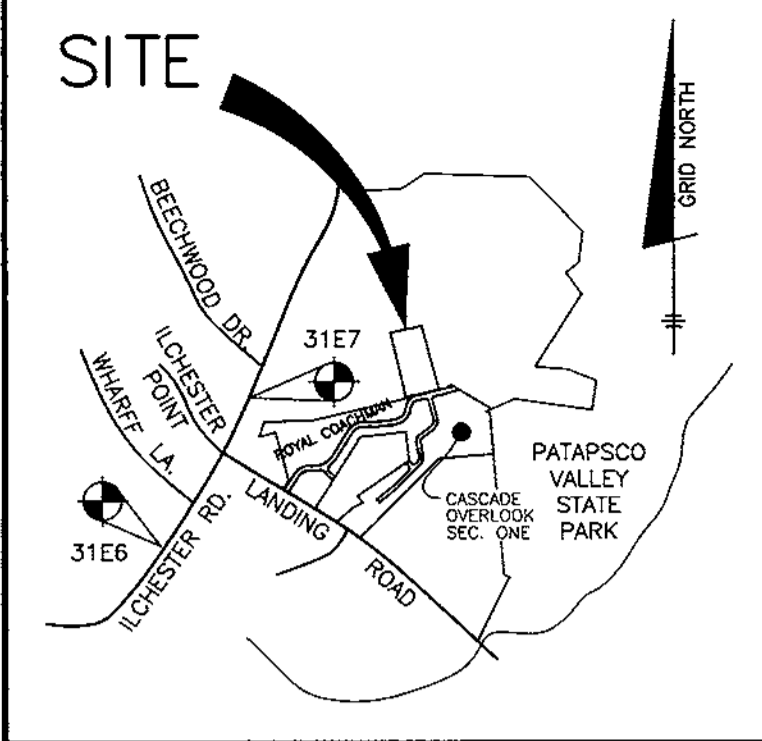


GENERAL NOTES:

- ON JANUARY 16, 2002, THE PLANNING BOARD OF HOWARD COUNTY, MARYLAND, IN ACCORDANCE WITH SECTION 107.E OF THE HOWARD COUNTY ZONING REGULATIONS, HELD A PUBLIC HEARING. AT THIS HEARING THE PLANNING BOARD GRANTED APPROVAL FOR NINE (9) RESIDENTIAL LOTS WITH NO CONDITIONS. ON JANUARY 23, 2002 THE PLANNING BOARD SIGNED THE DECISION AND ORDER.
- THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARD UNLESS WAIVER'S HAVE BEEN APPROVED.
- PROJECT SITE ZONED R-ED PER THE 10-18-93 COMPREHENSIVE ZONING PLAN.
- CONTOURS SHOWN HEREON WERE TAKEN FROM FIELD RUN TOPOGRAPHY SURVEY AT 2' CONTOUR INTERVALS PERFORMED BY BENCHMARK ENGINEERING, INC. ON OR ABOUT NOVEMBER, 2001.
- WATER AND SEWER EXTENSIONS FOR THIS PROJECT WILL BE PUBLIC. AN APPLICATION HAS BEEN SUBMITTED TO THE COUNTY FOR THE INCLUSION OF THE PROJECT AREA INTO THE METROPOLITAN DISTRICT. THE DRAINAGE AREA IS THE PATAPSCO WATERSHED.
- EXISTING UTILITIES SHOWN ARE TAKEN FROM RECORD DRAWINGS OBTAINED FROM HOWARD COUNTY.
- BOUNDARY SHOWN HEREON IS BASED ON A DEED COMPOSITE.
- FOREST STAND DELINEATION PLAN WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED AUGUST, 2001. (FOREST CONSERVATION PLAN IS NOT REQUIRED FOR SKETCH PLAN SUBMISSION.)
- WETLAND REPORT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED AUGUST, 2001.
- APRD TRAFFIC ANALYSIS IS NOT REQUIRED FOR THIS PROJECT. THIS PROJECT IS LOCATED FARTHER THAN 1-1/2 MILES FROM THE INTERSECTION OF TWO MAJOR COLLECTOR ROADWAYS.
- STORM WATER MANAGEMENT QUANTITY AND QUALITY CONTROL IS BEING PROPOSED BY AN EXTENDED DETENTION SWM FACILITIES. THE FACILITIES ARE TO BE PRIVATELY OWNED AND MAINTAINED BY THE H.O.A.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- NO 100 YEAR FLOOD PLAIN EXISTS ON THIS SITE.
- THE STORM WATER MANAGEMENT FACILITIES SHOWN ON THIS PLAN ARE AN APPROXIMATION OF THEIR ULTIMATE SIZE AND SHAPE. IT IS UNDERSTOOD THAT THE FACILITIES HAVE NOT BEEN DESIGNED AND THAT THEIR SIZE AND SHAPE MAY CHANGE ALTERING THE NUMBER OF UNITS ALLOCATED FOR THIS DEVELOPMENT.
- AS A CONSEQUENCE OF SUBMISSION OF THE SKETCH PLAN FOR COUNTY REVIEW PRIOR TO NOVEMBER 15, 2001, THIS PLAN IS SUBJECT TO THE FOURTH EDITION OF THE SUBDIVISION REGULATIONS. IN ADDITION, BECAUSE THE PRELIMINARY PLAN WAS NOT SIGNED PRIOR TO NOVEMBER 1, 2001, THE PLAN IS SUBJECT TO THE 2002 ZONING REGULATIONS, COUNTY COUNCIL BILL 90-2001.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- STREET LIGHT PLACEMENT, TYPE OF FIXTURE AND POLE SELECTION SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III.
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE AREA PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY AND NOT TO THE PIPESTEM LOT DRIVEWAY.
- COUNTY SERVICES, SNOW REMOVAL, TRASH REMOVAL, ETC., WILL NOT BE PROVIDED ALONG THE PRIVATE ACCESS PLACE, AND ONLY TO THE COUNTY RIGHT-OF-WAY.

BENCHMARKS -- NAD'83

HO. CO. #31E6 3/4" REBAR 0.5' BELOW SURFACE 5' SOUTHWEST OF ILCHESTER ROAD PAVING 500'± WEST OF WHARF LANE. N 570852.3717' E 1376700.6467'
HO. CO. #31E7 3/4" REBAR 0.5' BELOW SURFACE 9' SOUTHEAST OF ILCHESTER ROAD PAVING 250'± WEST OF BEECHWOOD ROAD N 572335.3503' E 1377504.0332'
HO. CO. BM#2745004 ELEV. 364.78' USED FOR VERTICAL CONTROL.



