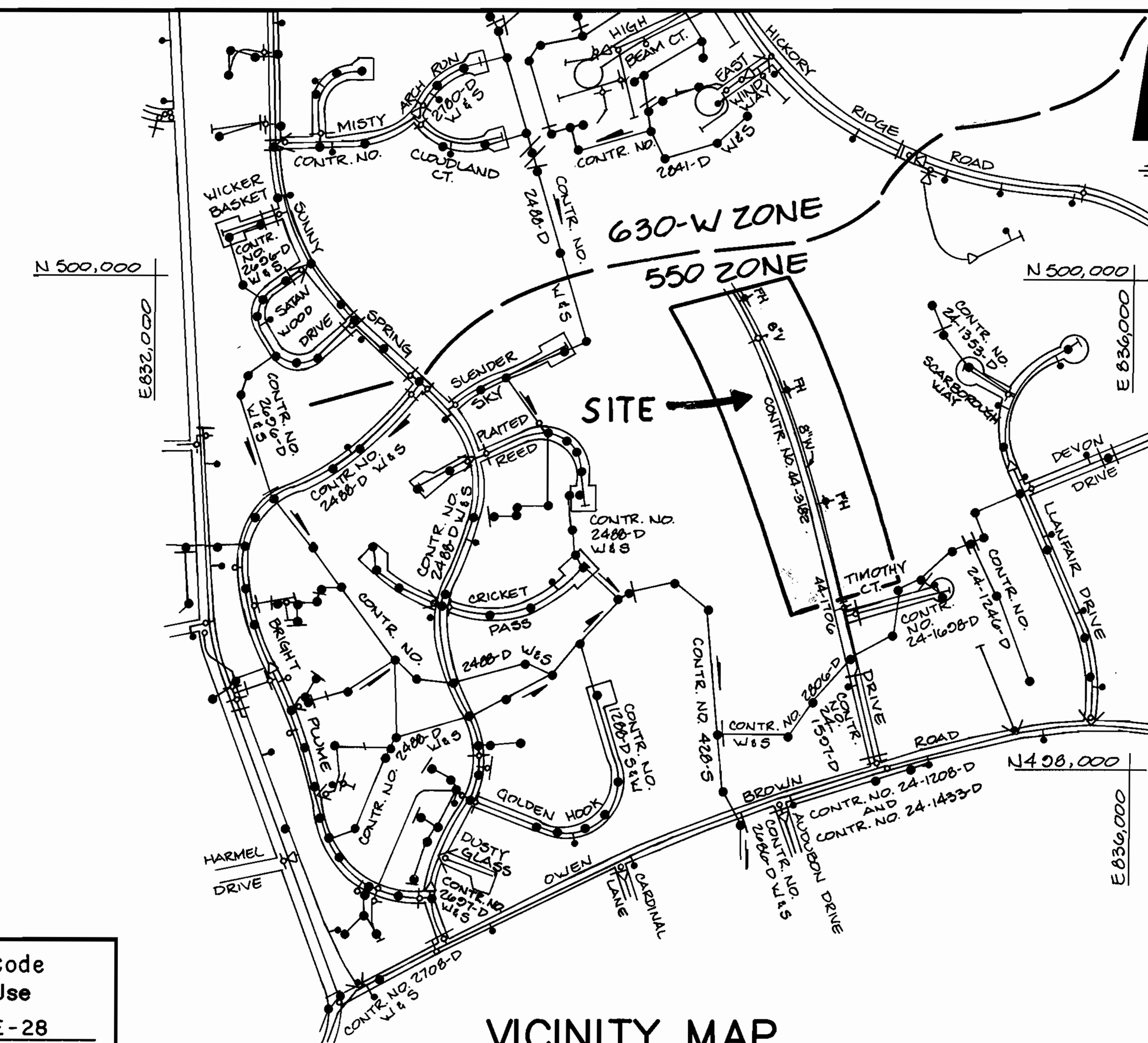
JERRY'S DRIVE WATER EXTENSION
CAPITAL PROJECT W8180
CONTRACT NO. 44-3182
5th ELECTION DISTRICT

QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
8" WATER	1232 L.F.			
6" WATER	41 L.F.			
8" VALVE	1 EACH			
6" VALVE	3 EACH			
8"x6" TEE	3 EACH			
6" FIRE HYDRANT	3 EACH			
8" CAP	1 EACH			
3/4" WHC	478 L.F.			



