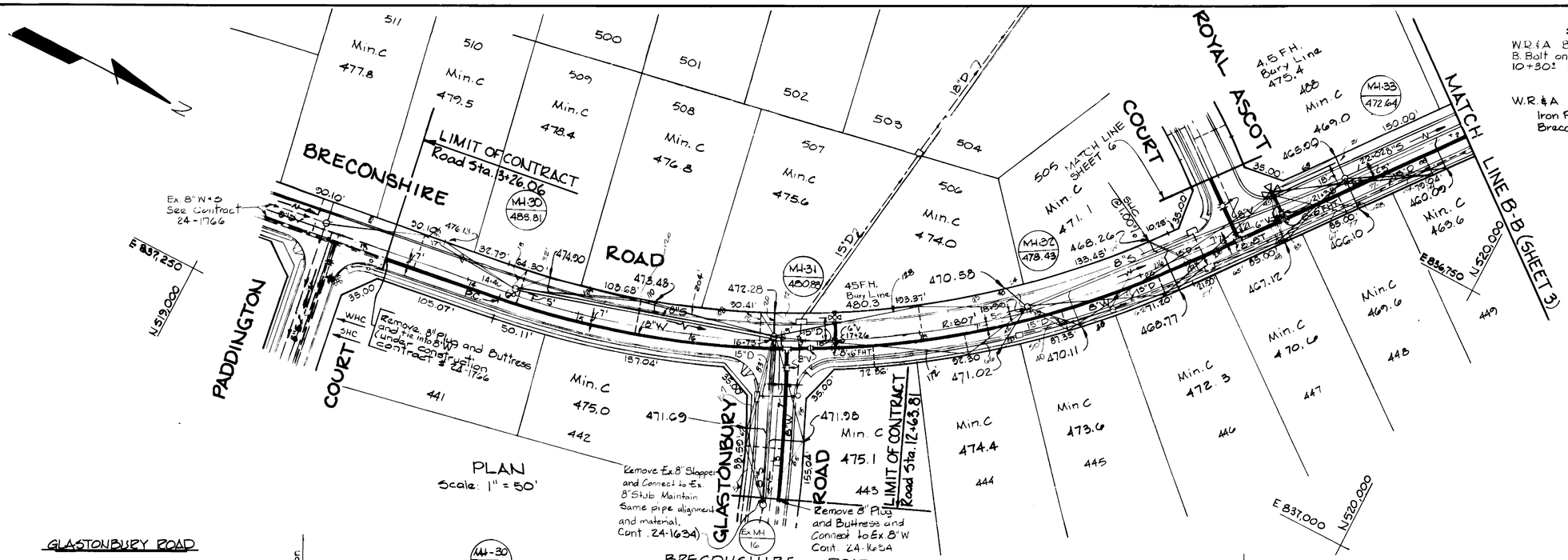
January 26, 1988

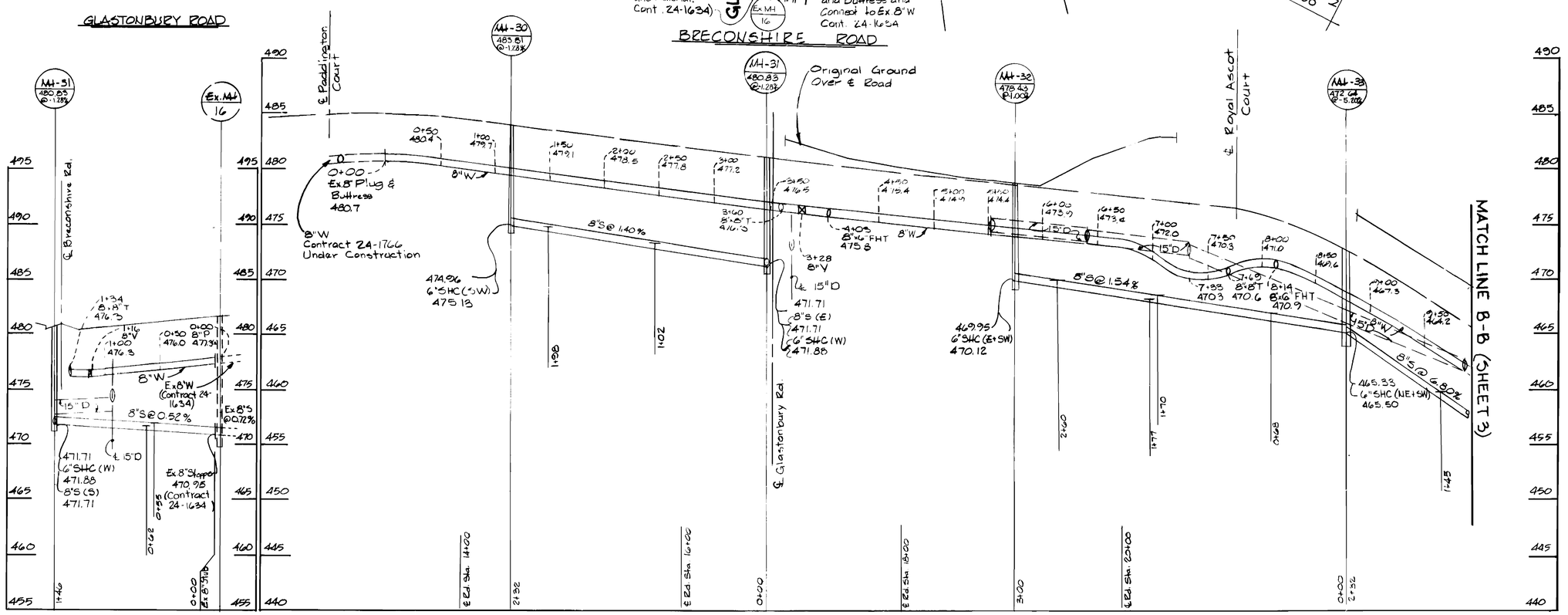
KEUFFEL & ESSER COMPANY

BENCH MARKS

W.R.&A. B.M.# El. 483.76
B. Bolt on F.H. 18'± North of & Station 10+30± Glastonbury Road.

W.R.&A. B.M. W-332 EL. 440.16
Iron Pipe 140'± West of & Sta. 29+35± Braconshire Rd.





Scale : Hor 1" = 50'
Vert. 1" = 5'

24,510-837 5

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 6/1/88
CHIEF-BUREAU OF ENGINEERING — DATE 6/1/88
CHIEF-BUREAU OF UTILITIES — DATE 6-20-88
CHIEF-LAND DEVELOPMENT DIVISION — DATE 6/21/88

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST PAUL ST.
BALTIMORE, MARYLAND

DES SJG
DRN RLP
CHK R.B.N.
DATE 1/26/88

BY	NO.	REVISION	DATE
SJG	1	As per Bureau of Engineering Comments #4,5,6	3/21/88

PLAN & PROFILE OF WATER & SEWER MAINS

600' SCALE MAP NO. 24 BLOCK NO.