COORDINATE CHART (NAD '83)

BOUNDARY COORDINATES		
No.	NORTH	EAST
113	573052.1200	1378848.8600
115	572335.8225	1379204.1079
116	572269.6219	1378930.3020
117	572926.7400	1379151.7134
118	573074.2859	1379129.9875

SHEET INDEX

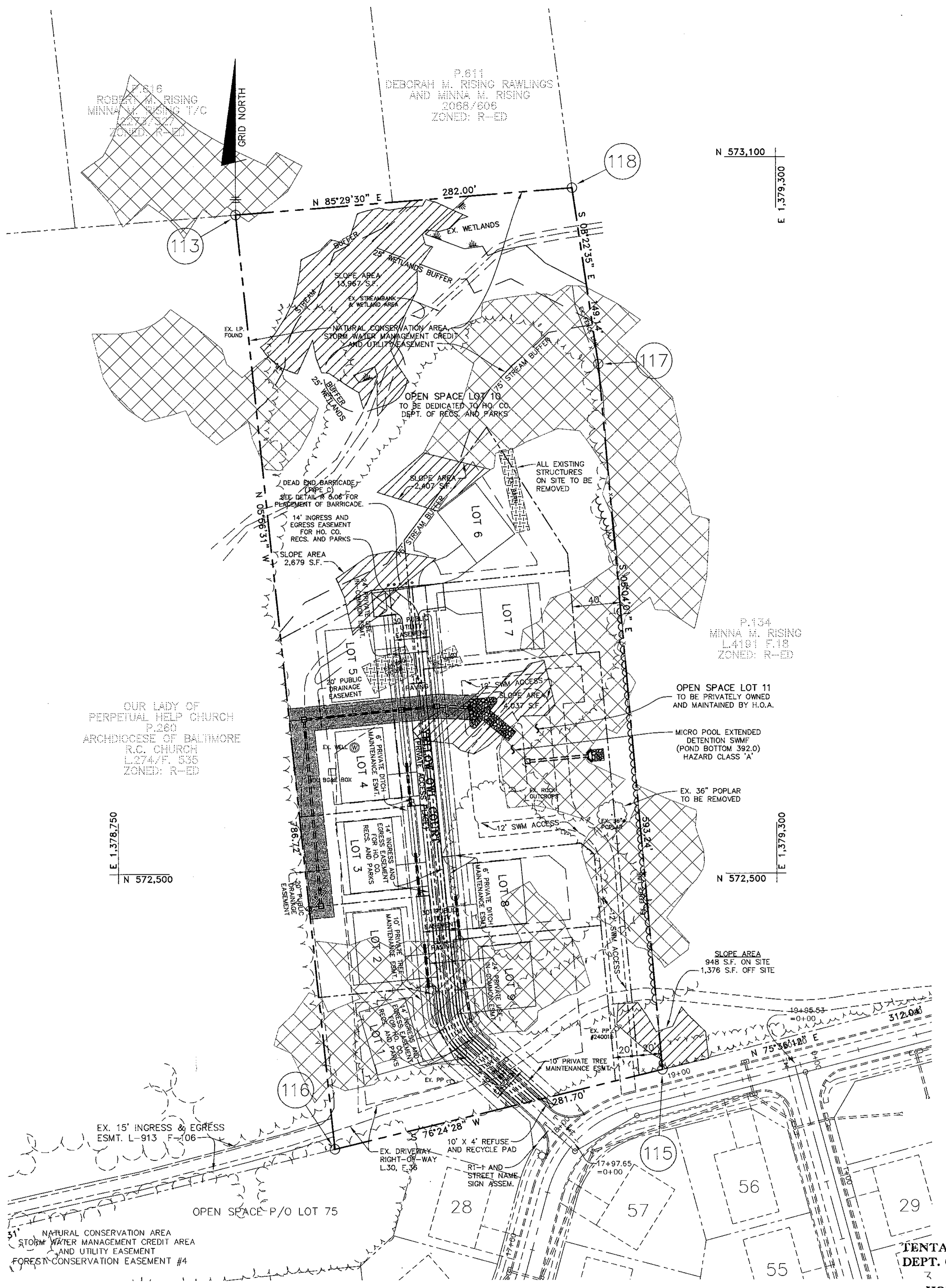
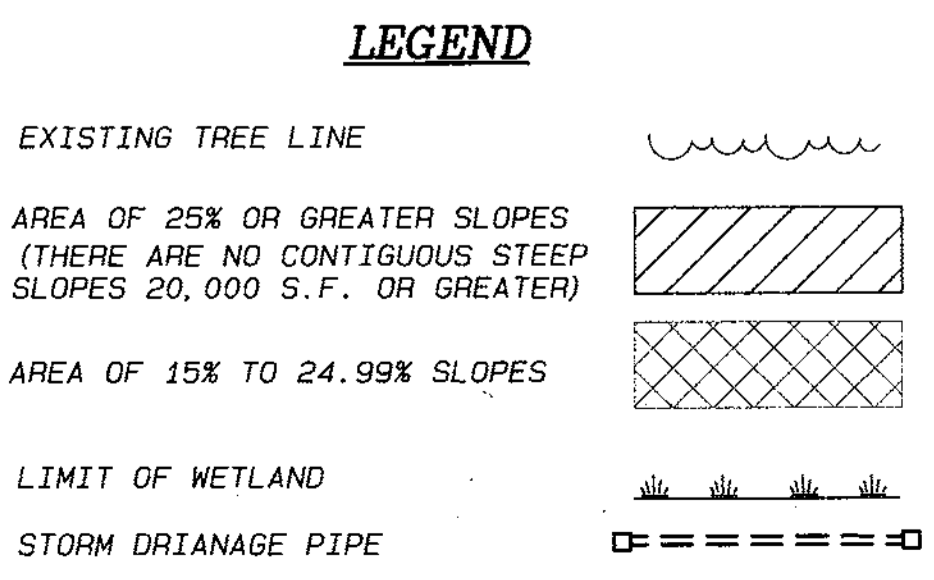
NO.	DESCRIPTION
1	TITLE SHEET
2	PRELIMINARY AND LANDSCAPE PLAN
3	GRADING, EROSION AND SEDIMENT CONTROL PLAN
4	FOREST CONSERVATION PLAN
5	FOREST CONSERVATION NOTES AND DETAILS

MINIMUM LOT SIZE CHART

LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
2	7,995 S.F.	336 S.F.	7,659 S.F.
3	8,444 S.F.	538 S.F.	7,906 S.F.
4	9,432 S.F.	741 S.F.	8,691 S.F.
5	10,913 S.F.	955 S.F.	9,958 S.F.
6	11,667 S.F.	1,229 S.F.	10,438 S.F.
7	10,259 S.F.	1,042 S.F.	9,217 S.F.
8	9,291 S.F.	433 S.F.	8,858 S.F.

