

**GENERAL NOTES**

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS TO VERIFY THEIR LOCATION AND ELEVATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF LOCATION OF UTILITIES IS OTHER THAN SHOWN.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
  - MISS UTILITY 1-800-257-7777
  - CAP TELEPHONE COMPANY 725-9976
  - AT&T CABLE LOCATION DIVISION 393-3553
  - BALTIMORE GAS AND ELECTRIC COMPANY 685-0123
  - STATE HIGHWAY ADMINISTRATION 531-5533
  - HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION (24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK) 792-7272
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOL. IV, I.E., STANDARD SPECIFICATIONS AND DETAILS.
- STORM DRAIN BACKFILL WITHIN ROADWAYS, UNDER STRUCTURES AND FOR STORM DRAIN TRENCHES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM 1557.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE AS SHOWN IN DETAIL G2.01 (TRENCH IN ROCK OR TRENCH IN EARTH AS DETERMINED BY FIELD CONDITIONS) IN VOL. IV OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR AS SHOWN ON THE DRAWINGS.
- ALL STREET CURB RETURNS SHALL HAVE 35.0' RADIUS UNLESS OTHERWISE NOTED.
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C.S. MEAN SEA LEVEL DATUM, 1929.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- TOPO TAKEN FROM FIELD RUN SURVEY DATED JULY, 1996.
- SUBJECT PROPERTY ZONED R-12 PER B.4. COMPREHENSIVE ZONING PLAN.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1978 EDITION.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:

ALL RIGHT-OF-WAYS M.P.H.  
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**SEDIMENT CONTROL NOTES**

- 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 (492.2433)
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or re disturbance, 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) 10 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) and (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.
 

|                                    |               |
|------------------------------------|---------------|
| Total Area of Site                 | 2.27 acres    |
| Area Disturbed                     | 0.27 acres    |
| Area to be seeded or paved         | 0.10 acres    |
| Area to be vegetatively stabilized | 0.10 acres    |
| Total Out                          | 0.20 Cu. yds. |
| Total Fill                         | 0.00 Cu. yds. |
- 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 DIV sediment control inspector.
- Site grading will begin only after all perimeter sediment control measures have been installed and are in a functioning condition.
- Sediment will be removed from traps when its depth reaches the clean out elevation shown on the plans.

