

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition
Placement of topsoil over a site shall be done prior to establishment of permanent vegetation.

Purpose:
To provide a suitable soil medium for vegetation growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, or are unacceptable for grading.

Conditions Where Practice Applies

- This practice is limited to areas having 2% or less slopes where:
 - The texture of the exposed natural soil is not adequate to produce vegetative growth.
 - The soil material is so shallow that the zone is not deep enough to support plants or further continuing supply of moisture and plant nutrients.
 - The original soil is to be vegetated with material toxic to plant growth.
 - The soil is so acidic that treatment with lime is not feasible.
- 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.
 - For sites having disturbed areas over 5 acres:
 - On soil meeting topsoil specifications, assist test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - all for topsoil shall be between 6.0 and 7.5; if the tested soil is greater or less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5.
 - Organic content of topsoil shall be not less than 15 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No soil or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic material.
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization-Section 1-Vegetative Stabilization Methods and Materials.

Construction and Material Specifications

- Topsoil salvaged from the existing site may be used provided that it meets the standards set forth in these specifications. Typically, the depth of topsoil 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 on topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand, or loam as approved by the appropriate approval authority. Beardsley, topsoil shall not be a mixture of contrasting soil textures and shall contain less than 5% by volume of silt, clay, gravel, cinders, slag, coal fragments, or other materials larger than 1/2" diameter.
 - Topsoil must be free of plants or seeds of plants such as Bermuda grass, quackgrass, johnsongrass, or other weeds as specified.
 - Where the soil is either high or low in pH, it shall be adjusted to the rate of 4 lb/acre (200-400 lb per acre) prior to the placement of topsoil. The soil shall be distributed uniformly over designated areas in the following procedure:
 - Apply 1/2" of topsoil.
 - Apply 1/2" of topsoil.
 - Apply 1/2" of topsoil.
 - Apply 1/2" of topsoil.

SEDIMENT CONTROL NOTES

- Minimum of 48 hours notice shall be given to the Howard County Department of Inspection, License and Permits (DILP) prior to the start of any construction (311-1853).
- All vegetation and structural practices to be installed according to the provisions of this plan and to be in compliance with the MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within (a) 7 calendar days for all perimeter sediment control structures, ditches, meter slopes, and all slopes greater than 3% (b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, soil, temporary seeding, and mulching (Sec. 2). Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area	0.514 Acres
Area Disturbed	0.506 Acres
Area to be mowed or paved	0.000 Acres
Area to be vegetatively stabilized	0.415 Acres
Total Cut	754 CF
Total Fill	2295 CF
Offsite waste/drainage area location	##
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment 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 upon completion of installation of perimeter sediment control structures, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which 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 prior approval of the Sediment Control Inspector with approved and active grading permits.

PERMANENT SEEDING NOTES

APPROVED TO GRADE OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHEN A PERMANENT VEGETATIVE COVER IS NEEDED.

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

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre diammonium phosphate (18-46-0) and 400 lbs. urea (46-0-0) to 1000 sq. ft. of 10-20-20 before seeding. Harrow or disc into upper 3 in. of soil.

SEEDING: Apply a mixture of Turf Type Tall Fescue (TTF) and Hard Fescue (HF) in accordance with seeding rates 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 appropriate.

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 (4 sp. 2.5 tons/acre if a match anchoring tool is used). Straw may be anchored with wood cellulose fiber at a rate of 750 lbs./acre mixed at a rate of 50 lbs. of wood cellulose fiber per 100 gal. of water. Synthetic liquid binders such as Terra Tex, Acrylic DLR (Agr-Tek), DCA-70, Petroret and other approved agents may be used at rates recommended by the manufacturer.

REFER TO THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

Permanent Seeding Summary

Seed Mixture (Hardness Zone 6a and 7a) From Table 26	Application Rate (lb/1000 sq ft)	Seeding Date (3/15-10/31)	Fertilizer Rate (10-20-20)	Lime Rate
Tall Fescue (TTF)	120	3/15-5/15	20 lbs/ac (1000/10000)	2 tons/ac (1000/10000)
Hard Fescue (HF)	30	8/15-10/15	0.5 lb/ac (500/10000)	0.5 lb/ac (500/10000)

TEMPORARY SEEDING NOTES

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

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre diammonium phosphate (18-46-0) and 400 lbs. urea (46-0-0) to 1000 sq. ft. of 10-20-20 before seeding. Harrow or disc into upper 3 in. of soil.

SEEDING: Apply the following seed mixture of Turf Type Tall Fescue (TTF) and Hard Fescue (HF) in accordance with seeding rates 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 and apply temporary seeding when appropriate.

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 (4 sp. 2.5 tons/acre if a match anchoring tool is used). Straw may be anchored with wood cellulose fiber at a rate of 750 lbs./acre mixed at a rate of 50 lbs. of wood cellulose fiber per 100 gal. of water. Synthetic liquid binders such as Terra Tex, Acrylic DLR (Agr-Tek), DCA-70, Petroret and other approved agents may be used at rates recommended by the manufacturer.

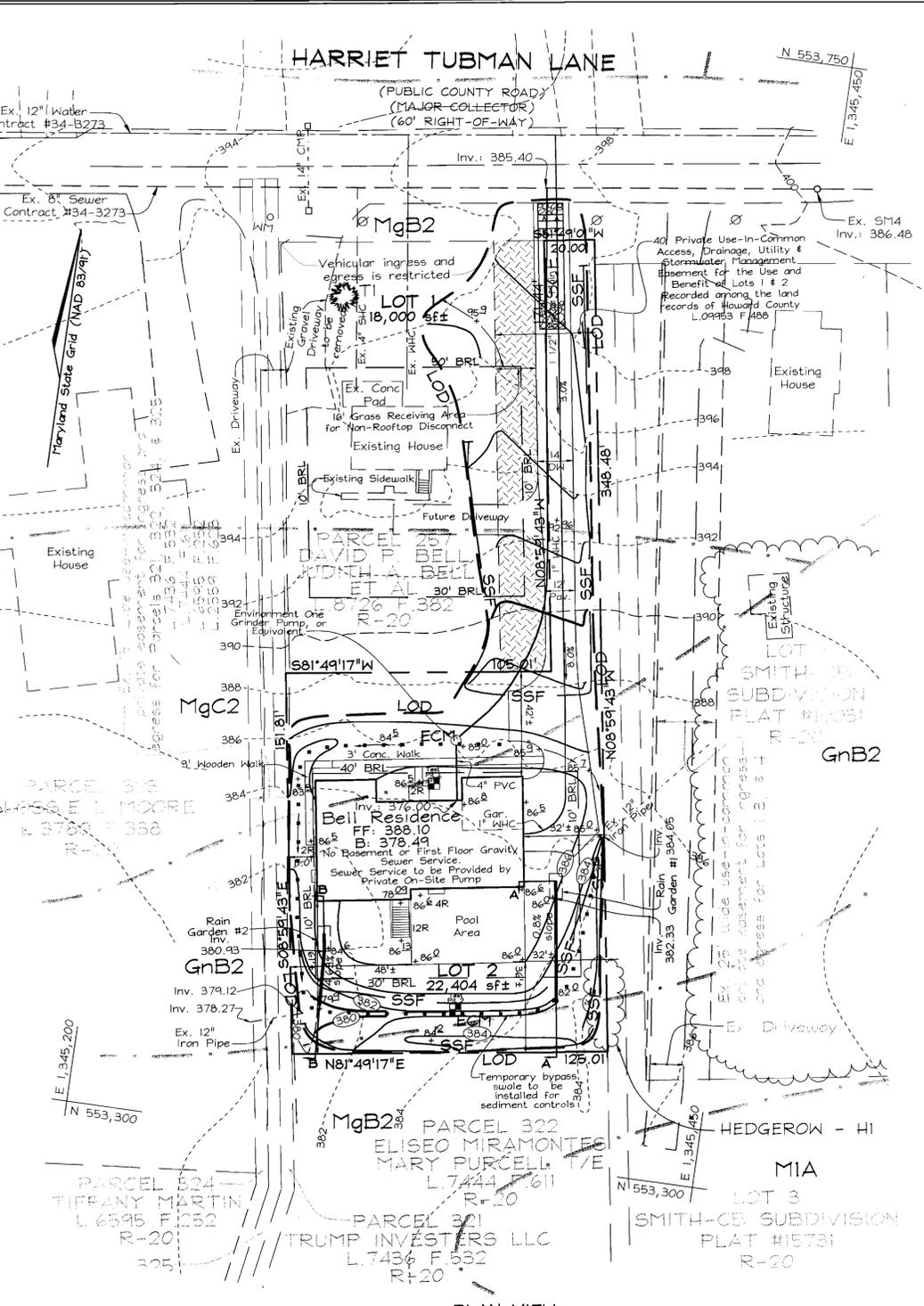
REFER TO THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