CENTERLINE CURVE DATA

ROAD	STATION	RADIUS	LENGTH	TANGENT	DELTA	CHORD
YELLOW OWL COURT	1+19.84 TO 1+56.71	50.00'	36.87'	19.32'	42°14'48"	N26°37'39"W 36.04'



PLAN VIEW
SCALE: 1" = 50'

TENTATIVELY APPROVED
DEPT. OF PLANNING AND ZONING OF
HOWARD COUNTY
March 2, 2003
PLANNING DIRECTOR
DATE

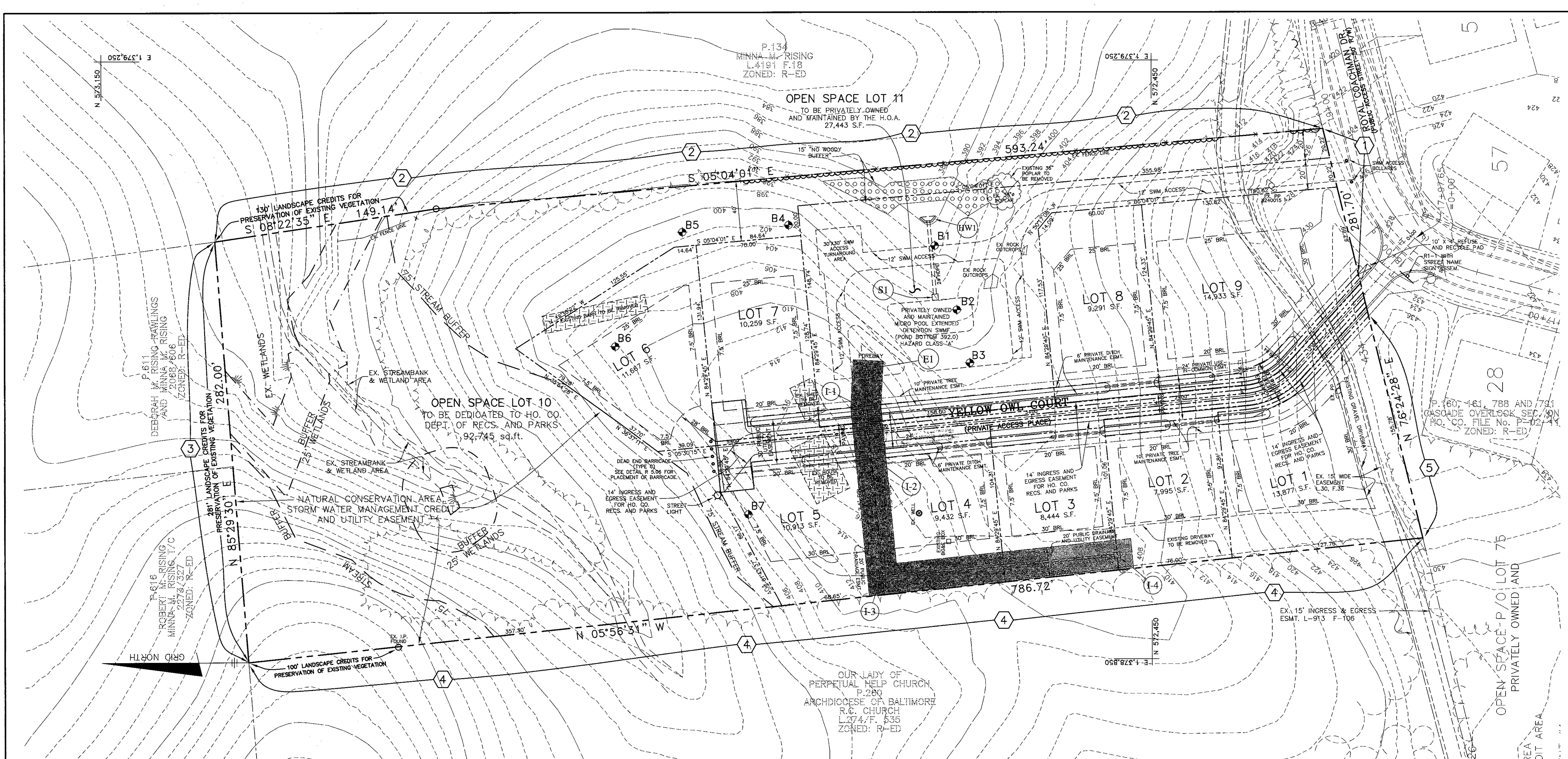
SITE DATA TABULATION

1. GENERAL SITE DATA	
a.) PRESENT ZONING:	R-ED
b.) LOCATION: TAX MAP:	31 GRID 11, PARCELS 259
c.) APPLICABLE DPZ FILE REFERENCES:	S-02-05, PB 356
d.) PROPOSED USE OF SITE:	SINGLE FAMILY DETACHED RESIDENTIAL
e.) PROPOSED WATER AND SEWER SYSTEMS:	PUBLIC
2. AREA TABULATION	
a.) TOTAL AREA OF SITE:	4.98± AC.
b.) APPROXIMATE AREA OF 100 YEAR FLOODPLAIN:	0.00± AC.
c.) APPROX. AREA OF STEEP SLOPES (25% OR MORE):	0.30± AC.
d.) NET AREA OF SITE:	4.68± AC.
e.) AREA OF THIS PLAN SUBMISSION:	4.98± AC.
f.) APPROXIMATE LIMIT OF DISTURBED AREA:	3.60± AC.
g.) AREA OF PROPOSED BUILDING LOTS:	2.22± AC.
h.) AREA OF PROPOSED OPEN SPACE LOTS (AREA):	2.76± AC.
i.) AREA OF PROPOSED PUBLIC ROADS:	0.00± AC.
j.) AREA OF R/W DEDICATION FOR PUBLIC ROADS:	0.00± AC.
3. DENSITY TABULATION	
a.) NET AREA OF THE SITE:	4.68± AC.
b.) TOTAL NUMBER OF LOTS ALLOWED (2 D.U./AC.):	9
4. UNIT/LOT TABULATION	
a.) TOTAL NUMBER OF RESIDENTIAL UNITS/LOTS:	9
b.) TOTAL NUMBER OF OPEN SPACE LOTS PROPOSED:	2
5. OPEN SPACE DATA	
a.) MINIMUM RESIDENTIAL LOT SIZE SELECTED:	6,000 S.F.
b.) OPEN SPACE REQUIRED FOR TOTAL AREA OF SITE:	4.98 x 0.25 = 1.25
c.) TOTAL AREA OF OPEN SPACE PROVIDED ON THIS SUBDIVISION:	2.76± AC.
1.) OPEN SPACE AREAS LESS THAN 35' IN WIDTH (NON-CREDITED):	0.00± AC.
2.) TOTAL AREA OF OPEN SPACE MEETING MINIMUM OPEN SPACE REQUIREMENTS (CREDITED):	2.76± AC.
d.) RECREATIONAL OPEN SPACE REQUIRED:	N/A
1.) TOTAL AREA OF RECREATIONAL OPEN SPACE PROVIDED:	N/A

