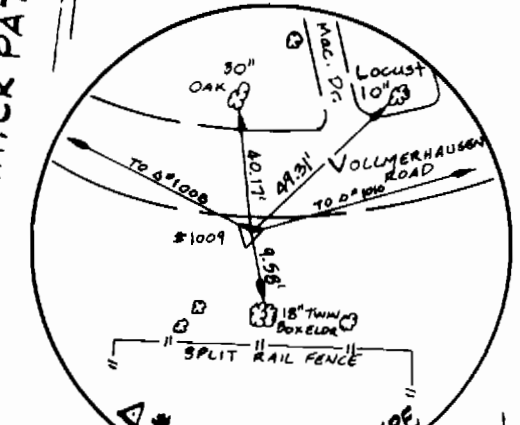


Note:
Properties not served in this contract are already served by contract no. 34-1542 D or 34-1543 D.



Note:
All house connections are to be open cut.

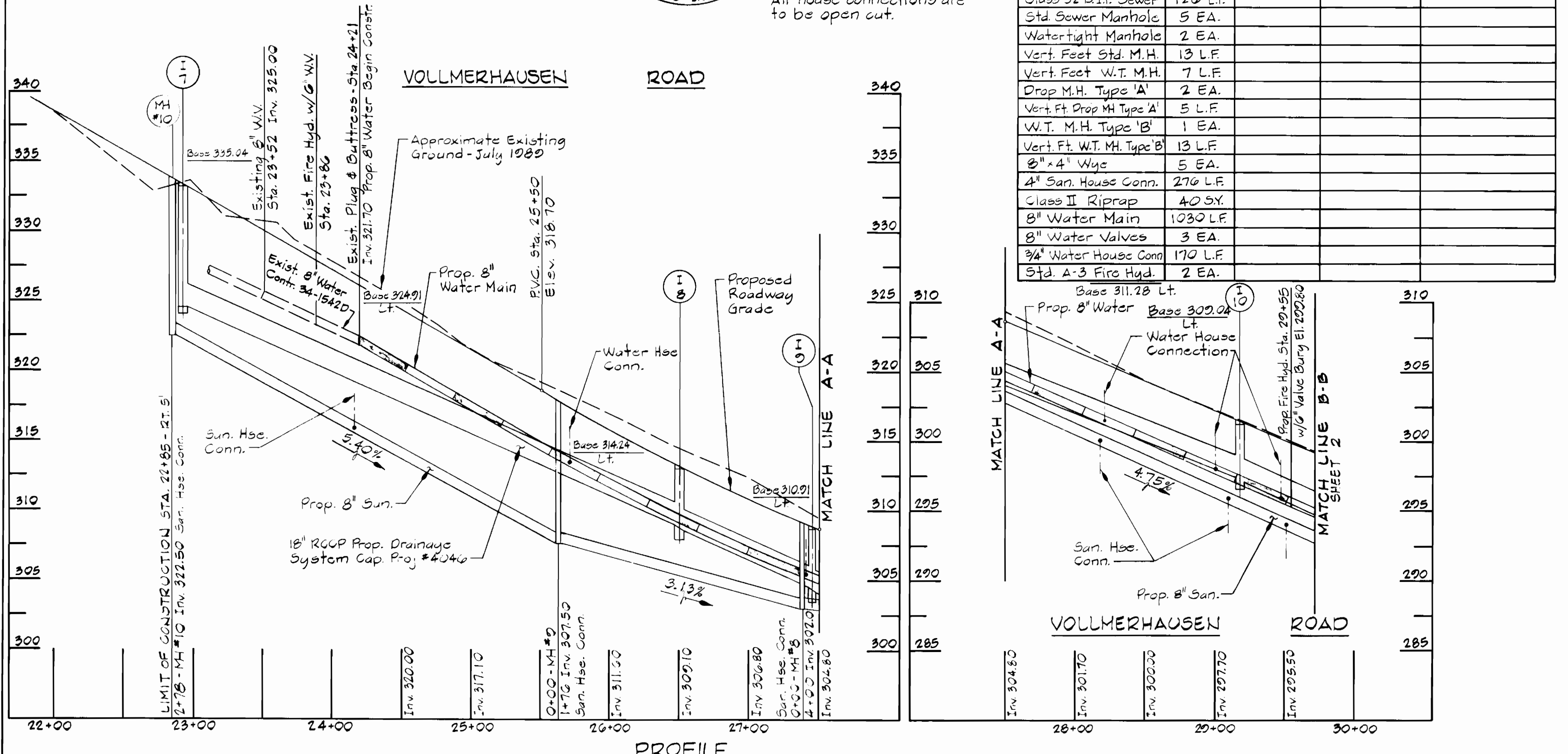
ITEM	QUANTITIES		
	ESTIM.	AS BUILT	SUPPLIER
8" Sanitary Sewer	1087 LF		
Class 52 D.I.P. Sewer	126 LF		
Std. Sewer Manhole	5 EA.		
Watertight Manhole	2 EA.		
Vert. Feet Std. M.H.	13 LF		
Vert. Feet W.T. M.H.	7 LF		
Drop M.H. Type 'A'	2 EA.		
Vert. Ft. Drop M.H. Type 'A'	5 LF		
W.T. M.H. Type 'B'	1 EA.		
Vert. Ft. W.T. M.H. Type 'B'	13 LF		
8" x 4" Wye	5 EA.		
4" San. House Conn.	276 LF		
Class II Riprap	40 SY.		
8" Water Main	1030 LF		
8" Water Valves	3 EA.		
3/4" Water House Conn.	170 LF		
Std. A-3 Fire Hyd.	2 EA.		

