

## 21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

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

To provide a suitable soil medium for yeaetable 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

I. 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

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture

c. The original soil to be yeartated contains material toxic to plant growth. d. The soil is so acidic that treatment with

limestane is not feasible. II. 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

Construction and Material Specifications I. 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 Station.

#### II. 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 a 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 that I and 1/2" 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

iii. 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.

# II. For sites having disturbed areas under 5 acres

raise the pH to 6.5 or higher.

than 1.5 percent by weight.

c. Topsoil having soluble sait content greater

than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil soil

time has elapsed (14 days min.) to permit

dissipation of phyto-toxic materials.

NOTE: Topsoil substitutes or amendments, as

recommended by a qualified agronomist or soil

ammendments specified in 20.0 Vegetative

scientist and approved by the appropriate approva

authority, may be used in lieu of natural topsoil. ii. Place topsoil (if required) and apply soil

Stabilization - Section I - Vegetative Stabilization

i. When topsoiling, maintain needed erosion and

Grade Stabilization Structures, Earth Dikes, Slope

ii. Grades on the areas to be topsoiled, which

sediment control practices such as diversions,

Silt Fence and Sediment Traps and Basins.

have been previously established, shall be

maintained, albeit 48-88 higher in elevation.

such a manner that sodding or seeding can proceed with a minimum of additional soil

surface resulting from topsoiling or other

grading and seedbed preparation.

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

preparation and tillage. Any irregularities in the

operations shall be corrected in order to prevent the formation of depressions or water pockets

Topsoil shall not be place while the topsoil

or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper

PVI Sta.: 1+7

PVI Elev.: 544.09

HSD = 110'

Corn. = 0.75

1501 VC

which has been treated with soil sterilants or

chemicals used for weed control until sufficient

2. All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the <u>1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL</u>; and revisions thereto. i. Place topsoil (if required) and apply soil amendments as specified in <u>20.0 Vegetative</u>
<u>Stabilization</u> - Section I - Vegetative Stabilization
Methods and Materials.

3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: (a) 7 calendar days for all perimeter sediment control III. For sites having disturbed areas over 5 acres: structures, dikes, perimeter slopes, and all slopes greater than 3:1, (b) 14 days as to all i. On soil meeting topsoil specifications, obtain

other disturbed or graded greas on the project site test results dictating fertilizer and lime 4. All sediment traps/basins shown must be fenced and warning signs posted around their amendments required to bring the soil into perimeter in accordance with Vol. 1, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage. a. pH for topsoil shall be between 6.0 and 7.5.

with an approved and active grading permit.

PVI Sta.:

PVI Elevi:

Corr.

SSD

1001 VC

554.09

PVI Elev : 560 34

ISSD = 110

150 VC

Corr.

5. 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, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when if the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to b. Organic content of topsoil shall be not less

recommended seeding dates do not allow for proper germination and establishment of

SEDIMENT CONTROL NOTES

I. A minimum of 48 hours notice must be given to the Howard County Department of

Inspection, License and Permits Sediment Control Division prior to the start of any

6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector

Total Area Area Disturbed Area to beroofed or paved Area to be vegetatively stabilized Offsite waste/borrow area locatio

8. 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.

10. 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

shall be back-filled and stabilized within one working day, whichever is shorter. \* Earthwork quantities are solely for the purpose of calculating fees. Contractor to verify all quantities prior to the start of construction. \*\* To be determined by contractor, with pre-approval of the Sediment Control Inspector

## PERMANENT SEEDING NOTES APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER

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

DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone (92 lbs/1000 s.f.) And 900 lbs. / acre (20.7 lbs./1000s.f.) of 10-20-20 before seeding. Harrow or disc into upper 3 in. Of soil.

SEEDING: Apply a mixture of Turf Type Tall fescue(80%) and Hard Fescue (20%) in accordance with seeding dates and rates shown in the Permanent Seeding Summary shown on this sheet.

For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below and apply permanent seeding when within proper seeding dates.

MULCHING: Immediately following seeding, apply a uniform I- 2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2.5 Tons/acre if a mulch anchoring tool is used). Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. Of wood fibre/ 100 gal. of water. Synthetic liquid binders such as Terra Tox II, Acrylic DLR (Agro- Tack), DCA-70, Petroset and other approved equals may be used at rates recommended by the manufacturers.