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
phone: 410-465-8103 & fax: 410-465-8644
email: Benchmark@cais.com

Donnell Moore
2/26/03

NO. DATE	REVISION
PROJECT:	CASCADE OVERLOOK SECTION II A SUBDIVISION OF PARCEL 259
OWNER/DEVELOPER:	CASCADE OVERLOOK, L.L.C. P.O. BOX 417 ELLCOTT CITY, MD 21041 (410) 465-4244
LOCATION:	TAX MAP 31, GRID 11, PARCEL 259 1st. ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
TITLE:	TITLE SHEET
DATE:	FEBRUARY, 2003 PROJECT NO. 1480
DES: DAM	DRN: RPS
CHK: DAM	SCALE: AS SHOWN DRAWING 1 OF 5



PLAN VIEW
SCALE: 1" = 30'

LEGEND:

- EXISTING CONTOUR =
- EXISTING WETLANDS =
- EXISTING TREELINE =
- PROPOSED TREELINE =
- PROPOSED SOIL BORING =
- PROPOSED ROAD SIGN =
- PROPOSED STREET LIGHT =
- PROPOSED STORM DRAINAGE =
- AREA OF 15% TO 24.99% SLOPES =
- AREA OF 25% OR GREATER SLOPES =
- NATURAL CONSERVATION AREA = STORM WATER MANAGEMENT CREDIT AND UTILITY EASEMENT =

CENTERLINE CURVE DATA						
ROAD	STATION	RADIUS	LENGTH	TANGENT	DELTA	CHORD
YELLOW OWL COURT	1+19.84 TO 1+56.71	50.00'	36.87'	19.32'	42°14'48"	N26°37'39" W 36.04'

CATEGORY	SCHEDULE A PERIMETER LANDSCAPE EDGE					
	ADJACENT TO ROADWAYS (1) B	ADJACENT TO PERIMETER PROPERTIES (2) B	(3) A	(4) A	(5) A	B
LANDSCAPE BUFFER TYPE						
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	100'	742'	281'	787'	152'	28'(EA.)
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	**YES 288'	**YES 281'	**YES 100'	NO	NO
CREDIT FOR WALL FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED						
SHADE TREES	2	9	--	14	3	--
EVERGREEN TREES	3	11	--	17	4	--
OTHER TREES (2:1 SUBSTITUTE)	--	--	--	--	--	--
SHRUBS (10:1 SUBSTITUTE)	--	--	--	--	10 (EA. PAD)	--

* EXISTING VEGETATION TO REMAIN
** CREDIT FOR THE PROPOSED 'B' TYPE SWM BUFFER ALONG THE PERIMETER BETWEEN LOTS 7 AND 8 WILL PROVIDED A HEAVIER BUFFER THEN THE REQUIRED 'A' TYPE PERIMETER BUFFER.

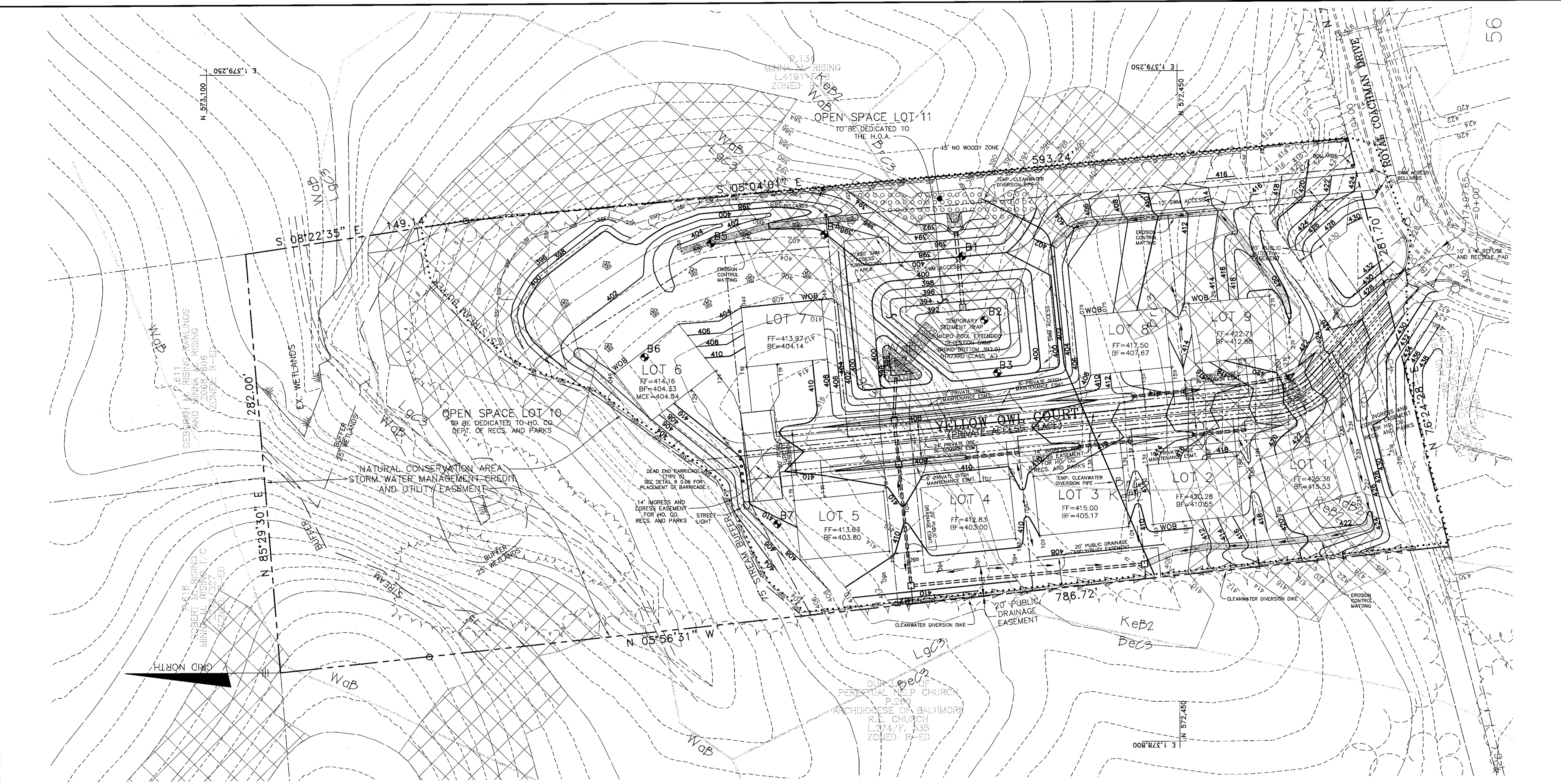
STREET TREE CALCULATIONS	
STREET TREES REQUIRED FOR 532 LF OF RIGHT-OF-WAY 532 X 2 / 40 = 26 TREES REQUIRED	
26 TREES PROVIDED	

