

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSMA STANDARDS AND SPECIFICATIONS IF APPLICABLE, UNLESS WAIVER(S) HAVE BEEN APPROVED.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-311-3000 AT LEAST FIVE(5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- WETLAND DELINEATION PROVIDED BY ECO-SOIL-2 PROFESSIONALS, INC. DATED SEPTEMBER, 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 LIGHTS PLACEMENT AND TYPE OF FIXTURE & SIGNING SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. II (E-103) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE, 1993)".
- TOPOGRAPHY SHOWN ON-SITE WAS FIELD RUN BY J.A. RICE, INC. ON OR ABOUT SEPTEMBER, 2002. FIELD RUN TOPOGRAPHY WAS SUPPLEMENTED WITH INFORMATION PURCHASED FROM HOWARD COUNTY GEOGRAPHICAL INFORMATION SYSTEMS.
- HORIZONTAL DATUM FOR THIS PLAN IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM NAD '83 AS PROJECTED FROM HOWARD COUNTY CONTROL POINTS 29CA AND 29IC.
- THIS PROPERTY IS NOT WITHIN THE METROPOLITAN DISTRICT. PRIVATE WATER AND PRIVATE SEWER SYSTEMS SHALL BE PROVIDED FOR LOTS 43 TO 48, 49, 57 TO 59, 61 TO 66, 68, 69, 71 AND 74. PRIVATE WATER SYSTEMS AND COMMUNITY SHARED PUBLIC SEWER SYSTEM SHALL BE PROVIDED FOR LOTS 45, 47, 50 TO 56, 66, 67, 70, 72, 73 AND 75 TO 77. WELLS SHALL BE DRILLED PRIOR TO RECORDATION OF FINAL PLAT.
- THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF AT LEAST 10,000 S.F. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWER SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT PLAT SHALL NOT BE REQUIRED.
- STORMWATER MANAGEMENT IS PROVIDED FOR THIS PROJECT BASED ON GUIDELINES ESTABLISHED BY THE 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUMES 1 & 2 AS DESIGNED UNDER RIVERWOOD, PHASE 1 (7-04-02).
- EXISTING UTILITIES ARE SHOWN BY APPROVED CONTRACT DRAWINGS AND FIELD LOCATIONS. EXISTING WELLS AND/OR SEWERAGE EASEMENTS WITHIN 100' OF THE PROPERTY HAVE BEEN SHOWN FROM THE BEST AVAILABLE INFORMATION.
- TRAFFIC STUDY WAS PREPARED BY MARS TRAFFIC GROUP, INC. IN OCTOBER, 2001 AND REVISED IN JANUARY, 2002.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THIS PLAN IS SUBJECT TO COMPLIANCE WITH THE FOURTH EDITION OF THE SUBDIVISION REGULATIONS AS A CONSEQUENCE FOR ITS SUBMISSION PRIOR TO 11-15-2001. THIS PROJECT IS SUBJECT TO COMPLIANCE WITH COUNTY CODES AND ORDINANCES IN EFFECT AT THE TIME OF SUBMISSION AND ANY AMENDMENTS TO THE ZONING REGULATIONS AS A CONSEQUENCE FOR NOT HAVING PRELIMINARY PLAN APPROVAL PRIOR TO 11-15-2001.
- WP-02-04 WAS APPROVED ON 2-28-02 BY THE PLANNING DIRECTOR. WP-02-04 WAS A REQUEST TO WAIVE THE FOLLOWING:
  - SECTION 16.116(c) - WHICH REQUIRES THAT GRADING, REMOVAL OF VEGETATIVE COVER AND TREES, PAVING AND NEW STRUCTURES SHALL NOT BE PERMITTED WITHIN 25 FEET OF AN INTERMITTENT STREAM BANK OR 75 FEET OF A PERENNIAL STREAM BANK TO ALLOW A CROSSING FOR PROPOSED CASTLEBRIDGE ROAD (FORMER LOT 43) IN THE VICINITY OF WHITHORN WAY (S).
  - SECTION 16.132(a)(1)(v) - WHICH REQUIRES THE DEVELOPER TO CONSTRUCT OR PROVIDE FOR CONSTRUCTION OF ROADS FOR REQUIRED CONNECTIONS TO ADJACENT PROPERTIES (THIS APPLIES TO THE CONNECTIONS FOR ADJACENT PARCELS 117 AND 291).
  - SECTION 16.120(c)(2)(c) - WHICH REQUIRES THAT NON-FUTURE BULK PARCELS (FF) (BULK PARCELS 1 AND 2) SHALL HAVE SUBDIVISION POTENTIAL UNDER CURRENT ZONING TO A SUFFICIENT PUBLIC ROAD FRONTAGE TO MEET THE PUBLIC ROAD RIGHT-OF-WAY REQUIREMENTS IN THE DESIGN MANUAL.
  - SECTION 16.120(c)(2)(c) - WHICH REQUIRES THAT 20 FEET OF PUBLIC ROAD FRONTAGE BE PROVIDED FOR PRESERVATION PARCELS (BULKABLE PRESERVATION PARCEL N) (PRES. PARCEL G UNDER 9-02-09).

**RIGHT-OF-WAY ELEVATION CHART**

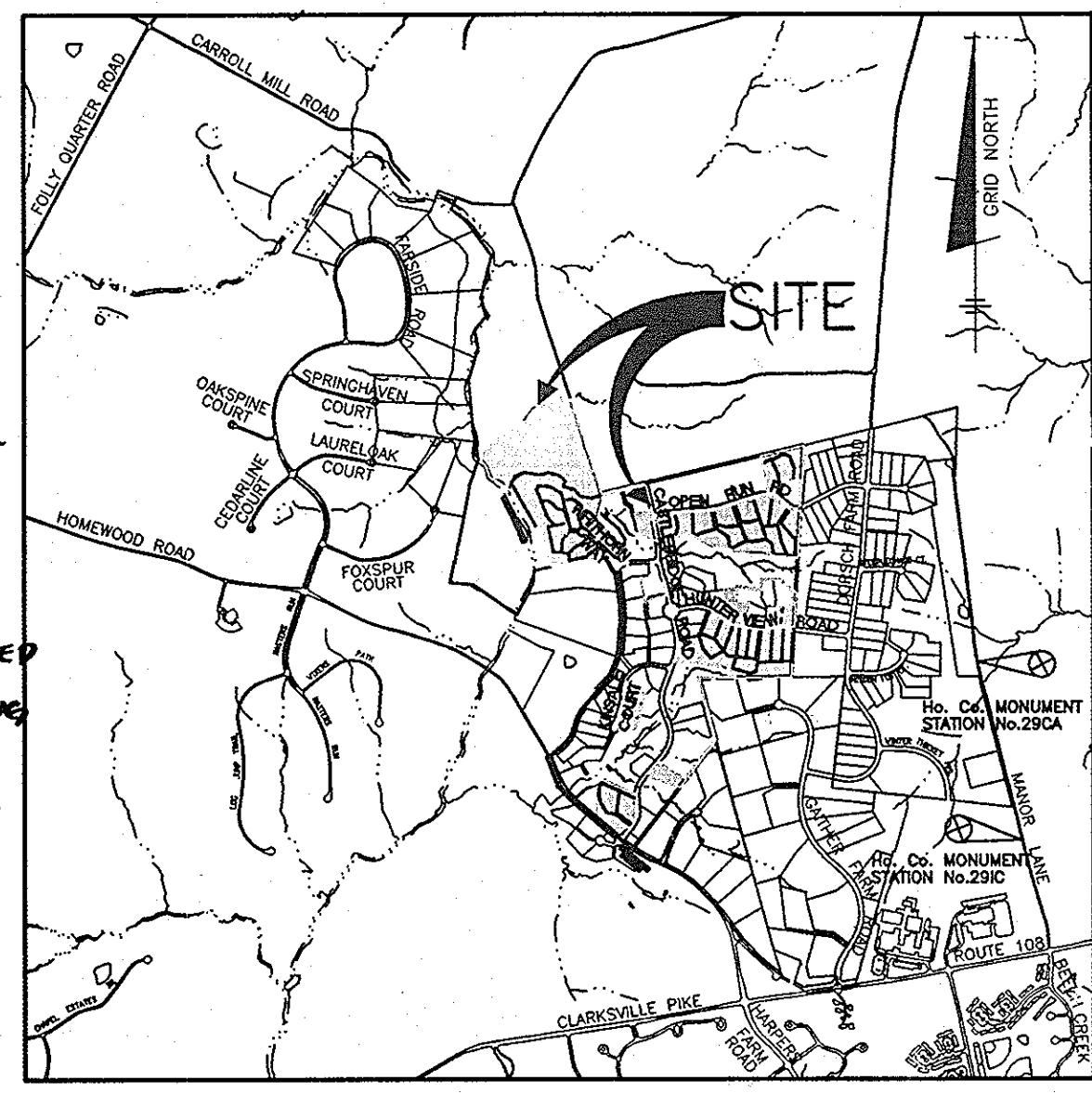
POINT NO.	DESCRIPTION	ELEV.
840	REBAR # CAP	440.61
841	REBAR # CAP	349.07
842	REBAR # CAP	343.73
843	REBAR # CAP	343.65
844	REBAR # CAP	344.21
807	REBAR # CAP	406.14
808	REBAR # CAP	345.65
809	REBAR # CAP	344.30
810	REBAR # CAP	343.68
811	REBAR # CAP	344.87

# RIVERWOOD, PHASE 2

## ROAD, GRADING, STORM DRAIN AND LANDSCAPE CONSTRUCTION PLANS

**SHEET INDEX**

NO.	TITLE
1	TITLE SHEET
2	ROAD PLAN AND PROFILE
3	STORM DRAIN DRAINAGE AREA MAP, PROFILES AND DETAILS
4	GRADING, SEWAGE & EROSION CONTROL PLAN, NOTES & DETAILS
5	LANDSCAPE AND STREET TREE PLAN
6	LANDSCAPE AND STREET TREE PLAN
7	LANDSCAPE AND STREET TREE PLAN
8	FOREST CONSERVATION PLAN
9	FOREST CONSERVATION PLAN
10	FOREST CONSERVATION PLAN
11	FOREST CONSERVATION PLAN



**AS-BUILT NOTES:**

- HORIZONTAL DATUM FOR THE AS-BUILT IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD 83/91 AS PROJECTED FROM H.O. CO. GEODETIC CONTROL STATIONS 29CA AND 29IC. VERTICAL DATUM NAD 29 AS PROJECTED FROM THE ABOVE MENTIONED H.O. CO. GEODETIC CONTROL STATIONS.
- THE INSTRUMENTS USED IN PERFORMING THE AS-BUILT WERE A 5" TOTAL STATION AND PRISM.
- THE AS-BUILT WAS PERFORMED BY BENCHMARK ENGINEERING, INC.