BURLEIGH MANOR
SECTION 3 AREA 4
LOTS 442-522
ELECTION DISTRICT NO. 2
CONTRACT NO. 24-1782-D

SCALE AS SHOWN

SHEET 2 OF 9

W.O. 40335

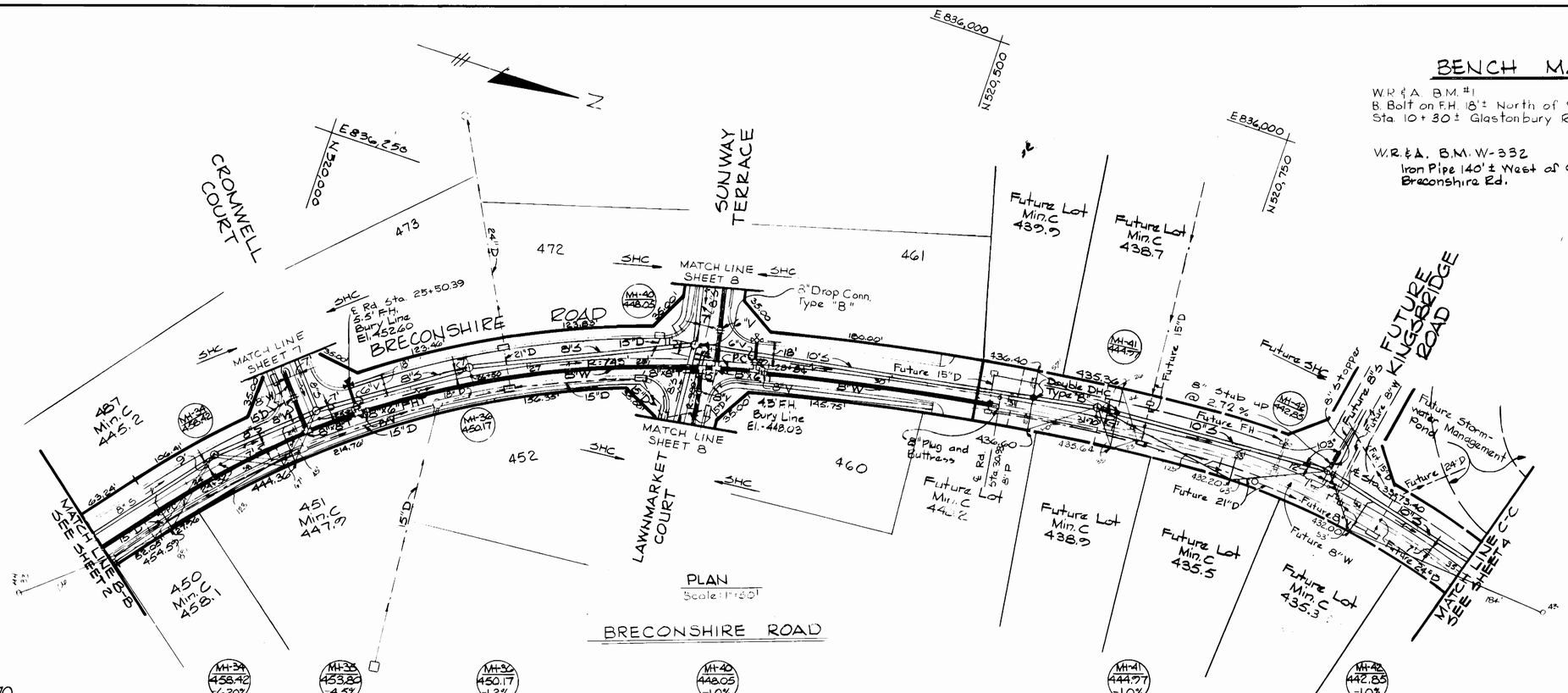
January 26, 1988

KEUFFEL & ESSER COMPANY

BENCH MARKS

W.R.&A. B.M. #1 EL. 483.76
B. Bolt on F.H. 18'± North of ℄
Sta. 10+30± Glastonbury Road

W.R.&A. B.M. W-332 EL. 449.16
Iron Pipe 140'± West of ℄ Sta. 29+35±
Breconshire Rd.



24-520-837.5

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS 2315 ST PAUL ST BALTIMORE, MARYLAND	DES. J.W.B. S.J.G. DRN. J.W.B. CHK. R.B.N. DATE: 1/26/88
DIRECTOR OF PUBLIC WORKS — DATE 2/1/88 CHIEF-BUREAU OF UTILITIES — DATE 2-20-88 CHIEF-BUREAU OF ENGINEERING — DATE 6/2/88 CHIEF-LAND DEVELOPMENT DIVISION — DATE	Kenneth A. McCord	

BY	NO.	REVISION	DATE
SJG	3	As per Bur. of Engineering Comments #1, 2	6/8/88
SJG	2	As per Bureau of Engineering Comments #10, 18	3/24/88
SJG	1	As per Bureau of Engineering Comments #18, 9	3/24/88

PLAN & PROFILE OF WATER & SEWER MAINS

600' SCALE MAP NO. 24 BLOCK NO.

BURLEIGH MANOR
SECTION 3 AREA 4
LOTS 442 – 522
ELECTION DISTRICT NO. 2
CONTRACT NO. 24--1782-D

SCALE AS SHOWN

SHEET 3 OF 9

W.O.

January 26, 1988

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS 2315 ST PAUL ST. BALTIMORE, MARYLAND		PLAN & PROFILE OF WATER & SEWER MAINS	BURLEIGH MANOR SECTION 3 AREA 4 LOTS 442 - 522 ELECTION DISTRICT NO.2 CONTRACT NO. 24-1782-D	SCALE AS SHOWN
DIRECTOR OF PUBLIC WORKS — DATE 6/21/88 CHIEF - BUREAU OF ENGINEERING — DATE 6-22-88 CHIEF - BUREAU OF UTILITIES — DATE 6-20-88 CHIEF - LAND DEVELOPMENT DIVISION — DATE 6/20/88	DES. S.J.G. J.W.B. DRN. J.E.M. CHK. R.B.N DATE 1/26/88		600' SCALE MAP NO. 24 BLOCK NO.	AS BUILT	SHEET 4 OF 9

BY	NO.	REVISION	DATE
SJG	2	As Per Bur. of Engineering Comments #12	3/25/88
SJG	1	As Per Bur. of Engineering Comments #8,10	3/25/88

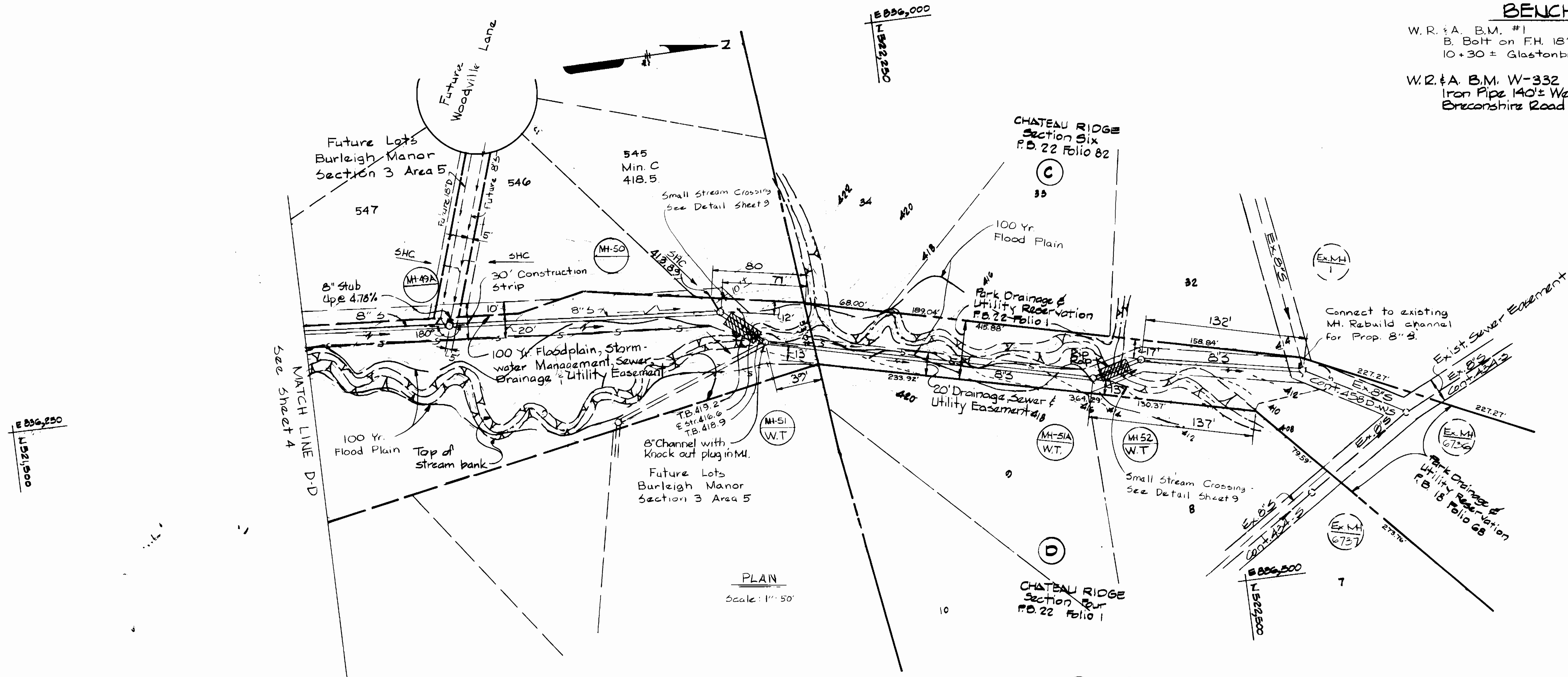
W.O.