TYPE OF BUILDING: RESIDENTIAL
 NUMBER OF PARCELS: 8
 SEWER HOUSE CONNECTIONS: 8
 WATER HOUSE CONNECTIONS: 6
 DRAINAGE AREA: LITTLE PATUXENT

VICINITY MAP
 SCALE: 1"=600'

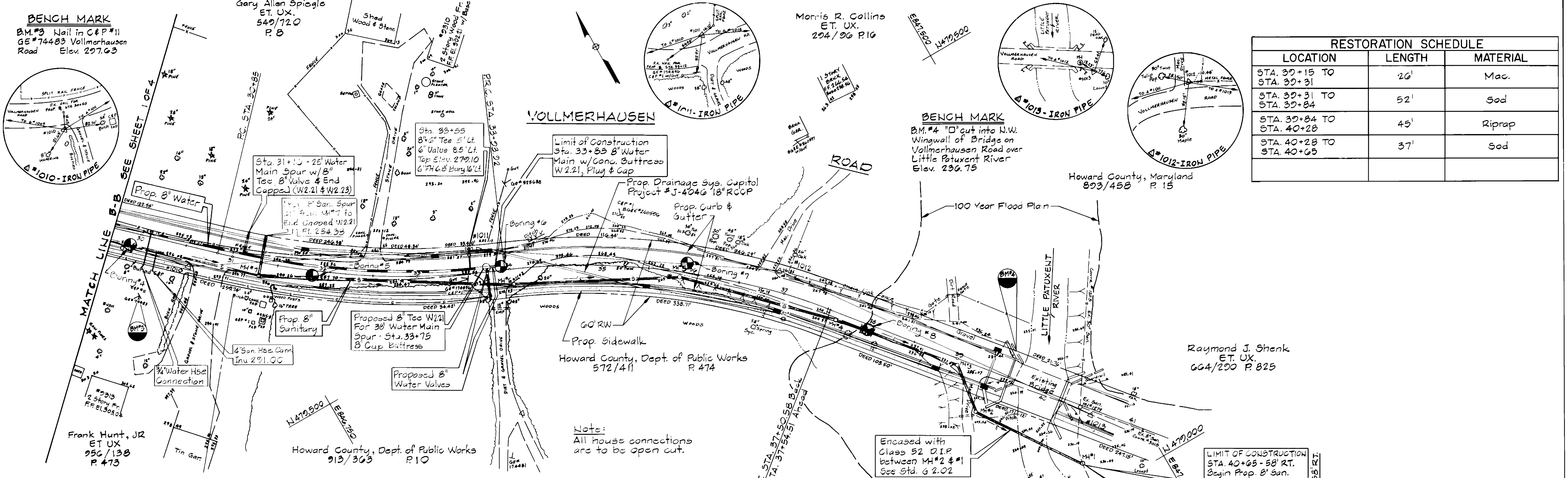
SEWER AND WATER CODES FOR COUNTY USE ONLY
 WATER HOUSE NO. C01
 SEWER NO. 6100000

- GENERAL NOTES:
- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS, 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 BASED ON MARYLAND STATE COORDINATES.
 - ALL VERTICAL CONTROLS BASED ON U.S.G.S. DATUM.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 6".
 - FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
 - 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 TESTS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
 - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORK DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 BALTO. GAS & ELECTRIC CO.- CONTRACTOR SERVICE 850-4620
 BALTO. GAS & ELECTRIC CO.- UNDERGROUND DAMAGE CONTROL 859-9004
 BALTO. GAS & ELECTRIC CO.- TROUBLE SHOOTING 298-9001
 MISS UTILITY- 1-559-0100
 BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS- 992-2366
 - 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 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 V.C.P.X. OR P.V.C. UNLESS OTHERWISE NOTED. ALL WATER MAINS SHALL BE CLASS 52 D.I.P. WITH A MINIMUM COVER OF 3.5' UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR M.H. WALL.
 - ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
 - INVERTS OF THE SEWER HOUSE CONN. AT THE PROPERTY LINE ARE INDICATED BY THE SYMBOL: []
 - WATER VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES. 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 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 1000 FROM THE STANDARD SPECS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM. CALL HOWARD COUNTY BUREAU OF UTILITIES AT 992-2366. COORDINATE TIE-IN TO THE EXISTING 8" WATER AT LEAST FIVE WORKING DAYS PRIOR TO SCHEDULING. ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
 - THE CONTRACTOR SHALL IMPLEMENT THE EROSION AND SEDIMENT CONTROL MEASURES ON SHEET 2.
 - 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'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