		Perman	ient Se	eding	Sumi	mary		
	Seed Mixture (H	ardiness Zone m Table 25	7a and 6b)			rtilizer R 10-20-20		Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
10	Tall Fescue (80%) Hard Fescue (20%)	120 30	3/1-5/15 8/15-11/15	0,5 in.		1751b/ac (41b/ 1000sf)	1751b/ac (41b/ 1000sf)	2tons/ac (1001b/ 1000sf)
		EMBODA	DY SE	EDING	NOT	EC		

#### TEMPORARY SEEDING NOTES SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other

acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone (92 lbs/1000 s.f.) And 600 lbs. / acre (15 lbs./1000s.f.) of 10-10-10 before seeding. Harrow or disc into upper 3 in. Of soil. SEEDING: Apply the Maryland State Highway approved seed mixture of Barley or Rye plus Foxtail Millet in accordance with seeding dates and rates shown in the Temporary Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below.

MULCHING: Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2.5 Tons/acre if a mulch anchoring tool is used).Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. Of wood fibre/ 100 gal. of water. Synthetic liquid binders such as Terra Tox II

Trenches for the construction of utilities is limited to three pipe lengths or that which Acrylic DLR (Agro- Tock), DCA-70, Petroset and other approved equals may be used at rates recommended by the manufacturers.

		MARYLAND STA LFOR RATE AND				EROSION AND
		Tempora	ry Seedir	ng Sun	nmary	
	Seed Mixtu	re (Hardiness Zone From Table 26	6a and 7a)		Fertilizer Rate (10-10-10)	Lime Rate
1 . 1		Application	Seeding	Geeding	(10-10-10)	Rate .

Seeding Dates

Existing Ground

at Right BRL

Existing Ground

600 lb/ac (151b/1000sf)

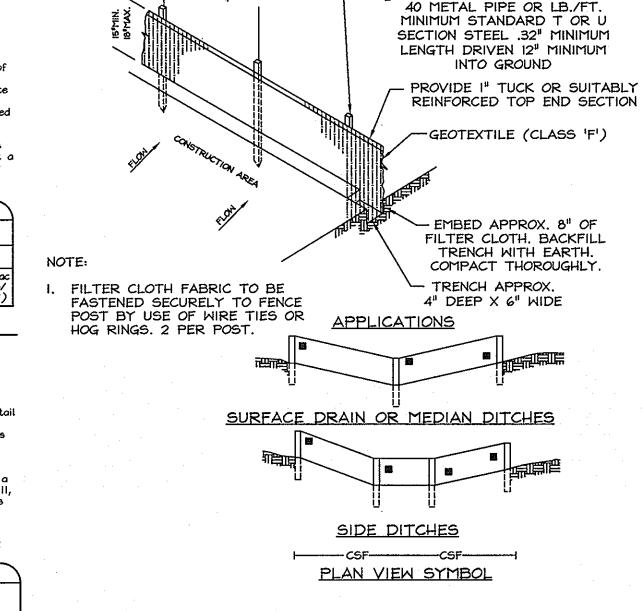
2 tons/ac

Application Rate (1b/ac)

