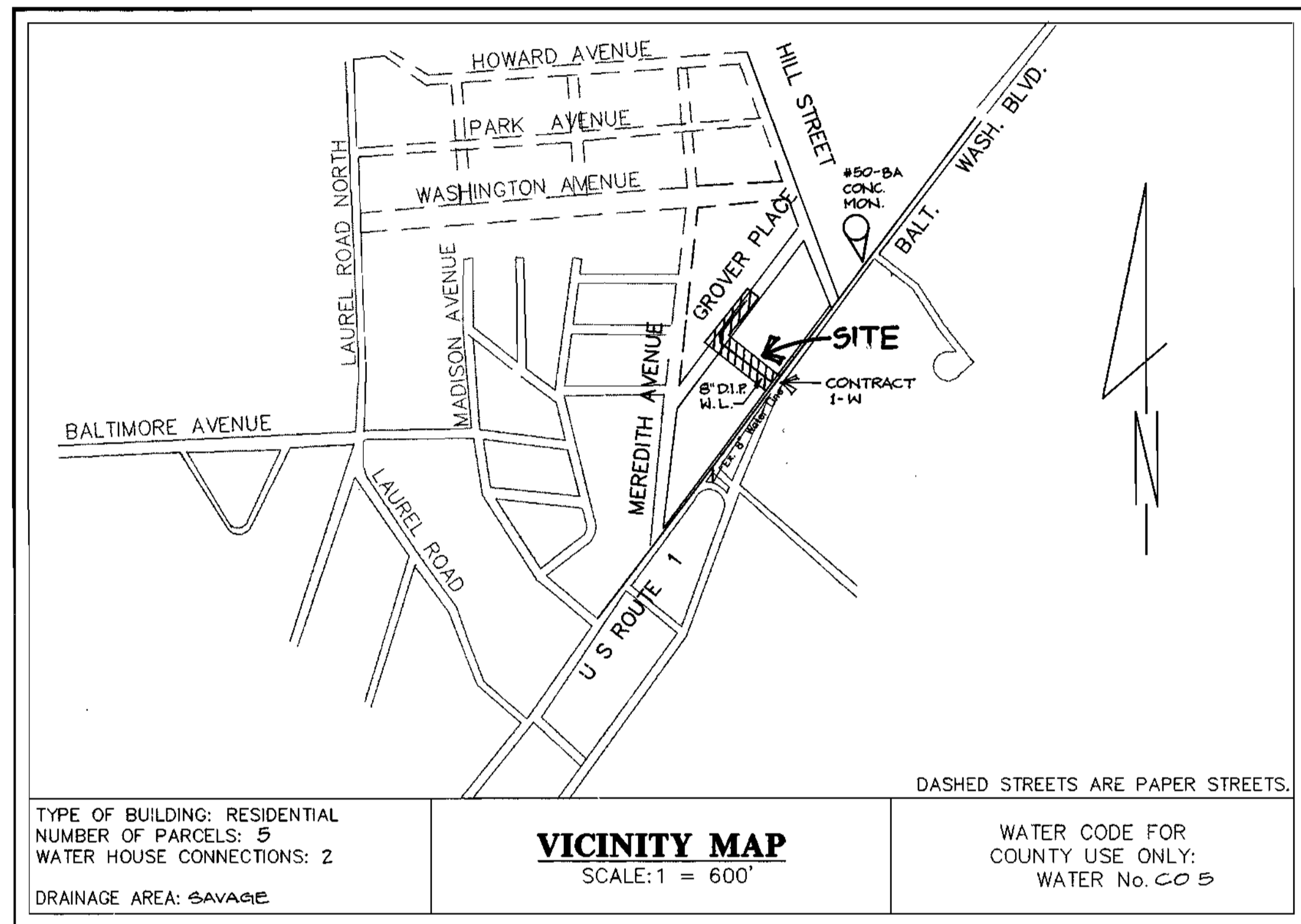


AS-BUILT AUG. 11, 1997

GROVER PLACE WATER MAIN HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIMATE	AS BUILT		
8" WATER	560 L.F.	560	D.I.P.	GRIFFIN PIPE P.E. AIRS SUPPLY
8" 45° BEND	2 EA.	2	D.I.P.	" "
8" 1 1/4" VERTICAL BENDS	2 EA.	2	D.I.P.	" "
8" x 8" TAPPING SLEEVE & VALVE	1 EA.	1		U.S. PIPE
3/4" HOUSE CONNECTION	10 L.F.	11 L.F.	"	READING PRODUCTS
8" x 6" TEE, VALVE & FIRE HYDRANT	1 EA.	1		GRIFFIN PIPE
8" CAP AND BUTTRESS	1 EA.	1		BELAIR SUPPLY
BLOWOFF	1 EA.	1	HO.CO. BUR./UTIL.	HO.CO. BUREAU OF UTIL.
8" VALVES	2 EA.	2	MUELLER	BELAIR SUPPLY
2 1/2" BENDS	0	3	3	" "
FIRE HYDRANT	1 EA.	1	1	MUELLER



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 SERVICE. 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. DATA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 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. - UNDERGROUND DAMAGE CONTROL - 787-9068
MISS UTILITY - 1-800-257-7777
CHESAPEAKE & POTOMAC TELEPHONE CO. - 597-8585
COLONIAL PIPELINE CO. - 795-1390
BUREAU OF UTILITIES, HOWARD COUNTY DEPT. OF PUBLIC WORKS - 313-4900
AT & T - 865-3803
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- 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.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(A) OF THE HOWARD COUNTY CODE.

PART II - WATER