Temporary Seeding Summary

Seed Mixture (Hardness Zone 6a and 7a) From Table 26	Application Rate (lb/1000 sq ft)	Seeding Date (3/15-10/31)	Fertilizer Rate (10-20-20)	Lime Rate
Tall Fescue (TTF)	150	3/15-11/30	1/4 lb/ac (150/10000)	2 tons/ac (1000/10000)
Hard Fescue (HF)	30	3/15-10/31	0.5 lb/ac (500/10000)	0.5 lb/ac (500/10000)

RAIN GARDEN MATERIALS & SPECIFICATIONS

MATERIALS	SPECIFICATIONS	SIZE	NOTES
Plantings	See Rain Garden Plant Lists	N/A	Plantings are site specific
Filtering Soil (2' deep)	Sand: 30% to 60% Silt: 30% to 50% Clay: 0% to 25%	N/A	USDA soil types loamy sand, sandy loam or loam
Mulch	Shredded hardwood	N/A	Aged six months minimum
Underdrain		3/8" to 3/4"	
Piping	7.5" Type III or AASHTO 11/2"	Perforated 4" Rigid Schedule 40 PVC or SDR35	3/8" perforations @ 6" on center, 4 holes per foot. Minimum 3' gravel over pipes. gravel not necessary beneath pipes.
Gravel	7.5" Type III or AASHTO 11/2"	Solid 4" Rigid Schedule 40 PVC or SDR35	Minimum 3' gravel over pipes. gravel not necessary beneath pipes.

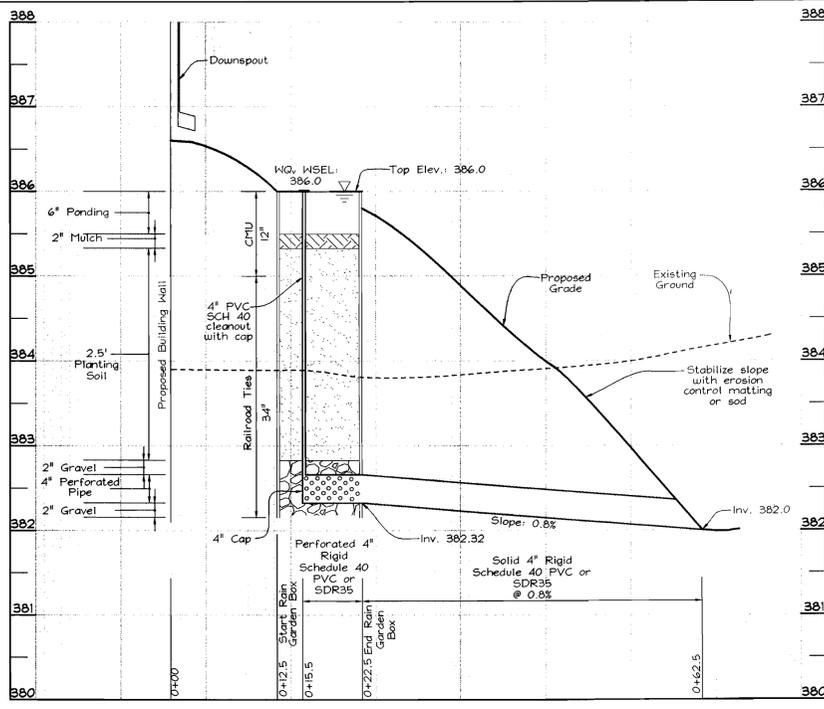


PLAN VIEW
SCALE: 1"=30'

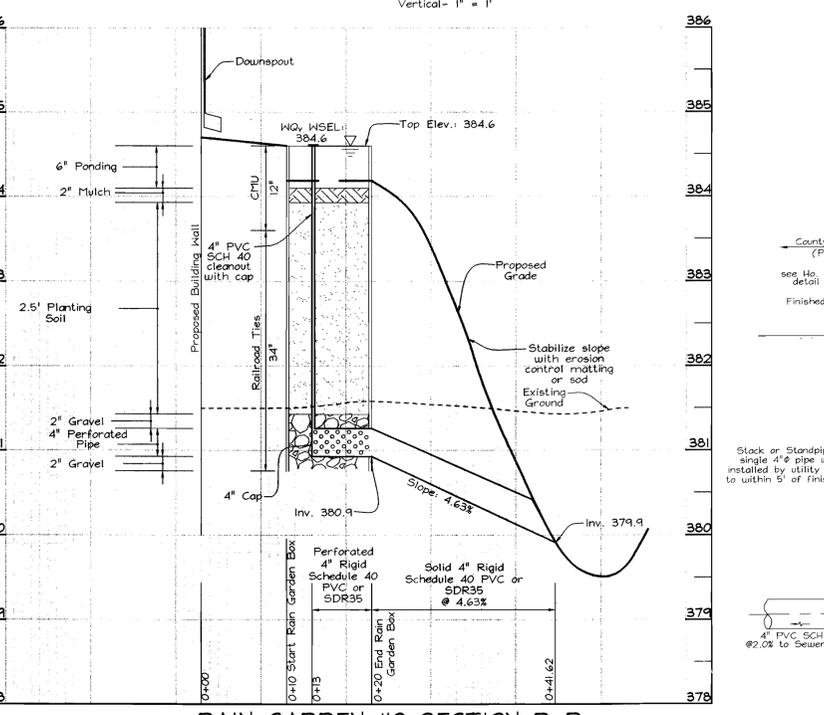
VEGETATIVE COMMUNITIES

LABEL	NAME	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
H	HEDGEROW	LIRIODENDRON TULIPIFERA	TULIP POPLAR	4"-6" DIA. x 3' HIGHS	Hedgerow (H) Saplings
		ACER RUBRUM	RED MAPLE	3"-4" DIA.	predominantly of upland invasives with an area = 200sq. ft. Ground cover includes poison ivy, blackberry and abandoned fencing.
		MORUS RUBRA	MULBERRY	2"-3" DIA. x 3' HIGHS	
		FAGUS GRANDIFOLIA	AMERICAN BEECH	3.5" DIA.	
		PRUNUS SEROTINA	BLACK CHERRY	SAPLINGS	
		RUBUS STRIGOSUS	RED RASPBERRY	SHRUBS	
		RUBUS SP.	BLACKBERRY	SHRUBS	
		LONICERA TATARICA	HONEYBUCKLE BUSH	SHRUBS	
T	TREE	PICEA ABIES	NORWAY SPRUCE	8"-10" DIA.	Pruned

* These areas do not constitute forest resources or landscape buffering and may be removed in the course of development without penalty.