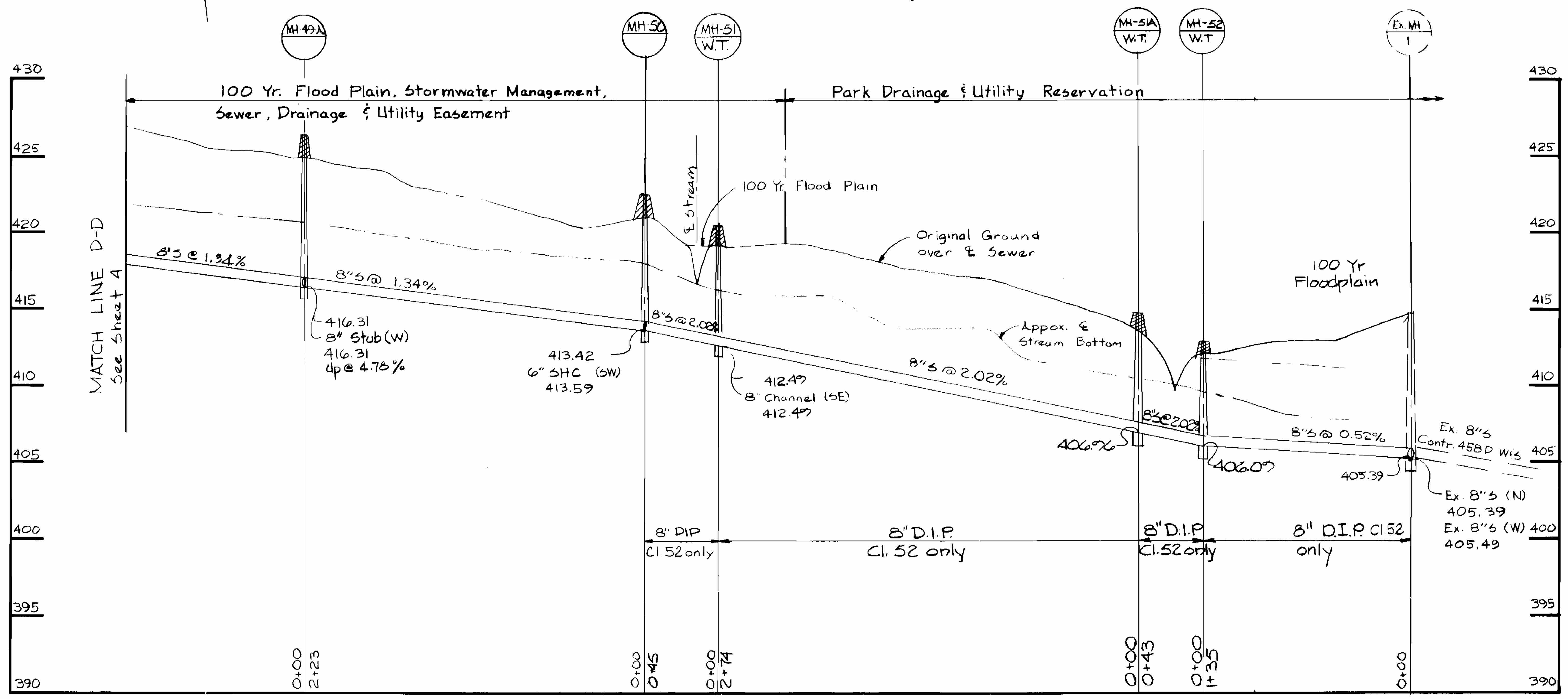
January 26, 1988

BENCH MARKS

W.R.&A. B.M. #1 — El. 483.76
B. Bolt on F.H. 18'± North of station 10+30± Glastonbury Road

W.R.&A. B.M. W-332 — El. 449.16
Iron Pipe 140'± West of ℄ Sta. 29+35± Breconshire Road





24, 521-837.5
24, 522-837.5

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MARYLAND	WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS, 2315 ST PAUL ST, BALTIMORE, MARYLAND	PLAN & PROFILE OF WATER & SEWER MAINS	BURLEIGH MANOR SECTION 3 AREA 4 LOTS 442-522 ELECTION DISTRICT NO. 2 CONTRACT NO. 24-1782-D	SCALE AS SHOWN
Director of Public Works – Date 6/1/88; Chief – Bureau of Engineering – Date 6-23-88; Chief – Bureau of Utilities – Date 6-20-88; Chief – Land Development Division – Date 6/6/88	DES. J.W.B.; DRN. J.E.M.; CHK. R.B.N.; DATE 1/26/88	600' SCALE MAP NO. 24 BLOCK NO.		SHEET 5 OF 9

BY	NO.	REVISION	DATE
J.B.	1	Revised Plan and Profile	11/22/88

W.O.

January 26, 1988

AS BUILT 7/7/89

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS 2315 ST. PAUL ST BALTIMORE, MARYLAND	PLAN & PROFILE OF WATER & SEWER MAINS	BURLEIGH MANOR SECTION 3 AREA 4 LOTS 442 – 522 ELECTION DISTRICT NO. 2 CONTRACT NO. 24–1782-D	SCALE AS SHOWN SHEET 6 OF 9

DIRECTOR OF PUBLIC WORKS – DATE 6/21/88
CHIEF – BUREAU OF ENGINEERING – DATE 6-22-88
CHIEF – BUREAU OF UTILITIES – DATE 6-20-88
CHIEF – LAND DEVELOPMENT DIVISION – DATE 6/20/88

DES: S.J.G.
DR: E.B.J.
CHK:
DATE: 1/26/88

BY	NO.	REVISION	DATE
J.B.	4	Revised Profile	10-18-88
J.B.	3	Revised Plan Elevations / Profile	8-18-88
S.J.G.	2	As per Bur. of Engineering Comment 4	6/2/88
S.J.G.	1	As per Bureau of Engineering Comments 1,12,13	5/13/88

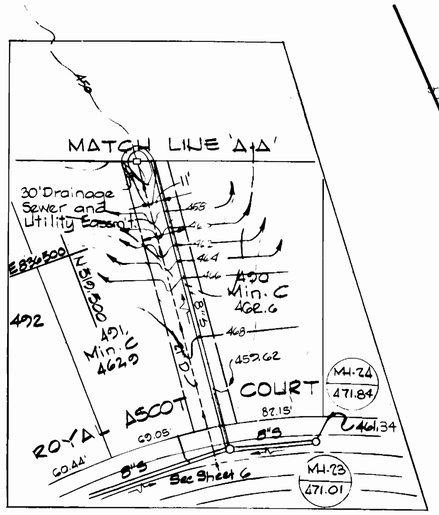
600' SCALE MAP NO. 24 BLOCK NO.

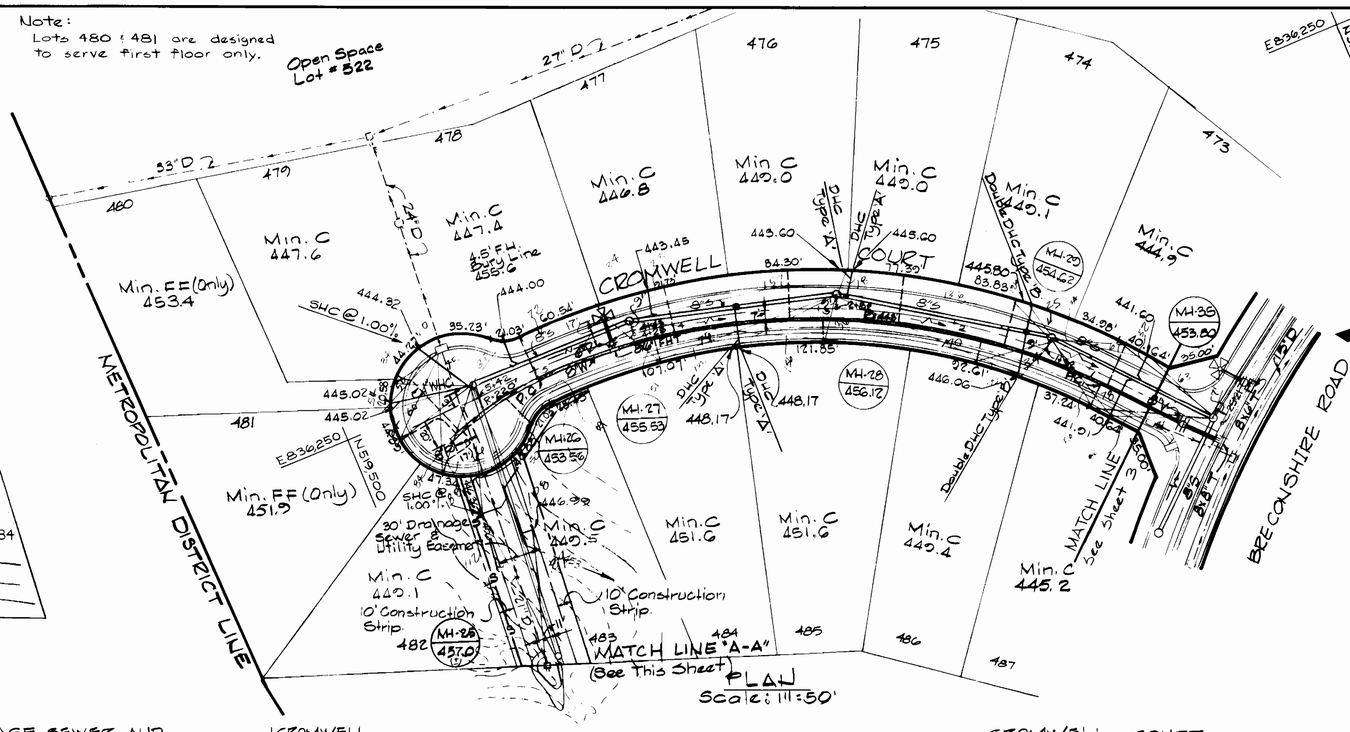
W.O.

January 26, 1988

KEUFFEL & ESSER COMPANY

Note:
Lots 480 & 481 are designed to serve first floor only.



