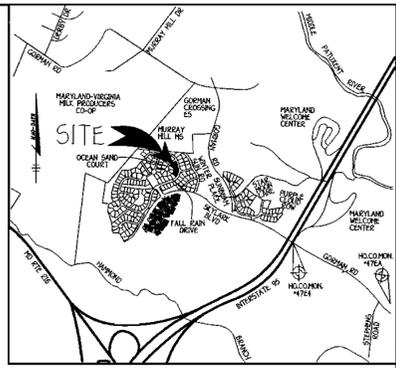
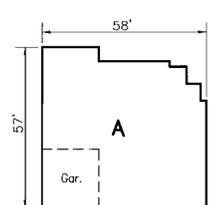


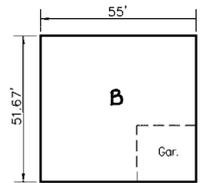
**BENCH MARKS**  
 T.P. 47EA ELEV. 315.38  
 N. 535,063.639  
 E. 1,357,284.010  
 LOC. NEAR THE INTERSECTION  
 OF GORMAN RD. & STEVENS ROAD.  
 T.P. 47EA ELEV. 339.00  
 N. 535,064.133  
 E. 1,355,431.223  
 LOC. NEAR I-95 BRIDGE  
 ALONG GORMAN ROAD



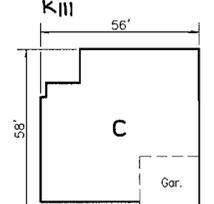
**VICINITY MAP**  
 SCALE: 1" = 2000'



A/D NO SCREEN PORCH  
 A/E NO SCREEN PORCH



A/E NO 4' SIDE EXT.



A/E NO SCREEN PORCH  
 OR 4' SIDE EXT.

