

SDP-99-157

- 1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division 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 the most current "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND
- SEDIMENT CONTROL", and revisions thereto. 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 7, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (Section G) for permanent seeding, sod, temporary seeding, and mulching. 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 6.229 Acres Area Disturbed 0.33 Acres Area to be roofed or paved *0*.113 Acres Area to be vegetatively stabilized 0.217 Acres Total Cut Cu. Yds Total Fill Cu. Yds.

- Offsite waste/borrow area location 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 control must be provided, if deemed necessary by the
- Howard County 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 not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day,

## HOWARD SOIL CONSERVATION DISTRICT PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules: 1) PREFERRED — Apply 2 tons per acres dolomitic limestone (92 lbs/1000 g. ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000

sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000sq. ft.)

2) ACCEPTABLE — Apply 2 tons per acres dolomitic limestone (92 lbs/1000sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/!000 sq. ft.) before seeding. Harrow or disk into upper three

SEEDING — For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs per acre (1.4 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue and 2 lbs. per acre (.05 lbs/1000sq. ft.) of weeping 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) — Use sod. Option (3) — Seed with 60 lbs.per acre Kentucky 31 Tall Fescue and mulch 2 tons / acre well anchored

MULCHING — Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/ 1000sa. ft.) for anchoring.

MAINTENANCE — Inspect all seeding areas and make needed repairs, replacements and reseedings.

# TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term

SEEDBED PREPARATION: - Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously

SOIL AMENDMENTS: - Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000sq.

SEEDING — For periods March 1 thru April 30, and from August 15 thru October 15 seed with 2-12 bushels per acre of annual rye (3.2 lbs/1000sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs/1000sq. 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

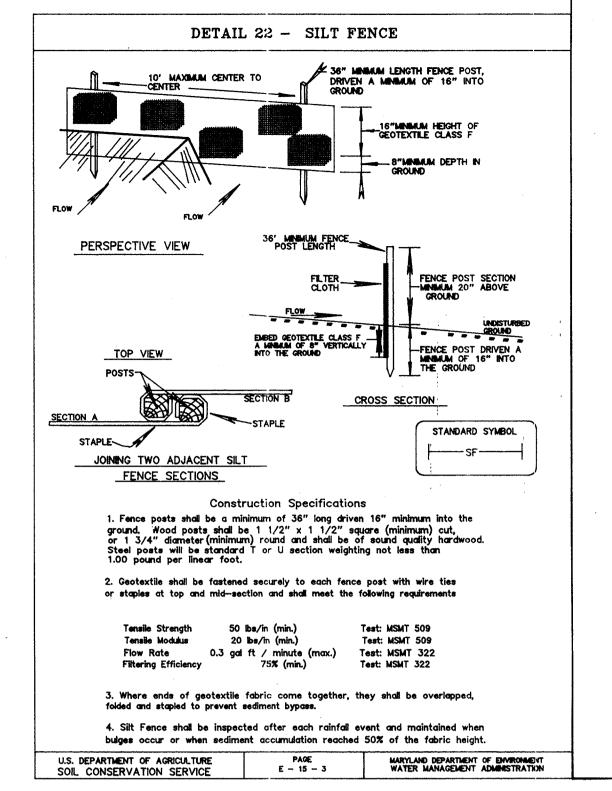
MULCHING -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000sq. ft.) of unrotted weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

## INFILTRATION TRENCH OPERATION AND MAINTENANCE SCHEDULE

- 1. THE STRUCTURE SHALL BE INSPECTED AND REPAIRED AT LEAST ANNUALLY.
- 2. THE INLET GRATE SHALL BE INSPECTED ON A REGULAR BASIS, ESPECIALLY AFTER LARGE STORM EVENTS. PAPER, TRASH AND DEBRIS SHALL BE REMOVED FROM THE INLET GRATE AS NECESSARY.
- 3. THE OBSERVATION WELL SHALL BE CHECKED AFTER EVERY MAJOR STORM EVENT TO INSURE THE TRENCH IS DRAINING WITHIN THE REQUIRED 72 HOUR PERIOD. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME THE TRENCH DOES NOT DRAIN DOWN COMPLETELY WITHIN 96 HOURS.
- VEGETATION GROWING WITHIN THE TRENCH AREA SHALL NOT EXCEED 18 INCHES IN HEIGHT AT ANY TIME.