**BENCHMARK NAD'83 HORIZONTAL**

H.O. CO. #29CA	N 574526.38'	E 1343533.820'
ELEV.=423.53'		
H.O. CO. #29IC	N 572323.559'	E 1344112.295'
ELEV.=468.79'		

**SITE ANALYSIS DATA CHART**

**GENERAL SITE DATA**

- PRESENT ZONING: RC-DEO
- APPLICABLE DPZ FILE REFERENCES: F-11-0-6-9, P-02-010, F-04-082, WP-05-086, RE-05-026, RESIDENTIAL (SFD - HOMES), PRIVATE-SEWER PUBLIC-SEWER
- PROPOSED USE OF SITE: RESIDENTIAL (SFD - HOMES)
- PROPOSED WATER AND SEWER SYSTEMS: PRIVATE-SEWER PUBLIC-SEWER

**AREA TABULATION**

- GROSS TRACT AREA: 269.85 AC ±
- AREA WITHIN 100-YEAR FLOODPLAIN: 44.83 AC ±
- TOTAL AREA OF 25% OR GREATER STEEP SLOPES: 6.00 AC ±
- AREA NOT IN FLOODPLAIN (FSP, H.A., CALO): 4.63 AC ±
- NET TRACT AREA: 220.19 AC ±
- TOTAL NUMBER OF LOTS ALLOWED PER ZONING: 63 (1 UNIT PER 4.25 ACRES (MAX) 110)
- TOTAL NUMBER OF RESIDENTIAL UNITS/LOTS PROPOSED ON THIS SUBDIVISION: 35
- AREA OF CLUSTER LOTS: 36.46 AC ±
- AREA OF NON-BUILDABLE PRESERVATION PARCELS (PARCELS T - Z, AA AND EE): 51.07 AC ±
- AREA OF ROAD RIGHT-OF-WAY: 0.73 AC ±
- OPEN SPACE ON-TOTAL SITE: 6.00 AC. PERCENTAGE OF GROSS AREA: 0%
- AREA OF RECREATIONAL OPEN SPACE REQUIRED: N/A
- AREA OF NON-BUILDABLE BULK PARCEL: 20.00 AC ±

\* 5% OF GROSS REQUIRED (13.49 AC ±) OR NONE IF THE PRES. PARCEL IS DEDICATED TO THE H.O.A. OR HOWARD COUNTY PRESERVATION PARCELS WERE DEDICATED TO THE H.O.A. UNDER PHASE 1, (F-04-82)

**PHASING TABULATION**

ALLOCATION YEAR	NO. OF RESIDENTIAL LOTS	PHASE
2005	43	1
2006	35	2

NO.	DATE	REVISION
2	9-7-11	ADD GENERAL NOTE 20a AND 25
1	6-8-11	REVISE LOT LINES AND LOT NUMBERS AND TITLE BLOCK & SITE DATA CHART

**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  
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I 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. 21443, Expiration Date: 12-21-2014.

*Donald M. Mason*  
1/23/07

**DEVELOPER/OWNER:** ELIOAK, L.L.C., P.O. BOX 417, ELLICOTT CITY, MARYLAND 21041, 410-465-4244

**PROJECT:** RIVERWOOD - PHASE 2  
A RESUBDIVISION OF NON-BUILDABLE BULK PARCELS 'AA' THRU 'GG' TO CREATE LOTS 43-77, NON-BUILDABLE PRESERVATION PARCELS 'T' THRU 'Z', 'AA'-'EE', AND NON-BUILDABLE BULK PARCELS 'A', 'B', 'C', 'E', 'F', 'R', 'S' AND 'U' TO ADD OR MODIFY FOREST CONSERVATION AREAS

**LOCATION:** TAX MAP: 23, GRID: 21 TAX MAP: 29 GRID: 3,4,9&10 PARCELS: 86 PARCELS: 20 & 86 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**TITLE:** TITLE SHEET

**DATE:** JULY, 2007 **PROJECT NO.:** 1132

**DES:** JMC/DBT **DRAFT:** JMC/DBT **CHECK:** CAM **SCALE:** AS SHOWN **SHEET:** 1 OF 11

20a. THE LANDSCAPING SURETY FOR THIS PROJECT WAS AMENDED IN COMPLIANCE WITH WP-11-195, FINANCIAL SURETY FOR PERIMETER IN THE AMOUNT OF \$1,150,000 FOR 4 SHADY TREES AND SEVERAL OTHER TREES WAS ADDED TO THE ORIGINAL DEVELOPER'S AGREEMENT FOR THE PROJECT (TOTAL \$1,250,000).

20. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE NEW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$9,300,000. (\$9,300,000 FOR 31 PERIMETER TREE TREES)

21. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, OR PLACEMENT OF NEW STRUCTURES IS PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, FLOODPLAIN OR THEIR BUFFERS AND FOREST CONSERVATION EASEMENT AREAS EXCEPT IN THE DESIGNATED NECESSARY ROAD CROSSINGS AND AS PER WP-02-04.

22. ALL SIGNS SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (12 GAUGE) - 3 FEET LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

23. WP-03-08 WAS APPROVED BY THE PLANNING DIRECTOR ON JUNE 29, 2005. WP-03-08 WAVES THE REQUIREMENTS OF:
 

- SECTION 16.116(c) - WHICH REQUIRES THAT GRADING, REMOVAL OF VEGETATIVE COVER AND TREES, PAVING AND NEW STRUCTURES SHALL NOT BE PERMITTED WITHIN 25 FEET OF A WETLAND, 50 FEET OF ANY INTERMITTENT STREAM BANK OR 75 FEET OF A PERENNIAL STREAM BANK TO ALLOW A CROSSING OF THE MIDDLE PATUXENT RIVER IN THE VICINITY OF THE OLD-SAC OR WHITHORN WAY.
- SECTION 16.116(c) - WHICH REQUIRES THAT GRADING, REMOVAL OF VEGETATIVE COVER AND TREES, PAVING AND NEW STRUCTURES SHALL NOT BE PERMITTED ON EXISTING STEEP SLOPES, WAIVING THIS SECTION WILL ALLOW THE SEWER LINE SERVING LOTS IN PHASE TWO IS TO BE CONSTRUCTED ON PARCEL F.
- SECTION 16.115(c) - WHICH PLACES PROHIBITIONS ON THE USE OF FLOODPLAIN LAND. WAIVING THIS SECTION WILL ALLOW THE SEWER LINE SERVING LOTS IN PHASE TWO IS TO BE DIRECTIONALLY BORED UNDER THE MIDDLE PATUXENT RIVER.

24. THIS AREA DESIGNATES A PUBLIC SEWAGE EASEMENT OF AT LEAST 10,000 S.F. PER LOT

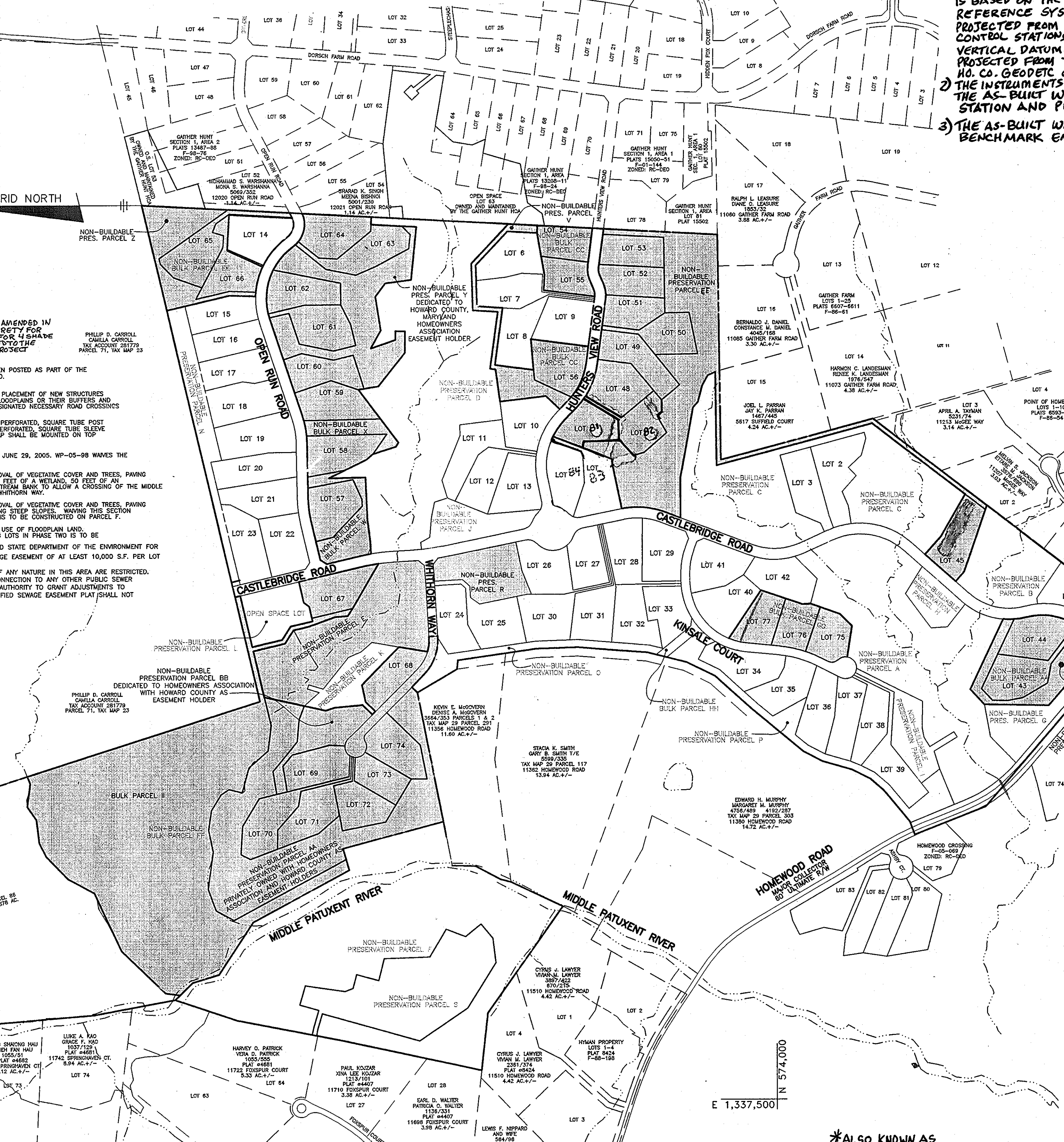
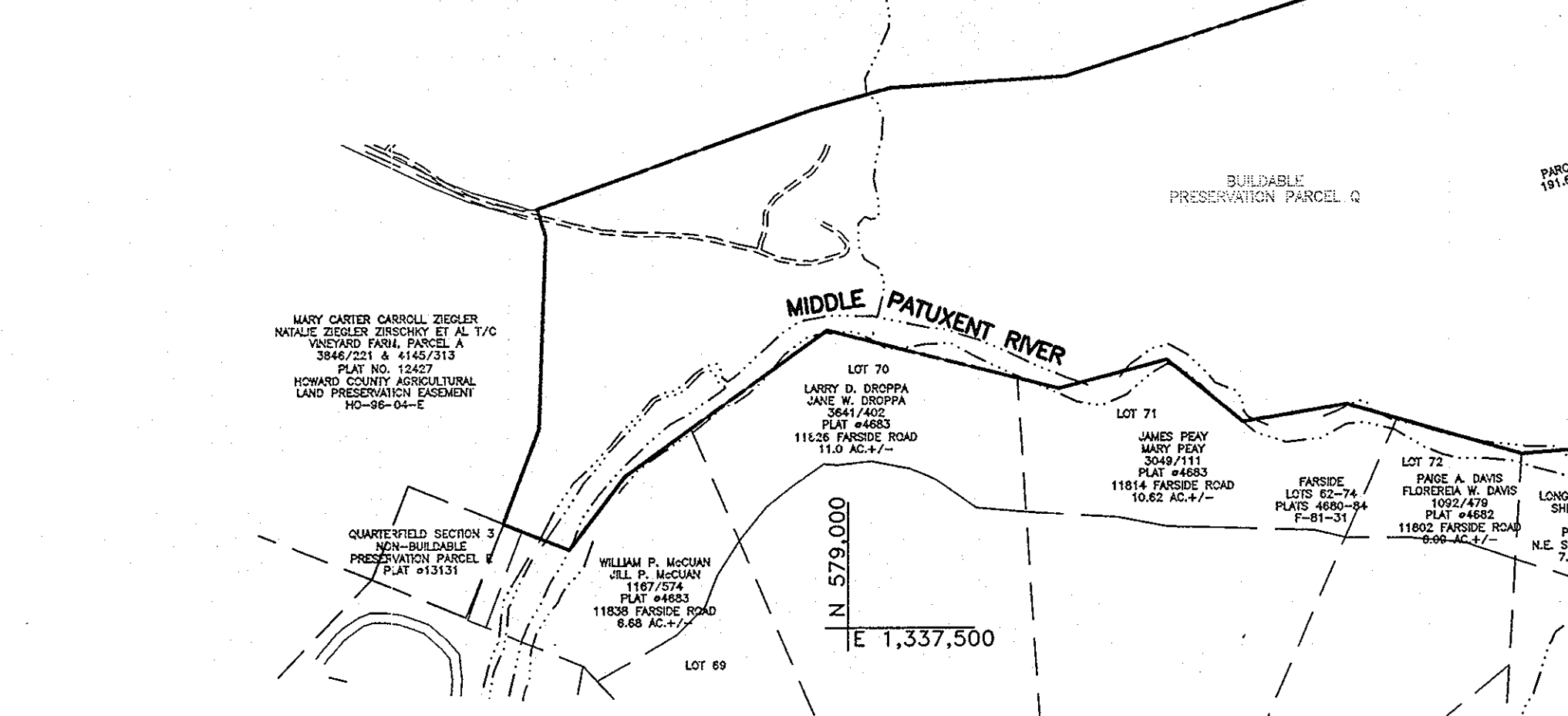
SHARED COMMUNITY SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO ANY OTHER PUBLIC SEWER SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PUBLIC SEWAGE EASEMENT. RECORDATION OF A MODIFIED SEWAGE EASEMENT PLAT SHALL NOT BE REQUIRED.