Water Code
County Use
Water No. E-28

VICINITY MAP
SCALE : 1"=600'

Type of Bldg : Residental
No. of Parcels : 19
Drainage Area : Little Patuxent
No. of W.H.C. 19

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. data.
4. All pipe elevations shown are (symbol) invert elevations.
5. 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 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.
6. For details not shown on the drawings, and for materials and construction methods use Howard County Design Manual, Volume IV, Standard Specifications and Detail for Construction. (Latest Edition). 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 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.
8. 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
Colonial Pipeline Co.	795-1390
Bureau of Utilities, Howard County Department of Public Works	313-4900
C & P Telephone Co.	597-8585

9. 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.
10. 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.
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 strapped 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 1000 and 1005 of the Standard Specifications.
16. The contractor shall not operate any water main valves on the existing water system. Call Howard County Bureau of Utilities at 313-4900. Coordinate tie-in to the existing 8" water main at least five working days prior to scheduling.
17. All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
18. Excavated trench length will be limited to three pipe lengths or that which can be backfilled and stabilized in one day, whichever is shorter.
19. The contractor shall implement the erosion and sediment control measures on sheet 3 of 3.
20. All work will be in accordance with Howard County Standards and Specifications for Soil Erosion and Sediment Control, Section 219.
21. **Topography provided by the Howard County Department of Public Work Bureau of Engineering Survey Drafting Division.**

BY THE DEVELOPER :	BY THE ENGINEER :
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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.	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 SOIL CONSERVATION DISTRICT.
DEVELOPER 3-18-92 DATE	ENGINEER 3-3-92 DATE
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.	THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
U.S. SOIL CONSERVATION SERVICE 3/25/92 DATE	HOWARD SOIL CONSERVATION DISTRICT 3/25/92 DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS 3/23/92 DATE
CHIEF, BUREAU OF ENGINEERING 3-18-92 DATE
CHIEF, BUREAU OF UTILITIES 3-19-92 DATE
CHIEF, UTILITY DESIGN DIVISION 3-18-92 DATE

RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
8818 Centre Park Drive • Suite 200 • Columbia, Md. 21045
410-997-8900 FAX: 410-997-9282

STATE OF MARYLAND — ARTHUR E. MUEGGE III — NO 8707 REGISTERED PROFESSIONAL ENGINEER
ARTHUR E. MUEGGE #8707

DES: D.A.M.
DRN: D.A.M.
CHK: CJR
DATE: 3-3-92

BY	NO.	REVISION	DATE

TITLE SHEET

600' SCALE MAP NO. 35 BLOCK NO. 12

JERRY'S DRIVE WATER EXTENSION
CAPITAL PROJECT W8180
CONTRACT NO. 44-3182
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 3

N13493

EP-92-22

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		RIEMER MUEGGE & ASSOCIATES, INC.	DES: DAM
DIRECTOR OF PUBLIC WORKS — 3/23/92	CHIEF, BUREAU OF ENGINEERING — 3-18-92	A Land Planning, Engineering and Consulting Firm 8818 Centre Park Drive • Suite 200 • Columbia, Md. 21045 410-997-8900 FAX: 410-997-9282	DRN: MAD
CHIEF, BUREAU OF UTILITIES — 3-19-92	CHIEF, UTILITY DESIGN DIVISION — 3-18-92	ARTHUR E. MUEGGE #8707	CHK: CJR
			DATE: 3-3-92

BY	NO.	REVISION	DATE

600' SCALE MAP NO. 35 BLOCK NO. 12

PLAN AND PROFILE OF WATER EXTENSION

JERRY'S DRIVE WATER EXTENSION
CAPITAL PROJECT W8180
CONTRACT NO. 44-3182
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 2 OF 3

TEMPORARY SEEDING

Seedbed Preparation:

When the area to be seeded has been recently loosened to the extent that an adequate seedbed exists, no additional treatment is required. However, when the area to be seeded is packed, crusted, and hard, the top 3 inches of soil shall be loosened by discing, raking or other acceptable means before seeding.