- ALL WATER MAINS SHALL BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- 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 INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

NOTE:
SEDIMENT CONTROL TO BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE STDS. & SPECS. (VOL. IV) OF THE HOWARD COUNTY DESIGN MANUAL AND THESE PLANS.

DEVELOPER'S CERTIFICATION

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

Robert J. Brown DATE 12/7/95
SIGNATURE OF DEVELOPER
PRINT NAME BELOW SIGNATURE

ENGINEER'S CERTIFICATION

"I 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 COUNTY SOIL CONSERVATION DISTRICT."

REVIEWED FOR HOWARD COUNTY S.C.D. MEETS TECHNICAL REQUIREMENTS
Robert J. Brown DATE 12/21/95
U.S. SOIL CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION AND SEDIMENT CONTROL BY HOWARD COUNTY SOIL CONSERVATION DISTRICT.
Robert J. Brown DATE 12/21/95
APPROVED HOWARD S.C.D.

McCORME, INC.
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621

INDEX OF DRAWINGS	
SHEET NO:	DESCRIPTION
1	TITLE SHEET, INDEX OF DRAWINGS, GENERAL NOTES
2	PLAN - PROFILES GROVER PLACE/HILL STREET
3	SEDIMENT CONTROL MEASURES

Grover Place
WS/1
3326

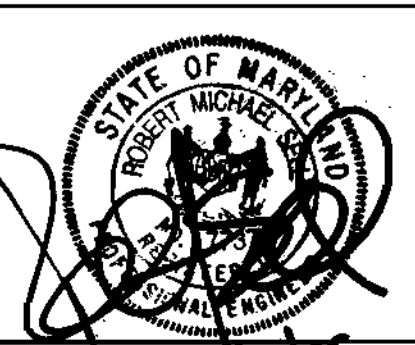
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert J. Brown 12/7/95
DIRECTOR OF PUBLIC WORKS DATE