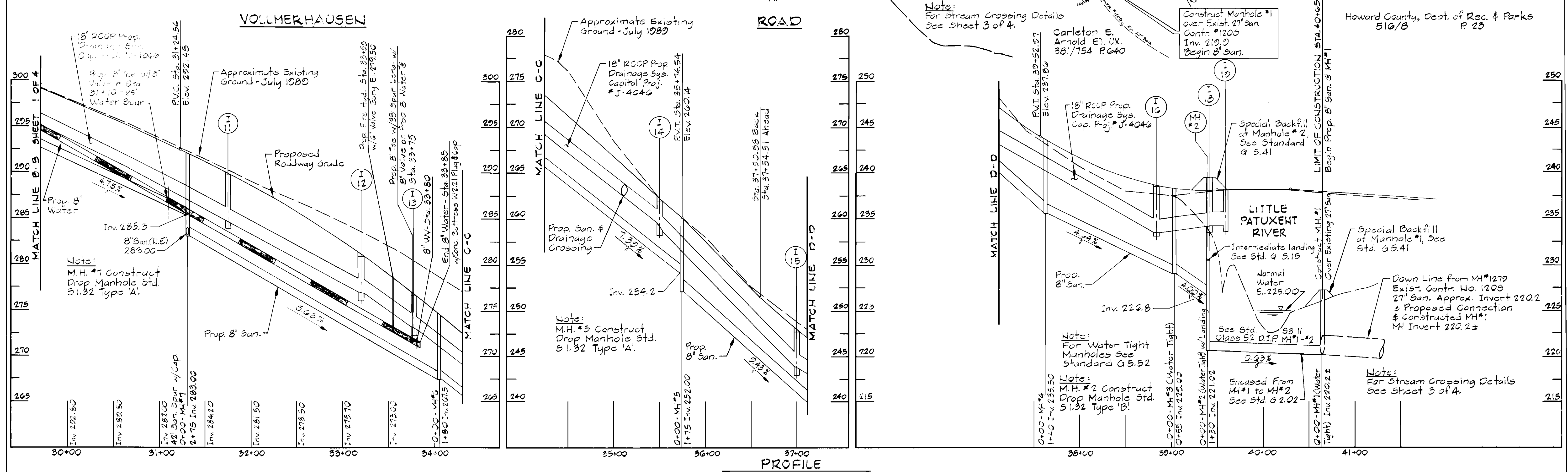


PROFILE
 Scale: 1" = 50' Horiz. & 1" = 5' Vert.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>Robert Benin</i> 1-16-91 Chief, Bureau of Utilities: <i>Robert Benin</i> 1-16-91		WALLACE, MONTGOMERY & ASSOCIATES 1544 YORK ROAD LUTHERVILLE, MARYLAND 21093 (301) 494-9093 Chief, Bureau of Engineering: <i>John C. Wallace</i> 1-16-91 Chief, Utility Design Division: <i>John C. Wallace</i> 1-9-91		DES: J.C.W. DRN: S.W.S. CHK: J.C.W. DATE: 7/1/90		PLAN AND PROFILE OF WATER AND SEWER EXTENSION		VOLLMERHAUSEN ROAD WATER AND SEWER EXTENSION CAPITAL PROJECT W-8156 CONTRACT NO. 24-3010 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 1 OF 4
DATE: 7/1/90 BY: NO. REVISION: DATE: 600' SCALE MAP NO. 47 BLOCK NO.										



RESTORATION SCHEDULE		
LOCATION	LENGTH	MATERIAL
STA. 30+15 TO STA. 30+31	20'	Mac.
STA. 30+31 TO STA. 30+84	52'	Sod
STA. 30+84 TO STA. 40+28	45'	Riprap
STA. 40+28 TO STA. 40+65	37'	Sod



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Rolyn Benin
CHIEF, BUREAU OF UTILITIES
DATE: 1-16-91