RAIN GARDEN #1 SECTION A-A
SCALE: Horizontal - 1" = 10'
Vertical - 1" = 1'



RAIN GARDEN #2 SECTION B-B
SCALE: Horizontal - 1" = 10'
Vertical - 1" = 1'

RAIN GARDEN #1 PLANT LIST

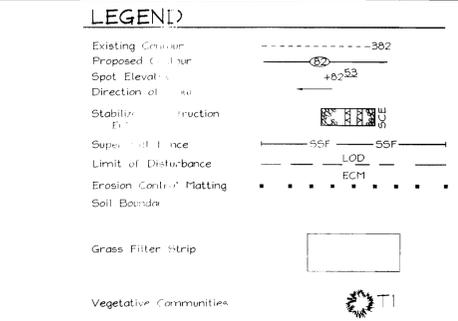
QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
5	ILEX GLABRA	INKBERRY	2' 3" HT.
15	LOBELIA CARDINALIS	CARDINAL FLOWER	1 GAL. CONTAINER 10" O.C.
15	DRYOPTERIS SP.	WOOD FERN	1 GAL. CONTAINER 10" O.C.
15	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER 10" O.C.

RAIN GARDEN #2 PLANT LIST

QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
5	ILEX GLABRA	INKBERRY	2' 3" HT.
15	LOBELIA CARDINALIS	CARDINAL FLOWER	1 GAL. CONTAINER 10" O.C.
15	DRYOPTERIS SP.	WOOD FERN	1 GAL. CONTAINER 10" O.C.
15	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER 10" O.C.

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
GnB2	Glennville silt loam, 3 to 8 percent slopes, moderately eroded, subject to hydric conditions	C
MgB2	Manor gravelly loam, 3 to 8 percent slopes, moderately eroded	B
MgC2	Manor gravelly loam, 8 to 15 percent slopes, moderately eroded	B

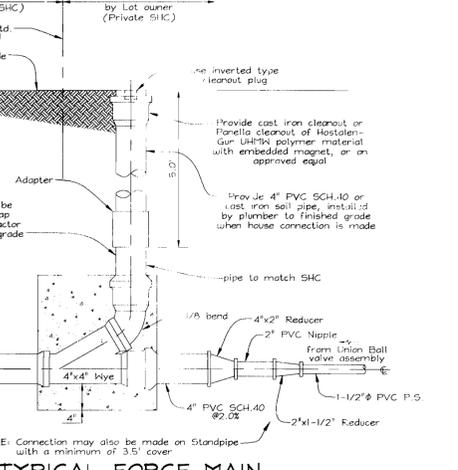


SEQUENCE OF CONSTRUCTION

- Obtain grading permit.
 - Notify Howard County Department of Inspections, License and Permits at (410) 313-1800 at least 24 hours before starting any work.
 - Install Stabilized Construction Entrance, Super Silt Fence and construct temporary bypass swale. (1 week)
 - After receiving permission from the sediment control inspector, rough grade site and begin building construction. (1 week)
 - Complete house construction, construct driveway, fine grade site, construct two (2) rain gardens and install Erosion Control Matting (3 months)
 - Upon stabilization of all disturbed areas and with the permission of the Sediment Control Inspector, remove all sediment control measures and stabilize any remaining disturbed area (1 week)
- Note: Following initial soil disturbance or any redistributions, permanent or temporary stabilization shall be completed within:
 a. 7 calendar days for all perimeter sediment control structures, dikes, scales and all slopes greater than 3:1.
 b. 14 calendar days for all other disturbed areas.
- During grading and after each rainfall, contractor will inspect and provide necessary maintenance to the sediment control measures on this plan.

OPERATION AND MAINTENANCE SCHEDULE FOR RAIN GARDENS

- Annual maintenance of plant material, mulch layer and soil is required. Maintenance of mulch and soil is limited to collecting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning.
- Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment, treatment of all diseased trees and shrubs and replacement of all deficient stakes and wires.
- Mulch shall be inspected each spring. Remove mulch layer before applying new layer once every 2 to 3 years.
- Soil erosion to be addressed on an as needed basis, with a minimum of once per month and after heavy storm events.



TYPICAL FORCE MAIN HOUSE CONNECTION
Modified Ho. Co. Std. Detail 5-2.22
Not to Scale

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF DEVELOPMENT ENGINEERING DIVISION: [Signature] 6/21/06

CHIEF DIVISION OF LAND DEVELOPMENT: [Signature] 6/27/06

DIRECTOR: [Signature] 6/28/06

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

U.S. NATURAL RESOURCES CONSERVATION SERVICE: [Signature] 6/20/06

HOWARD SCD: [Signature] 6/20/06

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."

Zacharia Y. Fisch: [Signature] 6/12/06

SIGNATURE OF ENGINEER: ZACHARIA Y. FISCH

DATE: 6/12/06

DEVELOPER'S/BUILDER'S CERTIFICATE

"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 ERICOID ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

[Signature] 6/16/06

SIGNATURE OF DEVELOPER/BUILDER

DATE: 6/16/06

OWNER/DEVELOPER

DEBRA L. SEMMONT
94187 Hellenbrook Road
Columbia, Maryland 21045
Phone: (410) 932-4409

SEDIMENT AND EROSION CONTROL, SOILS PLAN, AND DETAILS

BELL PROPERTY
LOT 2 PLAT #18205
SINGLE FAMILY DETACHED

TAX MAP 35 GRID 23
5TH ELECTION DISTRICT

PARCEL 257
HOWARD COUNTY, MARYLAND

DESIGN BY: PS
DRAWN BY: ZYF
CHECKED BY: ZYF
SCALE: As Shown
DATE: June 8, 2006
NO. NO.: 3287
SHEET NO.: 2 OF 2

FSH Associates
Engineers Planners Surveyors
8318 Forest Street, Elkhart City, MD 21093
Tel: 410-550-2251 Fax: 410-750-7350
E-mail: info@fsh.biz

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition: Topsoil is the soil layer immediately above the subsoil and below the surface layer of vegetation, litter, and organic matter.

Purpose: To provide a suitable soil medium for the growth of plants and to prevent soil erosion and nutrient loss.

Conditions Where Practice Applies:

- For sites having disturbed areas under 5 acres.
- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas over 5 acres.
- On soil meeting topsoil specifications, obtain test results including fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the test soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No seed or soil shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
- Topsoil shall be substituted or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
- Final topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

Construction and Material Specifications:

Topsoil salvaged from the existing site may be used provided that it meets the standards 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-NRCS in cooperation with Maryland Agricultural Experiment Station.