**GENERAL NOTES**

- SUBJECT PROPERTY ZONED PEC-MXD-3 AS GRANTED BY THE ZONING BOARD ON 9/30/98 AS CASE NO. 2997981
- TOTAL AREA OF SITE: 0.975 ACRES
- TOTAL NUMBER OF LOTS SUBMITTED: 5 S/D
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410)313-1800 AT LEAST (5) FIVE WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: ZB-979M, PB-339, 5-99-12, P-00-15, WP-01-22, F-01-17, W&S CONT. "24-3966-0, PB-359.
- THIS PLAN IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT JUNE, 1999 BY DAFT INC. ENGINEERS, INC.
- HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON NAD 83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.
- HOWARD COUNTY MONUMENT 47EA N 535064.133 E 1357284.010 HOWARD COUNTY MONUMENT 47EA N 535063.639 E 1357284.010
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- THIS PLAN IS FOR HOUSE SITING AND GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHTS-OF-WAY OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION.
- FOR CONSTRUCTION SEE APPROVED ROAD CONSTRUCTION PLANS F-01-137, AND/OR APPROVED WATER AND SEWER PLANS CONTRACT NO. 24-3966-0.
- CONTRACTOR WILL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION.
- STORMWATER MANAGEMENT WILL BE PROVIDED AS APPROVED ON THE ROAD CONSTRUCTION DRAWINGS FILED UNDER F-01-137.
- LANDSCAPE REQUIREMENTS:  
 LOTS 39 & 43: INTERNAL LOT LANDSCAPING SHALL BE PROVIDED IN ACCORDANCE WITH DEVELOPMENT CRITERIA APPROVED BY THE PLANNING BOARD ON 7/1/99 PER PB CASE #339 AND SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A #1000 2' LOT SURETY SHALL BE POSTED AS PART OF THE BUILDER'S GRADING PERMIT TO COVER THE INSTALLATION OF THE FIVE (5) INTERNAL LANDSCAPING TREES REQUIRED FOR EACH OF THESE LOTS.  
 CORNER LOT 42: IN ADDITION TO THE REQUIRED INTERNAL LOT LANDSCAPING, CORNER LOT 42 SHALL PROVIDE A "TYPE B" PERIMETER LANDSCAPE BUFFER IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. THE REQUIRED "TYPE B" PERIMETER LANDSCAPE PLANTINGS HAVE BEEN CREDITED TOWARD THE INTERNAL LANDSCAPE REQUIREMENTS, WITH EVERGREENS EQUATING TO SHADE TREES AT 2:1 RATIO. A \$1000 LANDSCAPE SURETY SHALL BE POSTED AS PART OF THE BUILDER'S GRADING PERMIT FOR THIS LOT.  
 PERIMETER LANDSCAPING AND STREET TREES SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL AND DEVELOPMENT CRITERIA APPROVED BY THE PLANNING BOARD 7-1-99 PER CASE NO. PB-339 AS SHOWN ON THE APPROVED ROAD CONSTRUCTION DRAWINGS FILED UNDER F-01-137.  
 THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.120 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY RETAINING 16.77 ACRES AND RECREATING 8.00 ACRES AS PART OF THE OVERALL DEVELOPMENT OF EMERSON, SECTION 2. THE EXCESS 4.5 ACRES OF REFORESTATION MAY BE USED TOWARD MEETING THE OBLIGATIONS OF FUTURE PHASES OF EMERSON, SECTION 2. F-01-137.
- STORMWATER MANAGEMENT (SWM) IS BEING TREATED ON THIS SITE BY SWM PONDS AND SWM CREDITS IN ACCORDANCE WITH THE 2000 MARYLAND DEPARTMENT OF THE REGULATIONS. THERE ARE TWO WET PONDS DESIGNED FOR THIS PORTION OF THE PROJECT, EACH OF WHICH ADDRESSES WATER QUANTITY AND QUALITY REQUIREMENTS. THE WET VOLUMES REPRESENTING QUALITY. THESE PONDS ARE TO BE PUBLICLY MAINTAINED BY HOWARD COUNTY, MARYLAND. OF WATER QUANTITY, QUALITY AND RECHARGE VOLUMES ARE ADDRESSED BY SWM CREDITS THAT TREAT RUNOFF NON-STRUCTURALLY. THESE CREDITS INCLUDE NATURAL AREA PRESERVATION AREAS, DISCONNECTION OF ROOFING RUNOFF, SHEET FLOW TO BUFFER AREAS AND GRASS SWALES. SWM POND IV IS A RETROFIT OF AN EXISTING POND (BELONGING TO EASTERN MIDDLE SCHOOL) AND WILL ADDRESS SWM QUANTITY AND QUALITY. THE LATTER IN THE FORM OF EXTENDED DETENTION.
- FOR DRIVEWAY ENTRANCE DETAILS REFER TO HO. CODES MANUAL VOL. IV DETAILS R.6.03 & R.6.05.
- OPEN SPACE REQUIREMENTS FOR THESE LOTS HAVE BEEN PROVIDED UNDER F-01-137.
- MINIMUM BUILDING RESTRICTION SETBACKS FROM PROPERTY LINES AND PUBLIC ROAD RIGHTS-OF-WAY ARE TO BE IN ACCORDANCE WITH THE DEVELOPMENT CRITERIA APPROVED WITH THE COMPREHENSIVE SKETCH PLAN 5-99-12 AND THE DECISION AND ORDER FOR PB-339 APPROVED ON JULY 1, 1999.
- THE MINIMUM SETBACKS FOR STRUCTURES SHALL BE AS FOLLOWS:  
 FRONT SETBACK: 15' FROM THE RIGHT-OF-WAY TO THE HOUSE OR GARAGE.  
 SIDE SETBACK: 5' TO THE PROPERTY LINE WITH A MINIMUM OF 15' BETWEEN STRUCTURES.  
 REAR SETBACK: 10' FROM THE PROPERTY LINE TO AN OPEN DECK.  
 20' FROM THE PROPERTY LINE TO THE HOUSE.
- A ZERO LOT LINE DWELLING UNIT MAY BE LOCATED ON ANY PROPERTY LINE WHICH IS NOT A STREET RIGHT-OF-WAY PROVIDED THAT (I) NO PART OF THE DWELLING SHALL ENCRUCH ON TO THE ADJOINING LOT (II) AN ACCESS EASEMENT FOR THE PURPOSE OF MAINTENANCE TO THE SIDE OF THE STRUCTURE SHALL BE INCLUDED IN THE DEED WHERE APPROPRIATE; AND (III) SPACING BETWEEN DWELLING UNITS SHALL BE IN ACCORDANCE WITH THE SETBACK BETWEEN UNITS SET FORTH ABOVE. GARAGES, HOWEVER, MAY ADJOIN ALONG THE PROPERTY LINE.  
 ANY DEVIATION FROM THESE SETBACK REQUIREMENTS WILL REQUIRE THE SITE DEVELOPMENT PLAN APPROVED BY THE HOWARD COUNTY PLANNING BOARD CASE NO. PB-339.
- LOT COVERAGE BY BUILDINGS WITHIN SINGLE FAMILY DETACHED LAND USE AREAS SHALL NOT EXCEED 40%. NO LIMITATION IS IMPOSED UPON THE AREA USED FOR SIDEWALKS, PAVED PARKING AREAS, PATIOS, DECKS, LANDSCAPING AND SIMILAR MINOR STRUCTURE.
- IN ACCORDANCE WITH SECTION 129 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16' FEET IN WIDTH MAY PROJECT NOT MORE THAN 4' FEET INTO ANY SETBACKS, PORCHES OR DECKS OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACKS. THE 15' MINIMUM DISTANCE BETWEEN STRUCTURES DOES NOT APPLY TO THOSE REFERENCED FEATURES NOR BETWEEN OPEN DECKS AND A DWELLING STRUCTURE OR ANOTHER DECK. AS AN ADVISORY, THE 15' DISTANCE DOES APPLY TO THE SECOND STORY OVERHANG.
- DEWASYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:  
 A) WIDTH 14 FEET IF SERVING MORE THAN ONE RESIDENCE  
 B) SURFACE (P-3) STANDARD PAVING  
 C) GEOMETRY MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45 FOOT TURNING RADIUS.  
 D) STRUCTURES (BRIDGES/CULVERTS) CAPABLE OF SUPPORTING 25 GROSS TONS 0425-LOADING  
 E) DRAINAGE ELEMENTS CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.  
 F) STRUCTURE CLEARANCES MINIMUM 12 FEET  
 G) MAINTENANCE SUFFICIENT TO INSURE ALL WEATHER USE.