150 lbs

Barley or Rye plus (3.51bs/1000saf) 3/15-10/31 (6a) 1/2 in

Barley or

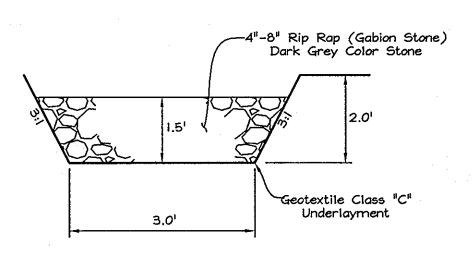


FENCE POSTS SHALL BE ROUGH OR

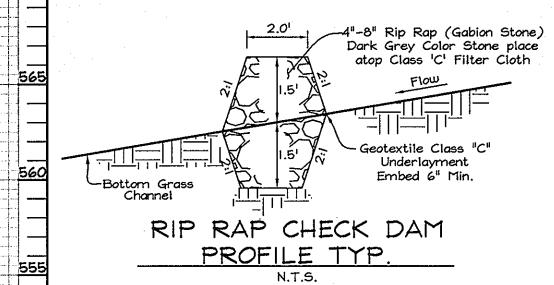
FINISHED 2" X 2" (NOMINAL) OR

24" DIAMETER WOOD OR SCHEDULE

CHANNEL SILT FENCE (C.S.F. NOT TO SCALE



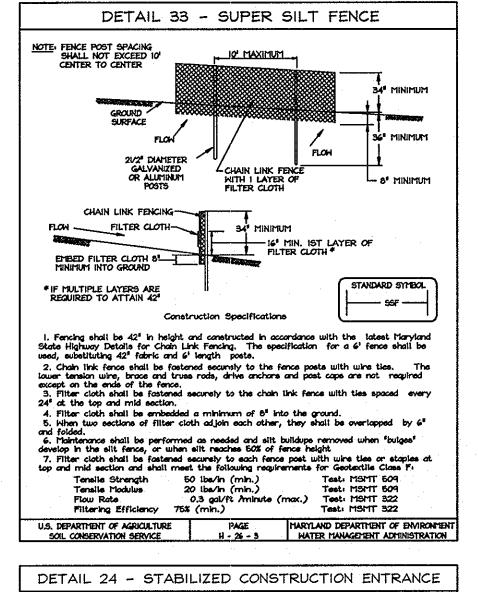
RIP RAP CHECK DAM CROSS SECTION TYP

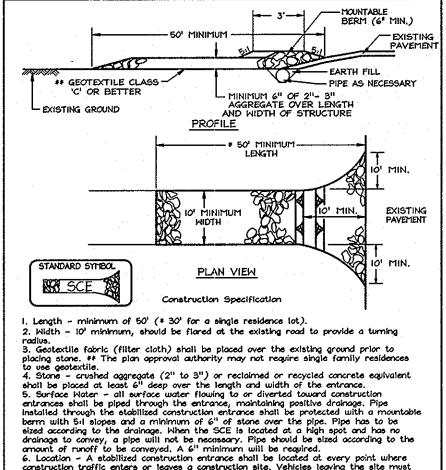


OPERATION AND MAINTENANCE

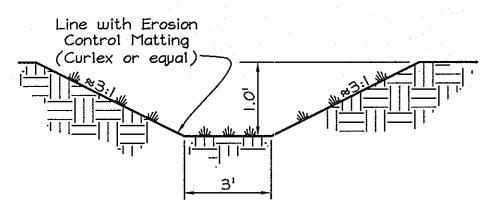
- after major storms. Inspections shall be performed during wet weather to determine if the facility is
- needed during the growing season to maintain a maximum grass height of less than 6 inches. (Routine Maintenance) 3. Debris and litter shall be removed during regular mowing
- 4. Visible signs of erosion in the grass channel system shall be repaired as soon as it is noticed. (Routine Maintenance) 5. Remove silt in the open channel system when it exceeds

8in. in depth. (Non-Routine Maintenance)



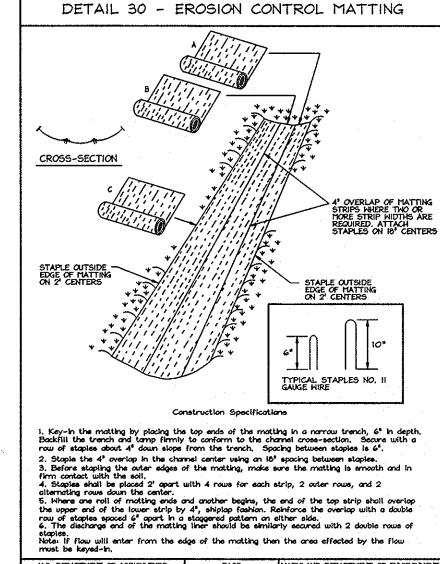


PAGE MARYLAND DEPARTMENT OF ENVIRONMEN
F - 17 - 3 WATER MANAGEMENT ADMINISTRATION

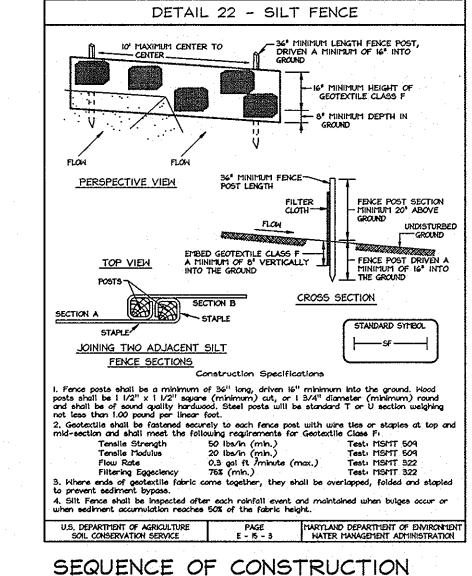


U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

GRASS CHANNEL CROSS SECTIONS (TYP.