Topsoil specifications shall be used as topsoil must meet the following:

- Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand, or other soil as recommended by an agronomist or soil scientist and approved by the appropriate approval authority.
- Topsoil shall not be a mixture of different textures of soil.
- Topsoil shall be free of rocks, stones, clumps of weeds, roots, or other materials larger than 1/2" in diameter.
- Topsoil must be free of plants or seeds of plants such as Bermuda grass, quackgrass, Johnson grass, or others as specified.
- Where the topsoil is either high composed of heavy clay, ground limestone at the rate of 4-6 tons/acre (200-400 lbs/sq ft) prior to the placement of topsoil, and discarded uniformly over designated areas of the soil in conjunction with tillage operations in the following procedures:

SEEDING NOTES

- A minimum of 48 hours must be given to the Howard County Department of Inspection, License and Permits prior to the start of any construction (1915-1855).
- All vegetation and structural materials to be removed shall be removed in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL and revisions thereto.
- Following initial soil disturbance or disturbance, permanent or temporary stabilization shall be completed within (a) 7 calendar days for all perimeter sediment control structures, dikes, silt fences, and all slopes greater than 3:1, (b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 10, 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 EROSION AND SEDIMENT CONTROL for permanent seeding, soil preparation, and mulching (Sec. G). Temporary stabilization with mulch shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

Site Analysis:

Total Area	0.514 Acres
Area Disturbed	0.598 Acres
Area to be roofed or paved	0.295 Acres
Area to be vegetatively stabilized	0.415 Acres
Total Fill	754 CF
Total Cut	235 CF

Off-site waste/solow area location: [Location]

Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

Additional sediment controls must be provided if deemed necessary by the Howard County Sediment Control Inspector.

All sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested prior to installation of any sediment control structures and sediment control, but before proceeding with any other earth disturbance or site work. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

Trenches for the construction of utilities is limited to three pipe lengths or that which 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 approval of the Sediment Control Inspector with a approved and active grading permit.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, 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 (85 lb/1000 sq ft) and 400 lbs of urea (20.7 lbs/1000 sq ft) of 10-10-10 before seeding. Harrow or disc into upper 3" of soil.

SEEDING: Apply a mixture of Turf Type Tall Fescue (TTF) and Hard Fescue (HF) in accordance with seeding rates and rates shown in the Permanent Seeding Summary shown on this plan. Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rattled straw mulch at 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 rate of 50 lbs. of wood fiber/100 gal. of water. Synthetic liquid binders such as Terra-Tac, Acrylic DLR (Agra-Tack), DCA-70, Petrosol, and other approved agents may be used at rates recommended by the manufacturers.

PERMANENT SEEDING SUMMARY

Seed Mixture (Hardness Zone 6 and 7a) from Table 2b	Seeding Rate (lb/acre)	Seeding Depth (in.)	Fertilizer Rate (10-20-20)	Lime Rate
1. Tall Fescue (80%) Hard Fescue (20%)	120 80	3/4-1 1/2 3/4-1 1/2	20/20/20 (2000#) 20/20/20 (2000#)	2 tons/acre (2000#)

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 (85 lb/1000 sq ft) and 400 lbs of urea (20.7 lbs/1000 sq ft) of 10-10-10 before seeding. Harrow or disc into upper 3" of soil.

SEEDING: Apply a mixture of Turf Type Tall Fescue (TTF) and Hard Fescue (HF) in accordance with seeding rates and rates shown in the Temporary Seeding Summary shown on this plan. Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rattled straw mulch at 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 rate of 50 lbs. of wood fiber/100 gal. of water. Synthetic liquid binders such as Terra-Tac, Acrylic DLR (Agra-Tack), DCA-70, Petrosol, and other approved agents may be used at rates recommended by the manufacturers.

TEMPORARY SEEDING SUMMARY

Seed Mixture (Hardness Zone 6 and 7a) from Table 2b	Seeding Rate (lb/acre)	Seeding Depth (in.)	Fertilizer Rate (10-10-10)	Lime Rate
1. Tall Fescue (80%) Hard Fescue (20%)	120 80	3/4-1 1/2 3/4-1 1/2	20/20/20 (2000#) 20/20/20 (2000#)	2 tons/acre (2000#)

RAIN GARDEN MATERIALS & SPECIFICATIONS

MATERIALS	SPECIFICATIONS	SIZE	NOTES
Plantings	See Rain Garden Plant Lists	N/A	Plantings are site specific
Planting Soil	See Rain Garden Plant Lists	N/A	USDA soil types loamy sand, sandy loam or loam
Mulch	Shredded hardwood	N/A	Aged six months minimum
Underdrain			
Gravel	AASHTO M-43	3/8" to 3/4"	
Piping	F 750, Type PE 26 or AASHTO M-276	Perforated 4" Rigid Schedule 40 PVC or SDR35	3/8" perforations @ 6" on center, 4 holes per row, minimum 3" gravel over pipes, gravel not necessary beneath pipes

RAIN GARDEN #1 PLANT LIST

QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
5	ILEX GLABRA	INKBERRY	2' 3" HT.
15	LOBELIA CARDINALIS	CARDINAL FLOWER	1 GAL. CONTAINER
15	DRYOPTERIS SP.	WOOD FERN	1 GAL. CONTAINER
15	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER

RAIN GARDEN #2 PLANT LIST

QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
5	ILEX GLABRA	INKBERRY	2' 3" HT.
15	LOBELIA CARDINALIS	CARDINAL FLOWER	1 GAL. CONTAINER
15	DRYOPTERIS SP.	WOOD FERN	1 GAL. CONTAINER
15	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
GnB2	Glenville silt loam, 3 to 8 percent slopes, moderately eroded, subject to hydric conditions	C
MgB2	Manor gravelly loam, 3 to 8 percent slopes, moderately eroded	B
MgC2	Manor gravelly loam, 8 to 15 percent slopes, moderately eroded	B

VEGETATIVE COMMUNITIES

LABEL	NAME	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
H1	HEGDEROW	LIRIODENDRON TULIPIFERA	TULIP POPLAR	4"-6" DIA. & SAPLINGS	Hedgerow (H1) consists predominantly of upland invasives with an area of 4000 sq. ft. Ground cover includes poison ivy, bayberry grasses and abandoned fencing.
T1	TREE	PICEA ABIES	NORWAY SPRUCE	8"-10" DIA.	Planted

REVISIONS

No.	DESCRIPTION	DATE
01-14-06	Revise House Type	3/16/06

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 COUNTY CONSERVATION DISTRICT.

Zacharia Y. Fisch
SIGNATURE OF ENGINEER
ZACHARIA Y. FISCH
DATE: 6/12/06

DEVELOPER'S/BUILDER'S CERTIFICATE

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 AND THAT ALL ATTENDING 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 COUNTY CONSERVATION DISTRICT.

