

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized

with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff.

are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration O(up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding

infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

i. Install erosion and sediment control structures (either temporary of permanent) such as diversions,

iii. Schedule required soil tests to determine soil amendment composition and application rates for sites

ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the

mesh sieve. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

Perform all grading operations at right angles to the slope. Final grading and shaping is not usually

Soil tests must be performed to determine the exact ratios and application rates for both lime and

fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the

appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according

at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a \*100 mesh sieve and 90-100% will pass through a \*20

Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of

suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be

rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater

rolled or aragged smooth, but lett in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. In corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

Permanent Seeding

Soil must contain sufficient pore space to permit adequate root penetration. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of

Apply soil amendments as per soil test or as included on the plans.

Apply soil amendments as per soil test or as included on the plans.

Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches.

and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on

ENGINEER'S CERTIFICATE

accordance with the requirements of the Howard Soil Conservation District."

CHARLES O'DONOVAN

Signature of Engineer (Print name below signature)

Signature of Developer (Print name below signature)

charles O Donovan

l certify that this plan for erosion and sediment control represents a practical and wo<sub>rkable</sub>

plan based on my personal knowledge of the site conditions and that it was prepared in

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan,

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."

and that any responsible personnel involved in the construction project will have a Certificate

3.5.97

Date

the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from

Minimum soil conditions required for permanent vegetative establishment:

1. Soil pH shall be between 6.0 and 7.0.

The soil shall contain less than 40% clay, but enough fine grained

material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass

serecia lespedezas is to be planted, then a sandy soil ((30% silt

Soluble salts shall be less than 500 parts per million (ppm)

plus clay) would be acceptable. Soil shall contain 1.5% minimum organic matter by weight.

iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains

o the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee

University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering

grade stabilization structures, berms, waterways, or sediment control basins.

CONDITIONS WHERE PRACTICE APPLIES

EFFECTS ON WATER QUALITY AND QUANTITY

run-off to downstream areas, and improving wildlife habitat and visual resources.

content and improve the water holding capacity of the soil and subsequent plant growth.

Site Preparation

Seedbed Preparation

necessary for temporary seeding.

having disturbed area over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)

newly disturbed areas.

'E:

purposes may also be used for chemical analyses.

-HEIGHT OF FILTER

STANDARD SYMBOL

LOT 138 DANIELS MILL OYERLOOK SECTION 2 AREA 3 ZONED R-ED D. Seed Specifications S.H.C. INVERT @ PROPERTY LINE i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material of this job. 424.19 Note: Seed tags shall be made available to the inspector to verify type and rate of seed used. 20' PUBLIC SEWER ii. Inoculant - The inoculant for treating legume seed in the specific mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the specific. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective. AND UTILITY EASEMENT --- 528°31'55"E Methods of Seeding \_\_\_\_ looks of seeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous); 200 lbs/ac; K20 (potassium): 200 lbs/ac. EX 8'8 CONTRACT 14:3580.D EX. M.H. LOD b. Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.

Seed and fertilizer shall be mixed on site and seeding shall be done immediately and B.R.L. without interruption ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction. Apply half the security rate in Apply and cover seed with soil.

a. Cultipacking seeders are required to bury the seed it, such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting. ZONED R-ED LOT 132 PENHURGT MANIELS MILL OYERLOOK where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction. F.F. 450.51 EX. DWLG. SECTION 2 AREAS BE. 441.5 Mulch Specifications (In order of preference) Straw shall consist of thoroughly threshed wheat, rue or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law. ZONED R-ED EX. 20' PUBLIC SEWER AND UTILITY EASEMENT Wood Cellulose Fiber Mulch (WCFM)

a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state. tibrous physical state.

WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry. WCFM, including dye, shall contain no germination or growth inhibiting factors.

WCFM materials shall be manufactured and processed in such a manner that the 449.18 wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous sturry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic. PROPOSED RESIDENTIAL - DRIVEWAY ENTRANCE HO.CO. will be phytol-toxic.

f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season feturns and seeding can be performed in accordance with these specifications. STD. DETAIL KG.01 ---- EX. STREET TREES 533°17′11″E +34.80′ ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1° and 2°. Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre. EX. WK DKIVE LEX. PAVING iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch EX. 8"W. CONTRACT 14-3580-D application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard: reference), depending upon size of area and erosion nazara.

A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used for the contour if possible.

Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons PLAN VIEW of water.

iii. Application of liquid binders should be heavier at the edges, where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax SCALE: 1"= 30" II. Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch. iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long. STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Reviewed for HOWARD SCD and meets Technical Requirements.