**ADDRESS CHART**

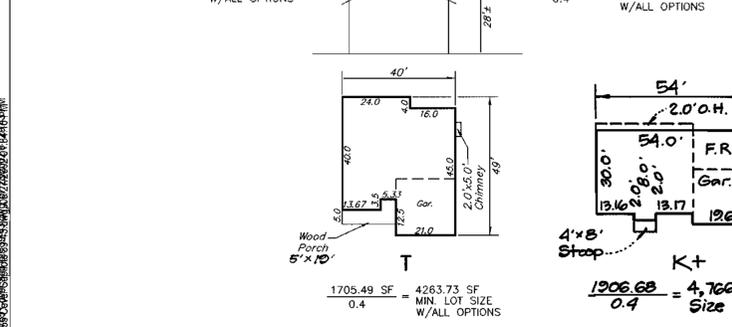
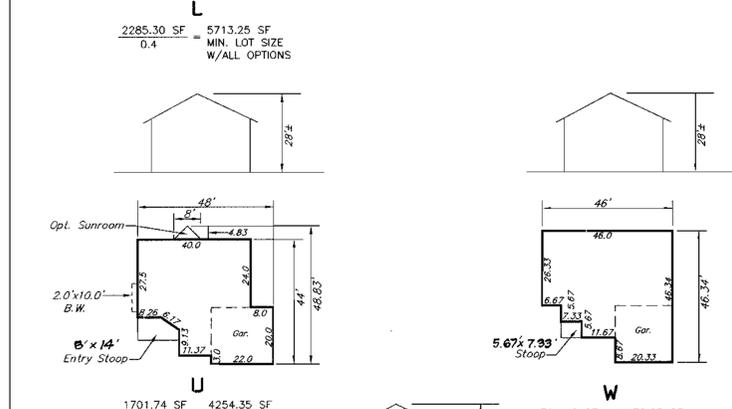
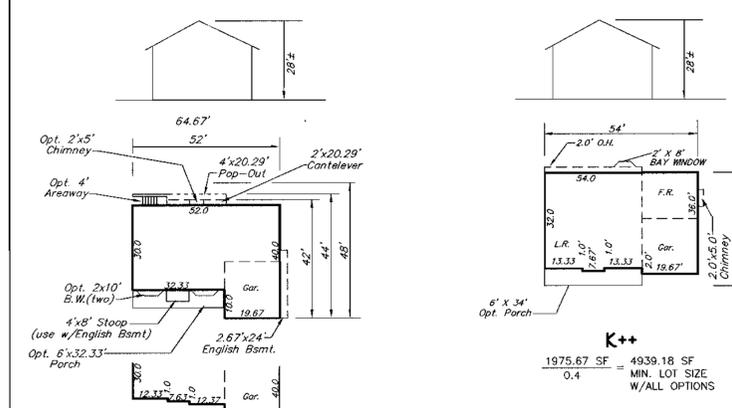
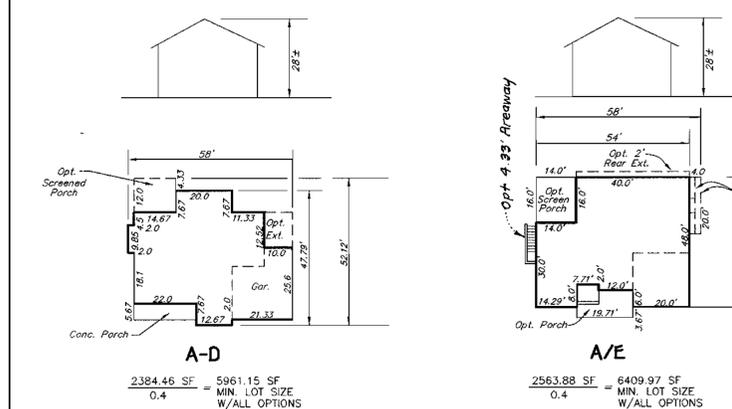
LOT NUMBER	STREET ADDRESS
39	10021 FALL RAIN DRIVE
40	10027 FALL RAIN DRIVE
41	10033 FALL RAIN DRIVE
42	9901 OCEAN SAND COURT
43	9905 OCEAN SAND COURT