John Wallace
CHIEF, UTILITY DESIGN DIVISION
DATE: 1-9-91

WALLACE, MONTGOMERY & ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093

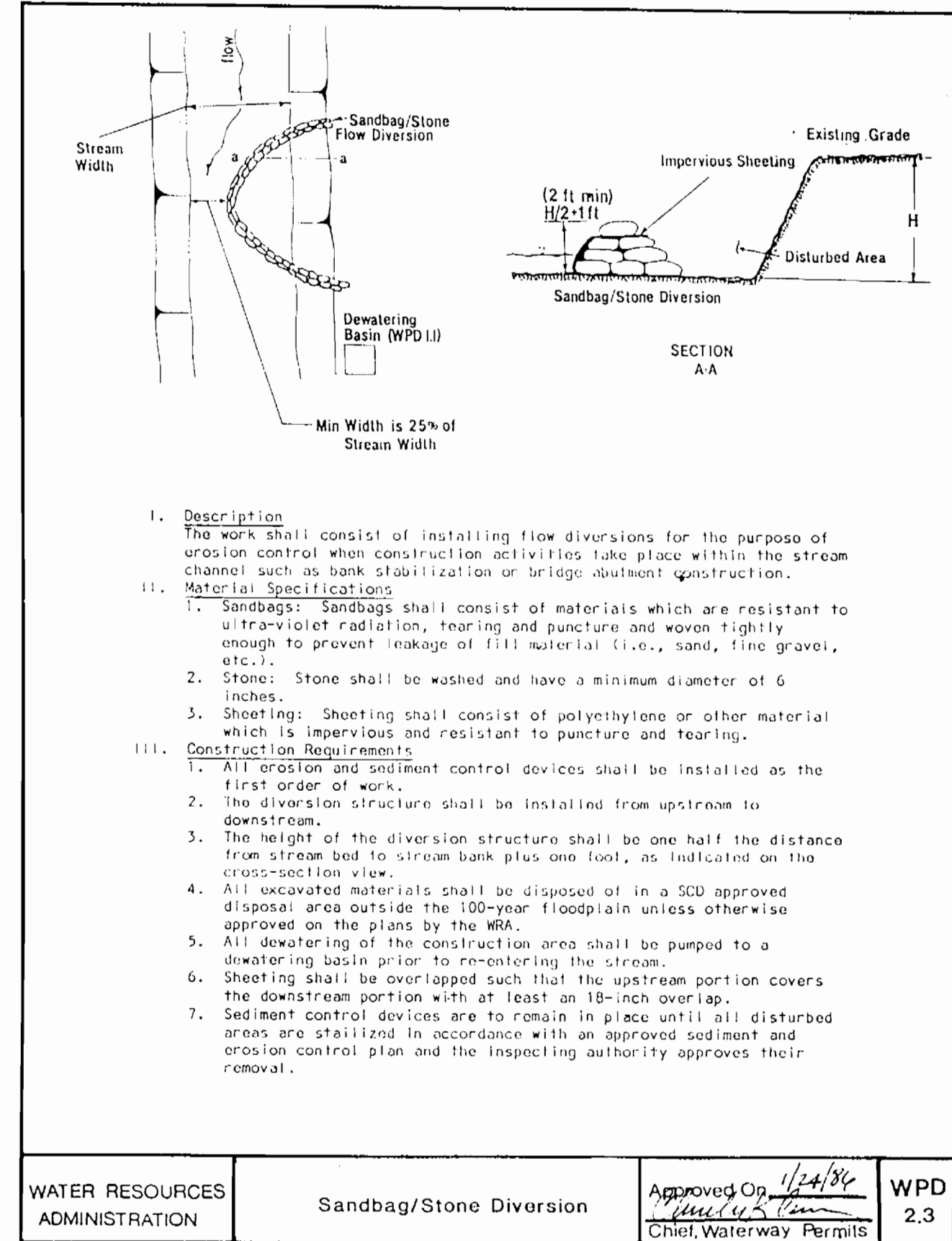
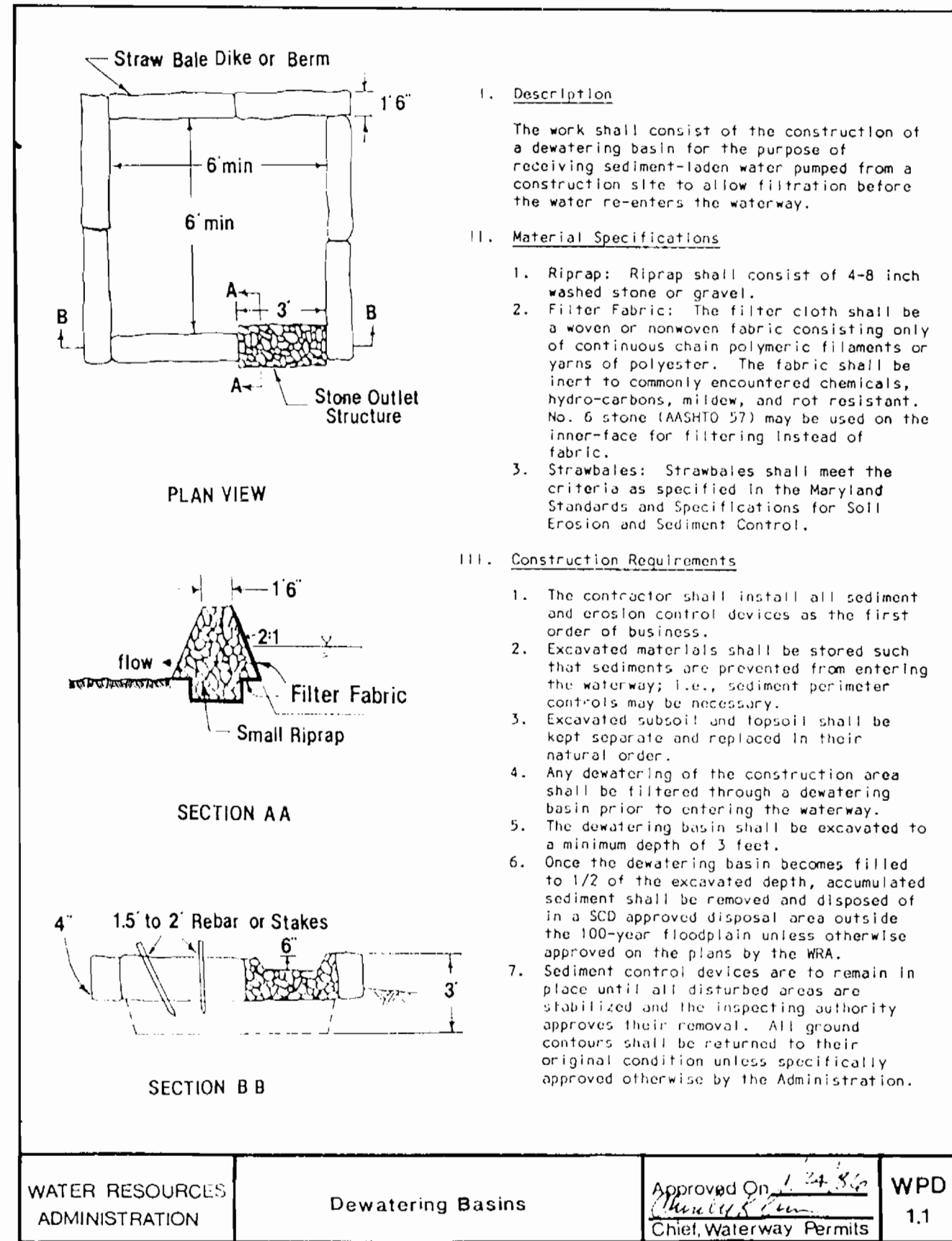
DESIGNED BY: J.C.W.
DRAWN BY: S.W.S.
CHECKED BY: J.C.W.
DATE: 7/1/90

PLAN AND PROFILE OF
WATER AND SEWER EXTENSION

SCALE AS SHOWN

VOLLMERHAUSEN ROAD WATER AND SEWER EXTENSION
CAPITAL PROJECT W-8156
CONTRACT NO. 24-3010
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 4