This development plan is approved for soil erosion and sediment control by

OWNER/DEVELOPER

RYLAND HOMES

GALLERIA TOWERS

1447 YORK ROAD., SUITE 705

LUTHERVILLE, MARYLAND 21093

U.S.D.A. + Natural Resources

the HOWARD SOIL CONSERVATION DISTRICT.

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

1,000 5Q.FT.) OF 10-20-20 FERTILIZER.

BE HYDROSEEDED.

LOT #

SEEDBED PREPARATION:
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING

SOIL AMENDMENTS:

APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/

1,000 5Q.FT.) AND 600 LB5. PER ACRE 0-20-20 FERTILIZER

INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING,

APPLY 400 LBS. PER ACRE 36-0-0 UREAFORM FERTILIZER

(9 | B5 /1.000 50 FT.) AND 500 LBS. PER ACRE (11.5 LBS./

SEEDING:
FOR THE PRERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST

LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE, FOR THE

PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LB5/ACRE

LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH

FEBRUARY 28. PROJECT SITE BY: OPTION (1) - TWO TONS PER

POSSIBLE IN THE SPRING: OPTION (2) - USE 500: OPTION (3) -

ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS 500N AS

SEED WITH 100 LBS. / ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD

OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING.

ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200

ASPHALT ON FLAT ACRES. ON SLOPES & FEET OR HIGHER US

348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR ANCHORING.

FOR PUBLIC PONDS SUBSTITUTE CHEMUNG CROWNVETCH AT 15 LBS./ACRE AND KENTUCKY 31 TALL FESCUE AT 40 LBS/ACRE AS THE SEEDING REQUIRMENT. OPTIMUM SEEDING DATE FOR THIS

PERMANENT SEEDING NOTES

STREET ADDRESS

STONEHOUSE DK.

MIN. C. ELEV. 429.70

ADDKESS CHART

GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED

(1.4 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND

2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WEEPING

MULCHING:
APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 5Q.FT.)

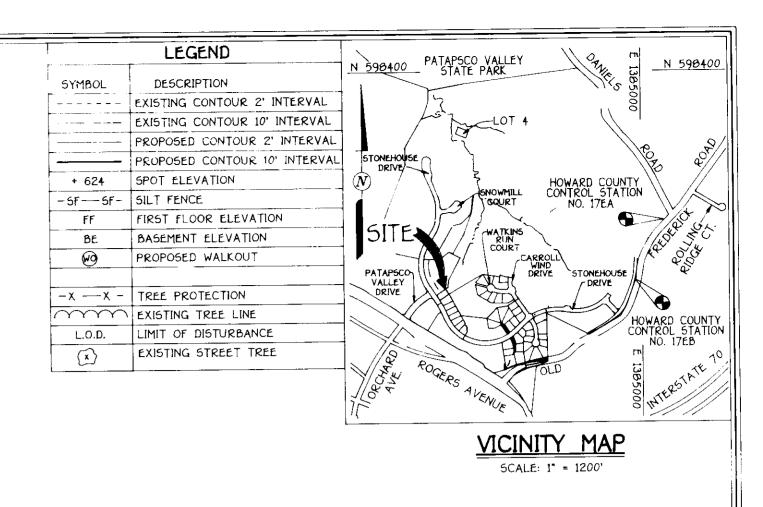
MAINTENANCE:
INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS,

REPLACEMENTS AND RESEEDINGS.

MIXTURE IS MARCH 1 TO APRIL 30.

1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2.3

(14 LBS./1.000 SQ.FT.) BEFORE SEEDING HARROW OR DISC.



## TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED

APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./

FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST

1,000 SQ.FT. FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY

28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL

APPLY 1 TO 2 TONS PER ACRE (70 TO 90 LB5./1,000 5Q.FT.)

OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL.1,000 SQ.FT.

OF EMULSIFIED ASPHALT ON FLAT ACRES ON SLOPES & FEET OR

HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR

REFER TO THE 1988 MARYLAND STANDARDS AND SPECIFICATION FOR

SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT

15 THROUGH NOVEMBER 15, SEED WITH 1? BUSHEL PER ACRE OF

ANNUAL RYE (3.2 LBS./ACRE OF WEEPING LOVEGRASS (.07 LBS./

ANCHORED STRAW MULCH AND SEED AS 500N AS POSSIBLE IN THE

LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR

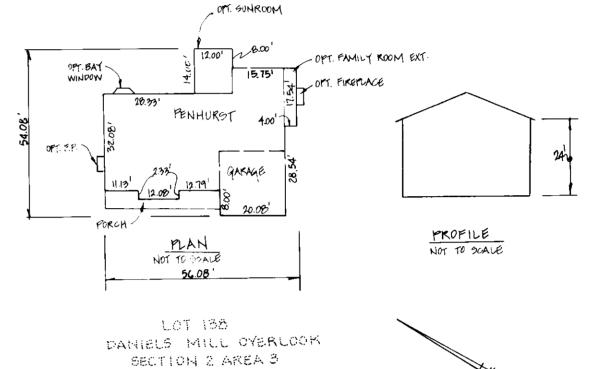
OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY

WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION:

1,000 SQ.FT.)