SOIL CONSERVATION SERVICE



I. Obtain access permit from SHA Engineering Access Permit Division 2. Obtain grading permit and contact Howard County Sediment Control Inspector (SCI) to arrange a pre-construction meeting. (1 day)

- 3. Install Stabilized Construction Entrance. (1 day) 4. Clear and grub as necessary for installation of silt fence and super silt
- fence. (2 weeks) 5. Grade use-in-common driveway to subgrade and install storm drain,
- grade acceleration and deceleration lanes (5 weeks) 6. Fine grade driveway, acceleration and deceleration lanes and complete
- paving and final vegetative stabilization. (I week) 7. With permission of SCI remove all sediment controls and apply permanent stabilization to those areas. (5 days)

SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED GRASS CHANNEL (ALONG BOTH SIDES OF SHARED DRIVE) 1. The grass channel system shall be inspected annually and

> functioning properly. 2. The grass channel shall be mowed a minimum of as

operations and as needed. (Routine Maintenance)

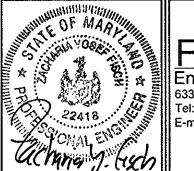
OWNER/DEVELOPER

Maryland Financial and Real Estate Trust, LLC c/o Matt Decker 305 N. Rolling Road Catonsville, MD 21228 Tel: 443-621-0933

SEDIMENT & EROSION CONTROL AND MISCELLANEOUS NOTES & DETAILS

PARK RIDGE ESTATES

LOTS 1 THRU 5, BUILDABLE PRESERVATION PARCEL "A" AND NON-BUILDABLE PRESERVATION PARCEL "B" TAX MAP 10 GRID 20 \$ 21 PARCEL 24 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND



FSH Associates Engineers Planners Surveyors 6339 Howard Lane, Elkridge, MD 21075 Tel:410-567-5200 Fax: 410-796-1562 E-mail: info@fsheri.com

DESIGN BY: \_\_ DRAWN BY: \_\_ CHECKED BY: ZYF SCALE: As Shown DATE: Nov. 13, 2007 W.O. No.: <u>3445</u> SHEET No.: 8 OF 9

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND

Prop. 15" RCCP Culvert Inv. Elev 535.23

ZONING

M \Park Ridge 3346\dwg\Finan3346\_3n\_s8.dwg, 11/13/2007 1:04:16 PM, chepburn, 1:1

-0.52%

Vert. 1"=5' BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT USDA-NATURAL RESOURCES CONSERVATION SERVICE THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. 30 NARD SOIL CONSERVATION DISTRICT

PARK MEADOWS COURT PRIVATE DRIVEWAY

SCALE: Hor. 1"=50"

ENGINEERS CERTIFICATE "I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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. Facharia VI.tisch

SIGNATURE OF ENGINEER

ZACHARIA Y. FISCH

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 11-14-07

DEVELOPER'S CERTIFICATE

PROFESSIONAL CERTIFICATION hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professiona engineer under the laws of the State of Maryland, License No. #22418, Expiration Date: 07/29/2009.