Debra L. Semmont
SIGNATURE OF DEVELOPER/BUILDER
DEBRA L. SEMMONT
DATE: 6/16/06

OWNER/DEVELOPER

DEBRA L. SEMMONT
94187 Millenbrook Road
Columbia, Maryland 21045
Phone: (410) 992-4409

SEDIMENT AND EROSION CONTROL, SOILS PLAN, AND DETAILS

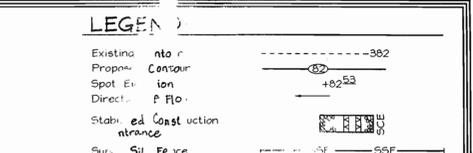
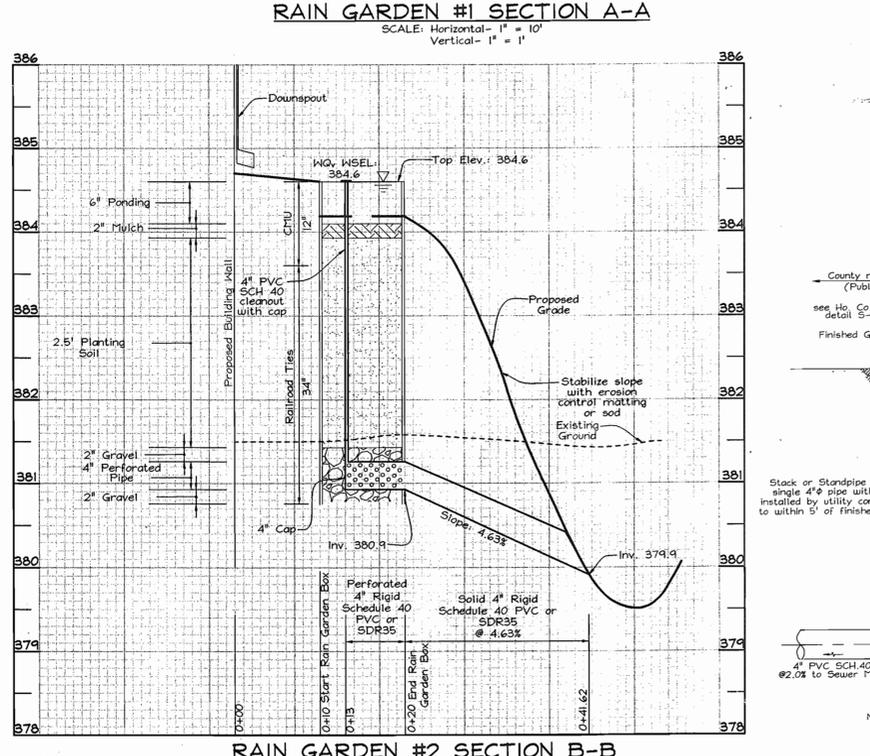
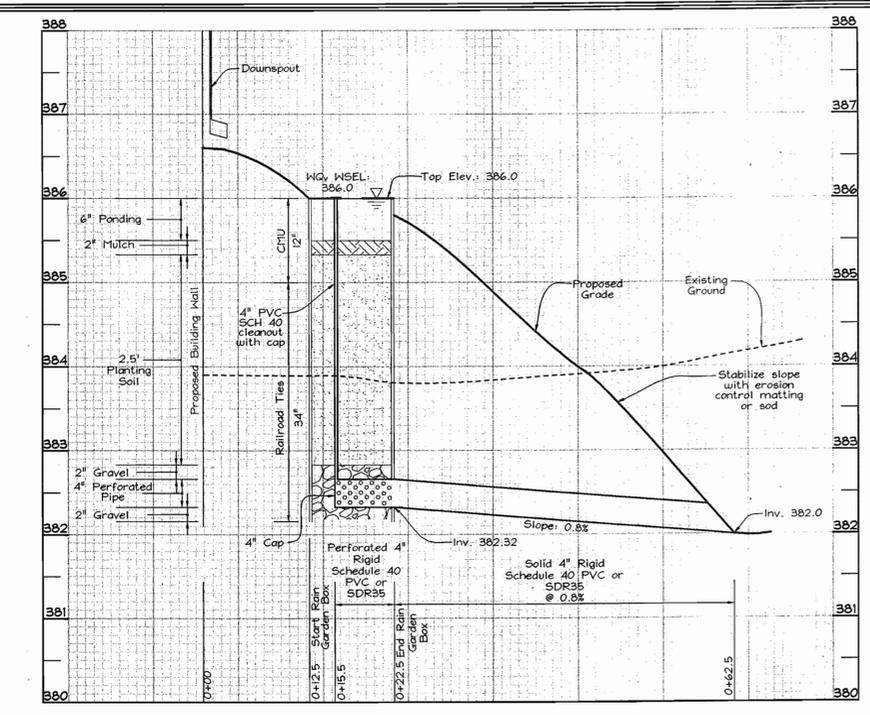
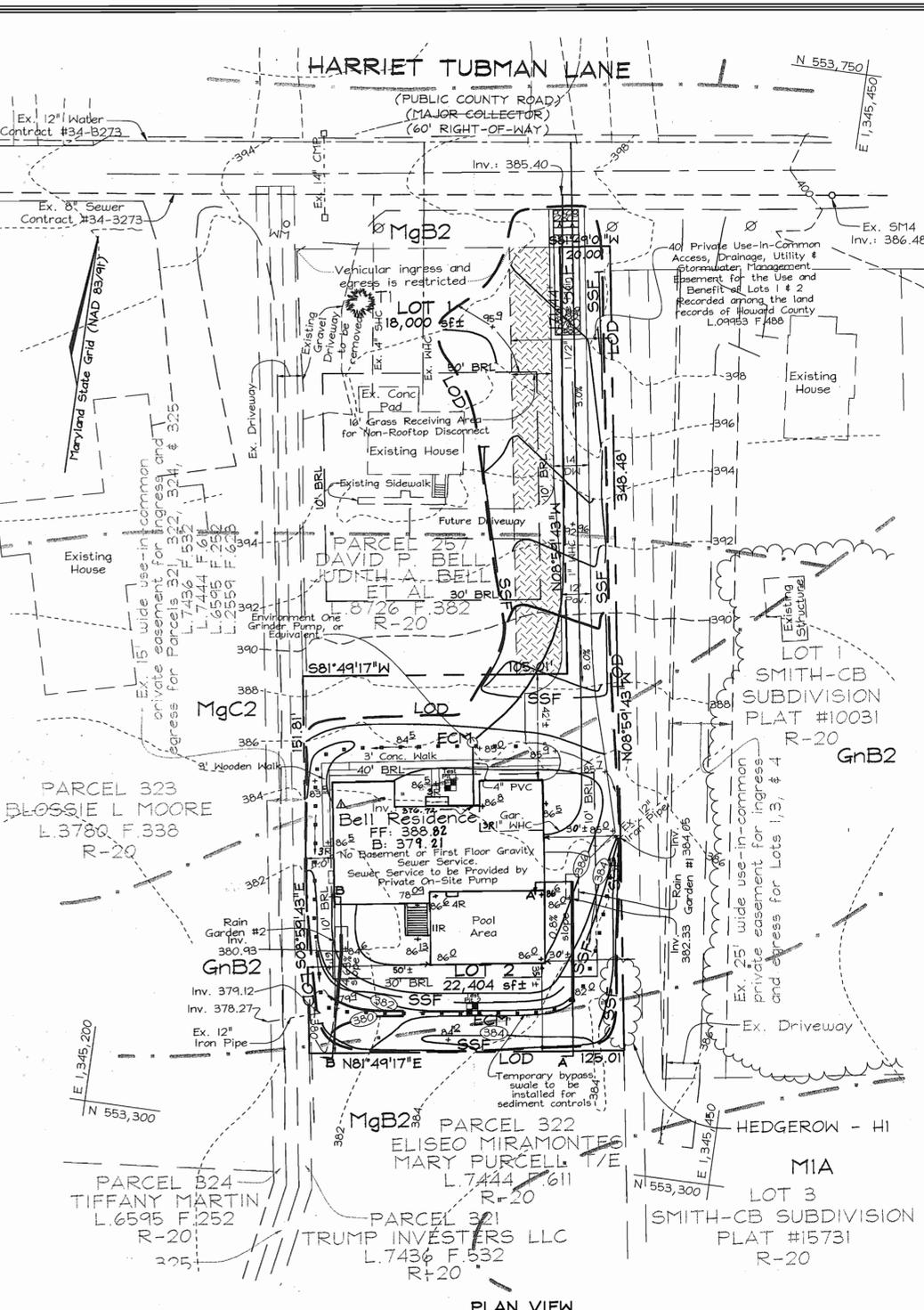
BELL PROPERTY