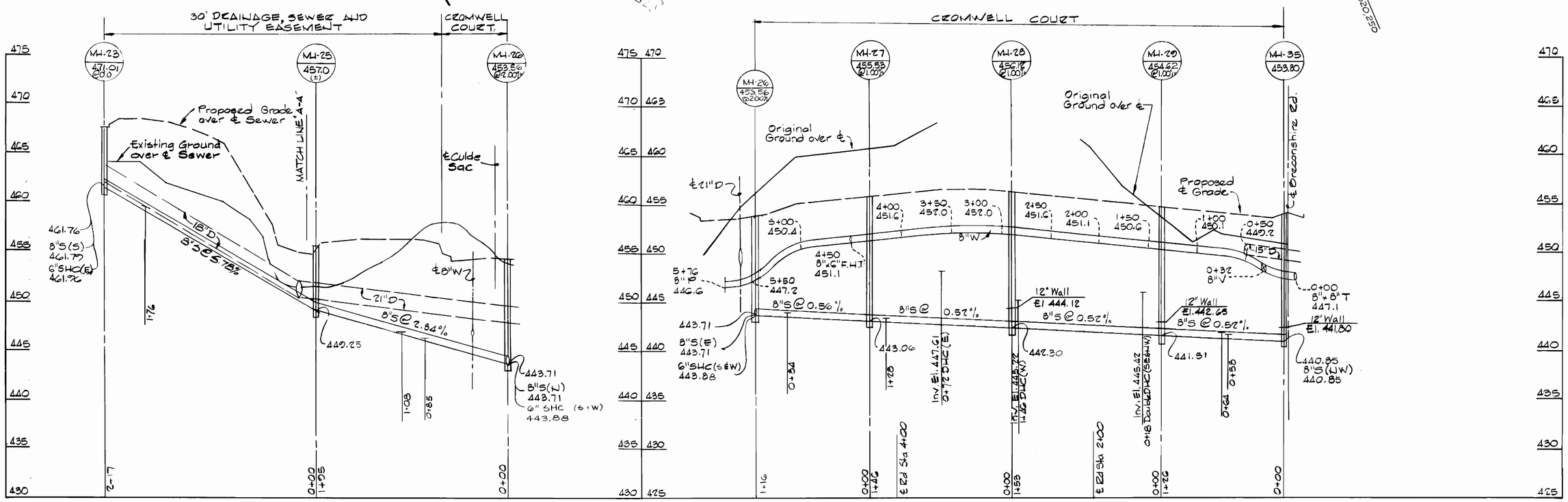


PLAN
Scale: 1" = 50'

BENCH MARKS

W.R.&A. B.M. #1 EL. 483.76
B. Bolt on F.H. 18± North of ℄ Station 10+30± Glastonbury Road.

W.R.&A. B.M. W-332 EL. 449.16
Iron Pipe 140'± West of ℄ Sta. 29+35± Breconshire Rd.



PROFILES
Scale: Hor. = 1" = 50'
Vert = 1" = 5'

24, 520-837.5
24, 519-837.5

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS — DATE 6/21/88
CHIEF-BUREAU OF ENGINEERING — DATE
CHIEF-BUREAU OF UTILITIES — DATE R.M.B. 6-20-88
CHIEF-LAND DEVELOPMENT DIVISION — DATE 6/28/88

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST PAUL ST
BALTIMORE, MARYLAND

Kenneth A. McCord

DES. SJG
DR. A.S.
CHK. R.B.N.
DATE 1/26/88

BY	NO.	REVISION	DATE
J.B	2	Revised Profile	10-1888
SJG	1	Bureau of Engineering comments #1 of 15	3/28/88

PLAN & PROFILE OF WATER & SEWER MAINS

600' SCALE MAP NO. 24 BLOCK NO.

BURLEIGH MANOR
SECTION 3 AREA 4
LOTS 442 - 522
ELECTION DISTRICT NO. 2
CONTRACT NO. 24-1782-D

SCALE AS SHOWN

SHEET 7 OF 9

W.O.

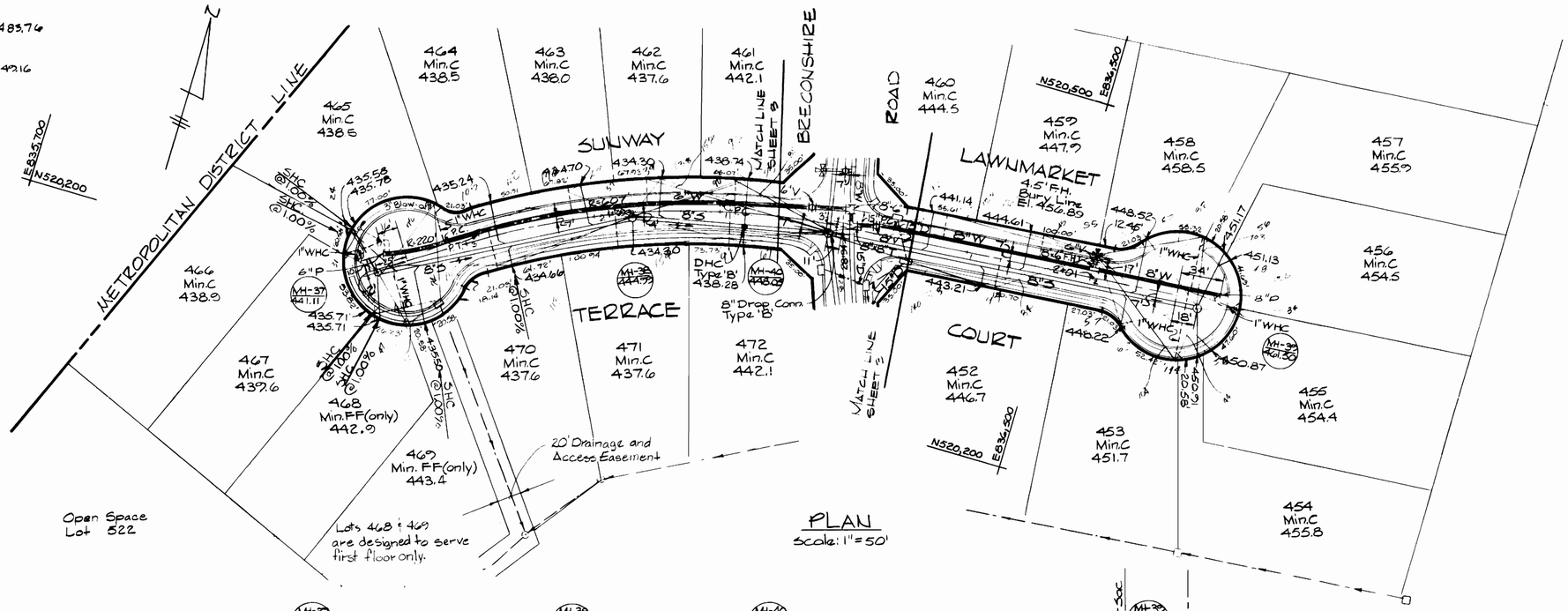
January 26, 1988 7/7/89

KEUFFEL & ESSER COMPANY

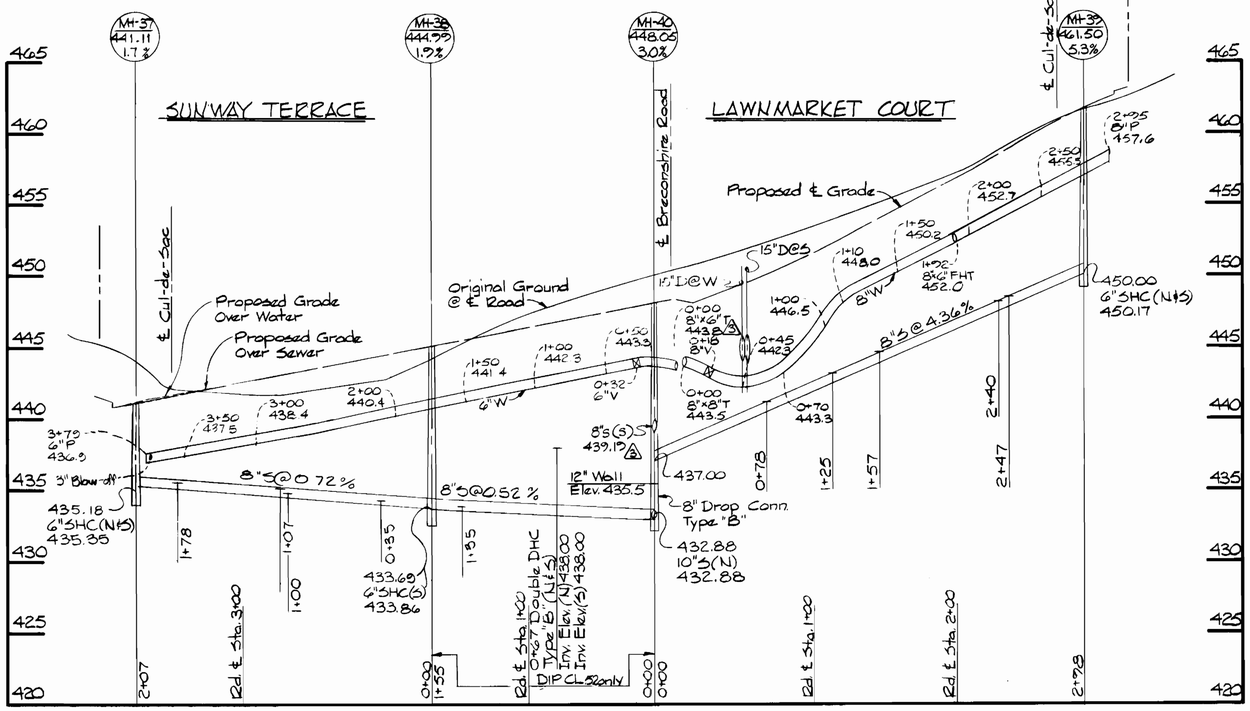
BENCH MARKS

W.R.&A. B.M. #1 El. 483.76
B. Bolt on F.H. 18'± North of ℄ Sta. 10+30± Glastonbury Road