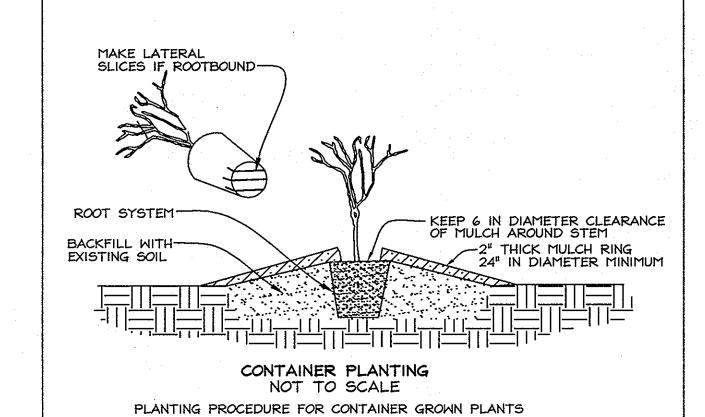
CURVEILINEAR RANDOMIZED PLANTING PLANT LOACTIONS WILL BE DETERMINED BY AN ECOLOGIST AT EXPLORATION RESEARCH, INC. UTILIZING THE FOLLOWING METHODOLOGY PLANT PLACEMENT DETAIL

MIX TREE AND SHRUB SPECIES IN THE STAGING AREA.

NOT TO SCALE

AS CLOSE TO CONTOUR AS POSSIBLE 3. SEE FOREST CONSERVATION NARRATIVE, THIS SHEET, FOR PLANT PLACEMENT SPECIFICATIONS.

2. THE PROJECT MANAGER WILL SET THE GUIDE CURVILINEAR LINE.



WITH EXISTING GRADE.

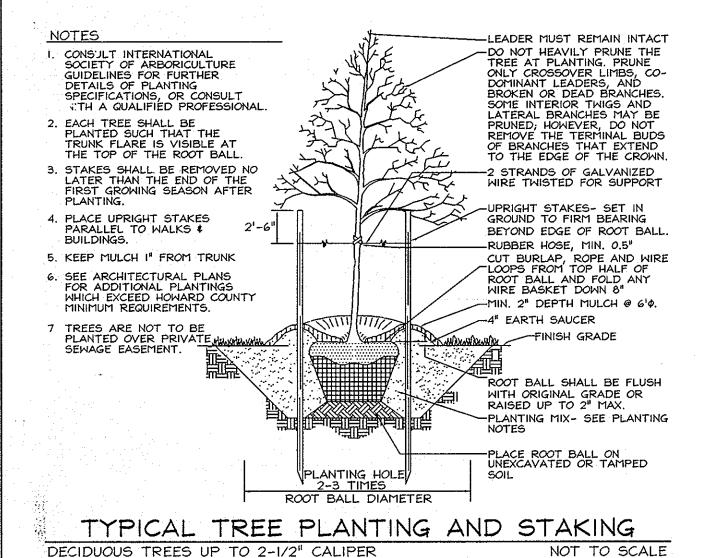
4. PLANTING HOLE TO BE 2-3 TIMES THE DIAMETER OF THE CONTIANER. 5. INSERT FERTILIZER TABLET, BACKFILL 2/3 OF THE ROOT BALL AND WATER. 6. AFTER WATER PERCOLATES, BACKFILL HOLE TO TOP OF ROOT BALL AND GENTLY TAMP SOIL TO FIRM CONTACT WITH PLANT.

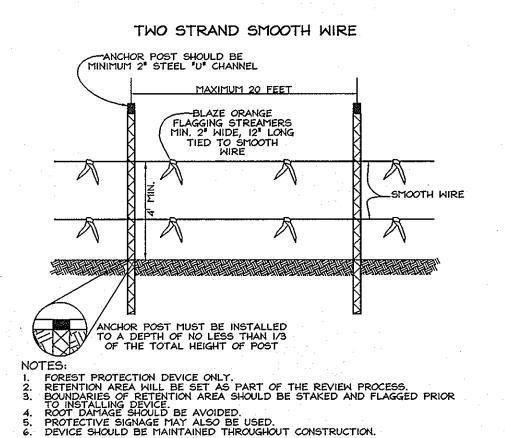
1. REMOVE THE PLANT EITHER BY CUTTING OR INVERTING THE CONTAINER 2. USE A KNIFE TO CUT THROUGH BOTTOM HALF OF THE ROOT BALL.