LOT 2 PLAT #18205
SINGLE FAMILY DETACHED

TAX MAP 35 GRID 23
5TH ELECTION DISTRICT

PARCEL 257
HOWARD COUNTY, MARYLAND

DESIGN BY: PS
DRAWN BY: SHM & GD
CHECKED BY: ZYF
SCALE: As Shown
DATE: June 8, 2006
P.O. No.: 3287
SHEET No.: 2 OF 2



SEQUENCE OF CONSTRUCTION

- Obtain grading permit.
- Notify Howard County Department of Inspections, License and Permits at (410) 313-1880 at least 24 hours before starting any work.
- Install Stabilized Construction Entrance, Super Silt Fence and construct temporary bypass swale (1 week).
- After receiving permission from the sediment control inspector, rough grade site and begin building construction (1 week).
- Complete house construction, construct driveway, fine grade site, construct two (2) rain gardens and install Erosion Control Matting (3 months).
- Upon stabilization of all disturbed areas and with the permission of the Sediment Control Inspector, remove all sediment control measures and stabilize any remaining disturbed areas (1 week).

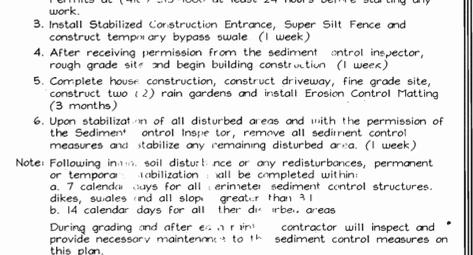
Note: Following initial soil disturbance or any restablisment, permanent or temporary stabilization shall be completed within:

- 7 calendar days for all perimeter sediment control structures, dikes, swales and all slopes greater than 3:1.
- 14 calendar days for all other disturbed areas.

During grading and after construction, contractor will inspect and provide necessary maintenance to all sediment control measures on this plan.

OPERATION AND MAINTENANCE SCHEDULE FOR RAIN GARDENS

- Annual maintenance of plant material, mulch layer and soil is required. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning.
- Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment, treatment of all diseased trees and shrubs and replacement of all deficient stakes and wires.
- Mulch shall be inspected each spring. Remove mulch layer before applying new layer once every 2 to 3 years.
- Soil erosion to be addressed on an as needed basis, with a minimum of once per month and after heavy storm events.



NOTE: Connection may also be made on Standpipe with a minimum of 3.5' cover

County maintenance (Public Sid.)
Private maintenance (Private Sid.)

Stack or Standpipe to be single 4" pipe with cap installed by utility contractor to within 5' of finished grade

NOTE: Connection to the County Sid. shall be with an Elastomeric connector (such as a Fernco coupling), to allow for slight deflection

Modified Ho. Co. Std. Detail 5-2.22
Not to Scale

NOTE: Connection to the County Sid. shall be with an Elastomeric connector (such as a Fernco coupling), to allow for slight deflection

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Continuation of General Notes

23. Any existing well or septic systems located on-site to be properly abandoned according to Health Department Regulations prior to issuance of a building permit for Lot 2.

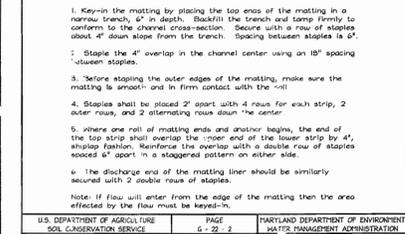
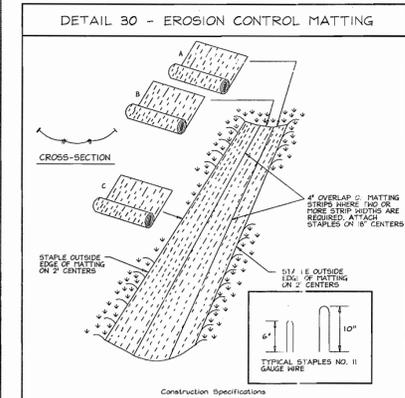
24. This plan is subject to a waiver from the Design Manual Volume III Figure 2.17 to allow utilizing Stopping Distance in lieu of Intersection Sight Distance for the Direction Left (DL), waiver was approved on 11/14/2005.

25. In accordance with section 16.120(b)(2)(ii) of the Subdivision and Land Development Regulations due to Public Right of Way Dedication the minimum lot size of lots 1 and 2 can be reduced by up to 10% of the minimum lot size not to exceed the amount of dedication. No moderate slopes 15% - 24.9% nor steep slopes 25% or greater exist on this site.

26. A Fee-in-Lieu of Open Space in the amount of \$1500.00 has been paid.

27. On October 11, 2005 The Chief Bureau of Engineering approved a waiver from section 4.3.B.3.b. of Design Manual Volume II to allow the use of a private on site pump and private low pressure sewer to serve Lot 2.

28. See sheet 2 for description of vegetative community and specimen tree. These areas do not constitute forest resources or landscape buffering and may be removed in the course of development without penalty.



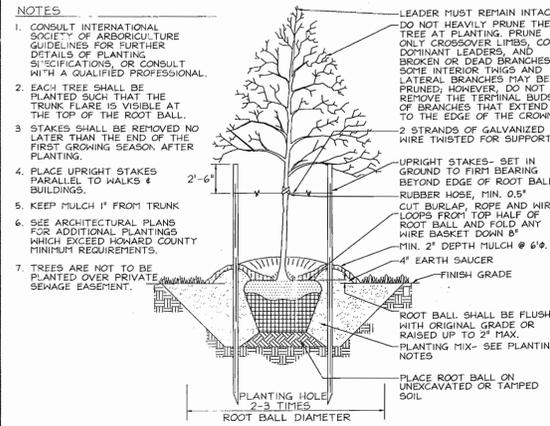
KEY	QUAN.	BOTANICAL NAME	SIZE	NOTE
4	4	Quercus coccinea 'Scarlet Oak'	2 1/2" - 3" Cal.	B & B
8	8	Acer rubrum 'October Glory Red Maple'	2 1/2" - 3" Cal.	B & B

LANDSCAPE NOTES

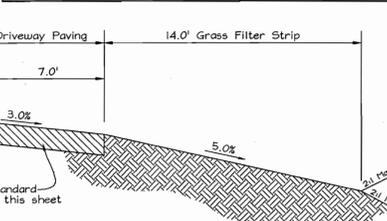
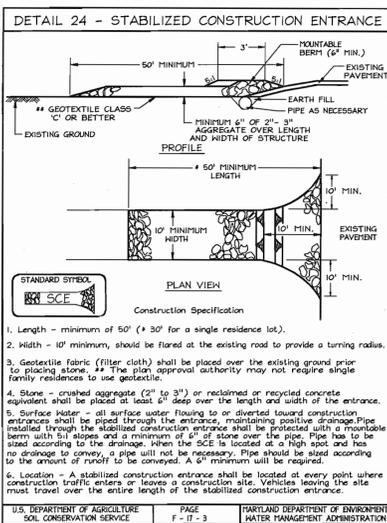
1. At the time of installation, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from this approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to applicable plans and certificates.