**INDEX CHART**

SHEET	DESCRIPTION
SHEET 1	TITLE SHEET, HOUSE TYPES, TEMPLATES & SITE DEVELOPMENT PLAN
SHEET 2	SEDIMENT AND EROSION CONTROL PLAN
SHEET 3	SED. & EROS. CONTROL NOTES & DETAILS

**LEGEND**

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
+362.2	SPOT ELEVATION
-55F-55F	SUPER SILT FENCE
-SF -SF	SILT FENCE
EM	EROSION CONTROL MATTING
L.O.D.	LIMIT OF DISTURBANCE
○	EXISTING STREET TREE TAKEN FROM F-01-137



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK  
 ELLETT CITY, MARYLAND 21042  
 410-461-2200

NO.	REVISION	DATE
1	Rev. hse. & grd. lots 40 & 43, Add Kt and Kill hse. typicals	11.28.02



**ENGINEER'S CERTIFICATE**  
 "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."  
 Signature of Engineer: Charles J. Crovo Date: 11/28/02  
**DEVELOPER'S CERTIFICATE**  
 "I/we certify that all development and construction will be done according to this plan, for sediment and erosion control 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."  
 Signature of Developer: Robert Goodier Date: 11/28/02

Approved for HOWARD SCD and meets Technical Requirements.  
John Meyer 7/2/02  
 Director, Natural Resources Conservation Service  
 This development plan is approved for erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
Jeffrey W. Schomig 7/2/02  
 Howard Soil Conservation District  
**OWNER**  
 THE HOWARD RESEARCH & DEVELOPMENT CORP.  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044  
 410-992-6000  
**BUILDER/DEVELOPER**  
 GOODIER BUILDERS  
 10705 CHARTER DRIVE  
 SUITE #320  
 COLUMBIA, MARYLAND 21044  
 410-997-7400

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Wanda Hanna 7/24/02  
 Chief, Department of Planning and Zoning  
Michael J. ... 7/19/02  
 Chief, Development Engineering Division MK  
Joseph S. ... 7/24/02  
 Director, Department of Planning and Zoning

PROJECT	SECTION	LOTS NO.
EMERSON	27/B	39-43

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
15205	2 & B	PEC-MXD-3	47	6	6068.02

WATER CODE: E-15 SEWER CODE: 7640000

**SITE DEVELOPMENT PLAN**  
 SINGLE FAMILY DETACHED  
**EMERSON**  
 SECTION 2 PHASE 1B  
 LOTS 39-43  
 TAX MAP No: 47 PARCEL: 3 & B37  
 SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND  
 SCALE: 1" = 30' DATE: MAY, 2002  
 SHEET 1 OF 3

SCHEDULE A PERIMETER LANDSCAPE EDGE					
PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	NUMBER OF PLANTS REQUIRED	TOTAL TREES
P-1 Lot 42	ADJACENT TO ROADWAY	B	102'	2	3

MODIFIED SCHEDULE C LANDSCAPE CHART						
Lot Number	Lot Classification	Internal Landscaping Required (# of Shade Trees)	Type B' Required	Shade Tree Credit*	Remaining Shade Tree Obligation	Total Trees Required
** Lots 39-41 & 43	Non-Wooded	5 Trees Per Lot	Shade Evergreen	0	0	Shade/Evergreen 20 3
*** Lot 42	Non-Wooded	5 Trees Per Lot	N/A	3	2	4 3
TOTAL TREES						24 3

SURETY AMOUNT FOR THIS PLAN IS IN THE AMOUNT OF \$1,650.00

1. \$1500.00 SURETY WILL BE POSTED WITH THE GRADING PERMIT FOR EACH LOT. SURETY IS REQUIRED ON A PER LOT BASIS. CREDIT GIVEN FOR LANDSCAPE BUFFER WHERE APPLICABLE. STREET TREES ARE NOT INCLUDED IN MODIFIED SCHEDULE C LANDSCAPE CALCULATIONS.

2. TYPE 'B' BUFFER OR PERIMETER LANDSCAPE BUFFER WILL BE CREDITED TOWARDS THE LANDSCAPE REQUIREMENTS.

3. LANDSCAPE CAN NOT BE PLANTED IN ANY PUBLIC EASEMENTS.

4. FINAL PLANTING TYPE AND LOCATION IS SUBJECT TO APPROVAL BY THE ARCHITECTURAL COMMITTEE.

5. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTING HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH HOWARD COUNTY LANDSCAPE MANUAL.

6. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, BENCHES, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED OR REPLACED.

7. SIZES OF PLANT MATERIALS MUST CONFORM TO THE REQUIREMENTS OF THE LANDSCAPE MANUAL, CHAPTER IV AND APPENDIX C.

\* This number reflects the mathematical conversion of evergreen trees to shade trees (2:1) for the purpose of meeting the internal per lot shade tree obligation.

\*\* Lots 39-41 & 43: \$1500 surety required for each lot

\*\*\* Lot 42: \$1650 surety required for lot 42

**KEY PROPERTY DEVELOPMENT CRITERIA, APPROVED 7/1/99**  
**SECTION VII RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING**

THE QUANTITY AND GENERAL LOCATION OF TREES REQUIRED FOR INTERNAL LANDSCAPING ARE DETERMINED BY CRITERIA APPLIED BY THE ARCHITECTURAL COMMITTEE. THE COMMITTEE WILL CLASSIFY, DURING ARCHITECTURAL REVIEW, ALL LOTS AND PARCELS AS 1) NON-WOODED, 2) SEMI-WOODED, 3) WOODED. SUCH CLASSIFICATION SHALL TAKE INTO ACCOUNT THE EXISTING TREE COVER AND THE POTENTIAL FOR SAVING TREES IN CONNECTION WITH GRADING AND SITING. THIS CRITERIA ALSO CONSIDERS THE SIZE OF THE LOT, AMOUNT OF EXISTING VEGETATION AND THE TYPE AND SITING OF RESIDENTIAL UNITS, IF, DURING OR AFTER CONSTRUCTION, THE COMMITTEE DETERMINES THAT A BUILDER HAS VIOLATED ANY PROVISION OF TREE PRESERVATION, THE BUILDER WILL BE REQUIRED TO ADD NEW PLANT MATERIAL, SHADE TREE REQUIREMENTS ARE SPECIFIED BY THE FOLLOWING TABLE. DENSITIES REFER TO THE DENSITY OF THE INDIVIDUAL PARCEL.

**SHADE TREE REQUIREMENTS**

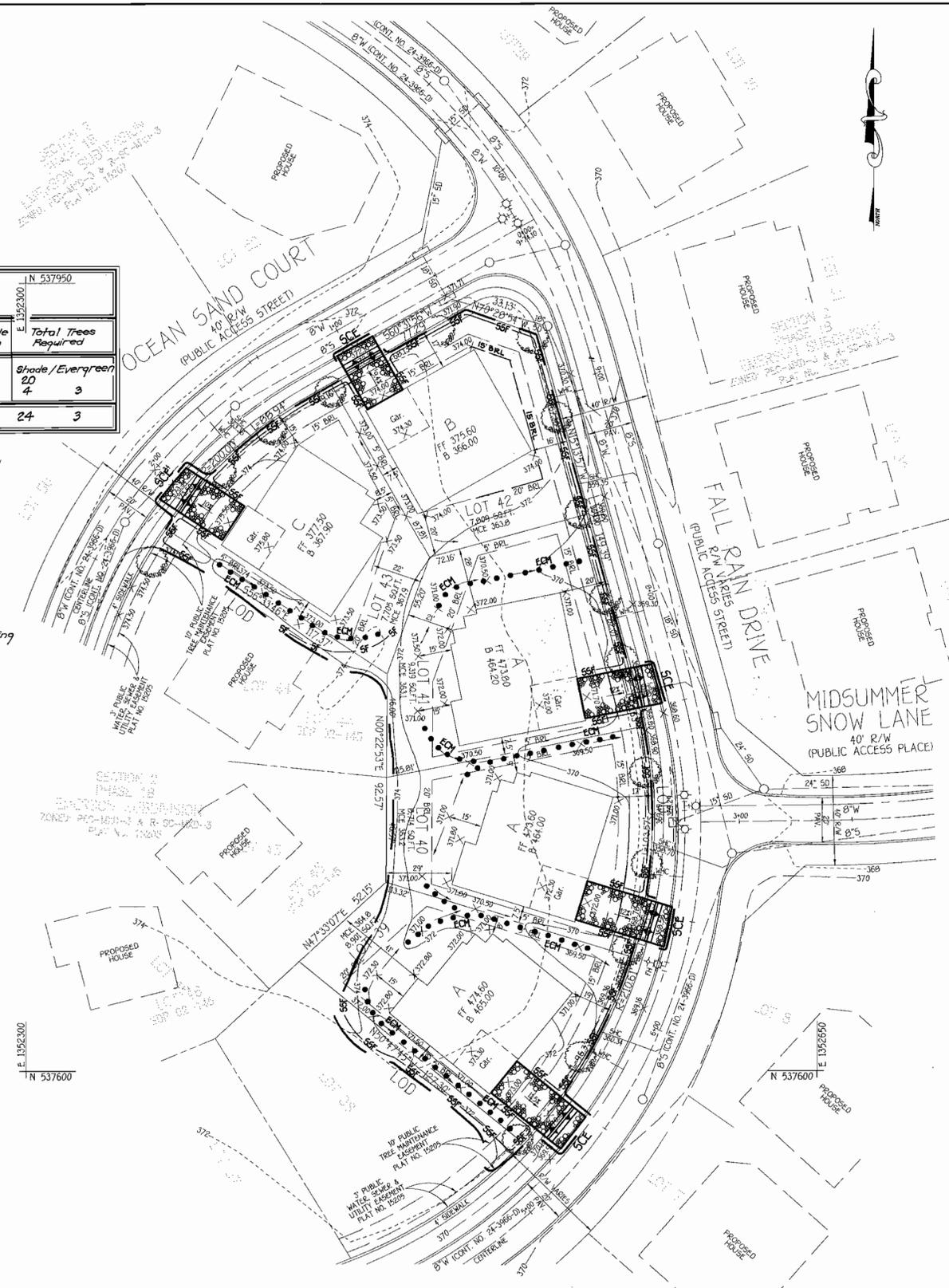
TYPE OF UNIT AND LOT SIZE	MINIMUM NUMBER OF SHADE TREES REQUIRED		
	NON WOODED	SEMI WOODED	WOODED
MEDIUM RESIDENTIAL LOT (7,000-13,000 SQUARE FEET)	5.0/LOT	3.0/LOT	2.0/LOT
2-4 UNITS/LOT			