Soil Amendments:

For temporary seedings, fertilizer shall be applied at the rate of 600 LBS per acre (15 LBS/1000 SF), using 10-10-10 or equivalent. Soils which are highly acid should be limed.

Seeding:

For periods March 1 thru April 30 and August 15 thru November 15. Seed with 2 1/2 BU per acre (3.2 LBS/1000 SF) of annual rye.

For the period May 1 thru August 14. Seed with 3 LBS per acre (.07 LBS/1000 SF) of Weeping Lovegrass.

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 sod.

Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder or hydroseeder (slurry includes seed and fertilizer).

Mulching: See Mulching Specification.

PERMANENT SEEDING

Seedbed Preparation: Flat areas and slopes up to 3:1 slope shall be loose and friable to a depth of at least 3 inches. The top layer of soil shall be loosened by raking, discing or other acceptable means before seeding. Slopes steeper than 3:1 shall have the top 1 to 3 inches of soil loose and friable before seeding.

Soil Amendments: Use one of the following schedules.

Lime and fertilize according to soil tests. Lime and fertilizer needs can be determined by a soil testing laboratory, such as the University of Maryland's Soil Testing Laboratory.

In lieu of soil test results, use one of the following schedules.

1) Preferred – Apply 2 tons per acre dolomitic limestone (92 LBS/1000 SF) and 600 LBS per acre 10-10-10 fertilizer (14 LBS/1000 SF) 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 (01 LBS/1000 SF)

2) Acceptable – Apply 2 tons per acre dolomitic limestone (92 LBS/1000 SF) and 1000 LBS per acre 10-10-10 fertilizer (23 LBS/1000 SF) before seeding. Harrow or disc into upper three inches of soil.

On slopes steeper than 3:1 slope, the lime and fertilizer shall be worked the best way possible. On sloping land, the final harrowing or discing operation should be on the contour wherever feasible. No attempt should be made to drag any disced area to make the soil surface smooth after discing.

Seeding:

For the periods March 1 thru April 30, and August 1 thru October 15. Seed with 60 LBS per acre (1.4) LBS/1000 SF) of Kentucky 31 Tall Fescue.

For the period May 1 thru July 31.
Seed with 60 LBS Kentucky 31 Tall Fescue per acre and 2 LBS per acre (.05 LBS/1000 SF) of Weeping Lovegrass.

For the period 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 sod.
Option (3) Seed with 60 LBS/acre (1.4 LBS/1000 SF) Kentucky 31 Tall Fescue and mulch with 2 tons per acre well-anchored straw.

Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder or hydroseeder (slurry includes seed and fertilizer) on a firm, moist seedbed. Maximum seeding depth should be 1/4 inch on clayey soils and 1/2 inch on sandy soils, when using other than hydroseeder method of application. Note: If hydroseeding is used and the seed and fertilizer is mixed, they shall be mixed on site and the seeding shall be immediate without interruption.

Mulching: See Mulching Specification.

Irrigation:

If soil moisture is deficient, supply new seedings with adequate water for plant growth until they are firmly established, if feasible. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Maintenance:

Irrigation – If soil moisture becomes deficient, irrigate to prevent loss of stand of protective vegetation, if feasible.
Repairs – Inspect all seeded areas for failures and make necessary repairs, replacements, and reseeding within the planting season, if possible.
1) If stand is inadequate for erosion control, overseed and fertilize using half of the rates originally applied.
2) If stand is over 60% damaged, reestablish following original lime, fertilizer, seedbed preparation and seeding recommendations.

SEDIMENT CONTROL NOTES

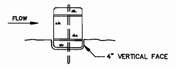
1. A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction (992-2437).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL.
3. 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 other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around the 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 time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION 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.
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	1.307 acres
Area Disturbed	0.087 acres
Area to be roofed or paved	0.084 acres
Area to be vegetatively stabilized	0.003 acres
Total Cut	595 cu.yds.
Total Fill	595 cu.yds.