Robert J. Brown 12-20-95
CHIEF, BUREAU OF UTILITIES DATE

Robert J. Brown 12/7/95
CHIEF, WATER & SEWER DESIGN DIV. DATE

McCORME
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
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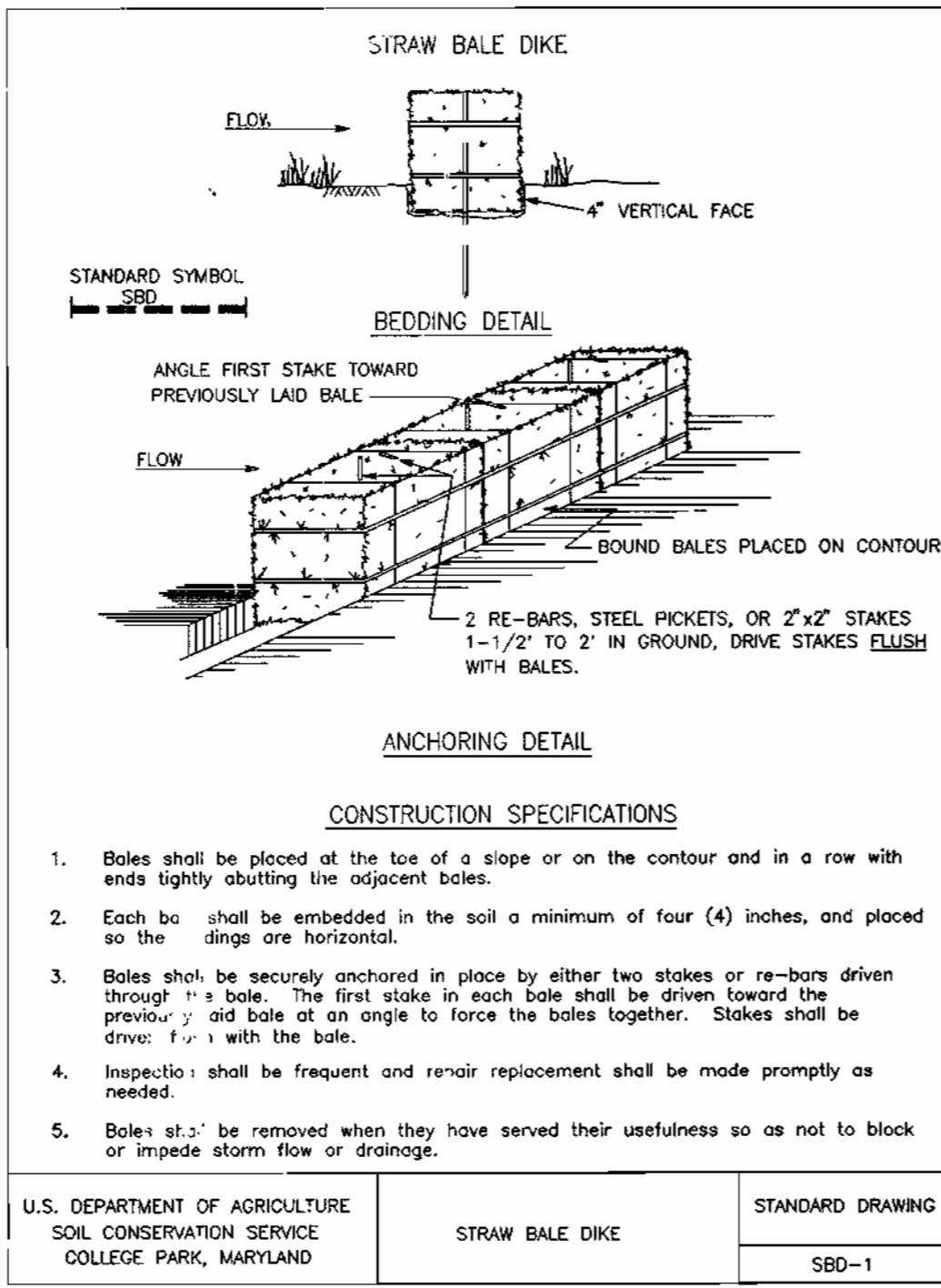


DES:	DRN:	CHK:	DATE:	BY:	No.	REVISION	DATE:

**TITLE SHEET,
INDEX OF DRAWINGS,
GENERAL NOTES**

GROVER PLACE WATER MAIN
CAPITAL PROJECT W - 8191
CONTRACT No. 44-3326
ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 3



SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT

SITE PREPARATION

- Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within seven calendar days as to the surface of all perimeter controls, dikes, swales, ditches.
- Temporary perimeter dikes and silt traps, etc., are to be provided as per this plan prior to grading operations with location adjustments to be made in the field as necessary and to be maintained at the end of the working day. The minimum area practical shall be disturbed for the minimum amount of time possible.
- Permanent Seeding:**
 - Seedbed preparation: Area to be seeded shall be loose and friable to a depth of at least 3". The top layer shall be loosened by raking, disking or other acceptable means before seeding occurs. In lieu of soil test results, apply 100 lbs. of dolomitic limestone and 25 lbs. of 10-10-10 fertilizer 1000 square feet. Harrow or disk lime and fertilizer into the soil to a depth of at least 3" on slopes flatter than 3:1. No attempt should be made to drag any disked area to make the soil surface smooth after disking.
 - Seeding: Apply 5-6 lbs. per 1,000 square feet of Kentucky 31 tall fescue between February 1 and April 30 or between August 15 and October 31. Apply seed uniformly with a cyclone seeded drill, cultipacker seeder or hydroseeder (slurry includes seeds and fertilizer, recommended on steep slopes only) on a moist, firm seedbed. Maximum seed depth should be 1/4" in clayey soils and 1/2" in sandy soils when using other than hydroseeder method. Irrigate if soil moisture is deficient to support adequate growth, until vegetation is firmly established.
 - Mulching: Mulch shall be unchopped, unrotted, small grain straw applied at a rate of 70 to 90 lbs. per 1,000 square feet. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds which are: Canada Thistle, Johnsongrass, and Quackgrass. Spread mulch mechanically or uniformly by hand; mulch anchoring shall be accomplished immediately after mulch placement to minimize loss by wind or water. This may be done by peg and twine method, mulch anchoring tool, netting or liquid mulch binders.
- Temporary Seeding:**

Lime: 100 lbs. of dolomitic limestone per 1,000 square feet.
 Fertilizer: 15 lbs. of 10-10-10 per 1,000 square feet.
 Seed: Perennial rye, Italian rye - 0.92 lbs. per 1,000 square feet.
 (Feb. 1 through April 30 or August 15 through Nov. 1)
 Millet - 0.92 lbs. per 1,000 square feet (May 1 - August 15)
 Mulch: Same as 3C above
 (Nov. 2 through Jan. 31, use mulch only)

- No fills may be placed on frozen ground. All fill to be placed in approximately horizontal layers, each layer having a loose thickness of not more than 8". All fill in roadways and parking areas is to be classified Type 2 as per Anne Arundel Co. Grading Ordinance, Section 12-2027, and compacted to 90% density; compaction to be determined by ASTM D-1557 (Modified Proctor). Any fill within building area to be compacted to minimum of 95% as determined by methods previously mentioned. All other fills shall be compacted sufficiently so as to be stable and prevent erosion and slippage.

- Permanent Sod:**

Permanent Sod is to be Kentucky 31 tall fescue state approved sod; lime and fertilizer per permanent seeding specifications and lightly irrigate soil prior to laying soil. Sod is to be laid on the contour with all ends tightly abutting. Water soil or tamp sod to insure positive root contact with the soil. All slopes steeper than 3 to 1, as shown, are to be permanently sodded. Additional watering for establishment may be required. Sod is not to be applied on frozen ground. No slopes steeper than 2:1 are permitted without prior written permission from the engineer, the approving authority and the owner. If ground is frozen, surface shall be mulched as specified above (3C), until ground has thawed sufficiently to allow rooting of the sod.