SUBSTITUTION OF TWO FLOWERING TREES OR TWO EVERGREEN TREES FOR EACH SHADE TREE MAY BE PERMITTED UP TO 50% OF THE REQUIRED NUMBER OF SHADE TREES SHOWN IN THE TABLE SUBJECT TO THE APPROVAL OF THE ARCHITECTURAL COMMITTEE. CREDIT MAY ALSO BE GIVEN FOR ANY AREAS REQUIRED TO BE PROVIDED ALONG ROADWAYS, SUBJECT TO THE APPROVAL OF THE ARCHITECTURAL COMMITTEE.

**BUILDER/DEVELOPER'S CERTIFICATE**

I/WE CERTIFY THAT THE REQUIRED LANDSCAPING WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME: Robert Goodier DATE: 6/1/02



**PLANTING SPECIFICATIONS**

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug no heated-in plants from cold storage will be accepted.

Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas, hereinafter "Landscape Guidelines" approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects, latest edition, including all appendices.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the drawings, the quantities on the plan take precedence.

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

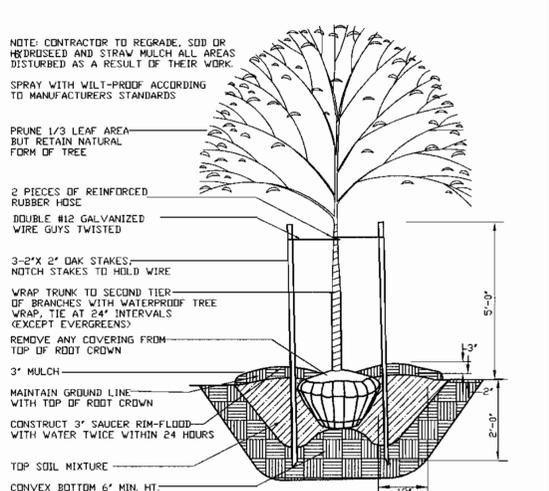
Positive drainage shall be maintained in planting beds 2 percent slope.

Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

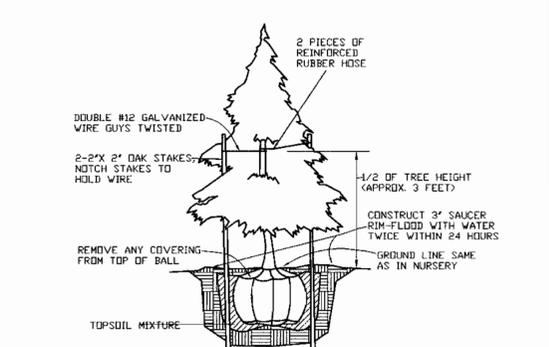
Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated.

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

This plan is intended for landscape use only. See other plan sheets for more information on grading, sediment control, layout, etc.



**TREE PLANTING DETAIL**  
NOT TO SCALE



**EVERGREEN PLANTING DETAIL**  
NOT TO SCALE

J:\5001 - Emerson Property\Job 02-125 - Emerson - Goodier\02-125 Sed. Eros. 08/27/2002 07:43:39 PM

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
410-461-2255

**STATE OF MARYLAND**  
REGISTERED PROFESSIONAL ENGINEER  
No. 12345

**ENGINEER'S CERTIFICATE**  
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.

Signature of Engineer: Charles J. Crovo Date: 6/1/02

**DEVELOPER'S CERTIFICATE**  
I/We certify that all development and construction will be done according to this plan, for sediment and erosion control 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.