APPROVED: DEPARTMENT OF PLANNING AND ZONING



21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

## Conditions Where Practice Applies

- This practice is limited to areas having 2:1 or flatter slopes where: a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
- b.The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients. c. The original soil to be vegetated contains material toxic to plant growth.
  d. The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall

## have the appropriate stabilization shown on the plans. Construction and Material Specifications

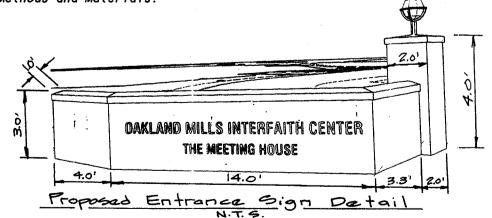
- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA—SCS in cooperation with Maryland Agricultural Experimental
- Topsoil Specifications Soil to be used as topsoil must meet the following.

Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay Loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 11/2" in diameter. ii. Topsoil must be free of plants or plant parts such as bermuda grass,

quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200—400 pounds per 1,000 square feet) prior to the placement of topsoil. ime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

III. For sites having disturbed areas under 5 acres:

Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization — Section I — Vegetative Stabilization Methods and Materials.



ENGINEE PLANTING ERTIFICATE

"I HEREBY CERTIFY THE PLANTING EROSION AND SEDIMENT CONTROL
REPRESENTS A PRACTICAL SOLUTIONS SHOW HAT IT WAS PREPARED IN ACCORDANCE WITH RECENTED TO THE PHOTOGRAPH SOIL CONSERVATION
DISTRICT."

IV. For sites having disturbed areas over 5 acres:

dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested

Organic content of topsoil shall be not less than 1.5 percent by weight.

d. No sod or seed shall be placed on soil which has been until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

authority, may be used in lieu of natural topsoil

in 20.0 Vegetative Stabilization —Section 1 - Vegetative Stabilization Methods and Materials.

410

Top Grate El. 403,80

1) 6" Sand Layer Balow

Trench Shall Meet ASTM D-2487-92 Specifications.

2) Washad Bankrum

Gravel Filling For Trench shall

Meet ASTM D-448,

practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation. iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a

of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

having disturbed areas over 5 acres shall be tested to prescribe amenaments and for sites having disturbed areas under 5 acres shall conform to the following requirements: a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment

Composted sludge shall contain at least 1 percent nitrogen, .5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements

ii. Camposted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb./1,000 square feet, and 1/3 the normal lime application rate.

#1, Cooperative Extension Service, University of Maryland and Virginia

i. On soil meeting Topsoil specifications, obtain test results

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used. treated with soil sterilants or chemicals used for weed control

ii. Place topsoil (if required) and apply soil amendments as specified

Alternative for Permanent Seeding — Instead of applying the full amounts

under COMÁR 26.04.06.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 sauare feet

Polytechnic Institutes. Revised 1973.

-8" ADS

Inv. 402.13

Inline Drain (or Approvad Equal)

soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval

When topsoiling, maintain needed erosion and sediment control

condition that may otherwise be detrimental to proper grading and

Composted Sludge Material for use as a soil conditioner for sites

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub.

Filter Fabric 4-6 inch, Perforated PVC Pipe -Use Rabar To OBSERVATION WELL DETAIL infiltration areas to minimize compaction of the soil.

Tranch Surface

10 × 10 = 100 5.F

-4" Observation Well

8' Topsoil

Rock Frag (GP) With Sand

Silty Sand

Rock Frag.

Trace Mica & (SM)

3'-6" Tan, Moist

3'-6" White, Moist Silty Sand

SWM

B-2

(Top of Trench E1.404.0

-1.01

Cap

Boring Ho

9 L.F. Perf. ADS N-12

H.D.P.Elor

-Ex.Ground

-Prop Grade

8" Golid Ads N-12 H.O.P.E

(or Approvad Equal) @ 1.0%

DIO= 0.31 St.

3) The Perforated Saction of H.D.P.E. Pipe Within

a Trench shall Have

Perforation Spacing Sizing With The Minimum

Total Area Greater than
Five Times The Cross-Sectional
Area of The 8" Pipe.

alo = a71 cfs Battom of Infil. Tranch

PRIVATE STORM DRAIN AND INFILTRATION TRENCH

PROFILE

Scale: H. 1"=10"

VIO = 4.4 fps El. 400.00

Equal)@0% ~

Dimensions

# SEQUENCE OF CONSTRUCTION

Obtain grading permit. Notify the Howard County Department of Public Works, Construction Inspection Division at least 48 hours prior to beginning construction at (410) 313-1880. Install silt fence. 5 DAYS accordance with the approved plan. 2 DAYS Grade site per approved grading plan. Stabilize all areas not to be payed in accordance with the permanent