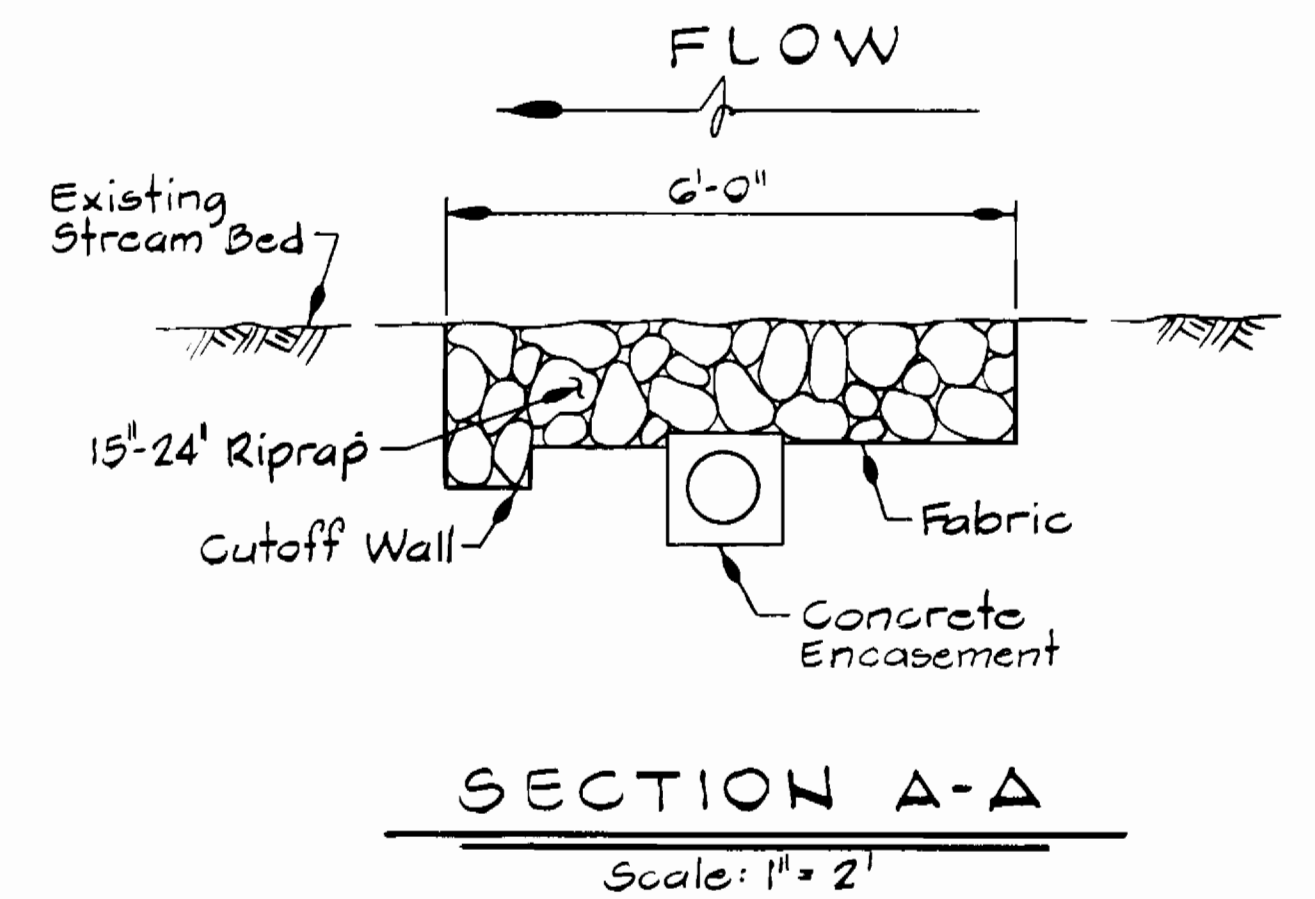
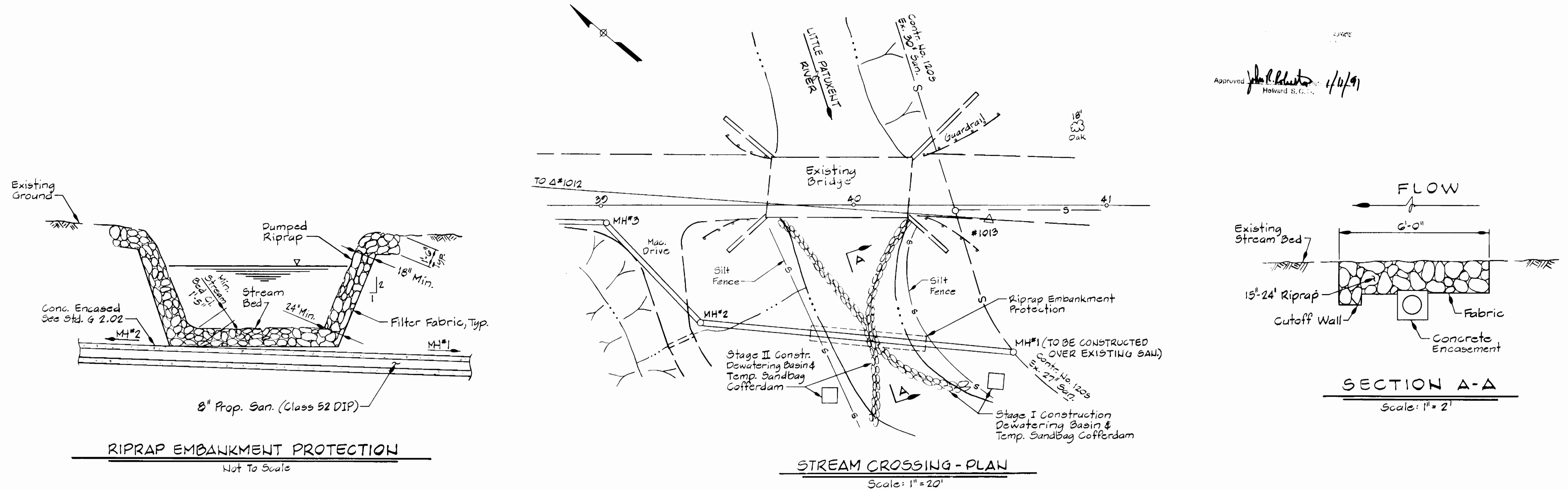