W.R.&A. B.M. W-332 El. 449.16
Iron Pipe 140'± West of ℄ Sta. 29.35± Breconshire Road



PLAN
Scale: 1" = 50'



PROFILE
Scale: Hor. 1" = 50'
Ver. 1" = 5'

24- 520- 837.5
24- 520- 836

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS — DATE 2/1/88
CHIEF-BUREAU OF UTILITIES — DATE 2-20-88
CHIEF-BUREAU OF ENGINEERING — DATE
CHIEF-LAND DEVELOPMENT DIVISION — DATE 6/21/88

WHITMAN, REQUARDT AND ASSOCIATES
ENGINEERS
2315 ST PAUL ST
BALTIMORE, MARYLAND

DES. J.W.B.
DR. J.E.B.
CHK. R.B.N.
DATE 1-26-88

BY	NO.	REVISION	DATE
J.B.	3	Revised Elevations on Profile	8-1-88
SJG	2	Bureau of Engineering Comment 3,2	6/2/88
SJG	1	Bureau of Engineering Comments 16-19	3-28-88

PLAN & PROFILE OF WATER & SEWER MAINS
600' SCALE MAP NO. 24 BLOCK NO.

BURLEIGH MANOR
SECTION 3 AREA 4
LOTS 442 - 522
ELECTION DISTRICT NO. 2
CONTRACT NO. 24-1782-D

SCALE AS SHOWN
SHEET 8 OF 9

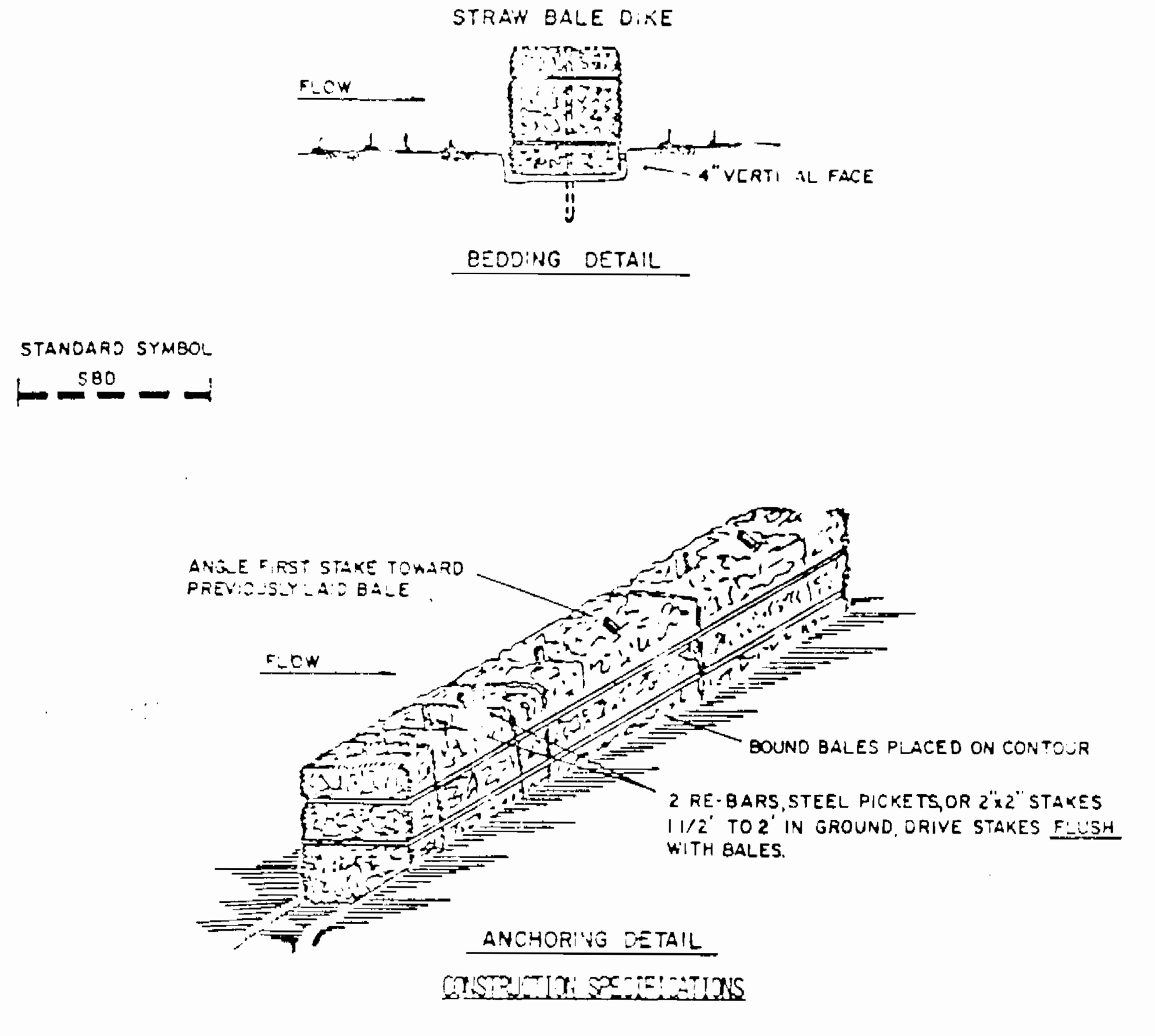
W.O.

January 26, 1988

AS-BUILT 7/7/89

KEUFFEL & ESSER COMPANY

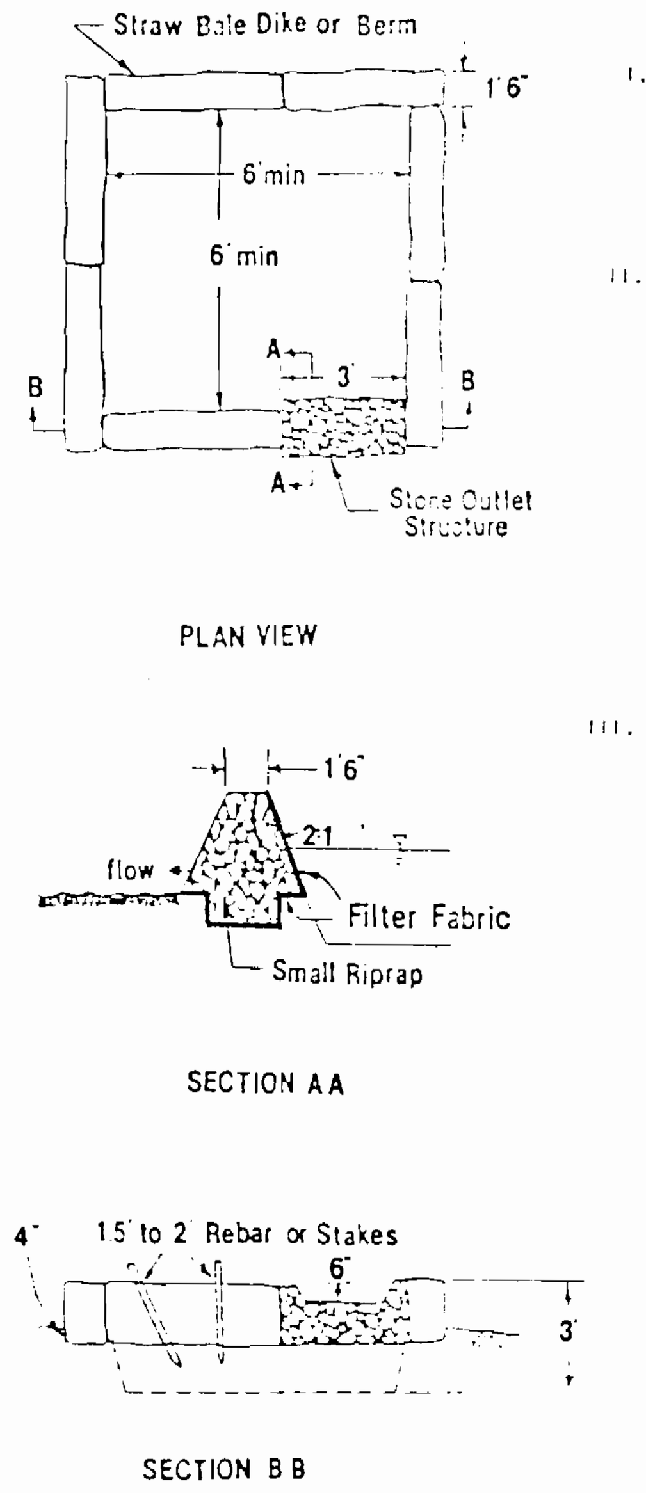
STRAW BALE DIKE



CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	STRAW BALE DIKE	STANDARD DRAWING SBD-1



I. Description

The work shall consist of the construction of a dewatering basin for the purpose of receiving sediment-laden water pumped from a construction site to allow filtration before the water re-enters the waterway.