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING	
LINEAR FEET OF PERIMETER	620' TYPE 'B'
NUMBER OF TREES REQUIRED	
SHADE TREES (1:50)	13
EVERGREEN TREES (1:40)	16
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO

* EXISTING VEGETATION TO REMAIN

TENTATIVELY APPROVED
DEPT. OF PLANNING AND ZONING OF
HOWARD COUNTY
Mark A. Ogden 2/25/10
PLANNING DIRECTOR DATE

NO DATE REVISION	
BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC.	
8480 BALTIMORE NATIONAL PIKE & SUITE 418 ELLICOTT CITY, MARYLAND 21043 phone: 410-465-6105 & fax: 410-465-6644 email: Benchmark@bcis.com	
OWNER/DEVELOPER: CASCADE OVERLOOK, L.L.C. P.O. BOX 417 ELLICOTT CITY, MD 21041 (410) 465-4244	PROJECT: CASCADE OVERLOOK SECTION II A SUBDIVISION OF PARCEL 259 LOCATION: TAX MAP 31, GRID 11, PARCEL 259 1 st. ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE: PRELIMINARY AND LANDSCAPE PLAN DATE: FEBRUARY, 2003 PROJECT NO. 1480 SCALE: AS SHOWN DRAWING 2 OF 5
DES: DAM DRN: RPS CHK: DAM	



PLAN VIEW
SCALE: 1" = 30'

LEGEND:

- | | | | |
|------------------------|--|------------------------------------------------------------------------------------|--|
| EXISTING CONTOUR | | PROPOSED SOIL BORING | |
| PROPOSED CONTOUR | | PROPOSED ROAD SIGN | |
| LIMIT OF DRAINAGE AREA | | PROPOSED STREET LIGHT | |
| EARTH DIKE | | PROPOSED STORM DRAINAGE | |
| EXISTING WETLANDS | | RIPRAP PROTECTION | |
| EXISTING TREELINE | | 15' NO WOODY ZONE | |
| PROPOSED TREELINE | | AREA OF 15% TO 24.99% SLOPES | |
| LIMIT OF DISTURBANCE | | AREA OF 25% OR GREATER SLOPES | |
| TREE PROTECTION FENCE | | NATURAL CONSERVATION AREA
STORM WATER MANAGEMENT CREDIT
AND UTILITY EASEMENT | |
| DRAINAGE FLOW ARROW | | | |
| SILT FENCE | | | |
| SUPER SILT FENCE | | | |
| HOUSE BOX (NTS) | | | |
| SOIL DESIGNATION | | | |
| SOIL LIMIT | | | |

MAP SYMBOL		SOIL GROUP		SOIL TYPE	
MiB2	C	ALDINO SILT LOAM, 3 TO 8 % SLOPES MODERATELY ERODED			
AgC2	B	AURA GRAVELLY LOAM 5 TO 8 % SLOPES MODERATELY ERODED			
BeC3	C	BELTSVILLE SILT LOAM 5 TO 10 % SLOPES SEVERELY ERODED			
BcC3	C	BRANDYWINE LOAM 8 TO 15 % SLOPES SEVERELY ERODED			
KaB2	D	KELLY SILT LOAM 8 TO 15 % SLOPES MODERATELY ERODED			
LgC3	B	LEGORE SILTY CLAY LOAM 8 TO 15 % SLOPES SEVERELY ERODED			
WaB	D	WATCHUNG SILT LOAM 3 TO 8 % SLOPE			

SOIL MAP NO. 20 & 21

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY

Frank DeLuca
PLANNING DIRECTOR

2/20/03
DATE

NO	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE A SUITE 418
ELLCOTT CITY, MARYLAND 21043
phone: 410-465-6105 A fax: 410-465-6644
email: Benchmark@cois.com

Donald Mann

OWNER/DEVELOPER:	CASCADE OVERLOOK, L.L.C. P.O. BOX 417 ELLCOTT CITY, MD 21041 (410) 465-4244			
PROJECT:	CASCADE OVERLOOK SECTION II A SUBDIVISION OF PARCEL 259			
LOCATION:	TAX MAP 31, GRID 11, PARCEL 259 1 st. ELECTION DISTRICT HOWARD COUNTY, MARYLAND			
TITLE:	PRELIMINARY GRADING, SOILS, EROSION AND SEDIMENT CONTROL PLAN			
DATE:	FEBRUARY, 2003			
PROJECT NO.	1480			
DES: DAM	DRN: RPS	CHK: DAM	SCALE: AS SHOWN	DRAWING 3 OF 5

APPENDIX G
FOREST CONSERVATION WORKSHEET

I. BASIC SITE DATA		ACRES (1/100 acre)
GROSS SITE AREA		5.00
AREA WITHIN 100 YEAR FLOODPLAIN		0.00
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)		N/A
NET TRACT AREA		5.00
LAND USE CATEGORY (R-RLD, R-RMD, R-S, C/1/0, I)		R-ED

II. INFORMATION FOR CALCULATIONS		ACRES (1/100 acre)
A. NET TRACT AREA		5.00
B. REFORESTATION THRESHOLD (20% x A)		1.00
C. AFFORESTATION MINIMUM (15% x A)		0.75
D. EXISTING FOREST ON NET TRACT AREA		0.87
E. FOREST AREAS TO BE CLEARED		0.00
F. FOREST AREAS TO BE RETAINED		0.87
G. BREAK EVEN POINT		0.87

III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION

1. Reforestation
If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reforestation requirements may apply.
GO TO SECTION IV

If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.