STREAM CROSSING SEQUENCE OF CONSTRUCTION:

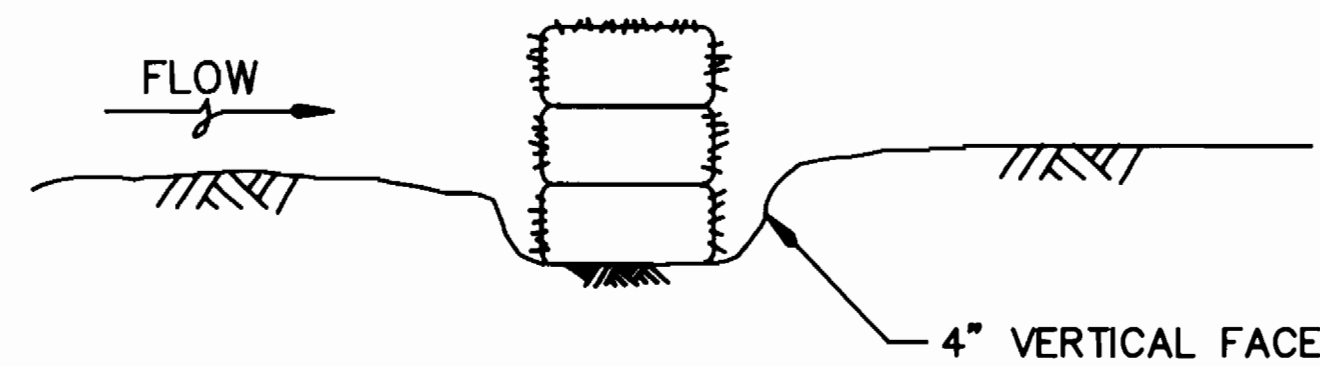
1. Install sediment control device (Silt Fence) as shown on the Plans.
2. Build a Dewatering Basin for Stage I as in WPD 1.1.
3. Construct a temporary sandbag Cofferdam upstream to divert water around the Stage I working area.
4. Construct a temporary sandbag Cofferdam downstream to prevent backwashing into the Stage I construction area.
5. Dewater the work area for Stage I.
6. Install Sediment Control Devices for proposed excavated material storage piles.
7. Excavate ditch, install sewer pipe and concrete encasement for Stage I.
8. Place riprap to restore stream bed to the original elevation for Stage I.
9. Stabilize the stream bank with riprap for Stage I.
10. Remove downstream Cofferdam, remove the upstream Cofferdam for Stage I.
11. Restore the Stage I Dewatering Basin to the original grade.
12. Repeat steps 2 through 12 for Stage II construction.
13. Clean up the entire construction site.
14. Remove all Sediment Control Devices.
15. Seed and mulch all disturbed areas.