2. The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms. 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.

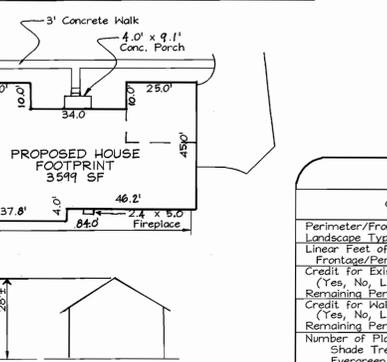
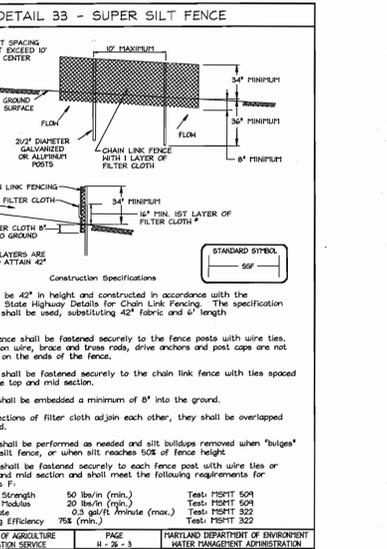
3. Posting of surety for required landscaping in accordance with Section 16.124 of the Landscape Manual in the amount of \$3,600.00 for 12 shade trees. Surety shall be posted with the Landscape Manual in the amount of \$3,600.00 for 12 shade trees. Surety shall be posted with the Landscape Manual in the amount of \$3,600.00 for 12 shade trees. Surety shall be posted with the Landscape Manual in the amount of \$3,600.00 for 12 shade trees.



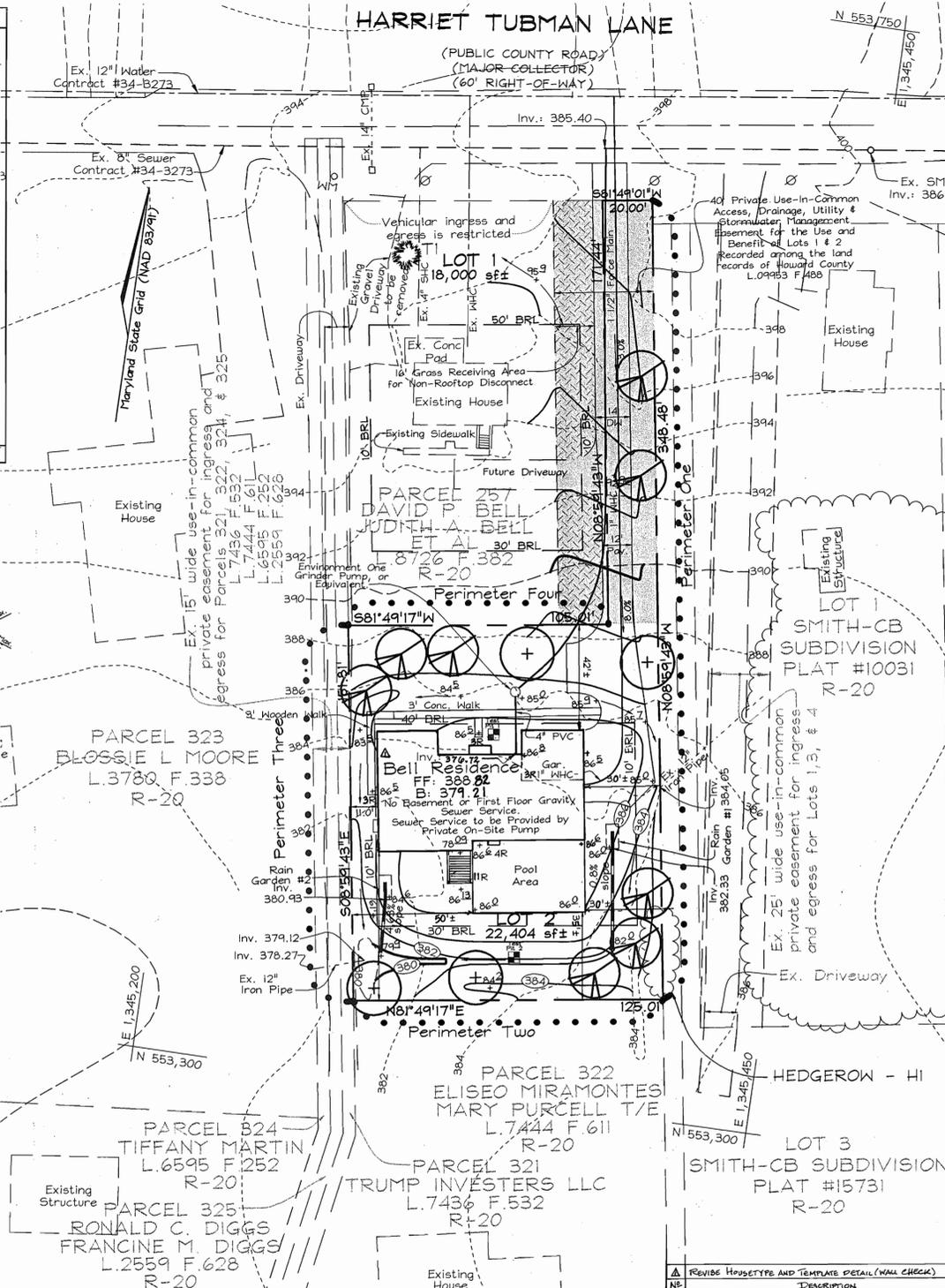
TYPICAL TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE



PRIVATE USE-IN-COMMON DRIVEWAY
Not To Scale



HOUSE TEMPLATE
SCALE: 1"=30'



CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES
Perimeter/Frontage Designation	-	-
Landscape Type	-	-
Linear Feet of Roadway Frontage/Perimeter	323	125
Credit for Existing Vegetation (Yes, No, Linear Feet)	No	No
Remaining Perimeter Length	323	125
Credit for Wall, Fence or Berm (Yes, No, Linear Feet)	No	No
Remaining Perimeter Length	-	-
Number of Plants Required	-	-
Shade Trees	160	160
Evergreen Trees	5	2
Shrubs	-	-
Number of Plants Provided	-	-
Shade Trees	5	2
Evergreen Trees	-	-
Shrubs (10:1 Substitution)	-	-
Other Trees (2:1 Substitution)	-	-
Shrubs (10:1 Substitution)	-	-
(Describe Plant Substitution Credits Below if needed)	-	-

LOT NUMBER	GROSS AREA (SF)	PIPESTEM AREA (SF)	MINIMUM LOT SIZE (SF)
2	22,404	3,426	18,978

PLAN VIEW
SCALE: 1"=30'