2. Afforestation
If existing forest areas are less than the afforestation minimum (if D is less than C), afforestation requirements apply.
GO TO SECTION V

IV. REFORESTATION CALCULATIONS		ACRES (1/10 acre)
A. NET TRACT AREA		5.00
B. REFORESTATION THRESHOLD (25% x A)		1.25
D. EXISTING FOREST ON NET TRACT AREA		0.87
E. FOREST AREAS TO BE CLEARED		0.00
F. FOREST AREAS TO BE RETAINED		0.87
G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D-F, if F equals or is greater than B, Alternate 1) (D-B, if F is less than B, Alternate 2)		0.00
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (B-F, if applicable)		0.00
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (F-B, Retention Credit, if applicable)		0.00

SELECT THE ALTERNATE THAT APPLIES:

1. Clearing above the threshold only
If forest areas to be retained equal or are greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:

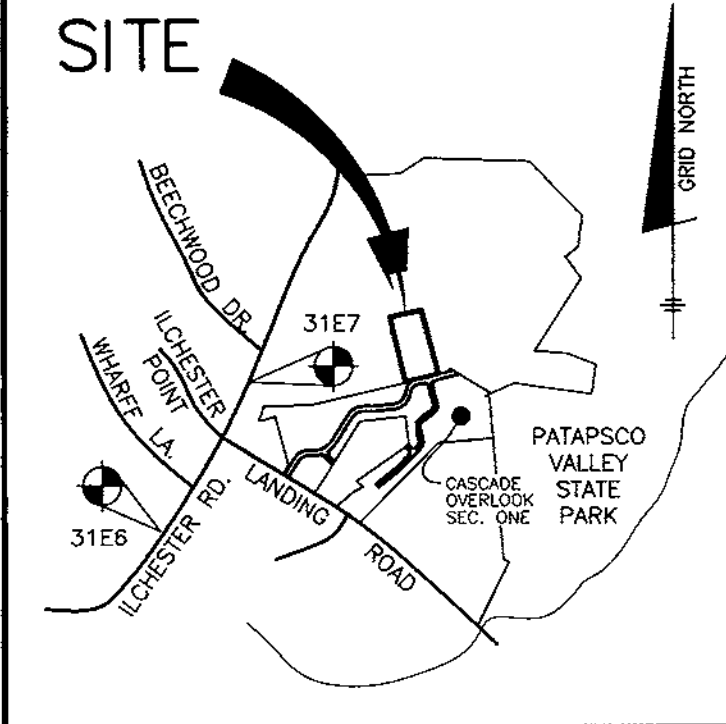
REFORESTATION FOR CLEARING ABOVE THRESHOLD	$G \times 1/4$	---
CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD	$I = \text{Retention Credit}$	---
TOTAL REFORESTATION REQUIRED	$(G \times 1/4) - I$	---

If the total reforestation requirement is equal to or less than 0, no reforestation is required.

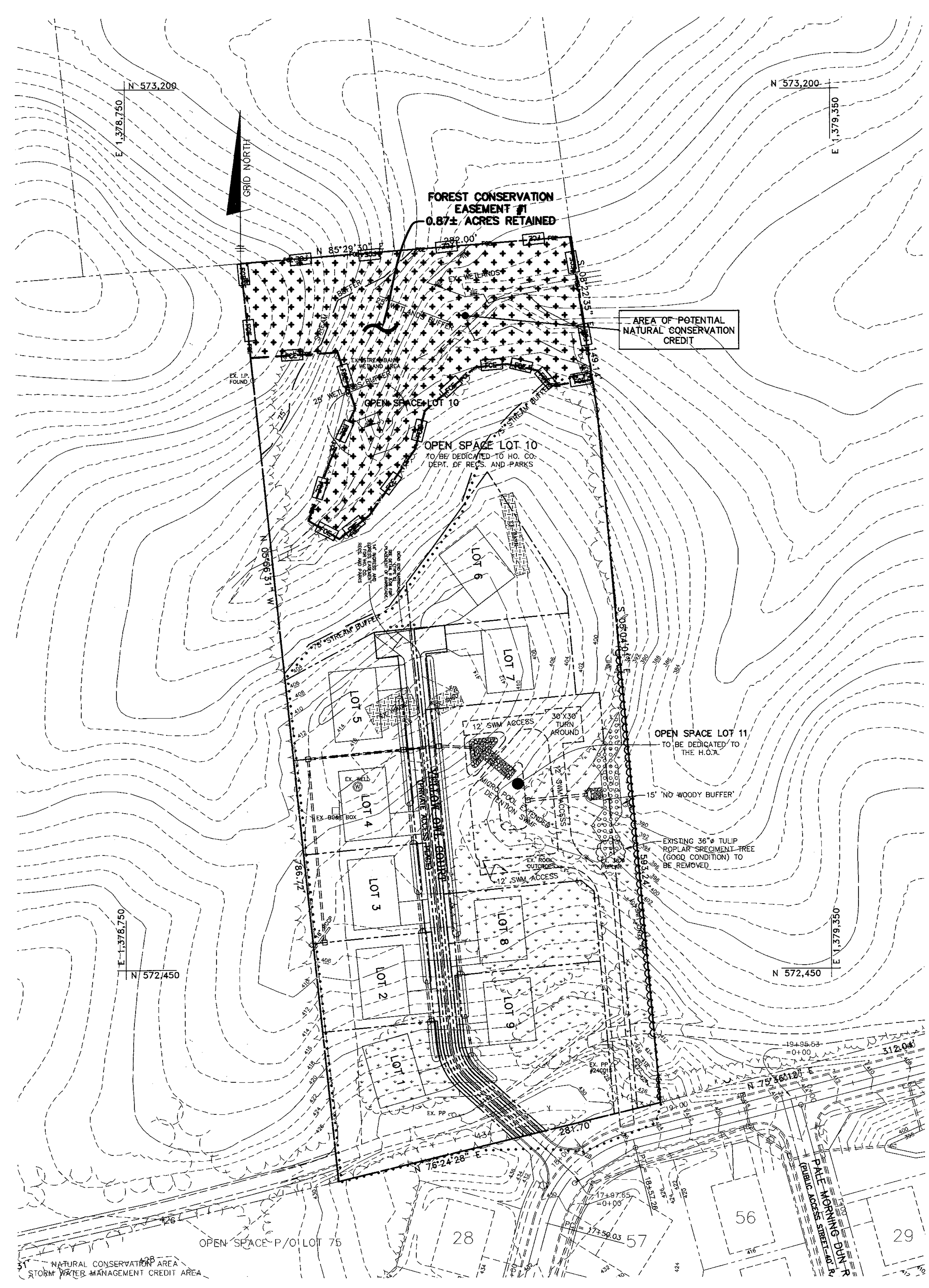
2. Clearing below the threshold
If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:

REFORESTATION FOR CLEARING ABOVE THRESHOLD	$G \times 1/4$	---
REFORESTATION FOR CLEARING BELOW THRESHOLD	$H \times 2$	---
TOTAL REFORESTATION REQUIRED	$(G \times 1/4) + (H \times 2)$	---

Since clearing occurs below the threshold, no forest retention credit is possible.