Approved: *John M. Helm* 1/14/91
Howard B. G...
U.S. Soil Conservation Service

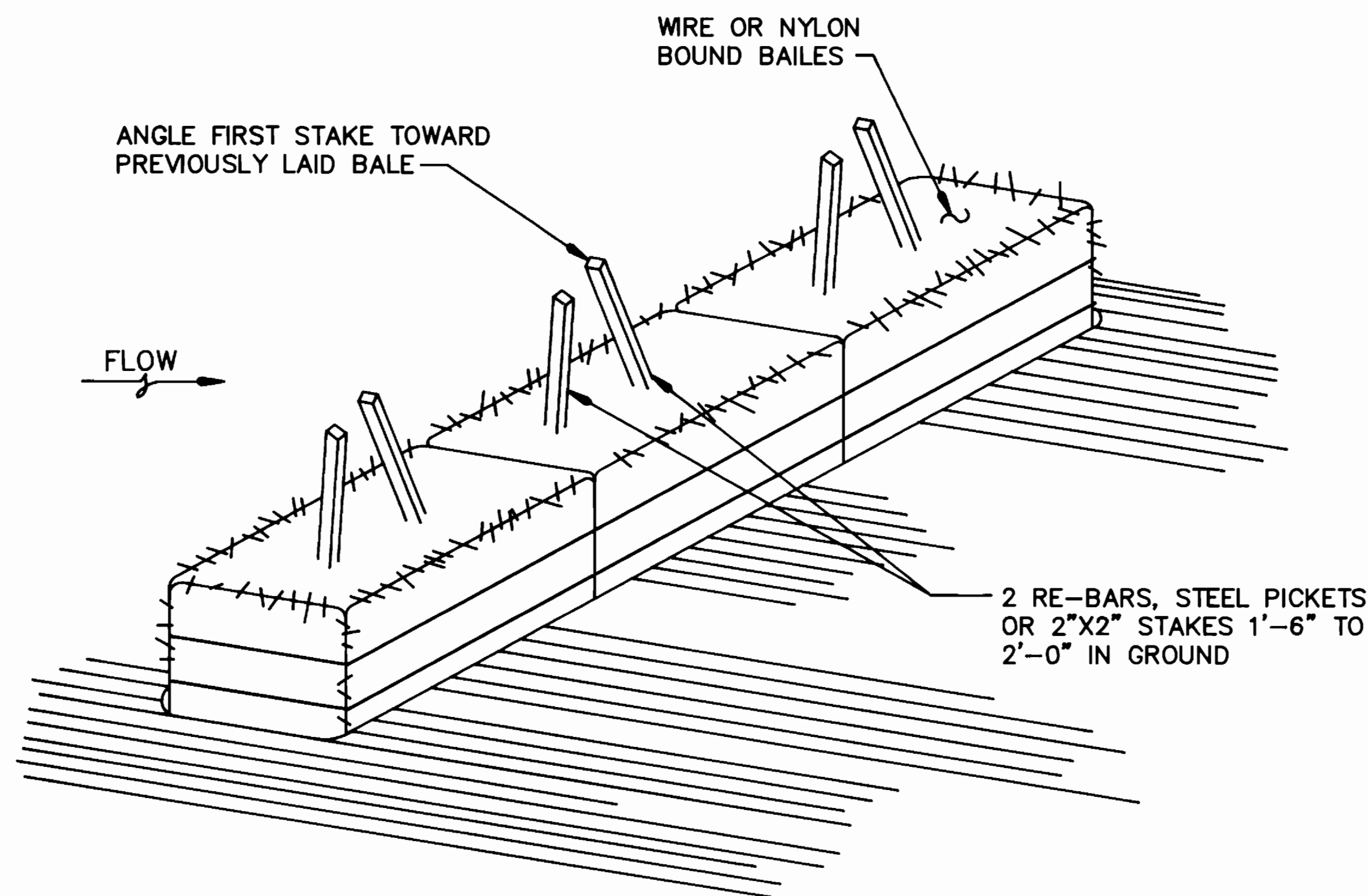
Approved: *Howard B. G...* 1/14/91
Howard B. G...



DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>John M. Helm</i> 1-16-91 Chief, Bureau of Utilities: <i>Robert R. B...</i> 1-16-91	WALLACE, MONTGOMERY & ASSOCIATES 1544 YORK ROAD LUTHERVILLE, MARYLAND 21093 (301) 494-9093 Professional Engineer: <i>John M. Helm</i>	DES: J.C.W.			DETAILS OF WATER AND SEWER EXTENSION	VOLLMERHAUSEN ROAD WATER AND SEWER EXTENSION CAPITAL PROJECT W - 8156 CONTRACT NO. 24-3010 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 3 OF 4
		DRN: S.W.S.					



EMBEDDING DETAIL



ANCHORING DETAIL

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BAILE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THRU THE BAILES. THE FIRST STAKE IN EACH BAILE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BAILE TO FORCE BAILES TOGETHER.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR 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.

STANDARD SYMBOL - _____ S.B.D. _____

STRAW BAILE DIKE DETAIL

NOT TO SCALE

TRAVERSE DESCRIPTION

POINT NO.	NORTH	EAST	BEARING	DISTANCE
2041003	478528.6720	844482.9670		
			N29°-26'-30"E	3112.77'
2142006	481239.4500	846013.0100		
			S00°-57'-10"E	107.79'
1007	481131.6749	846014.8024		
			S25°-44'-25"E	507.14'
1008	480674.8578	846235.0503		
			S15°-11'-50"E	711.95'
1009	479987.8056	846421.6837		
			S44°-12'-46"E	388.45'
1010	479709.3818	846692.5594		
			S63°-31'-36"E	313.70'
1011	479569.5401	846973.3653		
			S55°-20'-14"E	325.11'
1012	479384.6351	847240.7726		
			S33°-40'-31"E	370.13'
1013	479076.6152	847446.0041		
			S11°-41'-04"W	219.08'
1131	478862.0799	847401.6365		
			S23°-14'-13"E	247.68'
1132	478634.4960	847499.3527		

STAKEOUT TABLE

MANHOLE/POINT	STATION	OFFSET
Manhole #10	STA. 22+85	5' R
Manhole #9	STA. 25+65	13' R
Manhole #8	STA. 27+35	16' R
Manhole #7	STA. 31+31	14' R
Manhole #6	STA. 34+03	16' R
Manhole #5	STA. 35+85	7' R
Manhole #4	STA. 37+58	8' R
Manhole #3	STA. 39+03	7' R
Manhole #2	STA. 39+42	47' R
Manhole #1	STA. 40+70	50' R
BEGIN WATER MAIN	STA. 24+21	8' L
P.C. WATER MAIN	STA. 25+57	5' L
CURVE RADIUS 574.28'		
P.T. WATER MAIN	STA. 28+25.00	5' L
P.C. WATER MAIN	STA. 30+85	5' L
CURVE RADIUS 914.23'		
END WATER MAIN	STA. 33+85	5' L