3. PLANT SHRUBS ON FORMED UP MOUNDS 4" ABOVE THE EXISTING GRADE

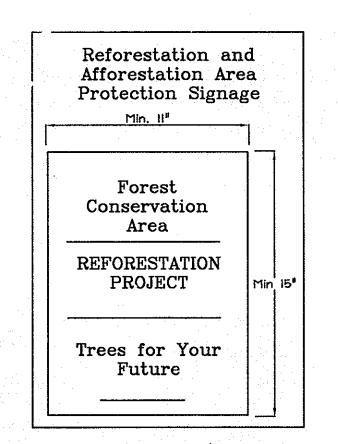
WHEN HIGH WATER TABLE CONDITIONS EXIST, OTHERWISE PLANT FLUSH

7. APPLY MUICH RING AROUND PLANT KEEPING A 6 IN CLEARANCE FROM STEM.





TREE PROTECTION DETAIL



SEE SYMBOL  $\triangle$ 

SIGN DETAIL: PERMANENT SIGN SIGNAGE NOTE: ALL TREE PROTECTION SIGNS SHALL BE PLACED ON METAL 'T POSTS OR PRESSURE TREATED WOOD POLES. NO ATTACHMENT OF SIGNS TO TREES IS PERMITTED.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

M:\Park Ridge 3346\dwg\tf\ina\13346\_3v\_s3 dwg\tag{\*\*\*13/200} 04.34 PM, chept 1; t:

PROFESSIONAL CERTIFICATION hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. #22418, Expiration Date: 07/29/2009.

# PLANTING PLAN

Plant material will be installed such that the larger stock is located along the lot line between Lot 5 and and Preservation Parcel A and along the edge of the easement that fronts the proposed location for the house site on Parcel A.

Plant Material Size Table. TPA Sq. Ft. Credit Comments 2" caliper trees | 20' x 20' | 100 | 435.6 1" caliper trees | 15' x 15' | 200 | 217.8 B # B seedlings or whips 11' x 11' 350 125 Container 1-3 gal w/tree shelters seedlings or shrubs 8' x 8' 700 62 Bare root

2" Caliper Trees = 43,560 saft. TPA (Trees Per Acre) 100 = 435.6 Sa, Ft. Credit per Plant TPA (Trees Per Acre) 200 = 217.8 Sq.Ft. Credit Per Plant Seedlings or Whips = 43,560 saft. TPA (Trees Per Acre) 350 = 125.0 Sq.Ft. Credit Per Plant Seedling or Shrubs = 43,560 saft. TPA (Trees Per Acre) 700 = 62 Sq.Ft. Credit Per Plant

OTHER PLANTING INSTRUCTIONS

Plant material should be obtained from a reputable nursery and ordered 3 to 6 months before desired delivery. Delivery should be arranged to occur as close to planting time possible, and stock should be protected from direct sun and drying until planting. Planting dates are October through May, with spring months preferred. (Suggested supplier: Silva Native Nursery & Seed Co., New Freedom, PA, (717) 227-0486.

Stock should be inspected before planting for signs of damage, disease, or insect infestation, vigor, and size. Damaged or inferior plants should be replaced.

Upon planting container grown stock, plants should be removed from the container and the soil gently loosened from the roots. If roots encircle the root ball, or are J-shaped or kinked, consider replacement. Do not trim roots on-site.

The planting field should be dug and backfilled with the native soil. Rake the surface and cover the disturbed area with approximately 4 inches of mulch, but avoid burying the base of the stem to prevent fungal rot. Water immediately to settle the soil around the roots.

MAINTENANCE AND PROTECTION OF PLANTED AREA

Soils should be tested to determine the need for fertilizer. If fertilizer is needed, it should be applied at the testing lab's recommended rates after the first growing season (late fail or early spring). Organic or slow-release fertilizers are

Watering should be planned to compensate for deficient rainfall. New plantings need water once a week for the first growing season. The second year, watering may only be necessary in July and August, and in subsequent years only water during drought periods. Watering should be done slowly enough to permit deep soaking of

Monitor the young trees for several years for health, insect damage, and invasive vines. Replace dead manually, or by careful and selective use of appropriate

Post protective signage that states that this area is a Forest Conservation Area and trees have been planted for reforestation. An effort should be made to inform and gain the cooperation of the adjacent residents to monitor and protect the

#### FOREST PROTECTION PLAN

The forest conservation and afforestation areas will need to be protected from injury during the land clearing and construction process, and from any future land use changes. Long-term protection will require placing the forest in a permanent, recorded, non-developable open space or consevation easement. The legal document establishing this protection will be required for final FCP

## CONSTRUCTION PHASE

Protective measures during the construction stage will focus on protecting the critical root zone of the retained trees along the new forest edge. The final LOD line will be staked in the field by a qualified professional who will determine which individual trees will be saved, and the extent of the critical root zone based on trees species and size. The resulting boundary will be fenced with approved fencing and posted as a tree preservation area, and no disturbance to the vegetation within the retention area will be allowed, except that which may be necessary to manage the health of the trees, such as thinning, pruning, or vine control. Any grading and construction that will occur uphill from the forest will require sediment control measures such as a silt fence or other device that will prevent siltation in the critical root zone of retained trees.