VICINITY MAP
SCALE: 1" = 2000'



PLAN VIEW
SCALE: 1" = 50'

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- LIMIT OF WETLANDS
- 100 YEAR FLOODPLAIN
- FOREST TO BE RETAINED
- EXISTING SPECIMEN TREE
- LIMIT OF DISTURBANCE
- LIMITS OF FOREST CONSERVATION EASEMENT
- TEMPORARY PROTECTIVE FENCING
- PERMANENT PROTECTIVE SIGNAGE
- FOREST CONSERVATION EASEMENT RETENTION
- TREED PASTURE

SITE DATA		ACRES
GROSS AREA:		5.00
EX. LOTS/UNFORESTED PRESERVATION		0.00
PARCEL/FLOODPLAIN:		5.00
NET TRACT AREA (NTA):		0.87
EXISTING FOREST ON NTA:		1.00
REFORESTATION THRESHOLD:		0.00
FOREST TO BE CLEARED:		0.87
FOREST TO BE RETAINED (NTA):		0.00
REFORESTATION REQUIRED:		---
REFORESTATION PROPOSED:		---

SURETY AMOUNT:
RETENTION \$0.20 X 37,897 S.F. = \$7,579.40

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY
Paul D. Dingle
PLANNING DIRECTOR DATE

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS
P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752
MD DNR Qualified Professional
USACOE Wetland Designer
Certification # WPD005MD065904431
John F. Canales

NO	DATE	REVISION

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
phone: 410-465-6105 • fax: 410-465-6644
email: Benchmark@eais.com

2/6/03

OWNER/DEVELOPER: CASCADE OVERLOOK, L.L.C. P.O. BOX 417 ELLCOTT CITY, MD 21041 (410) 465-4244	PROJECT: CASCADE OVERLOOK SECTION II A SUBDIVISION OF PARCEL 259
DATE: FEBRUARY, 2003	LOCATION: TAX MAP 31, GRID 11, PARCEL 259 1 st. ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN	TITLE: FOREST CONSERVATION PLAN
DES: DAM	DATE: PROJECT NO. 1480
DRN: RPS	SCALE: AS SHOWN
CHK: DAM	DRAWING 4 OF 5

FOREST PROTECTION PROCEDURES - Preconstruction Phase

1) The edge of the woods to be protected will be marked (staked or flagged) in the field per the limits of forest conservation easement shown in the approved site development plan prior to the start of construction activity. All areas within protective easement are to be considered "off limits" to any construction activities. The optional protective fencing shall be installed at the outside edge of forested areas and should be combined with sediment control devices when possible. The limit of the critical root zone and therefore the location of the protective devices is to be determined as follows:

Edge of Forested Area - 1 foot of protective radius/inch of DBH or an eight foot protective radius, whichever is greater.

Critical Root Zone for the forest on this site is an average of 12 feet from the trunk of the tree. Critical root zones for Specimen Tree #1 and #2 are 34' and 30'.

2) Construction activities expressly prohibited within the preservation areas are:

- Placing or stockpiling backfill or top soil in protected areas
- Felling trees into protected areas
- Driving construction equipment into or through protected areas
- Burning in or in close proximity to protected areas
- Stacking or storing supplies of any kind
- Concrete wash-off areas
- Conducting trenching operations
- Grading beyond the limits of disturbance
- Parking vehicles or construction equipment
- Removal of root mat or topsoil
- Siting and construction of:
 - Utility lines
 - Access roads
 - Impervious surfaces
 - Stormwater management devices
 - Staging areas

3) Protective fencing (see Figure "Protective Fencing") shall be the responsibility of the general contractor. The general contractor shall affix signs to the fencing at 25' minimum intervals indicating that these areas are "Forest Retention Area" (see Figure "Signage"). The general contractor shall take great care to assure the restricted areas are not violated and that root systems are protected from smothering, flooding, excessive wetting from dewatering operations, off-site runoff, spillage, and drainage or solutions containing materials hazardous to tree roots.

- 4) The general contractor shall be responsible for any tree damaged or destroyed within the preservation areas whether caused by the contractor, his agents, employees, subcontractors, or licensees.
- 5) Foot traffic shall be kept to a minimum in the protective areas.
- 6) All trees which are not to be preserved within fifty feet of any tree preservation areas are to be removed in a manner that will not damage those trees that are designated for preservation. It is highly recommended that tree stumps within this fifty foot area be ground out with a stump grinding machine to minimize damage.
- 7) The general contractor shall designate a "wash out" area onsite for concrete trucks which will not drain toward a protected area.
- 8) A pre-construction meeting shall be held with local authorities before any disturbance has taken place on site.

FOREST PROTECTION PROCEDURES - Construction Phase

Forest and tree conditions should be monitored during construction and corrective measures taken when appropriate.

The following shall be monitored:

- Soil compaction
- Root injury - prune and monitor; consider crown reduction
- Limb injury - prune and monitor
- Flooded conditions - drain and monitor; correct problem
- Drought conditions - water and monitor; correct problem
- Other stress signs - determine reason, correct, and monitor