Signature of Developer: Robert Goodier Date: 6/1/02

Reviewed for HOWARD SCD and meets Technical Requirements. 7/3/02

Jim Mayer U.S. Natural Resources Conservation Service  
Jeffrey W. Schrimm HOWARD SOIL CONSERVATION DISTRICT

**OWNER**  
THE HOWARD RESEARCH & DEVELOPMENT CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044  
410-992-6000

**BUILDER/DEVELOPER**  
GOODIER BUILDERS  
10705 CHARTER DRIVE  
SUITE #320  
COLUMBIA, MARYLAND 21044  
410-997-7400

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Andy Hamata Chief, Department of Planning and Zoning  
John J. ... Chief, Development Engineering Division  
... Director, Department of Planning and Zoning

PROJECT: EMERSON SECTION: 2/1B LOTS NO.: 39-43

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
15205	2 & 8	PEC-MXD-3	47	6	606B.02
WATER CODE	SEWER CODE				
E-15	7640000				

**SEDIMENT & EROSION CONTROL PLAN**

**SINGLE FAMILY DETACHED EMERSON**

SECTION 2 PHASE 1B  
LOTS 39-43

TAX MAP No: 47 PARCEL: 3 & 837  
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND  
SCALE: 1" = 30' DATE: MAY, 2002

SHEET 2 OF 3

**SDP 02-125**

## 20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

### DEFINITION

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 susceptible to erosion from rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

### CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plan and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (due to the 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 are lawns, dunes, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

### EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff. Infiltration, evaporation, transpiration, percolation and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. 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, seeded preparation, seeding, mulling 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

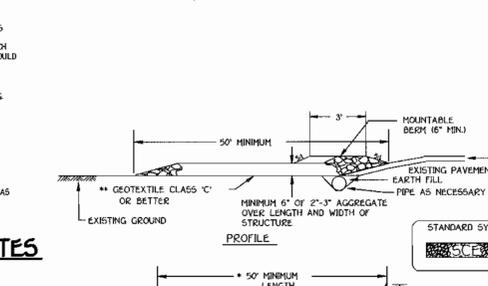
- Site Preparation**
  - Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
  - Perform all grading operations to the slope. Final grading and shaping is not usually necessary for temporary seeding.
  - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
- Soil Amendments (Fertilizer and Lime Specifications)**
  - 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 University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
  - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Fertilizers shall be delivered to the site fully blended according to applicable fertilizer laws and shall bear the name, trade name or trademark and verbiage of the producer.
  - Lime materials shall be ground limestone hydrated or burnt lime may be substituted which contains at least 82% calcium oxide plus impurities. A minimum of 100 lbs. of lime shall be applied to such areas that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.
  - Incorporate lime and fertilizer into the top 3-5" of soil by disk or other suitable means.
- Seeded Preparation**
  - Seeded 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. Seeded areas shall be greater than 20' should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
  - Apply fertilizer and lime as required on the plan.
  - In corporate lime and fertilizer into the top 3-5" of soil by disk or other suitable means.
- Minimum soil conditions required for permanent vegetative establishment:**
  - Soil pH shall be between 6.0 and 7.0.
  - Soluble salts shall be less than 500 parts per million (ppm).
  - The soil shall contain less than 40% clay, but enough fine grained material (SOX plus clay) to provide the capacity to hold a moderate amount of moisture. An exception to this rule is that if the soil is to be planted, then a silty soil (SOX plus clay) would be acceptable.
  - Soil must contain 1% minimum organic matter by weight.
  - Soil must contain sufficient pore space to permit adequate root penetration.
- Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise treated to a depth of 2" below the surface and 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 sliding down a slope.**
  - Apply soil amendments to the top 3-5" of topsoil by disk or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stumps and branches, and ready the area for seed application, where site conditions will not permit normal seeded 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. Seeded loosening may not be necessary on newly disturbed areas.

