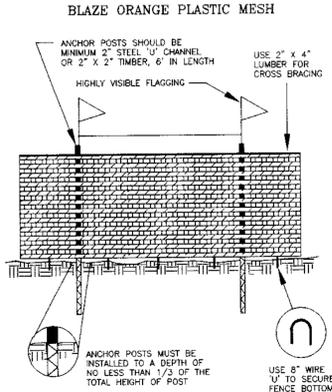


**PROTECTIVE FENCE DETAIL**



**PLANT LIST**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
1	(Symbol)	PLATANUS OCCIDENTALIS	AMERICAN Sycamore	2-1/2' - 3' CAL.
1	(Symbol)	ILEX GLABRA	INK BERRY	2' - 3' HT.
3	(Symbol)	LOBELIA SPHULITICA	GREAT BLUE LOBELIA	1 GAL. CONTAINER
2	(Symbol)	ONOCLEA SENSIBILIS	SENSITIVE FERN	1 GAL. CONTAINER
1	(Symbol)	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER

TOTAL: 13 PERENNIALS, 1 SHRUB, 1 TREE (PER EACH RAIN GARDEN)

**RAIN GARDEN DETAIL**

SCALE: 1" = 10"



- NOTES:**
- FOREST PROTECTION DEVICE ONLY.
  - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
  - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICES.
  - ROOT DAMAGE SHOULD BE AVOIDED.
  - PROTECTIVE SIGNAGE MAY BE USED.
  - DEVICES SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

**LEGEND**

- EXISTING TREELINE
- SPECIMEN TREE
- FOREST CONSERVATION (RETENTION) EASEMENT
- FOREST CONSERVATION SIGNAGE
- TREE PROTECTIVE FENCING
- PRIVATE GRINDER PUMP FOR LOW PRESSURE SEWER (SEE DETAIL ON SHEET 2 OF 2)

**FOREST CONSERVATION WORKSHEET**

NET TRACT AREA:

A. Total tract area	-2.63
B. Area within 100 year Floodplain	-0.00
C. Area to remain in agricultural production	-0.00
D. Net tract area	-2.63

AND USE CATEGORY: (from table 3.2.1, page 40, Manual)  
Input the number "1" under the appropriate land use zoning, and limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CLA
0	0	0	0	0	0

E. Afforestation Threshold: 15% x D = 0.39  
F. Conservation Threshold: 20% x D = 0.53

EXISTING FOREST COVER:

G. Existing forest cover (excluding floodplain)	-0.81
H. Area of forest above afforestation threshold	-0.42
I. Area of forest above conservation threshold	-0.28

BREAK EVEN POINT:

J. Forest retention above threshold with no mitigation	-0.58
K. Clearing permitted without mitigation	-0.23

PROPOSED FOREST CLEARING:

L. Total area of forest to be cleared	-0.55
M. Total area of forest to be retained	-0.26

PLANTING REQUIREMENTS:

N. Reforestation for clearing above conservation threshold	-0.07
P. Reforestation for clearing below conservation threshold	-0.53
Q. Credit for retention above conservation threshold	-0.00
R. Total reforestation required	-0.60
S. Total afforestation required	-0.60
T. Total reforestation and afforestation required	-0.60

**OWNER AND DEVELOPER**  
ELLCOTT CITY LAND HOLDING, INC.  
c/o LAND DESIGN & DEVELOPMENT, INC.  
8000 MAIN STREET  
ELLCOTT CITY, MARYLAND 21043  
410-480-9105

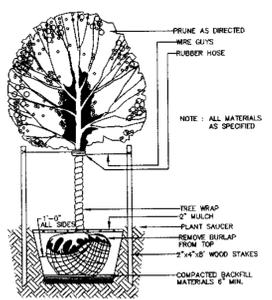
**DEVELOPER'S/OWNER'S CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE IN ACCORDANCE 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 LETTER OF NOTICE, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME: *[Signature]* DATE: 6/13/05

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Chief, Division of Land Development: *[Signature]* DATE: 7/11/05  
Chief, Development Engineering Division: *[Signature]* DATE: 7/1/05