PRESERVATION PARCEL 'P' IS PROPOSED AS NON-BUILDABLE PARCELS TO PROTECT STEEP SLOPES AND STREAM BUFFER AREAS WHICH ARE CONSIDERED PRIORITY AREAS. THEY WILL BE DEDICATED TO THE HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS. THESE ARE ENCLUMBERED BY AN EASEMENT AGREEMENT WITH THE HOMEOWNERS ASSOCIATION. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.

PRESERVATION PARCEL 'R' IS PROPOSED AS NON-BUILDABLE PARCELS TO BUFFER ADJACENT PROPERTIES FROM EXISTING VEGETATION, RESTORATION AND OTHER GREENERY. IT WILL BE PRIVATELY OWNED WITH AN EASEMENT HELD BY THE HOA AND HOWARD COUNTY. IT IS ENCLUMBERED BY AN EASEMENT AGREEMENT WITH THE HOMEOWNERS ASSOCIATION. THESE AGREEMENTS PROHIBIT FURTHER SUBDIVISION OF ITS OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.

25. ON JUNE 23, 2011 THE REQUEST TO WAIVE SECTION 16.120(c)(2)(c) OF THE SUBDIVISION REGULATIONS WAS APPROVED. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

- COMPLIANCE WITH ALL SRC AGENCY COMMENTS GENERATED WITH THE REVIEW OF THE SUBDIVISION PLAT, F-11-0-6-9.
- ADDITIONAL LANDSCAPING SHALL BE PROVIDED ALONG THE PIPESTEAM OF LOT 82, CASTLEBRIDGE ROAD TO PROVIDE A BUFFER FOR THE PROPOSED ROADSIDE LANDSCAPING WITH THE LANDSCAPE MANUAL, TYPE 'B' BUFFER IS REQUIRED TO BE PLANTED TO ROAD LINE. A FINAL LAYOUT PLAN TO THE LANDSCAPE PLAN FOR F-06-18-14 WILL BE REQUIRED BY THE DEVELOPER TO BE SUBMITTED TO THE COUNTY HEALTH OFFICER TO INCLUDE THE ADDITIONAL SURETY REQUIRED WITH THIS RESUBDIVISION.



**PLAN VIEW**  
SCALE: 1" = 300'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Walter J. Williams*  
CHIEF, BUREAU OF HIGHWAYS  
8-29-07

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

*Cindy Hamant*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
9/11/07

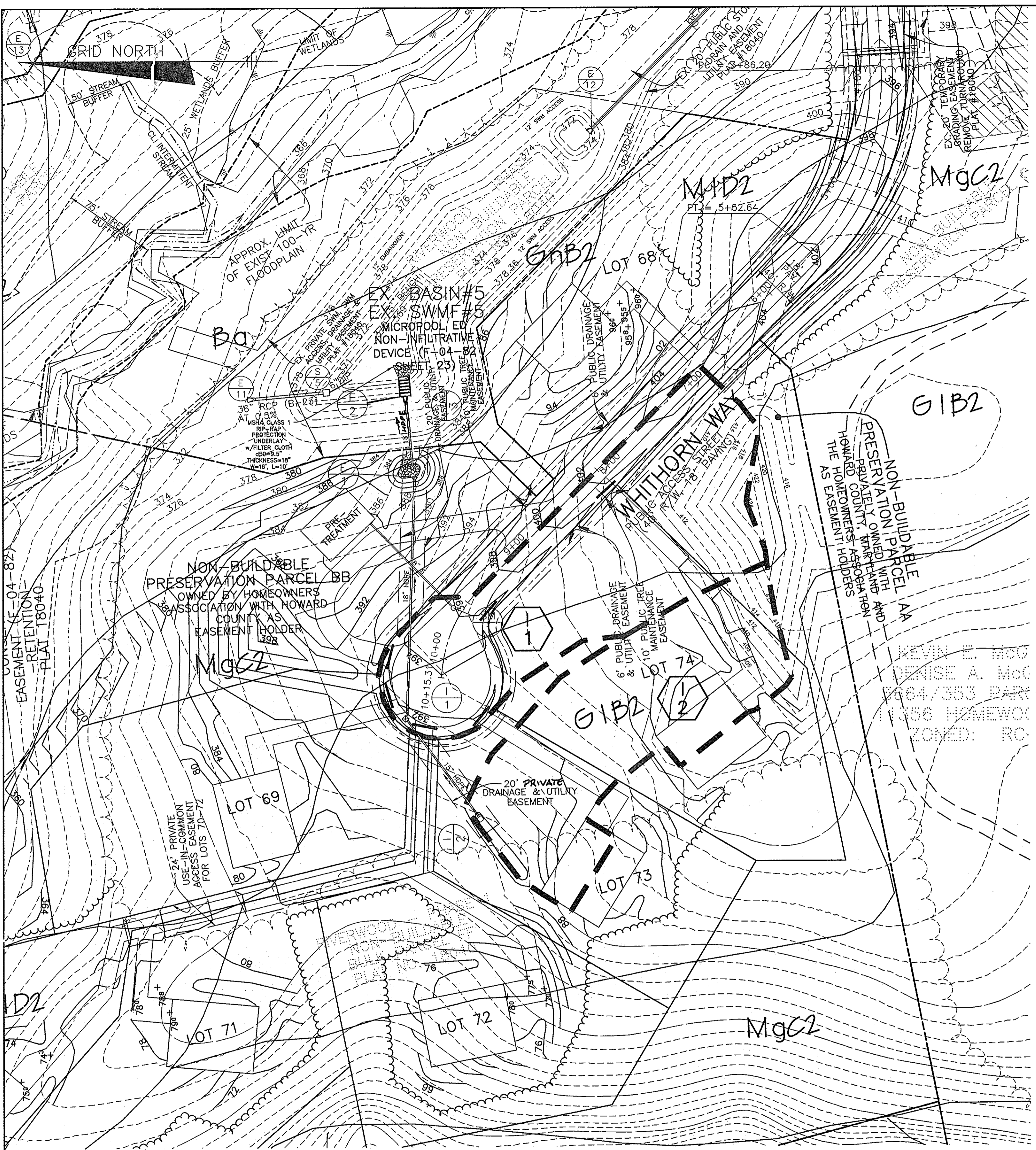
*William P. McLean*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
9/11/07

**AS-BUILT CERTIFICATION**  
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.  
Donald M. Mason, P.E. No. 21443  
Date 11/13/14





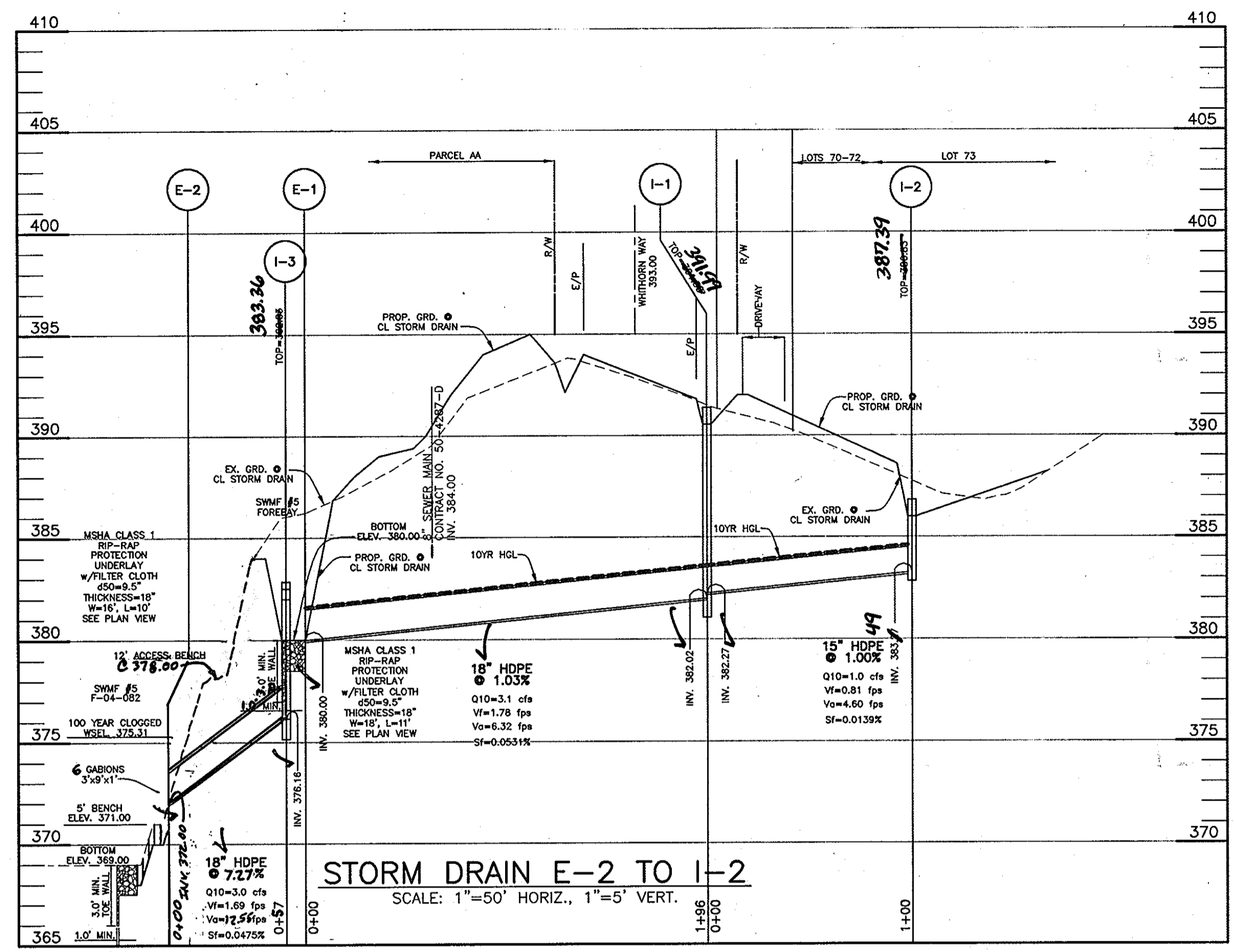




**PLAN VIEW**  
SCALE: 1" = 50'

**LEGEND**

- EXISTING CONTOURS
- - - EXISTING TREELINE
- CL STREAM
- - - LIMIT OF WETLANDS
- - - LIMIT OF SUBMISSION
- STEEP SLOPES 25% OR GREATER
- EXIST. FOREST CONSERVATION EASEMENT (F-04-82)
- - - LIMIT OF 100-YEAR FLOODPLAIN DRAINAGE AND UTILITY ESMT.