## PERMANENT SEEDING NOTES

- ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:  
SEEDING PREPARATION:  
DISK OR RIPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.
- SOIL AMENDMENTS:**  
APPLY 100 LBS PER ACRE DOLICLITE LIME/STON 50 LBS/1000 SQT) AND 600 LBS PER ACRE 0-20-20 FERTILIZER (4 LBS/1000 SQT) BEFORE SEEDING HARROW OR USE INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 100 LBS PER ACRE 38-0-0 FERTILIZER (4 LBS/1000 SQT) AND 500 LBS PER ACRE 0-15-15/1000 SQT) OF 10-20-20 FERTILIZER.
- SEEDING:**  
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 31, SEED WITH 100 LBS/ACRE (4 LBS/1000 SQT) OF KENTUCKY 31 TALL FESCUE FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS/ACRE (4 LBS/1000 SQT) OF KENTUCKY 31 TALL FESCUE AND 2 LBS PER ACRE (20 LBS/1000 SQT) OF WEEPING LONGGRASS. DURING THE PERIOD OF OCTOBER 1 THROUGH FEBRUARY 28, PROJECT SITE BY OPTION D - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION C - USE SOO OPTION C) SEED WITH 100 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDED.
- MULCHING:**  
APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS/1000 SQT) OF UNWITTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING AND/OR MULCH IMMEDIATELY AFTER APPLICATION OF SEEDING. (SEE GALLONS PER ACRE OR GAL/1000 SQT) OF PHOSPHATE AMMONIUM ON FLAT ACRES OR SLOPES 6 FEET OR HIGHER USE 40 GALLONS PER ACRE OR GAL/1000 SQT) FOR ANCHORING.
- MAINTENANCE:**  
INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.  
\* FOR PUBLIC PURPOSES SUBSTITUTE CHEMUNG CROWNWART AT 15 LBS/ACRE AND KENTUCKY 31 TALL FESCUE AT 10 LBS/ACRE AT THE SEEDING REQUIREMENT. OPTIMUM SEEDING DATE FOR THIS MIXTURE IS MARCH TO APRIL 30.

## TEMPORARY SEEDING NOTES

- APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE-DISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
- SEEDING PREPARATION:**  
DISK OR RIPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
- SOIL AMENDMENTS:**  
APPLY 100 LBS PER ACRE 10-10-10 FERTILIZER (4 LBS/1000 SQT).
- SEEDING:**  
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH NOVEMBER 15, SEED WITH 17 BASKET PER ACRE OF ANNUAL RYE (3.2 LBS/ACRE) OF WEEPING LONGGRASS (0.7 LBS/1000 SQT) FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOO.
- MULCHING:**  
APPLY 1 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQT) OF UNWITTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 280 GALLONS PER ACRE (5 GAL/1000 SQT) OF ENRICHED AMMONIUM ON FLAT ACRES OR SLOPES 6 FEET OR HIGHER. USE 40 GALLONS PER ACRE (4 GAL/1000 SQT) FOR ANCHORING.  
REFER TO THE 1990 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



## STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

## SEDIMENT CONTROL NOTES

- 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 (33-18559).
- 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 THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
  - 7 CALENDAR DAYS FOR ALL PERMITS EXCEPT TEMPORARY CONTROL STRUCTURES, DICES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1. IN 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
  - ALL PERMITS TRANSFERRED 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 501, SOO (SEC. 49)), TEMPORARY SEEDING (SEC. 50, AND MULCHING (SEC. 502), 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 PERMITSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:**

TOTAL AREA OF SITE	0.975 ACRES
AREA DISTURBED	0.960 ACRES
AREA TO BE GRADED OR PAVED	0.336 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.644 ACRES
TOTAL CUT	66 CUBIC YDS.
OFFSITE WASTE/BORROW AREA LOCATION	EMMESSEX SEC. 2, PH. 1B
- 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 SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UNDER COMPLEX OR 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 LITERAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRACING FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

## 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 Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
  - Topsoil shall be a loam, sandy loam, clay loam, silty 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 1 1/2" in diameter.
  - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, johnson grass, nutcase, poison ivy, thistle, or others as specified.
  - 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. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

## CONSTRUCTION SPECIFICATIONS

- For sites having disturbed areas over 5 acres:
  - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

## STANDARDS AND SPECIFICATIONS FOR TOPSOIL

### Definition

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

### Purpose

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

- Topsoil is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
  - 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.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.

### Construction and Material Specifications

- 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 Experiment Station.
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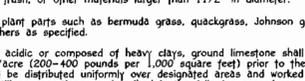
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## SUPER SILT FENCE

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## EROSION CONTROL MATTING

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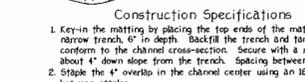
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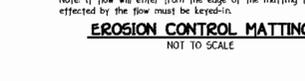
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## SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT 7 DAYS
- INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN 7 DAYS
- CLEAR AND GRUB TO LIMITS OF DISTURBANCE 4 DAYS
- INSTALL TEMPORARY SEEDING 2 DAYS
- CONSTRUCT BUILDINGS 60 DAYS
- FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE 14 DAYS
- REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMITSION IS GRANTED BY E/S CONTROL INSPECTOR. 7 DAYS

## SEDIMENT CONTROL NOTES

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## CONSTRUCTION AND MATERIAL SPECIFICATIONS

- 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

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