**TYPICAL DECIDUOUS TREE PLANTING DETAIL**



MD DNR QUALIFIED PROFESSIONAL  
*[Signature]*  
John Carles  
Eco-Science Professionals, Inc. 6/10/05

**SCHEDULE A: PERIMETER LANDSCAPED EDGE**

CATEGORY	ADJACENT TO PERIMETER PROPERTIES				TOTAL
	B (PERIMETER 1)	A (PERIMETER 2)	A (PERIMETER 3)	A (PERIMETER 4)	
LANDSCAPE TYPE	B (PERIMETER 1)	A (PERIMETER 2)	A (PERIMETER 3)	A (PERIMETER 4)	
LINEAR FEET OF PERIMETER	308.27 LF	283.70 LF	306.64 LF	310.81 LF	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	N/A	YES, 155 LF OF EX. TO REMAIN	YES, 306.64 LF OF EX. TO REMAIN	YES, 140.10 LF OF EX. TO REMAIN	N/A
NUMBER OF PLANTS PROVIDED	6 SHADE TREES 8 EVERGREEN TREES 0 SHRUBS	2 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	11 SHADE TREES 8 EVERGREEN TREES 0 SHRUBS
CREDIT FOR EXISTING VEGETATION	N/A	N/A	N/A	N/A	N/A
NUMBER OF PLANTS REQUIRED	6 SHADE TREES 8 EVERGREEN TREES 0 SHRUBS	2 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	11 SHADE TREES 8 EVERGREEN TREES 0 SHRUBS

**SPECIMEN TREES**

KEY	SPECIMEN TREE
SP#1	34" PIN OAK

**FOREST STAND**

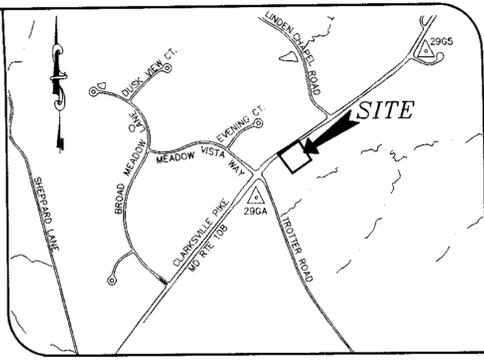
FS1 - TULIP POPLAR ASSOCIATION

**SOIL CLASSIFICATION:**

- Ba BAILE SILT LOAM (D)
- ChB2 CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED (B)
- OnB2 GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED (C)
- MgCS MANOR GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED (B)