**AS-BUILT CERTIFICATION**  
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.  
Donald Mason, P.E. No. 21443 Date 1/13/14

**PIPE SCHEDULE**

RUN	LENGTH	DIAMETER	MATERIAL	NOTES
E-1 TO I-1	196'	15"	HDPEP	PUBLIC
I-1 TO I-2	100'	18"	HDPEP	PRIVATE
E-2 TO I-3	57'	18"	HDPEP	PRIVATE

**MATERIAL SCHEDULE**

DIAMETER	MATERIAL	LENGTH
15"	HDPEP	100'
18"	HDPEP	253'

**STORM DRAIN DATA**

INLET NO.	ZONING	AREA (AC)	'C' FACTOR	% IMPERVIOUS	Q2	Q10
I-1	RC-DEO	0.90	0.44	49	1.8	2.6
I-2	RC-DEO	0.71	0.21	20	0.7	1.0
I-3	RC-DEO	1.61	0.34	36	2.5	3.6

**SOILS LEGEND**

MAP SYMBOL	SOIL GROUP	SOIL TYPE
Ba	D*	BAILE SILT LOAM
CgB2	B	CHESTER GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
CgC2	B	CHESTER GRAVELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
ChA	B	CHESTER SILT LOAM, 0 TO 3 PERCENT SLOPES
ChB2	B	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
ChC2	B	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
ChC3	B	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED
ChD2	B	CHESTER SILT LOAM, 0 TO 3 PERCENT SLOPES
Cs	B	COMUS SILT LOAM
EkB2	B	ELIOAK SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
EkC3	B	ELIOAK SILTY CLAY LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED
G1B2	B	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
G1C2	B	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
G1D2	B	GLENELG LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
G1E2	C*	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
Hs	D*	HATBORO SILT LOAM
MgB2	B	MANOR GRAVELLY LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
MgC2	B	MANOR GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
MgC3	B	MANOR GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED
MID2	B	MANOR LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
MID3	B	MANOR LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED
ME	B	MANOR LOAM, 25 TO 45 PERCENT SLOPES
MdD	B	MANOR VERY STONY LOAM, 3 TO 25 PERCENT SLOPES
MdF	B	MANOR VERY STONY LOAM, 25 TO 60 PERCENT SLOPES
Mo	B*	MIXED ALLUVIAL LAND

\* INDICATES HYDRIC SOILS  
TAKEN FROM SOIL SURVEY, HOWARD COUNTY, MARYLAND (ISSUED JULY 1988) MAP NO. 31

**STRUCTURE SCHEDULE**

NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	HO. CO. STD.
E-1	18" CONC. END SECT.	N 575941.75 E 1339290.53	--	380.00	--	SD - 5.52
E-2	18" CONC. END SECT.	N 575948.79 E 1339355.79	--	372.00	-291.99	SD - 5.52
I-1	'D' INLET	LP STA. 1+75 OFFS. 8.00' LEFT (WHITHORN)	382.27	382.02	381.50	SD - 4.11 OR 4.39 OPEN 4 SIDES
I-2	'D' INLET	N 575889.22 E 1339011.79	--	383.49	386.83	SD - 4.11 OR 4.39 OPEN 4 SIDES
I-3	'D' INLET	N 575943.37 E 1339298.79	--	376.16	382.85	SD - 4.11 OR 4.39 OPEN 4 SIDES

1) STRUCTURE ELEVATION AND LOCATION FOR MANHOLES IS AT THE TOP AND CENTER OF RIM.  
2) STRUCTURE ELEVATION AND LOCATION FOR INLETS IS AT THE TOP OF CURB AT MIDPOINT OF THE INLET OR AT THE CENTER OF SLAB FOR "D" INLETS.  
3) STRUCTURE ELEVATION AND LOCATION FOR ENDSECTIONS IS AT THE CONNECTION OF PIPE AND END SECTION.  
4) PRECAST STRUCTURES MEETING HS-20 LOADING MAY BE USED.  
5) ALL STORM DRAINS SHALL BE SMOOTH CORE HIGH DENSITY POLYETHYLENE PIPE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*With 2 m.m.* 8-25-07  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Cindy Hamer* 9/10  
CHIEF, DIVISION OF LAND DEVELOPMENT

*John P. ...* 9/10  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**BENCHMARK ENGINEERING, INC.**  
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE A SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 • FAX: 410-465-6644  
EMAIL: bel@bel-civilengineering.com

Professional Certification. I 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. 21443, Expiration Date: 12-21-2014

*Donald Mason* 1/23/14  
PROFESSIONAL ENGINEER

DEVELOPER/OWNER: ELOAK, L.L.C., P.O. BOX 417, ELLCOTT CITY, MARYLAND 21043, 410-465-4244

PROJECT: RIVERWOOD - PHASE 2  
A RESUBDIVISION OF NON-BUILDABLE BULK PARCELS 'AA' THRU 'GG' TO CREATE LOTS 43-77 AND NON-BUILDABLE PRESERVATION PARCELS 'I' THRU 'Z', 'AA' - 'EE', AND 'NON-BUILDABLE BULK PARCEL 'II' AND A REVISION OF PHASE 1 PRESERVATION PARCELS 'E', 'F', 'R' & 'S' TO ADD FOREST CONSERVATION AREAS

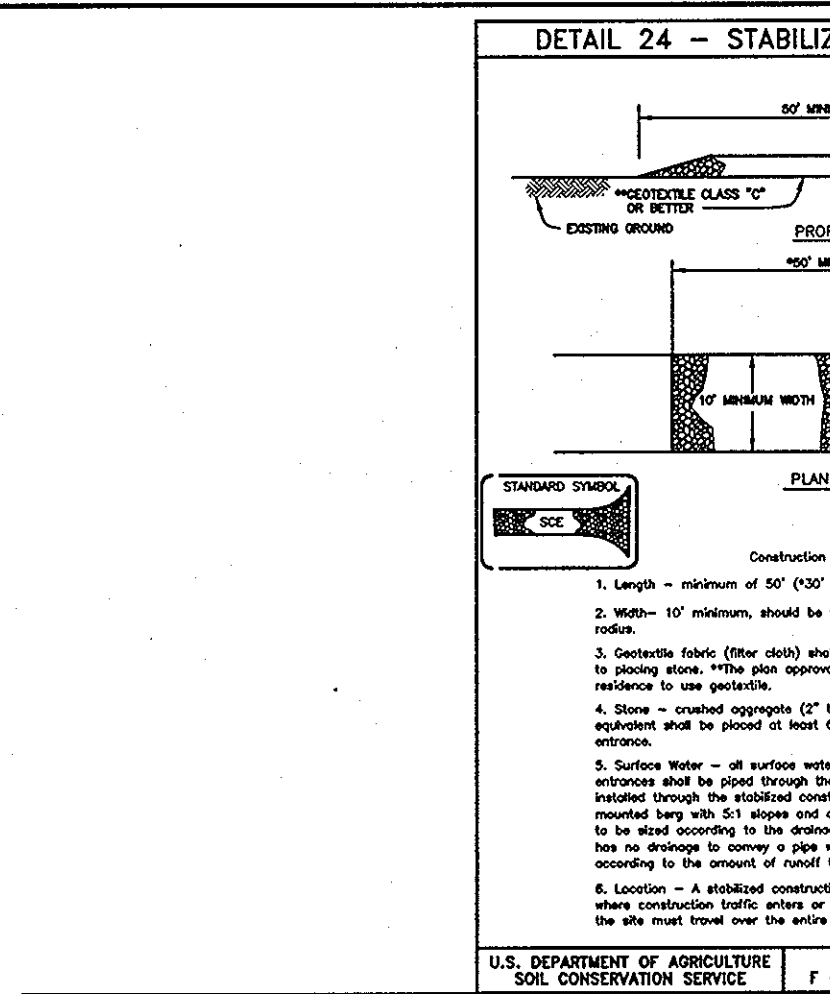
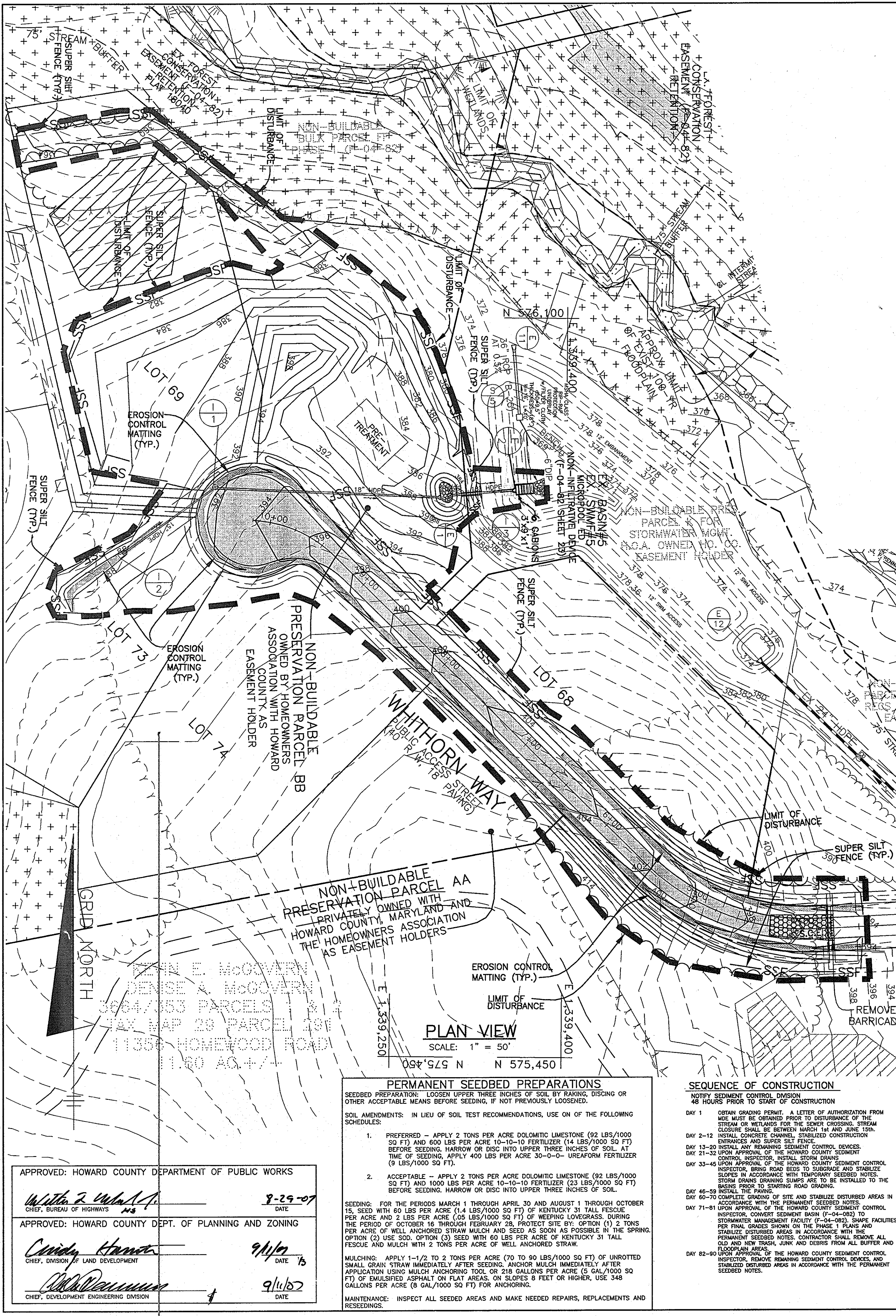
LOCATION: TAX MAP: 23, GRID: 21 TAX MAP: 29, GRID: 3, 4, 9 & 10 PARCELS: 88 PARCELS: 20 & 86 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: STORM DRAINAGE AREA MAP & PROFILE

DATE: JULY, 2007 PROJECT NO. 1132  
SCALE: 1" = 50' SHEET 3 OF 11

DES: JMC/DBT DRAFT: JMC/DBT CHECK: DAM





**CONSTRUCTION SPECIFICATIONS**

- Length - minimum of 50' (50' for single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Concrete walls (Other details) shall be placed over the existing ground prior to placing stone. The stone required entirely may not require large heavy resistance to use water.
- Stone - washed aggregate (2" to 3") or crushed or recycled concrete equivalent shall be placed to a depth of 12" over the length and width of the entrance.
- Surface water - all surface water flowing to or through the construction entrance shall be placed through the entrance, maintaining positive pressure through the stabilized construction entrance shall be maintained with a minimum depth of 6" above the stone and a minimum of 12" of stone over the stone. The top of the stone shall be placed to a depth of 12" above the stone and a minimum of 12" of stone over the stone. The top of the stone shall be placed to a depth of 12" above the stone and a minimum of 12" of stone over the stone.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. The entrance shall be placed to a depth of 12" above the stone and a minimum of 12" of stone over the stone.