II. Material Specifications

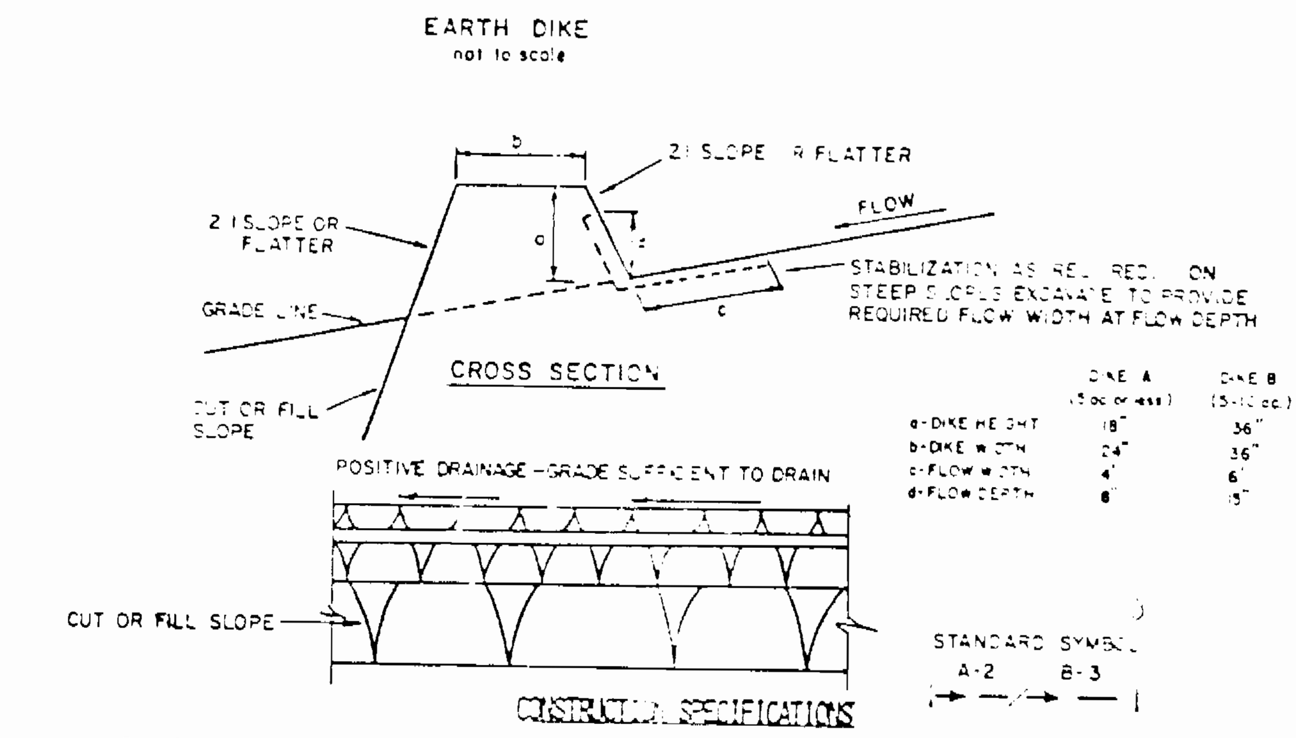
1. Riprap: Riprap shall consist of 4-6 inch washed stone or gravel.
2. Filter Fabric: The filter cloth shall be a woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydro-carbons, mildew, and rot resistant. No. 6 stone (AASHTO 57) may be used on the inter-face for filtering instead of fabric.
3. Strawbales: Strawbales shall meet the criteria as specified in the Maryland Standards and Specifications for Soil Erosion and Sediment Control.

III. Construction Requirements

1. The contractor shall install all sediment and erosion control devices as the first order of business.
2. Excavated materials shall be stored such that sediments are prevented from entering the waterway; i.e., sediment perimeter controls may be necessary.
3. Excavated subsoil and topsoil shall be kept separate and replaced in their natural order.
4. Any dewatering of the construction area shall be filtered through a dewatering basin prior to entering the waterway.
5. The dewatering basin shall be excavated to a minimum depth of 3 feet.
6. Once the dewatering basin becomes filled to 1/2 of the excavated depth, accumulated sediment shall be removed and disposed of in a SCD approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the WRA.
7. Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal. All ground contours shall be returned to their original condition unless specifically approved otherwise by the Administration.

WATER RESOURCES ADMINISTRATION	Dewatering Basins	Approved On 1-24-86, Chief, Waterway Permits	WPD 1.1

EARTH DIKE
not to scale



CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

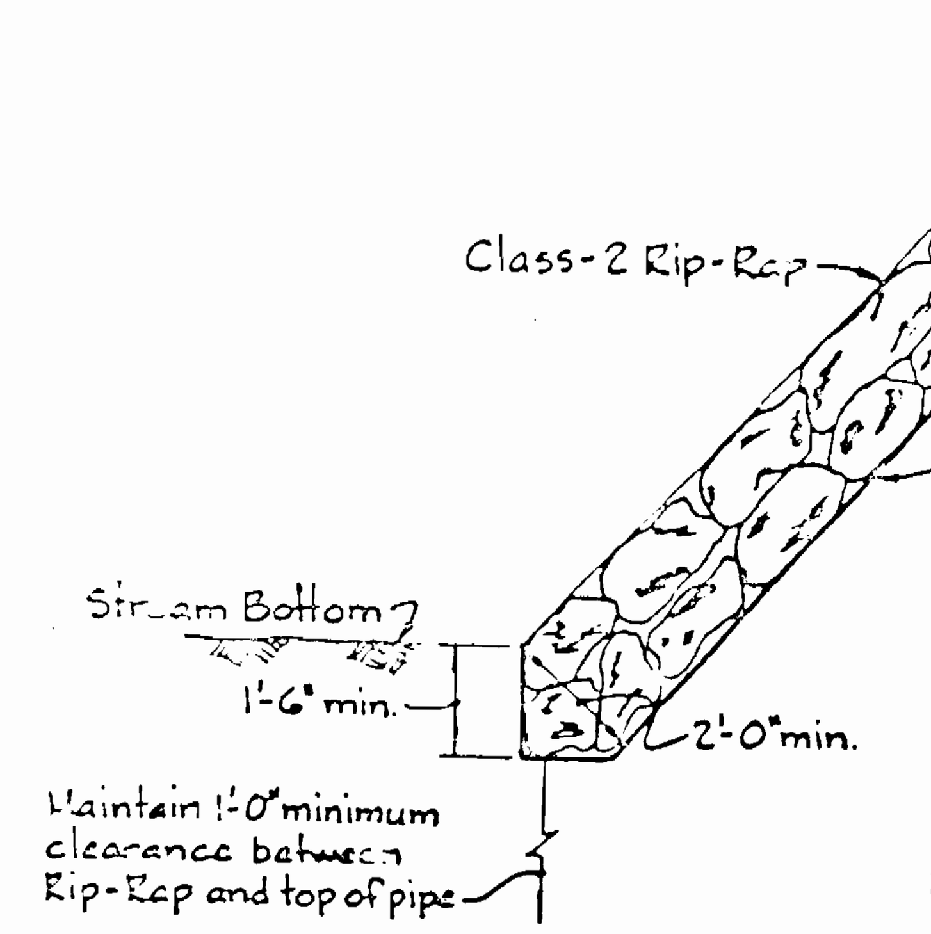
FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.