REVISION	DESCRIPTION	DATE
1	REVISE HOUSING TYPE AND TEMPLATE DETAIL (WALL CHECK)	04-14-06

SHEET INDEX

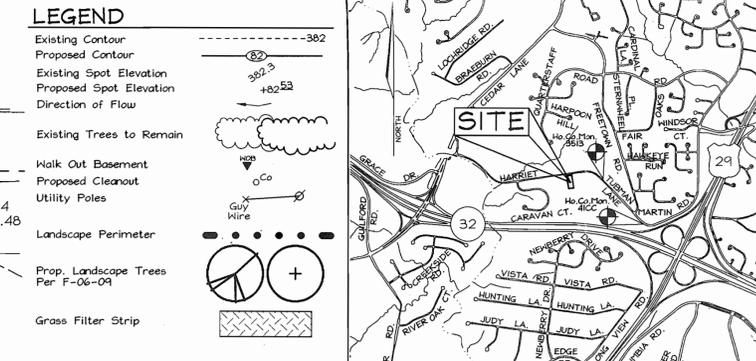
DESCRIPTION	SHEET No.
Site Development Plan, Landscaping Plan and Details	1 of 2
Sediment and Erosion Control, Soils Plan, and Details	2 of 2

SITE ANALYSIS DATA CHART

- a. Total project area: 0.51 Acre
- b. Area of plan submission: 0.67 Acre
- c. Limit of disturbed area: 0.60 Acre
- d. Subject property zoned R-20 per 02/02/04 Comprehensive Zoning Plan.
- e. Proposed uses for site & structures: single family detached.
- f. Floor space on each level of building's per use: See house template this sheet.
- g. Total number of units allowed: 1
- h. Total number of units proposed: 1
- i. Proposed building coverage of site: 0.08 acre; 16% of gross lot area
- j. Howard County file references: Contr.#34-3273; F-06-069

OWNER/DEVELOPER

DEBRA L. SEMMONT
94187 Hiellenbrook Road
Columbia, Maryland 21046
Phone: (410) 992-4409



LOT	STREET
2	7944 Harriet Tubman Lane

STATION	N	E	EI
Sta. 3513	N 168,729.6007	E 410,291.5227	EI: 126.8187 (meters)
Sta. 41CC	N 553,573.6948	E 1,346,098.104	EI: 416.071 (feet)
	N 168,400.5958	E 410,585.4444	EI: 122.1292 (meters)
	N 552,494.254	E 1,347,062.412	EI: 400.686 (feet)

GENERAL NOTES

- Property is within the Metropolitan District.
- Public water and sewer will be used within this site.
- The Contractor shall notify the following utility companies or agencies at least five(5) working days before starting work shown on these plans:
 - AT&T 1,800.743.0033/410.224.9210
 - State Highway Administration 410.531.5533
 - BGE(Contractor Services) 410.850.4620
 - BGE(Underground Damage Control) 410.787.9068
 - Miss Utility 1,800.257.7777
 - Colonial Pipeline Company 410.795.1990
 - Howard County, Dept. of Public Works, Bureau of Utilities 410.313.4900
 - Howard County Health Department 410.313.2640
- The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
- The contractor shall notify the Department of Public Works/Bureau of Engineering Construction Inspection Division at (410) 313-1880 at least five (5) working days prior the start of work.
- The lots shown hereon comply with the minimum ownership, width and lot area as required by the Maryland State Department of the Environment.
- On-site topography based on a Field Run Topographic Survey prepared by FSH Associates in November, 2004. Offsite topography taken from Howard County aerial topography in 1993.
- Contractor to confirm all dimensions, utilities and topography in the field. If any conflicts arise, contact Engineer before beginning any work.
- Howard County Soil Map #29.
- There are no floodplains, streams, wetlands, steep slopes, wetland and stream buffers, or cemeteries on site.
- Wetlands and stream evaluation conducted on October 7, 2004 by Exploration Research, Inc.
- The project is in conformance with the latest Howard County Standards unless waivers have been approved.
- The coordinates shown hereon are based upon the Howard County Geodetic Control which is based on the Maryland State Plane Coordinate system. Howard County monument numbers 3513 and 41CC were used for this project.
- In accordance with Section 128 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 setback. BRL's shown taken from Howard County Zoning Regulation for the Zoning District.
- Driveway(s) shall be provided prior to issuance of a use and occupancy permit for any new dwelling to insure safe access for fire and emergency vehicles per the following (minimum) requirements:
 - a) Width-12 feet (14' serving more than one residence).
 - b) Surface-6 inches of compacted crusher run base with 1 1/2" Min. tar and chip coating.
 - c) Geometry-max. 14% grade, max. 10% grade change, and 45 foot turning radius.
 - d) Structures (bridges/culverts)-capable of supporting 25 gross tons (H25-loading).
 - e) Drainage elements-capable of safely passing 100 year flood with no more than one foot depth over driveway surface.
 - f) Structure clearance-minimum 12 feet.
 - g) Maintenance-sufficient to insure all weather use.
- All Sewer House Connections to be a minimum of 1% and a maximum of 5%. If no slope is shown, 2.0% may be assumed.
- This project is subject to the Amended Fifth Edition of the Subdivision and Land Development Regulations and the 2004 Zoning Regulations. Development or Construction on this parcel must comply with Setback and Buffer Regulations in effect at the time of submission of the SDP, Waiver Petition Application, or Building / Grading Permit.
- The landscape plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape manual. 12 shade trees are proposed. Surety in the amount of \$3,600 (12 shade trees x \$300 per tree) will be posted with the Developer's Agreement.
- The Subject Property is zoned R-20 per the 02/02/04 Comprehensive Zoning Plan per Council Bill 75-2003.
- SMIT Requirements:
 - a) Lot 1 has an existing house and is exempt.
 - b) SMIT for CPV is not required for this site.
 - c) Key and REV for the proposed house and driveway on Lot 2 is provided by nonroofed disconnects and by Two Rain Gardens.
- Provide Residential Driveway Apron per Howard County Standard Detail R-6-06.
- In accordance with section 16.120(b),(1),(viii) of the subdivision and land development regulations, this subdivision is exempt from the requirements of Section 16.1200 of the Howard County Code for Forest Conservation.

General Notes Continued See This Sheet

SITE DEVELOPMENT PLAN, LANDSCAPING PLAN AND DETAILS

BELL PROPERTY
LOT 2 PLAT #18205
SINGLE FAMILY DETACHED

TAX MAP 35 GRID 23
5TH ELECTION DISTRICT

PARCEL 257
HOWARD COUNTY, MARYLAND

PERMIT INFORMATION CHART

Subdivision Name:	Section/Area	Lot No.
Bell Property	N/A	2

Plot #	Grid	Zoning	Tax Map No.	Elect. District	Census Tract
18205	23	R-20	35	5th	6056.02

Water Code	Sewer Code
E 29	6580000

FSH Associates
Engineers Planners Surveyors
8318 Forest Street Ellicott City, MD 21043
Tel:410-750-2251 Fax:410-750-7350
E-mail: info@fsha.biz

DESIGN BY: PS
DRAWN BY: STM & CD
CHECKED BY: ZYF
SCALE: As Shown
DATE: June 8, 2006
W.O. No.: 9287
SHEET No.: 1 OF 2