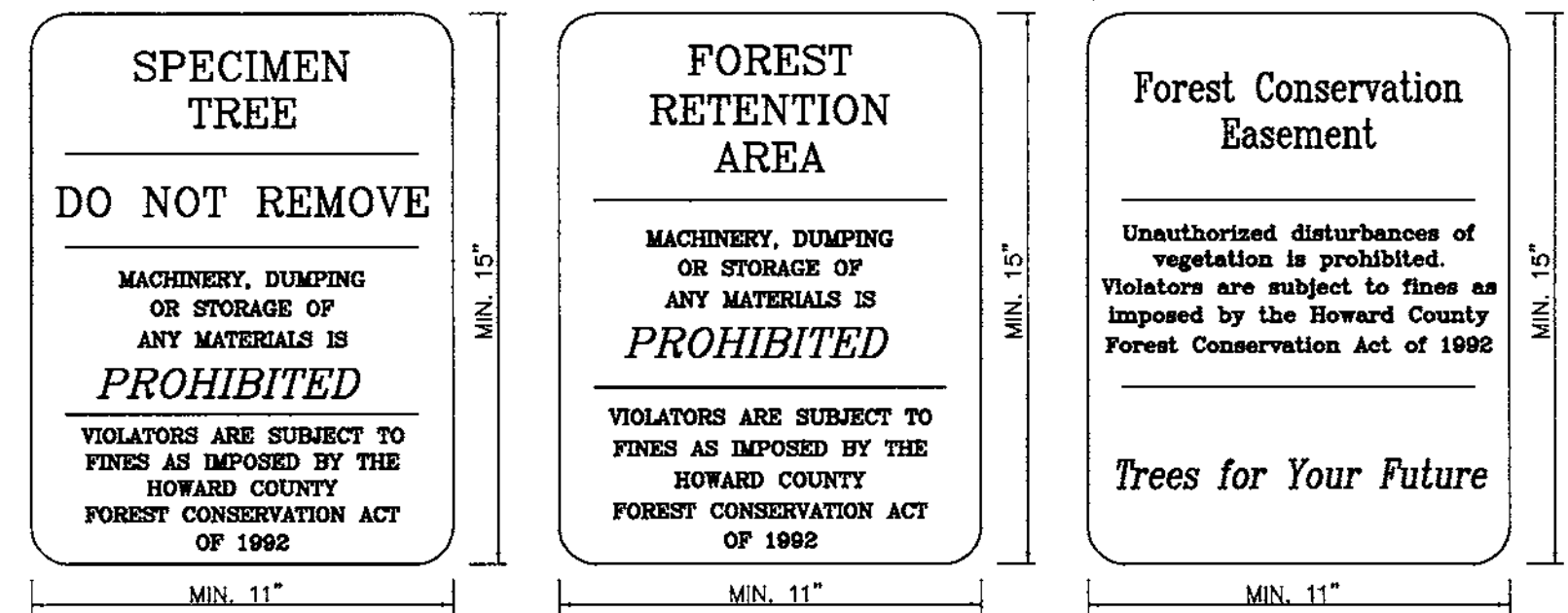
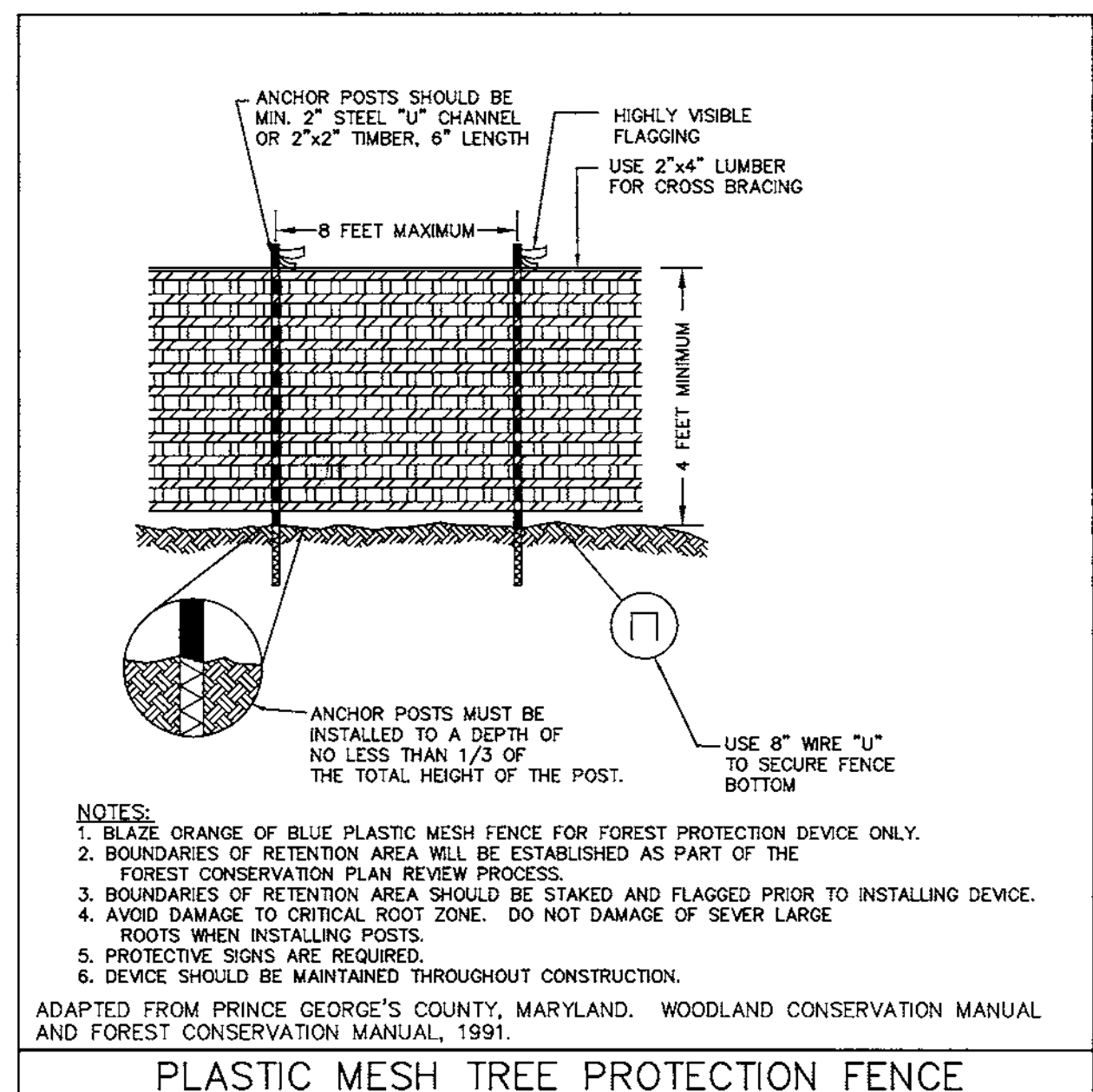
FOREST PROTECTION PROCEDURES - Post Construction Phase

The following measures shall be taken:

- Corrective measures if damages were incurred due to negligence:
 - Stress reduction
 - Removal of dead or dying trees. This may be done only if trees pose an immediate safety hazard.
- Removal of temporary structures:
 - No burial of discarded materials will occur onsite within the conservation area.
 - No open burning within 100 feet of a wooded area.
 - All temporary forest protection structures will be removed after construction.
 - Remove temporary roads by removing stone or broadcasting mulch; pre-construction elevation should be maintained.
 - Aerate compacted soil.
 - Replant disturbed sites with trees, shrubs and/or herbaceous plants.
 - Retain signs for retention areas or specimen trees.
 - A County official shall inspect the entire site.
- Future protection measures:
 - Howard County and the developer shall arrange for the dedication of an appropriate forest conservation easement at a later date.

FCP 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 THESE AREAS.
- THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- 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 AREA INCLUDED IN FOREST CONSERVATION EASEMENTS.



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NO.	DATE	REVISION

TENTATIVELY APPROVED
 DEPT. OF PLANNING AND ZONING OF
 HOWARD COUNTY
Mark Hagle 2/25/03
 PLANNING DIRECTOR DATE

BENCHMARK ENGINEERING, INC.
 ENGINEERS • LAND SURVEYORS • PLANNERS
 8480 BALTIMORE NATIONAL PIKE • SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 phone: 410-465-6105 • fax: 410-465-6644
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Donald Man

2/6/03

OWNER/DEVELOPER:
 CASCADE OVERLOOK, L.L.C.
 P.O. BOX 417
 ELLICOTT CITY, MD 21041
 (410) 465-4244

PROJECT: **CASCADE OVERLOOK**
 SECTION II
 A SUBDIVISION OF PARCEL 259

LOCATION:
 TAX MAP 31, GRID 11, PARCEL 259
 1 st. ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE:
FOREST CONSERVATION NOTES AND DETAILS

DATE: FEBRUARY, 2003 PROJECT NO. 1480

DES: DAM DRN: RPS CHK: DAM SCALE: AS SHOWN DRAWING OF