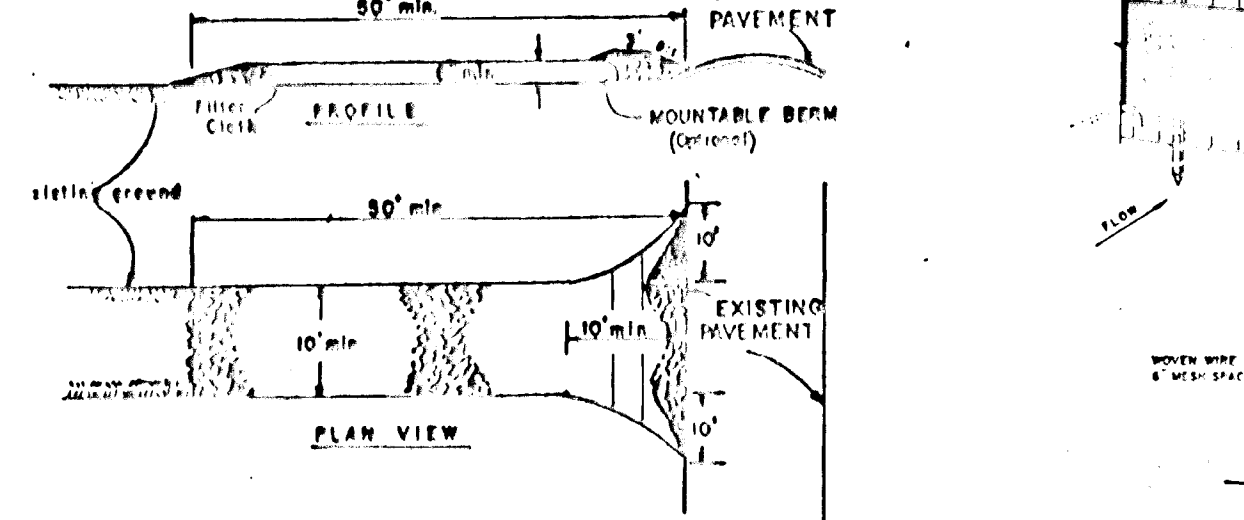
**PERMANENT SEEDING NOTES**

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- Soil Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.
- Soil Amendments:** Apply 0-20-20 fertilizer at the rate of 500 lbs. per acre. Narrow or disc lime and 0-20-20 fertilizer into the soil to a minimum depth of 3". Lawns or high maintenance areas will be dragged and leveled with a York rake. At the time of seeding, apply 400 lbs. of 30-0-0 ureaform fertilizer and 500 lbs. of 10-20-20 or equivalent fertilizer per acre.
- Seeding:** For the periods March 1 thru April 30, and August 1 thru October 15, seed with 40 lbs. per acre (1 lb./1000 sq. ft.) of a mixture of certified 'Merion' Kentucky bluegrass; common Kentucky bluegrass @ 40 lbs. per acre (1 lb./1000 sq. ft.) and Red Fescue, Tallgrass or Jamestown @ 20 lbs. per acre (0.5 lb./1000 sq. ft.) for the period May 1 thru July 31, seed with 40-40-20 mix as specified above and 2 lbs. per acre (0.05 lb./1000 sq. ft.) of sweeping 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) like sod. (Option 3) Seed with 40-40-20 mix specified above 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 unsoaked 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 4 ft. or higher, use 348 gallons per acre (8 gal./1000 sq. ft.) for anchoring.
- Maintenance:** Inspect all seeded areas and make needed repairs, replacements and reseedings.

**TEMPORARY SEEDING NOTES**

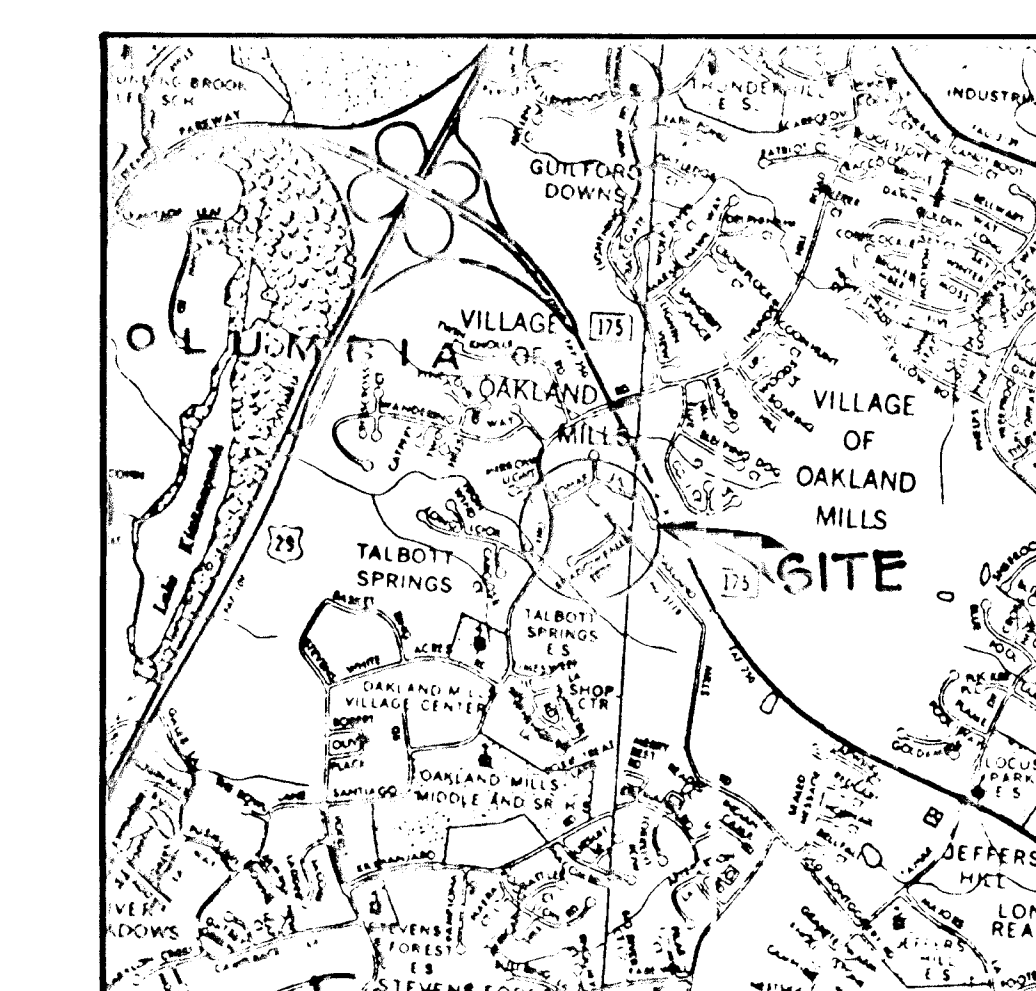
- Apply to graded or cleared areas likely to be re disturbed where a short-term vegetative cover is needed.
- Soil Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.
- Soil Amendments:** Apply 600 lbs. per acre 10-10-10 fertilizer (34 lb./1000 sq. ft.). Where soil is highly acidic, apply domestic limestone at the rate of 1 ton per acre.
- Seeding:** For periods March 1 thru April 30 and from August 15 thru November 15, seed with 140 lbs. 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 sweeping lovegrass (0.2 lb./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 sod.
- Mulching:** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq. ft.) of unsoaked 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 4 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.