**GENERAL NOTES:**

- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS.
- PROJECT BACKGROUND:**  
TAX MAP: 29, PARCEL: 320 BLOCK: 20  
ELECTION DISTRICT: FIFTH  
ZONING: R-20  
DEED REFERENCE: L. 7057, F. 36  
DPZ FILES: N/A
- AREA TABULATION:**
  - A. TOTAL TRACT AREA: 2.63 AC.±
  - B. NUMBER OF PROPOSED BUILDABLE LOTS: 4
  - C. NUMBER OF OPEN SPACE LOTS: 1
  - D. AREA OF PUBLIC RIGHT-OF-WAY: 23,333 SQ.FT OR 0.54 AC.±
  - E. AREA OF BUILDABLE LOTS: 1.83 AC.±
  - F. MINIMUM LOT AREA: 18,000 SQ.FT.
  - G. OPEN SPACE REQUIRED AT 10%: 11,476 SQ.FT.
  - H. OPEN SPACE PROVIDED: 11,476 SQ.FT.
- MINIMUM LOT SIZE AND OPEN SPACE REQUIREMENTS SHOWN ABOVE ARE IN ACCORDANCE WITH SECTION 16.121(a)(2) OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, 5th ED.
- TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY PERFORMED ON OR ABOUT APRIL 2003.
- BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN & MONUMENTED SURVEY BY MILDENBERG, BOENDER & ASSOCIATES, INC. ON OR ABOUT APRIL 2003.
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND NAD 83 (HORZ) AND NGVD29 (VERT) AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 2411 & 2413 (ALL UNITS IN FEET).  
STA. No. 296A N 566,867.462 ELEV. 450.749  
E 1,333,325.606  
STA. No. 2965 N 568,341.209 ELEV. 388.133  
E 1,335,392.473
- PUBLIC WATER AND SEWAGE ALLOCATION WILL BE GRANTED AT THE TIME OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
- THIS PROPOSED SUBDIVISION WILL CONSIST OF SINGLE FAMILY DETACHED DWELLINGS.
- ALL EXISTING STRUCTURES ON PARCEL 320 TO BE REMOVED UNLESS OTHERWISE NOTED.
- NO STEEP SLOPES EXIST, WETLANDS, OR FLOODPLAINS EXISTING ON SITE. AS CERTIFIED BY MILDENBERG, BOENDER & ASSOCIATES ON OR ABOUT APRIL 2003.
- LANDSCAPING FOR LOTS 1 THRU 4 IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE GRADING PERMITS FOR LOT 1 (3 SHADE TREES & 4 EVERGREENS) IN THE AMOUNT OF \$1,500.00, LOT 2 (2 SHADE TREES) IN THE AMOUNT OF \$600.00, AND LOT 4 (6 SHADE TREES & 4 EVERGREENS) IN THE AMOUNT OF \$2,400.00 FOR A TOTAL SURETY AMOUNT OF \$4,500.00.
- AT THE TIME OF INSTALLMENT, 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 LANDSCAPE 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.
- FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT FOR THIS SUBDIVISION HAVE BEEN FULFILLED BY RETENTION OF 0.26 ACRES AND BY PAYMENT OF FEE-IN-LIEU OF REFORESTATION OF 0.64 ACRES (27,878.4 SQ. FT) IN THE AMOUNT OF \$13,939.20. FINANCIAL SURETY FOR THE ON-SITE RETENTION OF 0.26 ACRES (11,325.6 SQ.FT.) HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$2,265.12.
- SOILS DATA BASED ON HOWARD COUNTY SOIL SURVEY DATED JULY 1968, SHEET 23.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
  - A) WIDTH - 12 FEET (14 FEET SERVING MORE THAN ONE RESIDENCE).
  - B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING.
  - C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45-FOOT TURNING RADIUS.
  - D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 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 ENSURE ALL WEATHER USE.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER ARE PUBLIC. WATER CONTRACT NO. IS 44-3218. SEWER WILL BE DONE BY OTHERS. A PUBLIC GRAVITY SEWER LINE IS PROPOSED FROM THE PROPERTY ALONG ROUTE 108 TO MIDDLE PATENT COURT WHERE IT WILL CONNECT TO EXISTING SEWER CONTRACT NUMBER 34-3557-D.
- STORMWATER MANAGEMENT MEASURES WILL BE REQUIRED ON THE LOTS SHOWN ON THIS PLAN IN ACCORDANCE WITH THE DESIGN MANUALS. CONSTRUCTION OF STORMWATER MANAGEMENT MEASURES SHALL COMMENCE UPON SIGNATURE APPROVAL OF SITE DEVELOPMENT PLANS AND ISSUANCE OF GRADING PERMIT. NOISE WALL SHALL BE OWNED AND MAINTAINED BY HOME OWNERS ASSOCIATION.



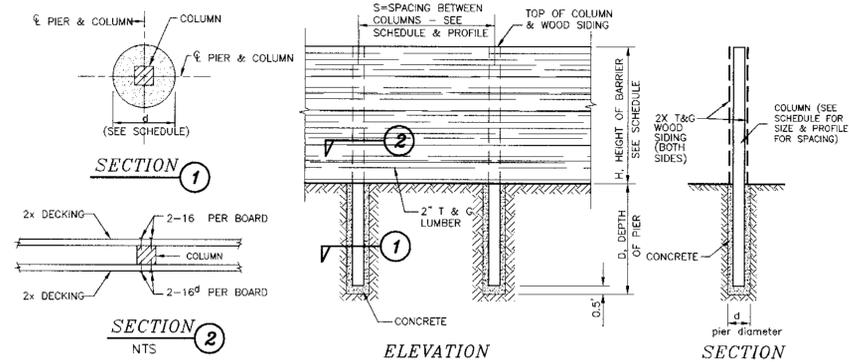
**VICINITY MAP**

SCALE: 1"=1000'

date	JUN. 2005	approval	RJH
project	03-015	MAP	
illustration	MAP	revision	
description	MAP	revision	
scale	1"=30'		