**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSING AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1850).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL. REVISIONS: 1/13/07.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERMANENT SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES 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 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE	269.88	ACRES
AREA DISTURBED	7.1	ACRES
AREA TO BE ROOFED OR PAVED	1.4	ACRES
AREA TO BE VEGETATIVELY STABILIZED	5.7	ACRES
TOTAL CUT	4866	CY
TOTAL FILL	4646	CY
OFFSITE WASTE/BORROW AREA LOCATION	SEE NOTE #12	
- 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 CONTROL 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 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 INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- WASTE WILL BE HAULED TO AN APPROVED WASTE DISPOSAL SITE, WITH A ACTIVE GRADING PERMIT.

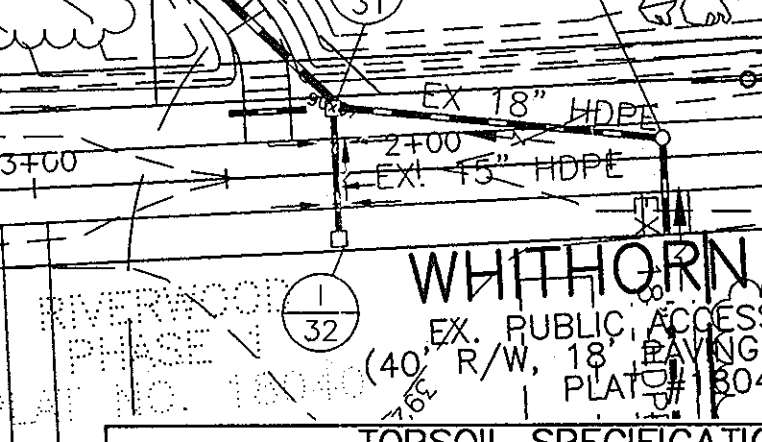
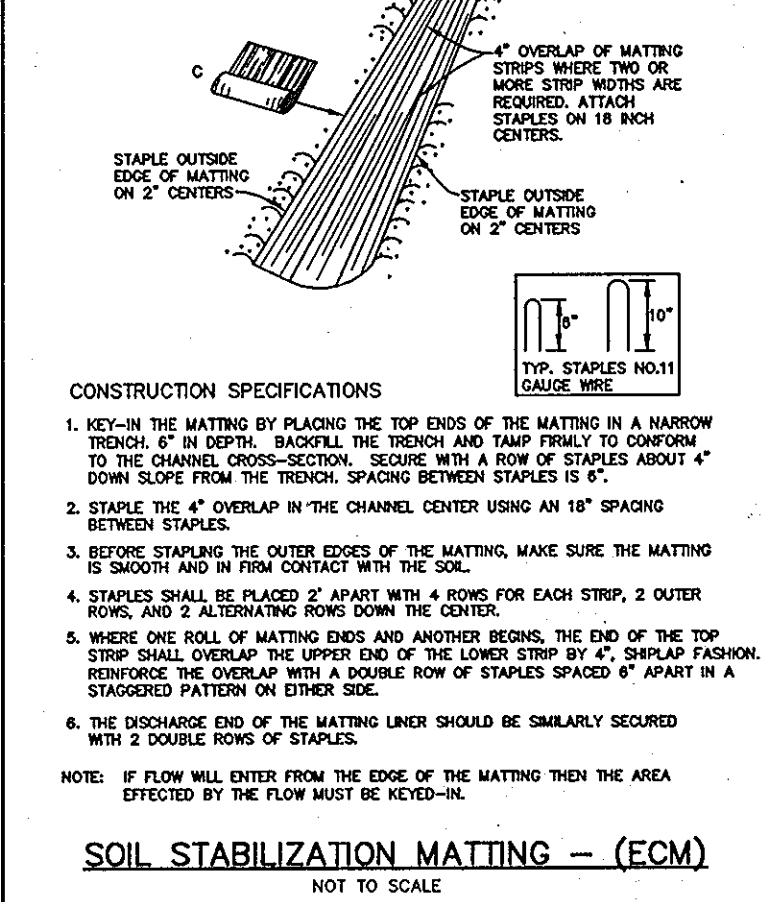
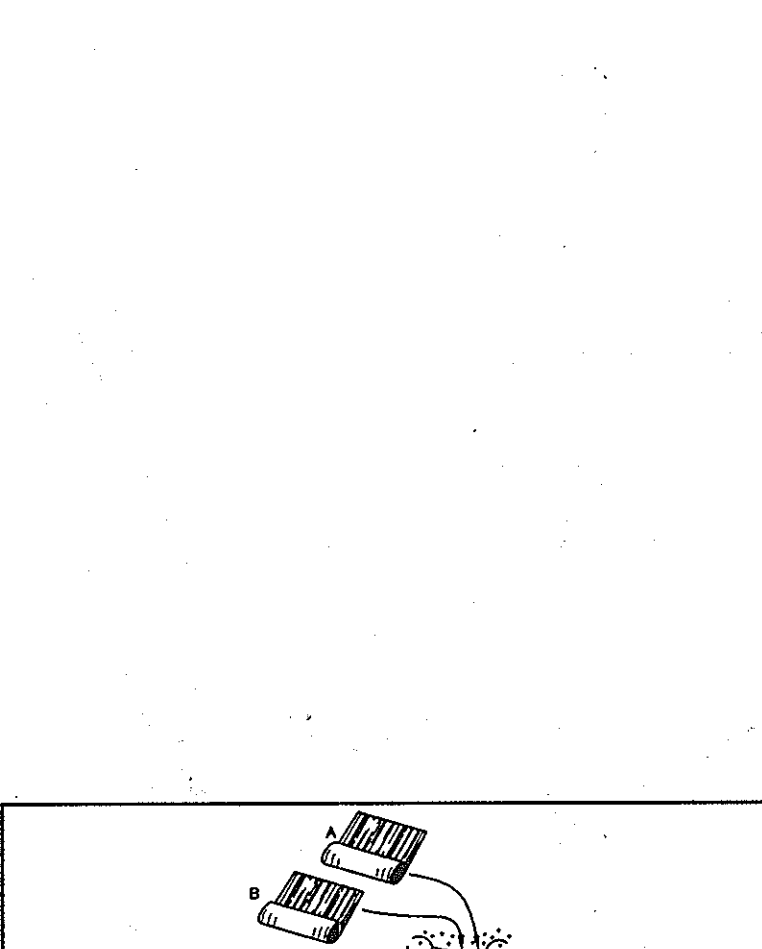
**CONSTRUCTION SPECIFICATIONS**

- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Design for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
- Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and frust rods, drive anchors and post caps are not required except on the ends of the fence.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" of the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
- Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:
 

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.5 gal/ft <sup>2</sup> /minute (max.)	Test: MSMT 509
Flow Rate	0.5 gal/ft <sup>2</sup> /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

**SUPER SILT FENCE DESIGN CRITERIA**

Slope	Slope Class	Slope Length (Maximum)	Silt Fence Length (Minimum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet



**PERMANENT SEEDBED PREPARATIONS**

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING. APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ FT).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR PERIODS MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, SEED WITH 2 TONS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD MARCH 1 THROUGH APRIL 30, SEED WITH 2 TONS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, SEED WITH 2 TONS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD MARCH 1 THROUGH APRIL 30, SEED WITH 2 TONS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT).

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES, 8 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

**SEQUENCE OF CONSTRUCTION**

NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION

DAY 1 OBTAIN GRADING PERMIT. A LETTER OF AUTHORIZATION FROM THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSING AND PERMITS, SEDIMENT CONTROL DIVISION SHALL BE OBTAINED PRIOR TO DISTURBANCE OF THE STREAM OR WETLANDS FOR THE SEWER CROSSING. STREAM CLOSURE SHALL BE BETWEEN MARCH 14 AND MAY 15th.

DAY 2-12 INSTALL ANY REMAINING SEDIMENT CONTROL DEVICES. INSTALL CONCRETE CHANNEL, STABILIZED CONSTRUCTION ENTRANCES AND SUPER SILT FENCE.

DAY 13-22 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BRING ROAD BEDS TO SURFACE AND STABILIZE SLOPES IN ACCORDANCE WITH TEMPORARY SEEDING NOTES. STORM DRAINAGE GRADING SHALL BE INSTALLED TO THE BASINS PRIOR TO STARTING ROAD GRADING.

DAY 23-32 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BRING ROAD BEDS TO SURFACE AND STABILIZE SLOPES IN ACCORDANCE WITH TEMPORARY SEEDING NOTES. STORM DRAINAGE GRADING SHALL BE INSTALLED TO THE BASINS PRIOR TO STARTING ROAD GRADING.

DAY 33-45 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BRING ROAD BEDS TO SURFACE AND STABILIZE SLOPES IN ACCORDANCE WITH TEMPORARY SEEDING NOTES. STORM DRAINAGE GRADING SHALL BE INSTALLED TO THE BASINS PRIOR TO STARTING ROAD GRADING.

DAY 46-59 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BRING ROAD BEDS TO SURFACE AND STABILIZE SLOPES IN ACCORDANCE WITH TEMPORARY SEEDING NOTES. STORM DRAINAGE GRADING SHALL BE INSTALLED TO THE BASINS PRIOR TO STARTING ROAD GRADING.

DAY 60-70 COMPLETE GRADING OF SITE AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. STORM DRAINAGE GRADING SHALL BE INSTALLED TO THE BASINS PRIOR TO STARTING ROAD GRADING.

DAY 71-81 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BRING ROAD BEDS TO SURFACE AND STABILIZE SLOPES IN ACCORDANCE WITH TEMPORARY SEEDING NOTES. STORM DRAINAGE GRADING SHALL BE INSTALLED TO THE BASINS PRIOR TO STARTING ROAD GRADING.

DAY 82-90 UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BRING ROAD BEDS TO SURFACE AND STABILIZE SLOPES IN ACCORDANCE WITH TEMPORARY SEEDING NOTES. STORM DRAINAGE GRADING SHALL BE INSTALLED TO THE BASINS PRIOR TO STARTING ROAD GRADING.

**TEMPORARY SEEDBED PREPARATIONS**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT).

SEEDING: FOR PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, SEED WITH 2 TONS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD MARCH 1 THROUGH APRIL 30, SEED WITH 2 TONS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT).

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES, 8 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

**BENCHMARK ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 A FAX: 410-465-6644  
EMAIL: be@be-civilengineering.com

**DEVELOPER/OWNER:** ELIOAK, L.L.C., P.O. BOX 417, ELLCOTT CITY, MARYLAND 21041, 410-465-4244

**PROJECT: RIVERWOOD - PHASE 2**  
A RESUBDIVISION OF NON-BUILDABLE PARCELS AA THRU 'GG' TO CREATE LOTS 43-77 NON-BUILDABLE PRESERVATION PARCELS 'THRU' Z', AA'-EE' AND NON-BUILDABLE BULK PARCEL 'II' AND A REVISION OF PHASE 1 PRESERVATION PARCELS 'E', 'F', 'R' & 'S' TO ADD FOREST CONSERVATION AREAS.