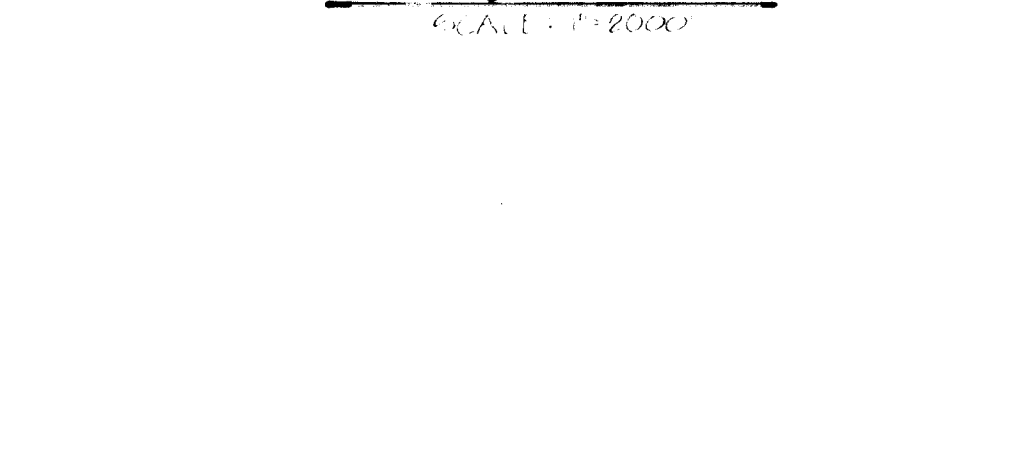


- CONSTRUCTION SPECIFICATIONS**
- Flow Pipe - 18" dia. pipe, or reinforced or recycled concrete equivalent.
  - Length - As specified, but not less than 30 feet (except on a slope rest-dance low where a 30 foot minimum length would apply).
  - Thickness - Not less than six (6) inches.
  - Width - One (10) foot wide, but not less than the full width at points where ingress of water occurs.
  - Filter Cloth - Will be placed over the entire flow pipe on a single family residential lot.
  - Surface Water - All surface water flowing or directed toward construction entrance shall be piped across the entrance. If piping is infeasible, a mountable base with 1:1 slope will be provided.
  - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public right-of-way. This may require periodic top dressing with additional stone as condition demand and repair and/or cleaning of any measures used to trap sediment. All material spilled, dropped, washed or tracked onto public right-of-way must be removed immediately.
  - Warning - Notices shall be placed to remove sediment prior to entrance onto public right-of-way. When warning is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
  - Periodic inspection and needed maintenance shall be provided after each rain.

**STABILIZED CONSTRUCTION ENTRANCE**



**VICINITY MAP**



**CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**

- Woven wire fence to be fastened securely to fence posts with wire ties or staples.
  - Filter cloth to be fastened securely to woven wire fence with ties spaced every 2' at top and mid section.
  - When the sections of filter cloth overlap each other they shall be overlapped by six inches and folded.
  - Maintenance shall be performed as needed and material removed when "BAGS" develop in the silt fence.
- PREFABRICATED UNIT:** Geotext, Polyethylene, or Approved Local.

**SEQUENCE OF CONSTRUCTION**

- OBTAIN GRADING PERMIT
- INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCE (1 DAY)
- EXCAVATE INFILTRATION SWALE AND DRAINAGE SWALE AS SHOWN ON THE PLANS (3 DAYS)
- STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES (1 DAY)
- UPON PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROLS AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES (1 DAY)

BY THE DEVELOPER:

"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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT."

*S. Eugene Long* 10/9/86  
DATE

BY THE ENGINEER:

"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."

*Arthur E. Muegge* 10/9/86  
DATE

REVIEWED FOR:

*James M. Hahn* 11-26-86  
DATE

APPROVED:

*Stephen L. Hahn* 10/21/86  
DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

*John W. Mankin* 11/21/86  
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*William C. Kelly* 10-2-86  
DATE

DATE NO REVISION

OWNER/DEVELOPER

S. EUGENE LONG AND HENDRIKA RAM LONG  
5626 OAKLAND MILLS ROAD  
COLUMBIA, MARYLAND 21045

PROJECT

MILL HAVEN  
LOTS 1 THRU 4

AREA TAX MAP #36 ZONED R-12

6TH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

TITLE

STORM WATER MANAGEMENT PLAN

THE RIEMER GROUP, INC.

The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm  
3105 Heister Park Drive, Ellicott City, Maryland 21043 (301) 461-2690

10/9/86 DATE

DESIGNED BY: WCW

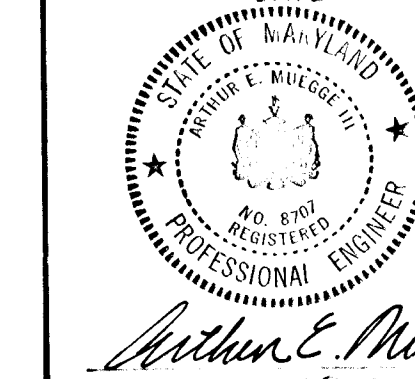
DRAWN BY: SVW

PROJECT NO: 7100

DATE

SCALE: AS SHOWN

DRAWING NO. 1 OF 1



*Arthur E. Muegge*

F-86-25