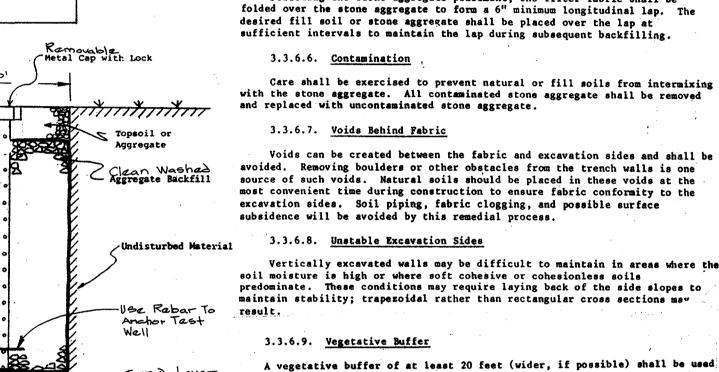
Fine grade for proposed driveway, handicap ramp and concrete

10.) Install base and surface paving for driveway

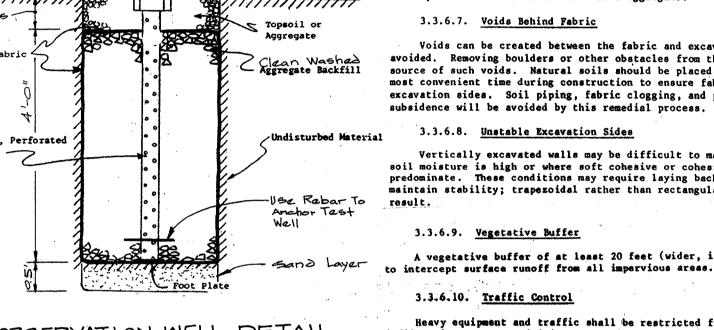
.) Stabilize all remaining disturbed areas in accordance with the permanen seeding notes. .) Once all drainage areas to the trench are completely stabilized,

) With permission from the Sediment Control Inspector, remove all remaining silt fence. Stabilize all remaining disturbed areas in accordance with the permanent seeding notes.

seeding notes. Stabilize all other areas in accordance with the temporary seeding 2 DAYS ) Install curb along prop. driveway per plan Install gravel base for driveway, concrete dumpsite pad, handicap ramp, 1 DAY install I-1, soild H.D.P.E pipe to infiltration trench, and infiltration trench. 3 DAYS 2 DAYS



more frequent schedule is required.



3.3.6.11. Observation Well An observation well, as described in subsection 3.3.4.8 and Figure 3-5 shall be provided. The depth of the well at the time of installation will be clearly marked on the well cap.

3.3.6.10. Traffic Control

Infiltration trenches shall be designed to minimize maintenance. However, it is recognized that all infiltration facilities are subject to clogging by sediment, oil, grease, grit and other debris. In addition, the

Heavy equipment and traffic shall be restricted from travelling over the

INFILTRATION TRENCH CONSTRUCTION

An infiltration trench shall not be constructed or placed in service

until all of the contributing drainage area has been stabilized and approved

Excavate the trench to the design dimensions. Excavated materials shall

be placed away from the trench sides to enhance trench wall stability. Large

tree roots must be trimmed flush with the trench sides in order to prevent

The filter fabric roll must be cut to the proper width prior to

placement of the fabric down into the trench. Stones or other anchoring

roll in order to provide a shingled effect. The overlap ensures fabric

recommended. The compaction process ensures fabric conformity to the

excavation sides, thereby reducing the potential for soil piping, fabric

3.3.6.4. Stone Aggregate Placement and Compaction

continuity or to ensure that the fabric conforms to the excavation surface

The stone aggregate should be placed in lifts and compacted using plate

compactors. As a rule of thumb, a maximum loose lift thickness of 12 inches i

Following the stone aggregate placement, the filter fabric shall be

installation. The cut width must include sufficient material to conform to

trench perimeter irregularities and for a 6-inch minimum top overlap. Place the fabric roll over the trench and unroll a sufficient length to allow

objects should be placed on the fabric at the edge of the trench to keep the

lined trench open during windy periods. When overlaps are required between rolls, the upstream roll should lap a minimum of 2 feet over the downstream

fabric puncturing or tearing during subsequent installation procedures. The side walls of the trench shall be roughened where sheared and sealed by heavy

3.3.6.1. Timing

the responsible inspector

equipment.

3.3.6.2. Trench Preparation

3.3.6.3. Fabric Laydown

during aggregate placement and compaction.

3.3.6.5. Overlapping and Covering

clogging, and settlement problems.