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. THE CONTRACTOR WILL COMPLY WITH ALL REQUIREMENTS OF SEDIMENT AND EROSION CONTROL SET FORTH IN THE CONTRACT DRAWINGS, 1983 "MARYLAND STANDARDS SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND VOLUME IV-SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV.
2. THE CONTRACTOR SHALL NOT PUMP FROM EXCAVATED AREAS DIRECTLY INTO THE HOWARD COUNTY STORM DRAINAGE SYSTEM OR ANY NATURAL WATER COURSE. WHERE GROUND WATER IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE PORTABLE OR EXCAVATED SEDIMENT TRAPS TO PREVENT SILTED TRENCH WATER FROM ENTERING STORM DRAINAGE SYSTEMS OR NATURAL WATERWAYS.
3. ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH WHENEVER POSSIBLE, AND CONFINED TO AN AREA WHERE IT WILL NOT OBSTRUCT THE NORMAL FLOW OR DRAINAGE COURSES.
4. ALL SWALES SHALL BE EQUIPPED WITH A SEDIMENT RETENTION DEVICE TO TRAP SEDIMENT AND FILTER WATER LEAVING THE RIGHT-OF-WAY PRIOR TO ENTERING ANY RUNNING STREAM.
5. THE CONTRACTOR SHALL PROVIDE STRAW BAILE DIKES NORMAL TO SURFACE WATER FLOW AROUND ALL VEHICLE AND EQUIPMENT STAGING AREAS AS SHOWN IN "DETAIL OF A STRAW BAILE DIKE" ENCLOSED IN SPECIFICATIONS.
6. ROAD SIDE DITCHES AND DRAINAGE PIPES SHALL BE RESTORED TO A CONDITION FOLLOWING COMPLETION OF CONSTRUCTION.
7. THE CONTRACTOR SHALL DISPOSE OF SPOILS IN ACCORDANCE WITH GOOD SOIL CONSERVATION PRACTICE AND IN SUCH A MANNER THAT NONE CAN BE CARRIED INTO ANY DRAINAGE FACILITY OR WATER COURSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF ALL SPOIL OR EXCESS EXCAVATED MATERIAL ON A SITE APPROVED BY THE SOIL CONSERVATION DISTRICT. DOCUMENTATION OF APPROVAL AND SITE SHALL BE PROVIDED TO THE ENGINEER PRIOR TO BEGINNING WORK.
8. THE HOWARD COUNTY SOIL CONSERVATION DISTRICT MUST BE NOTIFIED IN WRITING BY THE CONTRACTOR AS TO WHERE EXCESS MATERIAL WILL BE DISPOSED FROM THE PROJECT, COPIES SHALL BE PROVIDED TO THE ENGINEER.
9. CONTINUOUS INSPECTION AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL DEVICES WILL BE REQUIRED.
10. THE CONTRACTOR SHALL PROVIDE ADDITIONAL SOIL EROSION AND SEDIMENT CONTROL AS REQUIRED BY THE SEDIMENT CONTROL INSPECTOR, AS THE WORK PROGRESSES OR REQUIRES.
11. THE CONTRACTOR SHALL NOTIFY IN WRITING, A HOWARD COUNTY SEDIMENT CONTROL DIVISION REPRESENTATIVE AT LEAST THREE (3) DAYS PRIOR TO STARTING WORK. PLEASE CONTACT: HOWARD COUNTY 992-2436. COPIES SHALL BE PROVIDED TO THE ENGINEER.
12. THE CONTRACTOR SHALL PLACE A STABILIZED CONSTRUCTION ENTRANCE AS SHOWN IN THE HOWARD COUNTY STANDARD DETAILS, G6.11 WHERE SHOWN ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
13. SEDIMENT REMOVAL - ALL TRAPPED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AT THE AUTHORIZED LANDFILLS PRIOR TO REMOVAL OF SEDIMENT CONTROL STRUCTURES.
14. FOLLOWING INITIAL SOIL DISTURBANCE, OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - A. SEVEN (7) CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
 - B. FOURTEEN (14) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

<p style="text-align: center;">ENGINEER'S CERTIFICATION</p> <p>I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.</p> <p style="text-align: right;"><i>John C. Wallace</i> DATE: 1/16/91</p> <p style="text-align: center;">WALLACE, MONTGOMERY & ASSOCIATES 1544 YORK ROAD LUTHERVILLE, MARYLAND 21093 (301) 494-9093</p>	<p style="text-align: center;">REVIEWED FOR HOWARD COUNTY S.C.D. MEETS TECHNICAL REQUIREMENTS.</p> <p style="text-align: right;"><i>James M. Hela</i> DATE: 1/16/91</p> <p style="text-align: center;">THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT.</p> <p style="text-align: right;"><i>John R. Robertson</i> DATE: 1/16/91</p> <p style="text-align: center;">APPROVED HOWARD COUNTY S.C.D.</p>
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<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Robert B. Smith</i> DATE: 1-16-91</p> <p><i>John C. Wallace</i> DATE: 1-16-91</p>	<p>WALLACE, MONTGOMERY & ASSOCIATES 1544 YORK ROAD LUTHERVILLE, MARYLAND 21093 (301) 494-9093</p> <p><i>John C. Wallace</i></p>	<table border="1"> <tr> <td>DES: J.C.W.</td> <td></td> </tr> <tr> <td>DRN: G.C.N.</td> <td></td> </tr> <tr> <td>CHK: J.C.W.</td> <td></td> </tr> <tr> <td>DATE: 7/1/90</td> <td></td> </tr> </table>	DES: J.C.W.		DRN: G.C.N.		CHK: J.C.W.		DATE: 7/1/90		<p style="text-align: center;">DETAILS OF WATER AND SEWER EXTENSION</p> <p>600' SCALE MAP NO. 47 BLOCK NO. _____</p>	<p>VOLLMERHAUSEN ROAD WATER AND SEWER EXTENSION CAPITAL PROJECT W-8156 CONTRACT NO. 24-3010 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>SHEET 4 OF 4</p>
DES: J.C.W.													
DRN: G.C.N.													
CHK: J.C.W.													
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