- Mining Operations:**

Sediment control plans for mining operations must include the following seeding dates and mixtures:

For seeding dates of February 1 through April 30 and August 15 through October 31 use seed mixture of Kentucky 31 Tall Fescue at the rate of 2 pounds per 1000 square feet and Sericea Lespedeza at the rate of 0.5 pounds per 1000 square feet.
 For seeding dates of May 1 through August 14 use seed mixture of Kentucky 31 Tall Fescue at the rate of 2 pounds per 1000 square feet and Weeping Lovegrass at the rate of 0.1 pound per 1000 square feet.

NOTE: Use of this information does not preclude meeting all of the requirements of the current "Maryland Standards and Specifications for Soil Erosion and Sediment Control."

TRAVERSE DESCRIPTION

POINT NO.	NORTH	EAST	BEARING	DISTANCE
100	526943.2413	1359298.646		
			S35 57' 16" W (A)	436.54'
101	526589.8691	1359042.335		
			N49 41' 07" W (B)	324.72'
102	526799.9648	1358794.728		
			N43 37' 20" E (C)	252.55'
103	526982.7796	1358968.955		

RESTORATION SCHEDULE

LOCATION	LENGTH	MATERIAL
OAK STREET 0+00 TO 3+20	320	SEED AND GRASS OR GRAVEL AS REQUIRED
GROVER PLACE 3+20 TO 5+30	210	SEED AND GRASS

SEQUENCE OF CONSTRUCTION

- CONTACT HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION 48 HOURS PRIOR TO COMMENCING WORK AT 313-1880.
- INSTALL SEDIMENT CONTROL DEVICES (SILT FENCE, STABILIZED CONSTRUCTION ENTRANCE, STRAW BALES)
- CLEAR AND GRUB EXISTING VEGETATION.
- INSTALL WATER MAIN. ALL EXCAVATED MATERIAL TO BE INSTALLED ON THE UP SLOPE SIDE OF THE TRENCH. TRENCH TO BE BACKFILLED AND STABILIZED AT THE END OF EACH DAY.*
- BACKFILL TRENCH SEED AND MULCH.
- CLEAN UP CONSTRUCTION SITE.
- REMOVE SEDIMENT CONTROL DEVICES.

* SWALE AREA (STA. 0+30 TO 0+44) to be stabilized and completed in one work day.

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (313-1855)
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH SEC. 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 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 "1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDINGS (SEC.51), SOD (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	1.31 ACRES
AREA DISTURBED:	0.65 ACRES
AREA TO BE ROOFED OR PAVED:	0.01 ACRES
AREA TO BE VEGETATIVELY STABILIZED:	0.64 ACRES
TOTAL CUT:	0 - ACRES
TOTAL FILL:	0 - ACRES
OFFSITE WASTE/BORROW AREA LOCATION:	0 - ACRES
- 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 DPW 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 BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- ALL TRENCH MATERIAL SHOULD BE PLACED ON THE HIGHER SIDE OF THE TRENCH, ABOVE THE TOP-OF-CURB.
- OPEN TRENCH LENGTH SHALL BE LIMITED TO 100 L.F. AT ANY TIME.

ws/3 Grover Place

3326

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James M. Law 12/2/95
DIRECTOR OF PUBLIC WORKS DATE

Richard J. Sporn 12/7/95
CHIEF, BUREAU OF ENGINEERING DATE

John J. ... 12-20-95
CHIEF, BUREAU OF UTILITIES DATE

... 12-2-95
CHIEF, WATER & SEWER DESIGN DIVISION DATE

McCRONE
ENGINEERING ENVIRONMENTAL SCIENCES
LAND PLANNING & SURVEYING CONSTRUCTION SERVICES

20 BOWLEY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621

ANNAPOLIS - CENTREVILLE - EASTON - ELKTON - LEONARDVILLE - OCESSA - PRINCE FREDERICK



DES:			
DRN:			
CHK:			
DATE:	BY	No.	REVISION

SEDIMENT CONTROL MEASURE

600' SCALE MAP No. 46 BLOCK No.

GROVER PLACE WATER MAIN
CAPITAL PROJECT W - 8191
CONTRACT No. **44-3326**
ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 3