**LOCATION:** TAX MAP: 23, GRID: 29, GRID: 3, 4, 9 & 10 PARCELS: 86 PARCELS: 20 & 86

**TITLE:** GRADING, SEDIMENT AND EROSION CONTROL PLAN AND DETAILS

**DATE:** JULY, 2007 **PROJECT NO.:** 1132

**SCALE:** 1" = 50' **SHEET:** 4 OF 11

**DESIGNER:** JMC/DBT **DRAFTER:** JMC/DBT **CHECKER:** DAM



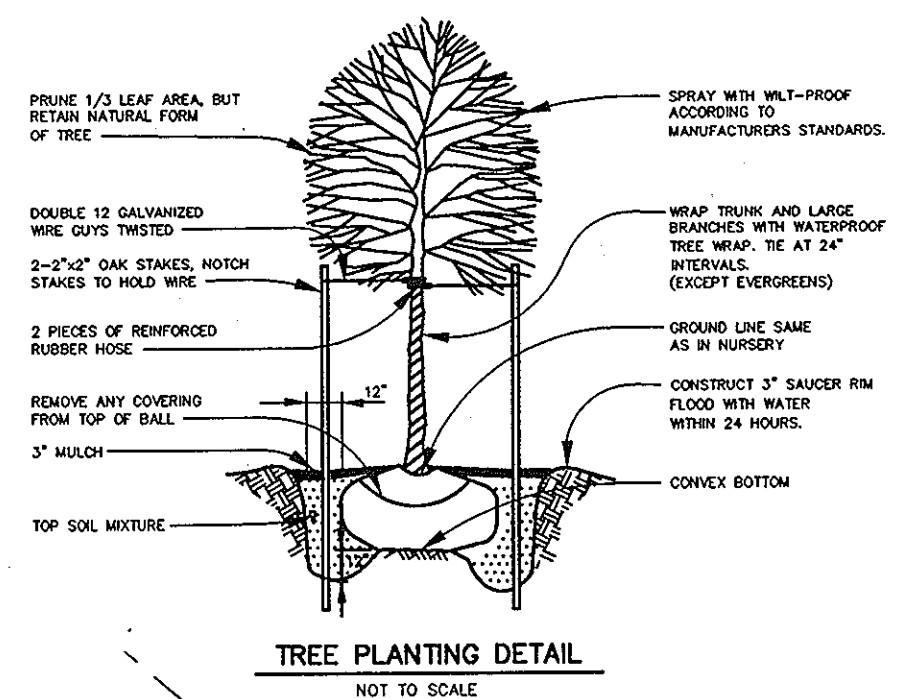
NOTE:  
 AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWIT LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.

**LANDSCAPE NOTES:**

- TREES SHOULD BE PLANTED A MINIMUM OF 6 FEET FROM THE EDGE OF PAVING AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.
- TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET FROM A DRIVEWAY.
- SEE TREE PLANTING DETAIL - THIS SHEET.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$9,300.00 FOR 31 PERIMETER SHADE TREES.
- FINANCIAL SURETY FOR THE REQUIRED PERIMETER 19 HAS BEEN POSTED AS PART OF AN AMENDED DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$1,950 FOR 4 SHADE TREES AND 5 EVERGREENS.

**NOTE:**

THE OWNER, TENANTS 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.



PHASE 2 - SCHEDULE A PERIMETER LANDSCAPE EDGE									
ADJ. TO DRIVEWAY	ADJ. TO PERIMETER PROP.	ADJ. TO PERIMETER PROP.	ADJ. TO PERIMETER PROP.	ADJ. TO PERIMETER PROP.	ADJ. TO PERIMETER PROP.	ADJ. TO PERIMETER PROP.	ADJ. TO PERIMETER PROP.	ADJ. TO PERIMETER PROP.	TOTAL
(19)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	LOT 57	
B	A	A	A	A	A	A	A	B	
192'	992'	2157'	2554'	723'	428'	132'	2207'	275'	
NO	YES*	YES*	YES*	YES*	YES*	YES*	YES*	YES*	
NO	NO	NO	NO	NO	NO	NO	NO	NO	
4	0	278'	869'	370'	0'	0'	495'	0'	35
5	0	5	11	7	0	0	8	0	5

**DEVELOPER'S/BUILDER'S CERTIFICATE**  
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

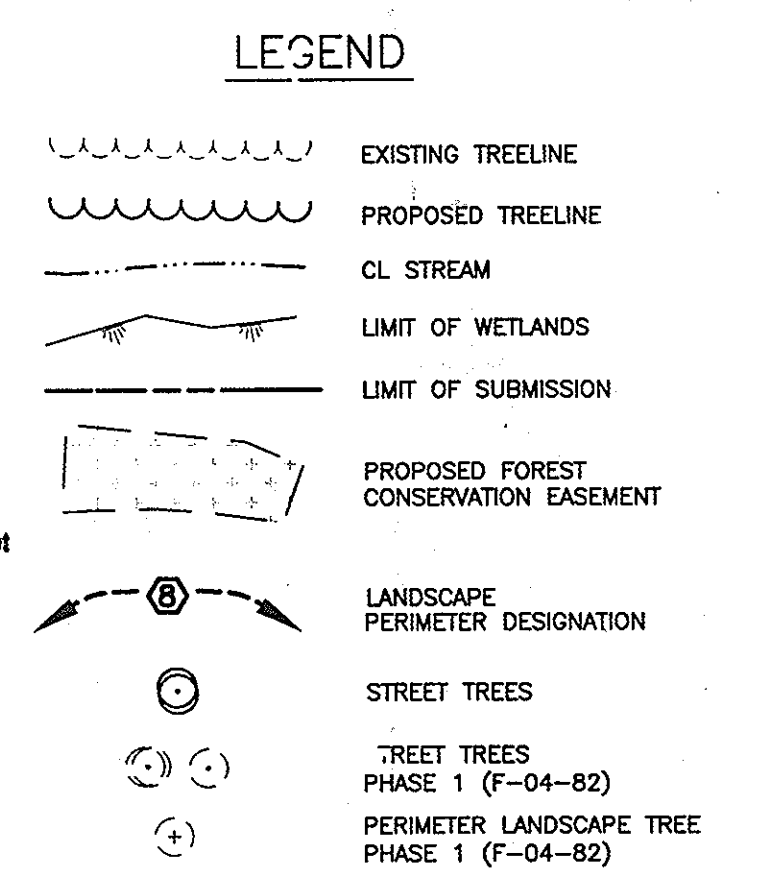
*Stm* 7-23-07  
 STEVEN K. BREEDEN, MEMBER DATE  
 ELOAK, L.L.C.

*James R. Moxley III* 7/23/07  
 JAMES R. MOXLEY, III, MEMBER DATE  
 ELOAK, L.L.C.

STREET TREE SCHEDULE	
ROAD NAME	PERIMETER TREES REQ.
WHITTHORN WAY	1,447
	36

PUBLIC STREET TREE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	STREET TREES TO BE PROVIDED BY THE DEVELOPER
⊕	36	ACER RUBRUM 'OCTOBER GLORY' (October Glory Red Maple)	2 1/2" MIN. CAL. B&B FULL HEAD	STREET TREES TO BE PROVIDED BY THE DEVELOPER

- NOTE:**
- LANDSCAPING FOR THIS SUBDIVISION IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
  - SOME LOTS IN PHASE 2 ARE SURROUNDED BY LANDSCAPE PERIMETERS CREATED IN PHASE 1. SEE THE FINAL LANDSCAPE PLAN FOR PHASE 1, F-04-082. PERIMETERS 2, 4, 5 AND 10 WERE DESIGNED AND APPROVED UNDER PHASE 1 (F-04-082).



LANDSCAPE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
⊕	35	QUERCUS RUBRA (Red Oak)	2-1/2" - 3" cal.	SHADE TREES ALONG PERIMETER TO BE PROVIDED BY THE DEVELOPER
*	5	PINUS STROBUS (LATEBIS WHITE PINE)	6'-8' HT.	EVERGREEN TREES PROVIDED BY BUILDER

**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  
 email: Benchmark@ceils.com

*Donald M. Moore* 11/3/14  
 DONALD M. MOORE  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 21243  
 STATE OF MARYLAND

OWNER/DEVELOPER:	ELIOAK, L.L.C. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244
PROJECT:	RIVERWOOD - PHASE 2 A RESUBDIVISION OF NON-BUILDABLE BULK PARCELS 'AA' THRU 'GG' TO CREATE LOTS 43-77* NON-BUILDABLE PRESERVATION PARCELS 'THRU' 'Z', 'AA'-'EE' AND NON-BUILDABLE BULK PARCEL 'II' AND A REVISION OF PHASE 1 PRESERVATION PARCELS 'E', 'F', 'I' & 'S' TO ADD FOREST CONSERVATION AREAS
LOCATION:	TAX MAP: 23, GRID: 21 TAX MAP: 23, GRID: 3,4,9&10 PARCELS: 88 PARCELS: 28 & 86 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	LANDSCAPE AND STREET TREE PLAN
DATE:	JULY, 2007 PROJECT NO. 1132
SCALE:	1" = 100' SHEET 5 OF 11

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Walter J. ...* 8-29-07  
 CHIEF, BUREAU OF HIGHWAYS DATE

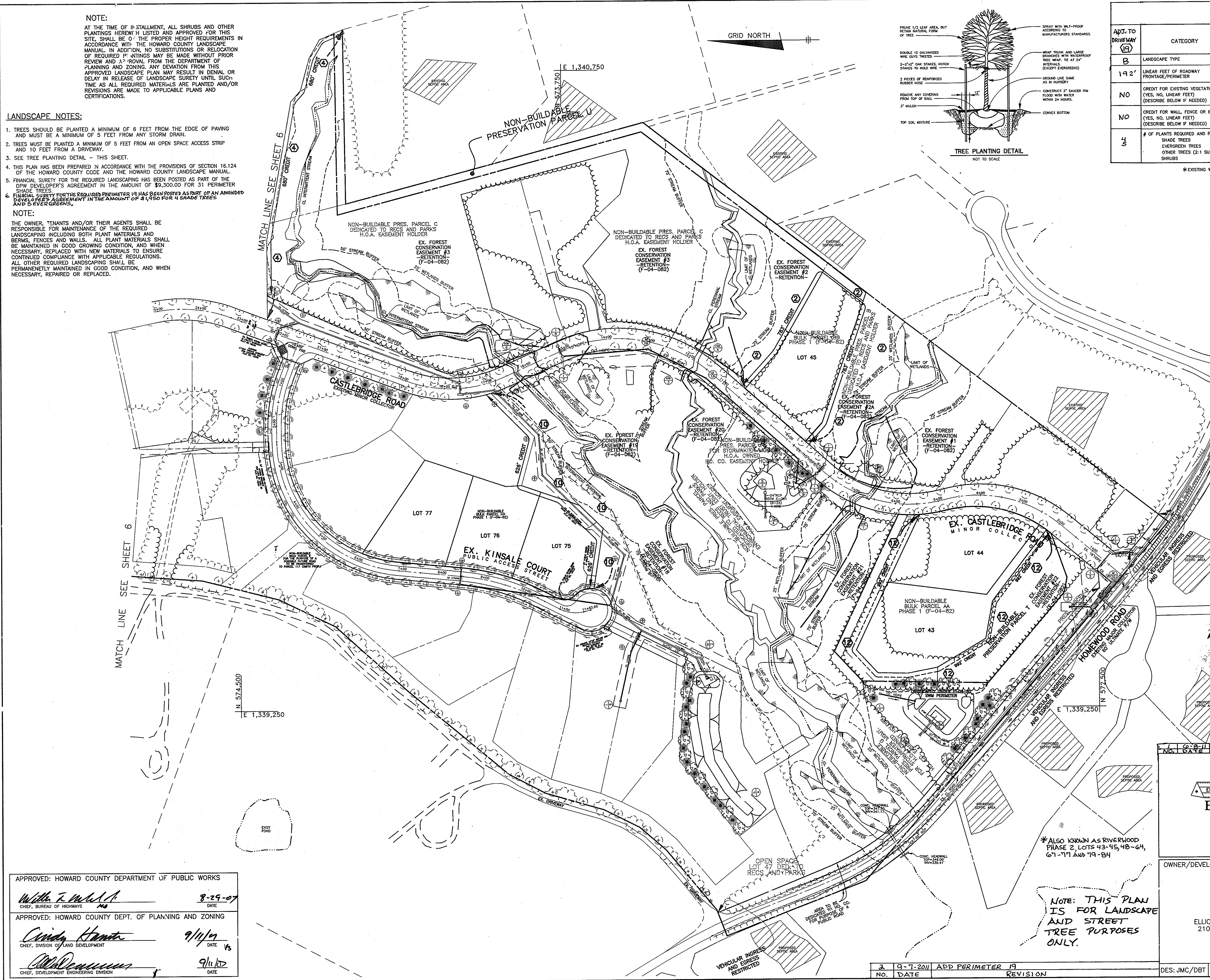
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Cynthia Hamer* 9/1/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*...* 9/1/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