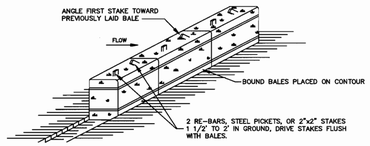
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment controls must be provided, if deemed necessary by the Howard County Department of Public Works Sediment Control Inspector.
10. Site grading will begin only after all perimeter sediment control measures have been installed and are in a functioning condition.
11. Sediment will be removed form traps when its depth reaches clean out elevation shown on the plans.
12. Cut and fill quantities provided under site analysis do not represent bid quantities. These quantities do not distinguish between topsoil, structural fill or embankment material, nor do they reflect consideration of undercutting or removal of unsuitable material. The contractor shall familiarize himself with site conditions which may affect the work.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. LAYOUT ALIGNMENT AT SITE.
3. INSTALL SEDIMENT CONTROL DEVICE (STRAW BALES) PERPENDICULAR TO THE EDGE OF PAVING ON THE DOWN SLOPE SIDE OF CONSTRUCTION.
4. EXCAVATE DITCH TO THE GRADE SPECIFIED ON THE PROFILE.
5. INSTALL WATER MAIN.
6. BACKFILL TRENCH AND RESURFACE WITH TEMPORARY BITUMINOUS PAVING WHERE NEEDED.
7. CLEAN UP CONSTRUCTION SITE.
8. REMOVE SEDIMENT CONTROL DEVICES AFTER PERMISSION IS GRANTED BY THE SEDIMENT CONTROL INSPECTOR.



BEDDING DETAIL



ANCHORING DETAIL

STRAW BALE DIKE DETAIL

NO SCALE

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.

WATER MAIN STAKEOUT

TRAVERSE STATION	OFFSET	DESCRIPTION
0 - 45	35' LT.	STA. 0+00 TIE TO EX. 8" WATER
0 - 31	20' LT.	STA. 0+17 8"- 1/8 HB
2+25	15' RT.	STA. 2+75 PC OF WATER MAIN
4+55	25' LT.	STA. 5+00 FH TEE
7+44	25' LT.	STA. 7+05 FH TEE
8+32	25' LT.	STA. 8+83 PT OF WATER MAIN
9+00	25' LT.	STA. 9+50 8" VALVE
10+01	2' LT.	STA. 11+42 PC OF WATER MAIN
11+57	5' LT.	STA. 12+08 FH TEE
11+80	0' LT.	STA. 12+92 CAP AND BUTTRESS

RESTORATION SCHEDULE

LOCATION	LENGTH	MATERIAL
STA 0+00 TO 0+10	10'	SOD
STA 0+10 TO 12+32	1222'	PAVEMENT
STA 0+00 TO 0+12	12'	SOD AND PAVEMENT - FH.#1
STA 0+00 TO 0+14	14'	SOD AND PAVEMENT - FH.#2
STA 0+00 TO 0+15	15'	SOD AND PAVEMENT - FH.#3

TRAVERSE DESCRIPTION

POINT NO.	NORTH	SOUTH	BEARING	DISTANCE
107	499,077.098	834,730.346	N 08° 59' 19" W	184.315'
106	499,259.158	834,701.602	S 18° 34' 14" E	413.980'
D-167	499,651.583	834,569.760	N 28° 59' 47" W	565.327'
D-168	500,146.046	834,295.714		

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 3/23/92
CHIEF, BUREAU OF ENGINEERING — DATE 3-18-92
CHIEF, BUREAU OF UTILITIES — DATE 3-19-92
CHIEF, UTILITY DESIGN DIVISION — DATE 3-18-92

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STATE OF MARYLAND — ARTHUR E. MUEGGE #8707 — PROFESSIONAL ENGINEER

DES: DAM
DRN: DAM
CHK: C J R
DATE: 3-3-92

BY	NO.	REVISION	DATE

DETAIL SHEET

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SHEET 3 OF 3

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