# TWO-YEAR POST-CONSTRUCTION MANAGEMENT PROGRAM

Howard County requires the developer to commit to a minimum of two years of responsibility for the management of the Forest Conservation Area. The program must be supervised by a qualified professional. The obligations include: periodic (beginning and end of growing season) inspection of the condition of the forest; necessary management such as maintenance of fencing and signage, treatment or removal of damaged or dying trees, or invasive plant control; education of new tand owners or occupants about allowable activities and future responsibilities for the forest; and a final inspection and certification that the forest is intact and the conditions of FCP have been met submitted to the County. Upon review of the final certification, the County will notify the developer of release from all future obligations, and their transferral to the owner.

### FOREST CONSERVATION EASEMENT NOTES

- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF
- 2. FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS.
- 3. LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- 4. THERE SHALL BE NO CLEARING, GRADING , CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNT DPZ.
- 5. NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- 6. TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE.
- PERMANENT SIGNAGE SHALL BE PLACED 50-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.

## FOREST CONSERVATION WORKSHEET

Net Tract Area	Acres
A. Total Tract Area	27.32
B. Area Within 100 Year Floodplain	
C. Other deductions	8.77
D. Net Tract Area	18,55
Zoning Use Category: RURAL MED CLUSTER	
Land Use Category	•
E. Afforestation Minimum (20 % x D)	3.71
F. Conservation Threshold (25 % x D)	4.64
Existing Forest Cover	
G. Existing Forest on Net Tract Area	0
H. Forest Area Above Conservation Threshold	0
Breakeven Point	
1. Forest Retention Above Threshold with no	n/a
Mitigation  J. Clearing Permitted without Mitigation	n/a
	174
Proposed Forest Clearing	-
K. Forest Areas to be Cleared	• 0
L. Forest Areas to be Retained	0
Planting Requirements	
M. Reforestation for Clearing Above Threshold	0
N. Reforestation for Clearing Below the Threshold	0
P. Credit for Retention Above Conservation Threshold	0
Q. Total Reforestation Required	0
R. Total Afforestation Required	3.71
S. Total Reforestation and Afforestation Requirement	3.71

Forest Conservation Narrative

his Forest Conservation Plan was prepared in accordance with the Howard County Forest Conservation Manual. Rules for Forest Conservation on Cluster Subdivisons were utilized.

The subject property has a gross area of 27.32 Ac. and net tract area of 17.90 Ac. Per Cluster rules the 8.77 Ac on Non-buildable Preservation Parcel B have been excluded due to the fact that the parcel contains no forest resources. There is no forest on site. The required afforestation of 3.71 Ac. will be planted in an easement of 3.71 Ac. on Preservation Parcel A. Small areas within the easement contain areas of hedgerow and small tree groups which will be enhanced with the planting.

New on-site plantings will be a mix of  $1^{\mu}-1.5^{\mu}$ cal, stock planted at 200 stems/acre and  $2^{\mu}-3^{\mu}$  containerized whip stock planted at 350 stems/acre with tree shelters. Larger stock will be utilized at the perimeter adjacent to lot 5 and Preservation Parcel A. Understory trees only (Cercis, Cornus, Amelanchier, Chionanthus) shall be planted within 45' of BGE utility lines along North Old Frederick Road, roughly within the first 30' of the easement along said road.

The total forest conservation obligation met on this site is 3.71 acres, with a total forest conservation surety amount of \$80,803.80 for afforestation of 161,607.60 s.f. @ \$ 0.50/s.f.

FOREST CONSERVATION EASEMENT #1 Afforestation Area: 3.71 Ac.