ADD PERIMETER 19 REVISION  
 NO. DATE

**NOTE: THIS PLAN IS FOR LANDSCAPE AND STREET TREE PURPOSES ONLY.**

\*ALSO KNOWN AS RIVERWOOD PHASE 2, LOTS 43-45, 48-64, 67-77 AND 79-84







**DEVELOPER'S/BUILDER'S CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 7-23-07 DATE  
 STEVEN K. BREEDEN, MEMBER  
 ELIOAK, L.L.C.

*[Signature]* 7/23/07 DATE  
 JAMES R. MOXLEY, III, MEMBER  
 ELIOAK, L.L.C.

**LEGEND**

- EXISTING TREELINE
- PROPOSED TREELINE
- CL STREAM
- LIMIT OF WETLANDS
- LIMIT OF SUBMISSION
- PROPOSED FOREST CONSERVATION EASEMENT
- LANDSCAPE PERIMETER DESIGNATION
- STREET TREES
- STREET TREES PHASE 1 (F-04-82)
- PERIMETER LANDSCAPE TREE PHASE 1 (F-04-82)

No As-Built information is required on this sheet

*[Professional Engineer Seal: Donald M. Moxley, No. 21443, State of Maryland, 11/3/14]*

**NOTE:**  
 THIS PLAN IS FOR  
 LANDSCAPE AND  
 STREET TREE  
 PURPOSES ONLY

NO.	DATE	REVISION
2	9-7-11	ADD PERIMETER L9
1	6-8-11	REVISE LOT LINES, LOT NO., PCE AND TITLE BLOCK

**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  
 email: Benchmark@cois.com

*[Professional Engineer Seal: Donald M. Moxley, No. 21443, State of Maryland, 7/23/07]*

OWNER/DEVELOPER:	PROJECT: RIVERWOOD - PHASE 2
E'IOAK, L.L.C. P.C. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	A RESUBDIVISION OF NON-BUILDABLE BULK PARCELS 'AA' THRU 'GG' TO CREATE LOTS 43-77 NON-BUILDABLE PRESERVATION PARCELS, 'VV' THRU 'Z', 'AA'-'EE' AND NON-BUILDABLE BULK PARCEL 'II' AND A REVISION OF PHASE 1 PRESERVATION PARCELS 'EE', 'EE', 'FF' & 'SS'. 22.0 FOREST CONSERVATION AREAS
TITLE: LANDSCAPE AND STREET TREE PLAN	LOCATION: TAX MAP: 23, GRID: 21 TAX MAP: 29, GRID: 3,4,9&10 PARCELS: 86 PARCELS: 20 & 86 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: JULY, 2007	PROJECT NO. 1132
SCALE: 1" = 100'	SHEET 6 OF 11

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 8-23-07 DATE  
 CHIEF, BUREAU OF HIGHWAYS

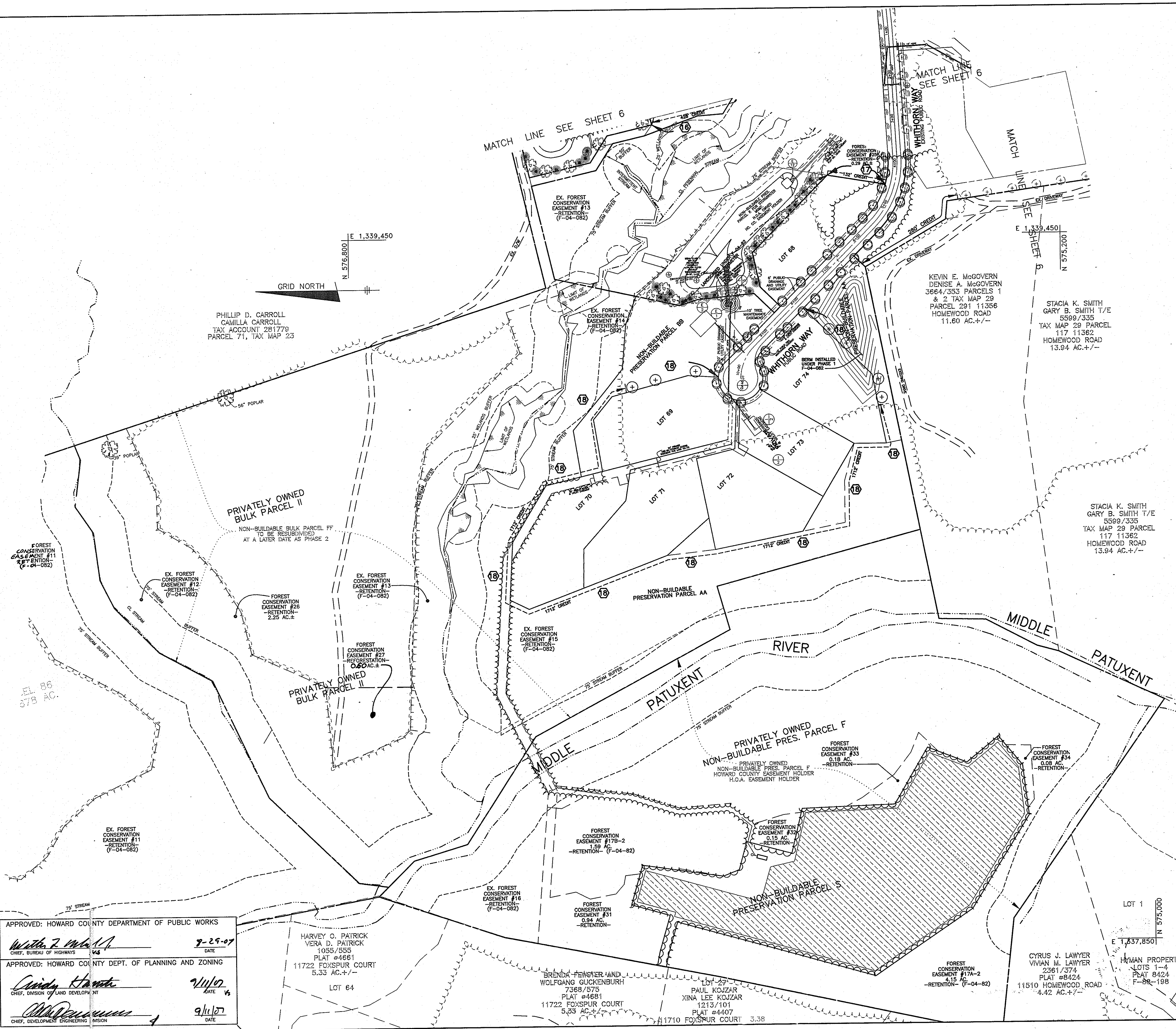
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*[Signature]* 9/11/07 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*[Signature]* 9/11/07 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

NON-BUILDABLE BULK PARCEL FF PHASE 1 (F-04-82)  
 NON-BUILDABLE PRES. PARCEL L FOR STORMWATER MGMT. H.C.A. CHINED H.C. CO. EASEMENT HOLDER

\* ALSO KNOWN AS RIVERWOOD PHASE 2 LOTS 43-45, 48-64 67-77 AND 79-84





**DEVELOPER'S/BUILDER'S CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*SK* 7-23-07  
 STEVEN K. BREEDEN, MEMBER  
 ELIOAK, L.L.C. DATE

*James R. Moxley III* 7/23/07  
 JAMES R. MOXLEY, III, MEMBER  
 ELIOAK, L.L.C. DATE

- LEGEND**
- EXISTING TREELINE
  - PROPOSED TREELINE
  - CL STREAM
  - LIMIT OF WETLANDS
  - LIMIT OF SUBMISSION
  - PROPOSED FOREST CONSERVATION EASEMENT
  - LANDSCAPE PERIMETER DESIGNATION
  - STREET TREES
  - STREET TREES PHASE 1 (F-04-82)
  - PERIMETER LANDSCAPE TREE PHASE 1 (F-04-82)

No As-Built information is required on this sheet



NOTE: THIS PLAN IS FOR STREET TREE AND LANDSCAPE PURPOSES ONLY.

\*ALSO KNOWN AS RIVERWOOD PHASE 2  
 LOTS 43-45, 48-64, 67-77 AND 79-84

G-B-H REVISE TITLE BLOCK		REVISION	
NO.	DATE		

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
 8480 BALTIMORE NATIONAL PIKE & SUITE 418  
 ELLICOTT CITY, MARYLAND 21043  
 phone: 410-465-8105 A fax: 410-465-8644  
 email: Benchmark@comcast.com

Professional Certification. I 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. 21143, Expiration Date: 12-21-2008

*Donald M. Moxley* 7/23/07  
 DONALD M. MOXLEY, III, P.E.  
 PROFESSIONAL ENGINEER

OWNER/DEVELOPER: ELIOAK, L.L.C.  
 P.O. BOX 417  
 ELLICOTT CITY, MARYLAND  
 21041 410-465-4244

PROJECT: RIVERWOOD -- PHASE 2  
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCELS 'AA' THRU 'GG' TO CREATE LOTS 43-77. NON-BUILDABLE PRESERVATION PARCELS 'S' THRU 'Z', 'AK-GG' AND NON-BUILDABLE BULK PARCEL 'II' AND A REVISION OF PHASE 1 PRESERVATION PARCELS 'E', 'F', 'R' & 'S' TO ADD FOREST CONSERVATION AREAS

LOCATION: TAX MAP: 23, GRID: 21 TAX MAP: 29, GRID: 3,4,9&10  
 PARCELS: 88 PARCELS: 20 & 86  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: LANDSCAPE AND STREET TREE PLAN

DATE: JULY, 2007 PROJECT NO. 1132

DES: JMC/DBT DRAFT: JMC/DBT CHECK: CAM SCALE: 1" = 100' SHEET 7 OF 11

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Walter Z. Moxley III* 7-25-07  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Cindy Hamrick* 7/1/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*John P. ...* 9/1/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

HARVEY O. PATRICK  
 VERA D. PATRICK  
 1055/555  
 PLAT #4861  
 11722 FOXSPUR COURT  
 5.33 AC.+/-  
 LOT 64

BRENDA FEWSTER AND  
 WOLFGANG GUCKENBURGH  
 7988/575  
 PLAT #4881  
 11722 FOXSPUR COURT  
 5.33 AC.+/-  
 LOT 64

PAUL KOJZAR  
 XINA LEE KOJZAR  
 1213/101  
 PLAT #4407  
 11710 FOXSPUR COURT 3.38

CYRUS J. LAWYER  
 VIVIAN M. LAWYER  
 2361/374  
 PLAT #8424  
 11510 HOMEWOOD ROAD  
 4.42 AC.+/-  
 HUMAN PROPERTY  
 LOTS 1-4  
 PLAT 8424  
 F-88-198