SPECIFICATIONS

Consequently, a monitoring observation well is required for all infiltration structures. The observation well shall be monitored periodically. For the first year after completion of construction, the well should be monitored on a quarterly basis and after every large storm. It is recommended that a log book be maintained indicating the rate at which the facility dewaters after large storms and the depth of the well for each observation. Once the performance characteristics of the structure have been verified, the monitoring schedule can be reduced to an annual basis, unless the performance data indicate that a

Sediment build-up in the top foot of stone aggregates or the surface inlet should be monitored on the same schedule as the observation well. A monitoring well in the top foot of stone aggregate will be required when the trench has a stone surface. Sediment deposited shall not be allowed to build up to the point where it will reduce the rate of infiltration into the

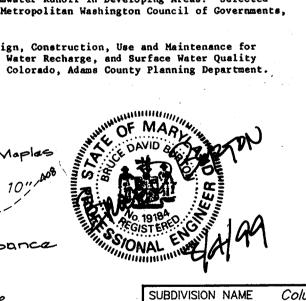
## 3.3.8. References

3-Ex. 6" Maples

- Ex. Bushes 3'-5'H+

1. Stormwater Management Design Manual for Frederick Co., Maryland, 1979. 2. Anonymous, Controlling Stormwater Runoff in Developing Areas: Selected Best Management Practices, Metropolitan Washington Council of Governments,

3. Percolation Pits; Their Design, Construction, Use and Maintenance for Stormwater Disposal, Ground Water Recharge, and Surface Water Quality Protection in Adams County, Colorado, Adams County Planning Department



WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING INSURE TRENCH DRAINAGE

A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DEWATERS. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT

THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD

ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE

320/7 of Oakland Mills AX MAP NO. | ELECTION DISTRICT | CENSUS TRAC 6066.03 N/A 18/73 SEWER CODE WATER CODE E03 55326*00* 

9250 Rumsey Road, Suite 106, Columbia, MD. 21045 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax) Sediment Control & Stormwater Management DESIGNED

Construction Notes & Details Oakland Mills Interfaith Center Columbia Village of Oakland Mills Section 2 - Area 4 - Lot 7

6Th Election District Howard County, Maryland Oakland Mills Interfaith Center 5885 Robert Oliver Place Columbia, Maryland 21045 (410) 730-4090

DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION

PLANNING BOARD of HOWARD COUNTY

APPROVED

SDH

Tax Map No. 36 - Grid 3 - P/O Parcel 320 DATE Owner/Developei 3/99

DRAWN DRAINAGE AREA MAP FOR INFILTRATION TRENCH SMC**SCALE: 1"= 30"** REVISIONS CHECKED Date:

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROISION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE AC-CORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DE-PARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ONSITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

ISTRICT.

FILE NO. 99-157 SDP 99-157

OPERATION AND MAINTENANCE SCHEDULE FOR PROPOSED PRIVATE INFILTRATION FACILITY THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT

REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED. PARCEL/LOT NO. Columbia - Village SECTION/AREA

LDE, INC.

Shown

Bottom of boring @ 10.0 ft 11:00a 12/18/98 O HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

ELEV. SOR DESCRIPTION STRA. DEPTH SAMPLE COLOMORPHING & SAMPLE SA

Percolation test conducted in hole adjacent to boring B-1 at a depth of 6

ELEV SOIL DESCRIPTION STRA DEPTH SAMPLE BORRING & SAMPLING
Color Miciature, Density, Size, Proportion DEPTH SCALE CON BLOW'S 6' MO REC. NOTES
406.3 SURFRACE, 0.0 0.0 Residual Sou-Percolation test conducted in hole adjacent to boring B-2 at a depth of 6

Tan, moist, slity SANO, White, moist, silty SAND Bottom of boring @ 10.0 ft

Location Columbia, Maryland

ECORD OF SOIL EXPLORATION Hole Diameter 3" Foremen M. Shanaberge Rock Core Dia. – Inspector D. Schestag Boring Method Hand Auger Completed 12/18/98 ELEV SOIL DESCRIPTION STRA DEPTH SAMPLE OF BORING & SAMPLE

Color Moletume, Density, Size Proportion DEPTH SCALE CON BLOWS 6" NO. REC. NOTES

AGE 7. SISPREC.

Ten, dry, silty SAND with rock Auger refusal @ 4.0 ft

DRAIN DOWN WITHIN THE 72 HOUR TIME PERIOD, CORRECTIVE

AND MAINTENANCE CRITERIA.

**DRAWING** 2 of 3 JOB NO. 98-087