SPRING, OR USE SOD.



5. CONTTRUCT DWELLING (GO DAYS PER DWELLING) 6. FINE GRADE FITE, INSTALL DRIVEWAYS. (2 DAYS) 7. INTIALL PERMANENT PEEDING (2 DAY) 8. REMOVE SEDIMENT CONTROL DEVICES AS PERMISSION IS GRANTED BY SEDIMENT CONTROL INSPECTOR AND UPLAND AREAS HAVE BEEN STABILIZED. (2 DAYS) 1. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION

4. EXCAVATE FOR FOUNDATIONS AND ROUGH GRADE. (I WEEK)

Z. INSTALL GEDIMENT AND EROGION CONTROL DEVICES PER. PLAN. (Z DAYS)

SEQUENCE OF CONSTRUCTION 1. OBTAIN GRADING PERMIT (I WEEK)

3. CLEAR AND GRUB FITE. (4 DAYS)

PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEASE 40 HOURS PRIOR TO ANY EXCAVATION WORK. 3. THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: 595-18, F. 97-42, WP 97-02 AND WP- 95-94. 4. BOUNDARY SURVEY PERFORMED BY: FISHER, COLLINS, AND CARTER, INC. ON OR ABOUT OCTOBER, 1993 5. TOPOGRAPHY SHOWN HEREON IS FROM MASS GRADING PLAN (SDP-97-22)

DIVISION AT (410) 313-1880 AT LEASE (5) FIVE WORKING DAYS

FOR DANIELS MILL OVERLOOK APPROVED ON OR ABOUT AUGUST 28, 1996 HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS: HOWARD COUNTY MONUMENT 17EA N 181160.5724 (METERS) E 413772.7247 (METERS) HOWARD COUNTY MONUMENT 17EB N 180994.8448 (METERS) E 413227.8979 (METERS)

7. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED

AT THE DEVELOPER'S EXPENSE. 0. THIS PLAN IS FOR HOUSE SITING AND LOT GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHT-OF-WAYS OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION. FOR CONSTRUCTION SEE APPROVED ROAD CONSTRUCTION PLANS F-97-42 AND / OR APPROVED WATER AND SEWER PLANS CONTRACT NO. 14-3580-D 9. CONTRACTOR WILL CHECK SEWER HOUSE CONNECTION ELEVATION

AT PROPERTY LINE PRIOR TO CONSTRUCTION. 10. STORMWATER MANAGEMENT OBLIGATIONS ARE FULFILLED UNDER F.97-42 11. SITE ANALYSIS:

AREA OF PLAN SUBMISSION LIMIT OF DISTURBED AREA: PRESENT ZONING:

SINGLE FAMILY DETACHED PROPOSED USE FOR SITE AND STRUCTURES: 12. GARAGES SHALL BE USED FOR PARKING PURPOSES ONLY IN ACCORDANCE WITH SECTION 133D.2.a OF ZONING REGULATIONS.

13. FOR FTANDARD > AND PRECIFICATIONS FOR TOP-SOIL, SEE DETAIL ON G 21-1 OF 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EXOSION AND SEDIMENT CONTROL

SHEET INDEX DESCRIPTION PLAN VIEW AND NOTES AND DETAILS

APPROVED: DEPARTMENT OF PLANNING AND ZONING 5/30/97 5/22/97 To Date LOT NO. SECTION/AREA SUBDIVISION 131 2/3 DANIELS MILL OVERLOOK TAX/ZONE | ELEC. DIST.

SEWER CODE

ZONE

R-ED

BLOCK NO.

12

PLAT NO.

12785

WATER CODE

CENSUS TR

SECOND

1454850

DANIELS MILL OVERLOOK

SITE DEVELOPMENT PLAN

SECTION 2, AREA 3, LOT 131

TAX MAP No: 17 PARCEL: 41 SECOND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND DATE: FEBRUARY 20, 1997 SCALE: AS SHOWN

SHEET 1 OF 1

0.28 AC.±

0.28 AC.±