**GILL PROPERTY**  
TAX MAP 29 - GRID 20 - PARCEL 320  
HOWARD COUNTY, MARYLAND  
FIFTH ELECTION DISTRICT  
**SUPPLEMENTAL, FOREST CONSERVATION & LANDSCAPE PLAN**

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042  
(410) 997-0286 Fax  
(410) 621-5521 Wash.



**SCHEDULE**

40 #/sqft HORIZONTAL LOADING

H	S	D	d	POST SIZE
5'	8"	6"	12"	4"x8"
10'	8"	8"	18"	6"x12"
15'	8"	10"	24"	8"x16"

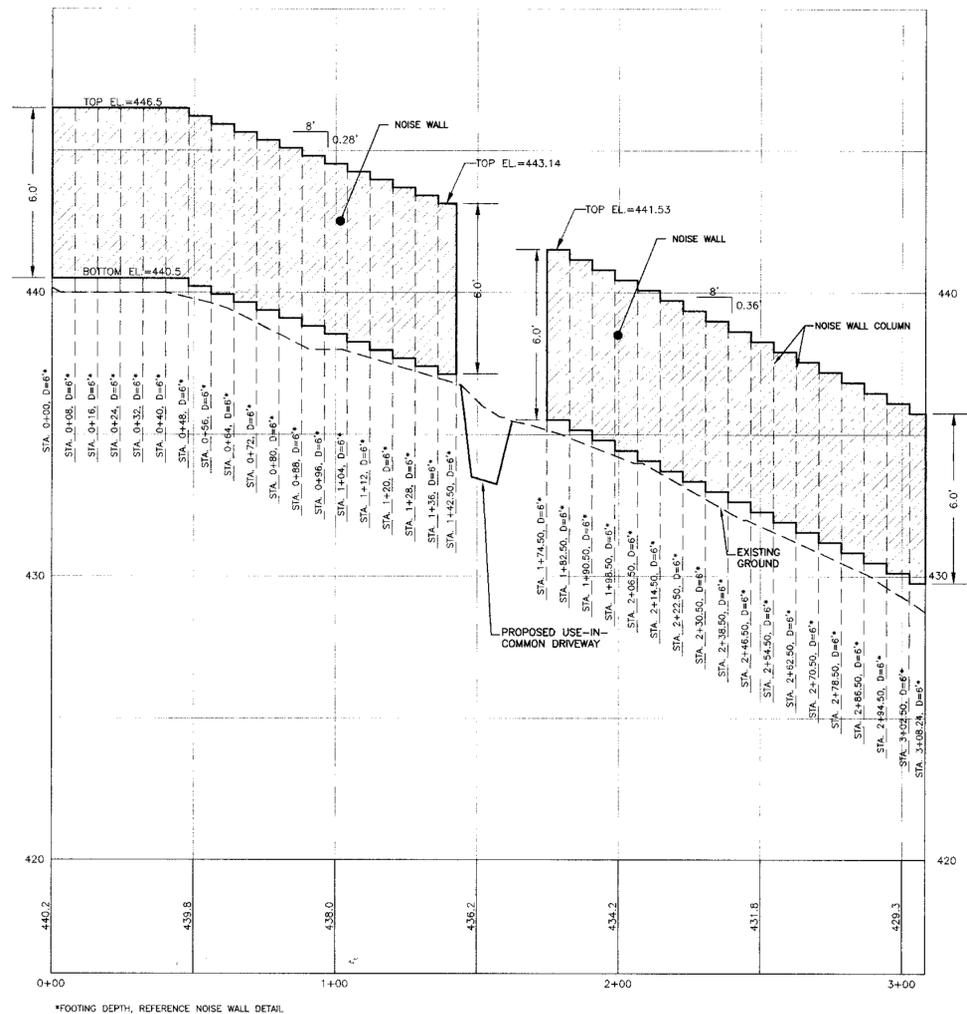
**NOISE WALL DETAIL**  
NTS

NOTE: THE PROPOSED NOISE WALL IS PRIVATELY OWNED AND SHALL BE MAINTAINED BY THE HOMEOWNER'S ASSOCIATION. THE NOISE WALL SHALL BE INSPECTED AND REPAIRED AS NECESSARY AT A MINIMUM OF ONCE PER YEAR.

NOTE: AN EARTH NOISE BERM MAY BE SUBSTITUTED AT THE SAME HEIGHT.

NOTES:

- GENERAL:
  - HEIGHT OF BARRIER SHALL BE BASED ON ACOUSTIC REQUIREMENTS.
  - BARRIER WALLS HAVING A HEIGHT (H) NOT INDICATED IN THE TABLES SHALL BE CONSTRUCTED AS SHOWN IN THE HIGHER HEIGHT CATEGORY.
- SIDING:
  - 2" X WOOD SIDING MATERIAL SHALL BE UTILIZED TO SPAN HORIZONTALLY BETWEEN POSTS. DESIGN CRITERIA IS BASED ON AN ALLOWABLE BENDING STRESS OF 1400 LBS. PER SQ. IN. AND A 33 1/3% INCREASE IN STRESS FOR WIND LOADS AS CONSIDERED APPROPRIATE. SIDING SHALL BE MC15.
  - SIDING IN CONTACT WITH THE GROUND AND FOR A DISTANCE OF 6" ABOVE GRADE SHALL BE TREATED WITH WOOD PRESERVATIVE.
- POST:
  - WOOD POST SHALL BE UTILIZED AT THE SPACING INDICATED ON THE SCHEDULE. DESIGN CRITERIA IS BASED ON AN ALLOWABLE BENDING STRESS OF 1400 LBS. PER SQ. IN. AND A 33 1/3% INCREASE FOR WIND LOAD.