7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	EARTH DIKE	STANDARD DRAWING ED-1

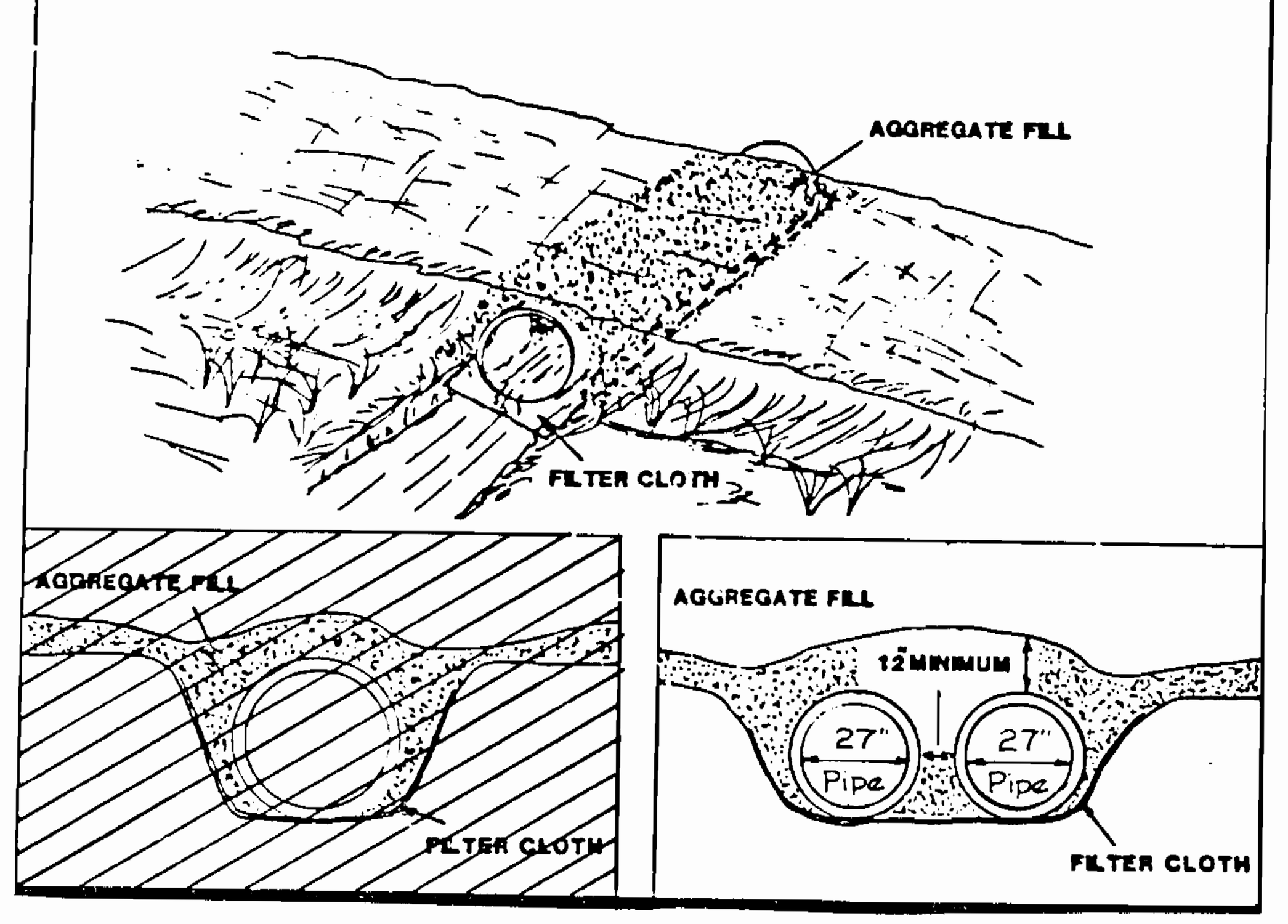


Notes:

1. Erosion Control Fabric shall be Poly-Filter-X as manufactured by Carthage Mills, Inc., Erosion Control Division, 124 West 66th Street, Cinncinnati, Ohio. Laurel Erosion Control Cloth as manufactured by Laurel Plastics Inc., Madison, Wisconsin, or approved equal.
2. Rip-Rap shall be placed 6' each side & sewer or as shown. Any disturbance to stream banks beyond these limits shall be protected with Rip-Rap at Contractor's expence.
3. Gabions may be used in lieu of Rip-Rap.

RIP-RAP DETAIL

TEMPORARY ACCESS CULVERT



Construction Specifications

a. Restrictions - No Construction or removal of a temporary access culvert will be permitted between October 1 through April 30 for all Class III and Class IV Trout Waters or between March 15 through June 15 for non-trout waterways.

b. Culvert Strength - All culverts shall be strong enough to support their cross sectional area under maximum expected loads.

c. Culvert Size - The size of the culvert pipe shall be the largest pipe diameter that will fit into the existing channel without major excavation of the waterway channel or without major approach fills. If a channel width exceeds 3 feet, additional pipes may be used until the cross sectional area of the pipes is greater than 60 percent of the cross sectional area of the existing channel. The minimum size culvert that may be used is a 12" diameter pipe.

d. Culvert Length - The culvert(s) shall extend a minimum of one foot beyond the upstream and downstream toe of the aggregate placed around the culvert. In no case shall the culvert exceed 40 feet in length.

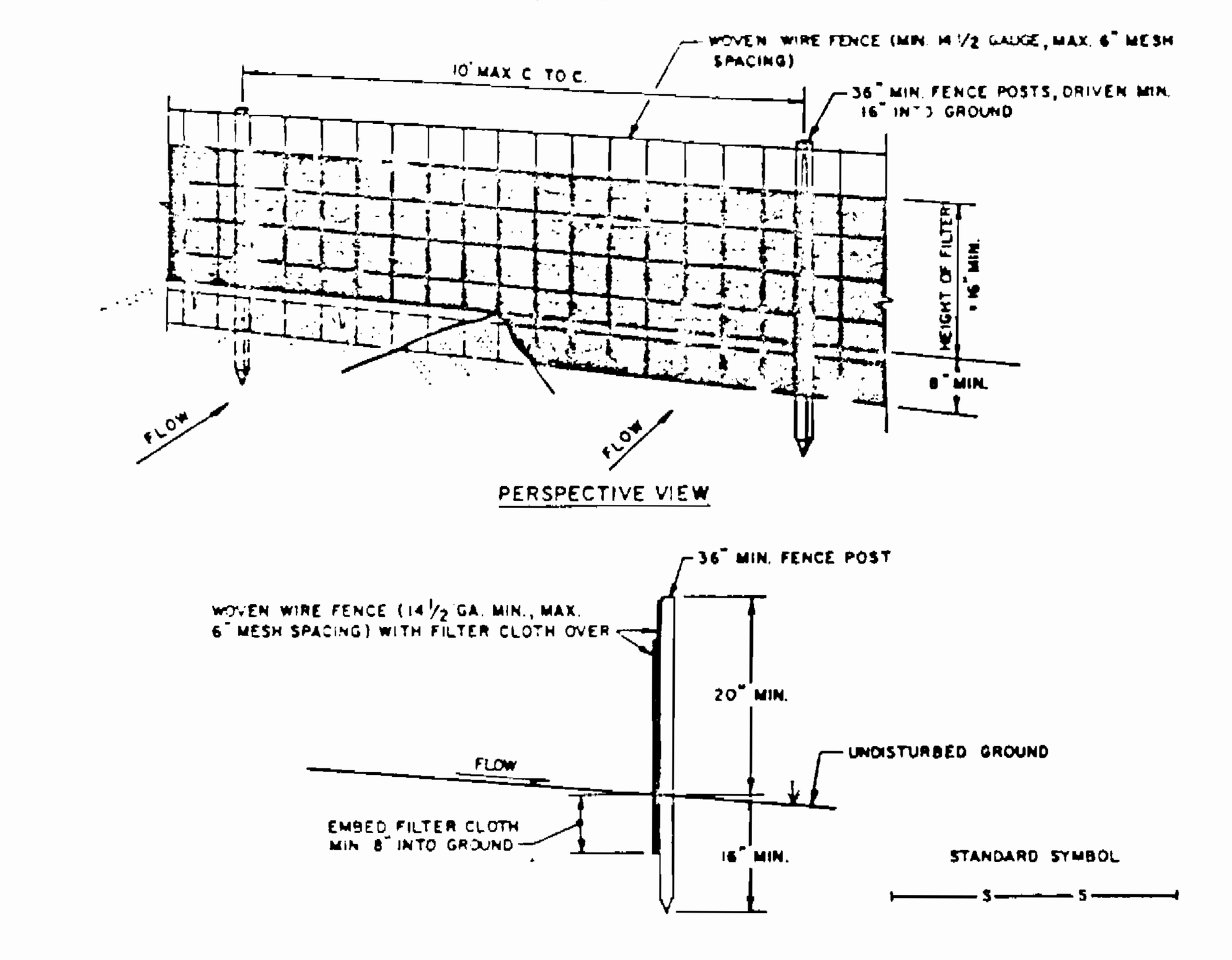
e. Filter Cloth - Filter cloth shall be placed on the streambed and streambanks prior to placement of the pipe culvert(s) and aggregate. The filter cloth shall cover the streambed and extend a minimum six inches and a maximum one foot beyond the end of the culvert and bedding material. Filter cloth reduces settlement and improves crossing stability.

f. Culvert Placement - The invert elevation of the culvert shall be installed on the natural streambed grade to minimize interference with fish migration (free passage of fish).

g. Culvert Protection - The culvert(s) shall be covered with a minimum of one foot of aggregate. If multiple culverts are used they shall be separated by at least 12" of compacted aggregate fill. At a minimum, the bedding and fill material used in the construction of the temporary access culvert crossings shall conform with the aggregate requirements cited in Section I.H. 1. above.

h. Stabilization - All areas disturbed during culvert installation shall be stabilized within 14 calendar days of the disturbance in accordance with the Standard for "Critical Area Stabilization With Permanent Seeding."