(42 trees @ 200 TPA \$ 1225 trees @ 350 TPA)

Qty	Botanical Name	Common Name	Min. Size	Spacing	Notes
184	Acer rubrum	Red Maple	WHIP 2-31	11' o.c.	1-3
184	Juniperus virginiana	Redcedar	WHIP 2-31	11. o.c.	Gallon Container
183	Liriodendron tulipifera	Tulip Poplar	WHIP 2-31	11' o.c.	Grown
183	Prunus serrotina	Black Cherry	WHIP 2-31	11 <sup>1</sup> o.c.	with tree shelters
183	Quercus rubra	Red Oak	WHIP 2-31	11 <sup>1</sup> o.c.	snelters
77	Cercis canadensis	Eastern Redbud	WHIP 2-3	11 <sup>1</sup> o.c.	
77	Cornus florida	Flowering Dogwood	WHIP 2-31	11 <sup>1</sup> o.c.	
77	Amelanchier canadensis	Serviceberry	WHIP 2-3'	11' o.c.	
77	Chionanthus virginicus	White Fringetree	WHIP 2-3	11' o.c.	
14	Acer rubrum	Red Maple	1"-1.5" cal.	15 <sup>1</sup> o.c.	Ball
14	Liriodendron tulipifera	Tulip Poplar	1"-1.5" cal.	15 <sup>1</sup> o.c.	and Burlap
14.	Quercus rubra	Red Oak	l <sup>#</sup> −1.5 <sup>#</sup> cai.	15 <sup>1</sup> o.c.	Dui lap

FOREST CONSERVATION AREA TABULATION							
Easement No.	Gross Forest Area	Forest Area Floodplain	Net Forest (Retained)	Planted Area (Afforestation)	Total Easement Area		
FCE # 1		0 Ac.±			3.71 Ac.±		
TOTAL	0 Ac.±	0 Ac.±	O Ac.±	3.71 Ac.±	3.71 Ac.±		

## Forest Tree Protection and Management Notes

1. Tree protection devices shall be installed prior to any grading or land

- 2. After the boundaries of the retention areas have been staked and flagged and before any disturbance has taken place a pre-construction meeting with
- the Howard County Inspector is required.
- 3. Provide maintenance to tree protection devices and signage to maintain their integrity throughout the duration of the project.
- 4. Attachment of signs to tree protection devices to maintain their intearity thoughout the duration of the project. 5. Any significant changes made to the Forest Conservation Plan shall be
- made with the prior approval if the Howard County Dept Of Planning and
- Zoning.
  6. No burial of discarded material is permitted within the Forest Conservation and Planting areas.
- 7. No open burning within 100 feet of wooded areas is permitted
- 8. Post construction phase. a. Inspect existing trees around the perimeter of the site for signs of root
- on trunk damage and excessive soil compaction. b. Remove dead or dying trees and evaluate for hazard tree removal.\*
- All temporary forest protection devices will be removed after construction. d. Following completion of construction, prior to use, the county inspector
- shall inspect the entire site for compliance with this Forest Conservation
- \* A licensed Arborist or Forester should be retained for this service as needed. 9. Future tree maintenance for Utility Line safety including pruning and removals of hazardous trees shall be permitted within the scope of the Forest Conservation Agreement. This shall be applicable up to 45' from the Utility Pole Line along North Old Frederick Road.

OWNER/DEVELOPER Maryland Financial and Real Estate Trust, LLC c/o Matt Decker

FOREST CONSERVATION

NOTES AND DETAILS

PARK RIDGE ESTATES

LOTS 1 THRU 5, BUILDABLE PRESERVATION PARCEL "A".

AND NON-BUILDABLE PRESERVATION PARCEL "B"

305 N. Rolling Road Catonsville, MD 21228 Tel: 443-621-0933



**EXPLORATION** RESEARCH, INC. **ENVIRONMENTAL CONSULTANTS** 6339 HOWARD LANE ELERIDGE, MARYLAND 21075 TEL: (410) 567-5210 FAX:(410) 796-1562

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TAX MAP 10 GRID 20 \$ 21 3rd ELECTION DISTRICT

. 22418

DESIGN BY: ZYF DRAWN BY: \_\_\_ CHECKED BY: ZYF SCALE: As Shown DATE: Nov. 13, 2007 W.O. No.: 3445 SHEET No.: 9 OF 9

HOWARD COUNTY, MARYLAND