  - POST EMBEDDED IN CONCRETE SHALL BE TREATED WITH A WOOD PRESERVATIVE IN THE AREA OF EMBEDMENT AND 12" ABOVE GRADE.
- CONCRETE:
  - CONCRETE IN THE PIERS SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 2500 LBS. PER SQ. IN.
  - CONCRETE SHALL BE PLACED IN DRILLED PIERS UTILIZING THE EARTH AS THE FORMS.
- FOUNDATIONS:
  - THE DRILLED PIERS HAVE BEEN DESIGNED UTILIZING AN ALLOWABLE PASSIVE PRESSURE OF 300 LBS. PER SQ. FT. AND THE FOLLOWING FORMULA:  $D = \frac{(1.25M)^{0.5}}{P}$
  - M = MOMENT AT TOP OF DRILLED PIER (FT/LBS)
  - P = ALLOWABLE PASSIVE PRESSURE (300 LBS PER SQ.FT.)
  - d = DIAMETER OF PIER (FT.)
  - D = DEPTH OF PIER (FT.)
- ALTERNATIVE #1 (PRESERVATIVE TREATMENT) ALTERNATIVE #1 REPRESENTS THE ADDITIONAL COST FACTOR FOR TREATING THE BASIC WOOD STRUCTURE INDICATED ON THIS REFERENCE PLAN. THE NECESSITY FOR TREATMENT AND THE TYPE OF PRESERVATIVE WILL BE SUBJECT TO LOCAL CONDITIONS. ALL TREATMENTS SHALL CONFORM TO AWPA STD. C-14.
- ALTERNATIVE #2 (PAINTING) ALTERNATIVE #2 REPRESENTS THE ADDITIONAL COST FACTOR REQUIRED TO PAINT ONE SIDE OF THE BASIC WOOD STRUCTURE SHOWN ON THIS REFERENCE PLAN. PAINTING SHALL CONSIST OF 3 APPLICATIONS OF PAINT. 2 COATS OF LATEX BASE PAINT CONFORMING TO FEDERAL SPECIFICATION TT-P-009866 SHALL BE APPLIED OVER PRIMER COAT CONFORMING TO FEDERAL SPECIFICATION TT-P-00250.
- ALTERNATIVE #3 (STAINING) ALTERNATIVE #3 REPRESENTS THE ADDITIONAL COST FACTOR REQUIRED TO STAIN ONE SIDE OF BASIC WOOD STRUCTURE. STAIN SHALL CONSIST OF 2 COATS OF SEMI-TRANSPARENT SEALER STAIN APPLIED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.