SILT FENCE



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

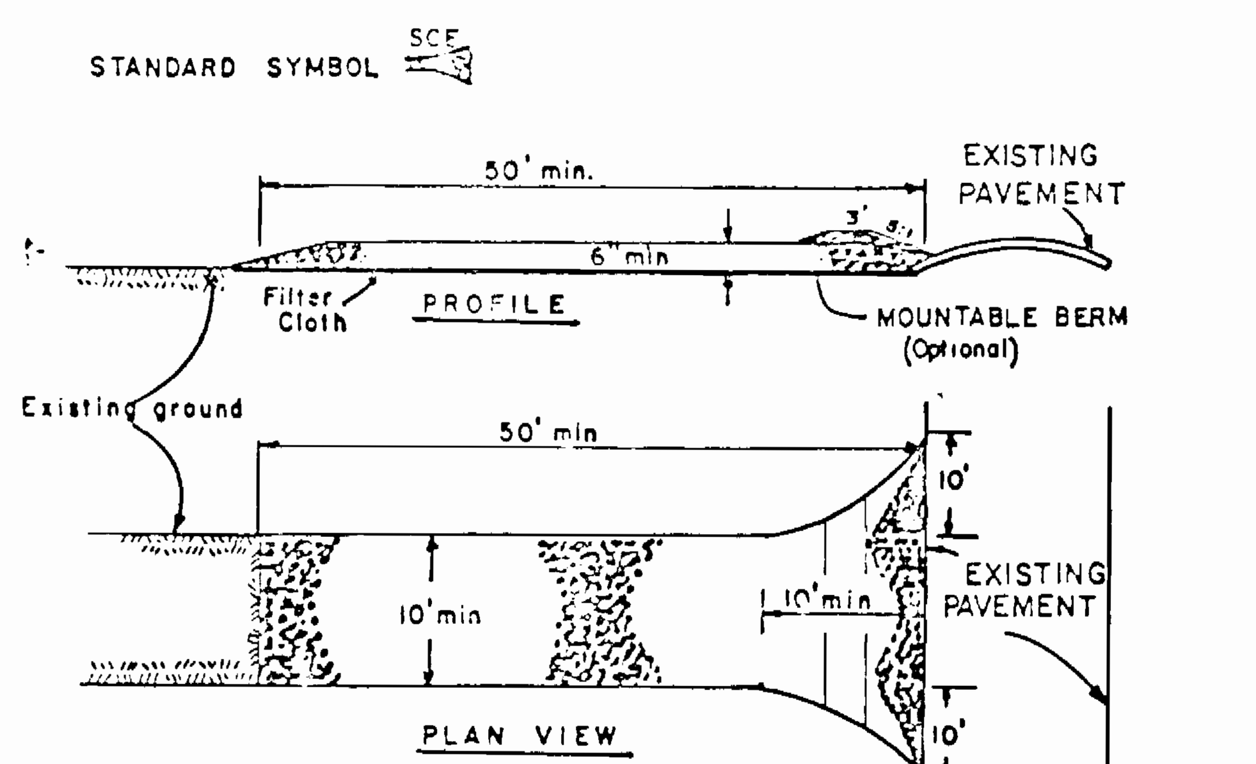
FENCE: WOVEN WIRE, 14½ GA. 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	SILT FENCE	STANDARD DRAWING SF-1

STABILIZED CONSTRUCTION ENTRANCE
not to scale



CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE College Park, Md.	STABILIZED CONSTRUCTION ENTRANCE	Standard Drawing SCE-1

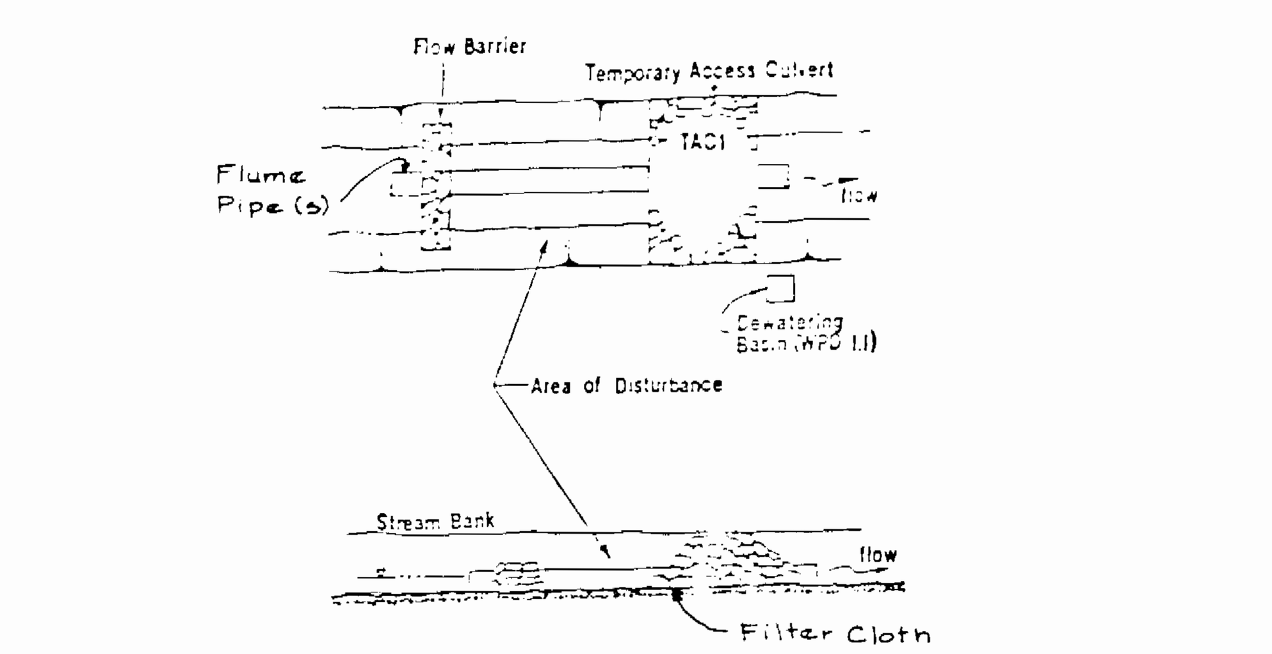
Note:
Provide Stabillized Construction Entrance At All Access Points To Paved Roads.

CONSTRUCTION SEQUENCE
SEDIMENT CONTROL PROCEDURES

(FOR AREAS NOT PROTECTED BY ROAD CONSTRUCTION - SEDIMENT CONTROL DEVICES)

1. Obtain Sediment Control Permit.
2. Construct continuous sediment barrier for all Disturbed Areas* not protected by sediment traps.
3. Clear, grub and strip as required. Protect stream from erosion of stored top soil, seperate top soil from subsoil.
4. Construct pipelines.
5. All excavated material shall be stock-piled on high side of trench.
6. Restore erosion control structures disturbed by sewer and water construction.
7. Stabilize disturbed area as construction progresses with temporary seeding and mulching (or permanent restoration).
8. Complete permanent restoration.
9. All sediment control devices shall remain in service until removal is approved by the SCS inspector.
10. Restoration (temporary or parmanent) of an area between manholes or 400' watermain section shall follow within one week of pipelaying in this area.

* Disturbed Areas shall be restricted to 20' Easaments.



PLAN & PROFILE

I. Description

The work shall consist of installing a flow diversion structure in conjunction with a temporary culvert crossing during in-stream construction such as utility crossings.

II. Construction Requirements

1. All erosion and sediment control devices shall be installed as the first order of business.
2. Pipes must be sized to accommodate normal stream flow.
3. The flow barrier shall be constructed of sandbags, washed riprap, or other approved material as per WPD2.3. The materials shall be sized to withstand normal stream flow velocities.
4. All dewatering of the construction area shall be pumped to a dewatering basin (WPD1.1) prior to re-entering the stream.
5. The temporary culvert crossing shall be constructed in accordance with Standard Detail (TAC-1), 1983 Maryland Standards and Specifications for Sediment and Erosion Control.
6. Sediment control devices shall remain in place until all disturbed areas have been stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.

WATER RESOURCES ADMINISTRATION	Culvert Pipe with Access Road	Approved On 1-24-86, Chief, Waterway Permits	WPD 2.1

WPD 2.3	Material Specifications 1. Sandbags: Sandbags shall consist of materials which are resistant to ultra-violet radiation, tearing and puncture and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.). 2. Stone: Stone shall be washed and have a minimum diameter of 6 inches.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS 2315 ST PAUL ST BALTIMORE, MARYLAND	DES. J.W.B. DR. R.L.P. CHK. R.B.N. DATE 1/26/88	SEDIMENT CONTROL DETAILS	BURLEIGH MANOR SECTION 3 AREA 4 LOTS 442 — 522 ELECTION DISTRICT NO.2 CONTRACT NO. 24-1782-D	SCALE AS SHOWN SHEET 9 OF 9

DIRECTOR OF PUBLIC WORKS — DATE

CHIEF - BUREAU OF ENGINEERING — DATE 6-22-88

CHIEF - BUREAU OF UTILITIES — DATE 6-20-88

CHIEF - LAND DEVELOPMENT DIVISION — DATE 6/20/88

BY | NO | REVISION | DATE

600' SCALE MAP NO ______ BLOCK NO ______

W.O.

January 26, 1988