**NOISE WALL PROFILE**

HORZ. SCALE: 1"=30'  
VERT. SCALE: 1"=3'

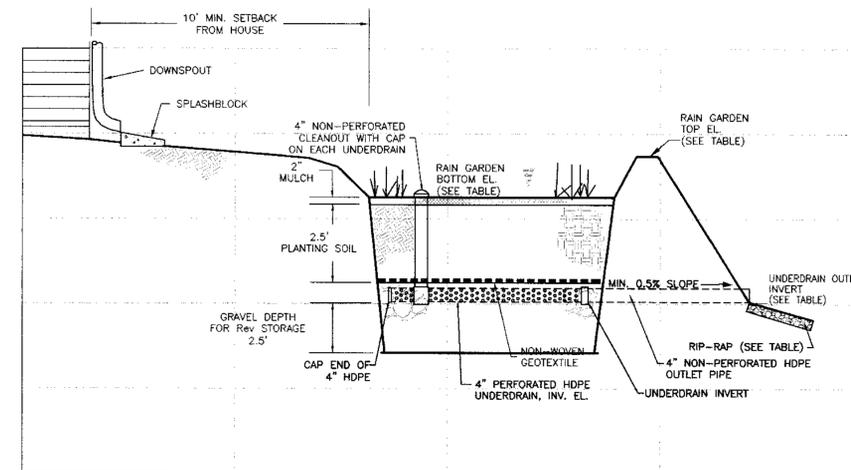
**OPERATION AND MAINTENANCE SCHEDULE FOR RAIN GARDENS**

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER 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 PERIODIC MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENT.

**RAIN GARDEN DESIGN DATA**

RAIN GARDEN#	RAIN GARDEN TOP EL.	RAIN GARDEN BOTTOM EL.	UNDERDRAIN INVERT EL.	UNDERDRAIN TOP EL.	MAX. PONDING DEPTH	RIP-RAP DIMENSIONS		
						La	W	T
1	432.5	432.0	428.9	428.7	6"	3'	2'	6"
2	431.5	431.0	427.9	427.8	6"	3'	2'	6"
3	426.0	425.5	422.4	422.2	6"	3'	2'	6"
4	420.0	419.5	416.4	416.3	6"	3'	2'	6"
5	420.0	419.5	416.4	416.3	6"	3'	2'	6"
6	425.5	425.0	421.9	421.8	6"	3'	2'	6"

\* USE AASHTO NO. 2 STONE



**TYPICAL RAIN GARDEN PROFILE**

NTS

A:\03-015\Draw\03015-SUPP-revised.dwg

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Division of Land Development  
 Chief, Development Engineering Division

7/11/15  
 7/7/15

project: 03-015  
 illustration: MAP  
 date: AUG. 04  
 engineering: MAP  
 approval: RJH

description: revisions

GILL PROPERTY  
 TAX MAP 29 - GRID 20 - PARCEL 320  
 TAX MAP 38, PARCEL 141, LOT 4  
 HOWARD COUNTY, MARYLAND  
 FIFTH ELECTION DISTRICT  
 NOISE WALL & RAIN GARDEN DETAILS

MILDENBERG, BOENDER & ASSOC., INC.  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0236 Fax: (301) 621-5527 Wash. (410) 997-0298 Fax.