**SITE ANALYSIS DATA CHART**

- GENERAL SITE DATA**
- PRESENT ZONING: RC-DEO
  - APPLICABLE DPZ FILE REFERENCE: WP-02-84, S-02-009, P-03-010, F-04-082, P-04-09, WP-05-98, RE-06-06
  - PROPOSED USE OF SITE: SFD
  - PROPOSED WATER AND SEWER SYSTEMS: PRIVATE WATER, PRIVATE SEWER AND PUBLIC SEWER
- AREA TABULATION**
- GROSS TRACT AREA: 269.88 AC.±
  - AREA WITHIN 100-YEAR FLOOD PLAIN: 44.83 AC.±
  - NET TRACT AREA: 225.05 AC.±

**LEGEND**

- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- CL. STREAM
- LIMIT OF WETLANDS
- LIMIT OF SUBMISSION
- STEEP SLOPES 25% OR GREATER
- APPROXIMATE LIMIT OF EXISTING 100-YEAR FLOOD PLAIN AREA
- APPROXIMATE LIMIT OF PROPOSED 100-YEAR FLOOD PLAIN AREA
- FOREST CONSERVATION RETENTION
- FOREST CONSERVATION SIGNATURE

SOILS LEGEND		
MAP SYMBOL	SOIL GROUP	SOIL TYPE
Bs	D*	BALE SILT LOAM
CgB2	B	CHESTER GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
CgC2	B	CHESTER GRAVELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
Cha	B	CHESTER SILT LOAM, 0 TO 3 PERCENT SLOPES
ChB2	B	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
ChC2	B	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
ChD2	B	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED
ChD3	B	CHESTER SILT LOAM, 0 TO 3 PERCENT SLOPES
Ca	B	COMUS SILT LOAM
EkB2	B	ELIOAK SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
EkC3	B	ELIOAK SILTY CLAY LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED
GIB2	B	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
GIC2	B	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
GI2	B	GLENELG LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
GnB2	C*	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
Ho	D*	HATBORO SILT LOAM
MgB2	B	MANOR GRAVELLY LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
MgC2	B	MANOR GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
MgC3	B	MANOR GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED
MID2	B	MANOR LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
MID3	B	MANOR LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED
MIE	B	MANOR LOAM, 25 TO 45 PERCENT SLOPES
MnD	B	MANOR VERY STONY LOAM, 3 TO 25 PERCENT SLOPES
MnF	B	MANOR VERY STONY LOAM, 25 TO 60 PERCENT SLOPES
Mo	B*	MIXED ALLUVIAL LAND

\* INDICATES HYDRIC SOILS  
TAKEN FROM SOIL SURVEY, HOWARD COUNTY, MARYLAND (ISSUED JULY 1968) MAP NO. 31

**EX. FCE ACREAGE CHART**

EASEMENT #	ACREAGE (RETENTION)
FCE#1	1.09 AC.
FCE#2	1.11 AC.
FCE#2A	1.24 AC.
FCE#3	9.81 AC.
FCE#4	1.70 AC.
FCE#5	0.33 AC.
FCE#6	5.77 AC.
FCE#7	7.56 AC.
FCE#8	1.52 AC.
FCE#9	0.55 AC.
FCE#10	1.56 AC.
FCE#11	5.55 AC.
FCE#12	1.28 AC.
FCE#13	4.22 AC.
FCE#14	2.69 AC.
FCE#15	2.68 AC.
FCE#16	0.87 AC.
FCE#17A-2A	4.20 AC.
FCE#17B-2A	1.40 AC.
FCE#18	1.46 AC.
FCE#19	1.22 AC.
FCE#20	1.45 AC.
FCE#21	0.83 AC.
FCE#22	0.89 AC.
TOTALS	61.04 AC.

**FCE ACREAGE CHART**

EASEMENT #	ACREAGE (REFORESTATION)	ACREAGE (RETENTION)
FCE#23	0.87 AC.	
FCE#24	0.55 AC.	
FCE#25	0.29 AC.	
FCE#26	2.25 AC.	
FCE#27	0.80 AC.	
FCE#28A	0.57 AC.	
FCE#29	0.52 AC.	
FCE#30	0.87 AC.	
FCE#31		0.94 AC.
FCE#32		0.15 AC.
FCE#33		0.18 AC.
FCE#34		0.08 AC.
FCE#35		2.28 AC.
TOTAL PHASE 2	2.56 AC.	5.61 AC.
TOTAL SITE	2.56 AC.	66.05 AC.

\*\*SEE THE FINAL RECORD PLAT FOR FOREST\*  
CONSERVATION EASEMENT BEARINGS AND DISTANCES.  
\*\*SEE SHEET 10 FOR FOREST CONSERVATION CALCULATIONS\*\*  
\*\*SEE SHEET 11 FOR FOREST CONSERVATION NOTES AND SHEET 10 FOR SIGNAGE DETAIL\*\*

NO.	DATE	REVISION
2	8-26-13	REVISE FCE ACREAGE CHART
1	6-8-11	REVISE TITLE BLOCK, REVISE FCE ACREAGE CHART

**BENCHMARK ENGINEERING, INC.**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELICOTT CITY, MARYLAND 21043  
PHONE: 410-465-6105 FAX: 410-465-6644  
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I 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. 21443, Expiration Date: 12-31-2014.

*Donald M. Mason*  
DONALD M. MASON  
PROFESSIONAL ENGINEER  
11/13/14

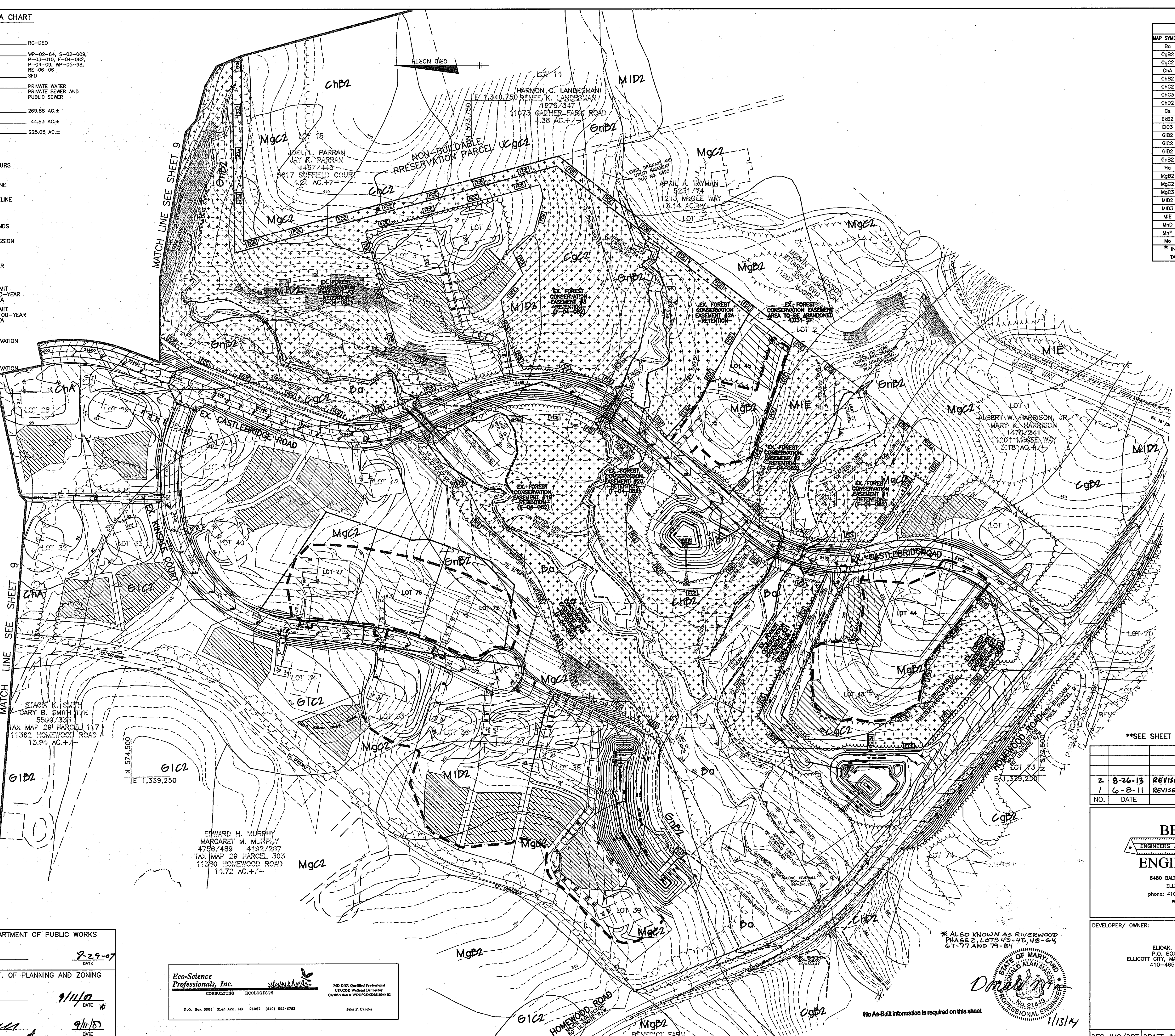
DEVELOPER/ OWNER:	ELIOAK, L.L.C. P.O. BOX 417 ELICOTT CITY, MARYLAND 21041 410-465-4244
PROJECT: RIVERWOOD - PHASE 2	A RESUBDIVISION OF NON-BUILDABLE BULK PARCELS 'AA' THRU 'GG' TO CREATE LOTS 43-77 NON-BUILDABLE PRESERVATION PARCELS 'THRU' 'Z', 'AA-EE' AND NON-BUILDABLE BULK PARCELS 'I' AND A REVISION OF PHASE 1 PRESERVATION PARCELS 'F', 'F', 'R' & 'S' TO ADD FOREST CONSERVATION AREAS
LOCATION:	TAX MAP: 23, GRID: 21 TAX MAP: 29, GRID: 3, 4, 9 & 10 PARCELS: 20 & 88 PARCELS: 20 & 88
TITLE:	FOREST CONSERVATION PLAN
DATE:	JULY, 2007 PROJECT NO. 1132
DES: JMC/DBT	DRAFT: JMC/WEO CHECK: CAM SCALE: 1" = 100' SHEET 8 OF 11

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Walter J. Mahoney, Jr.* 8-29-07  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Cindy Hamstra* 9/11/07  
CHIEF, DIVISION OF LAND DEVELOPMENT

*John P. Casella* 9/11/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**Eco-Science Professionals, Inc.**  
CONSULTING ENGINEERS  
MD DOR Qualified Professional  
SUSSEX Professional Engineer  
Certification # WDCEP000104403  
John P. Casella



\* ALSO KNOWN AS RIVERWOOD  
PHASE 2, LOTS 43-45, 48-54,  
61-77 AND 78-84



No As-Built Information is required on this sheet







**FOREST RETENTION AREA**

MACHINERY, DIGGING OR STORAGE OF ANY MATERIALS IS PROHIBITED.

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1996.

**Forest Conservation Area**

**AFFORESTATION PROJECT**

Trees for Your Future

**LEGEND**

- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- CL STREAM
- LIMIT OF WETLANDS
- LIMIT OF SUBMISSION
- STEEP SLOPES 25% OR GREATER
- APPROXIMATE LIMIT OF EXISTING 100-YEAR FLOODPLAIN AREA
- APPROXIMATE LIMIT OF PROPOSED 100-YEAR FLOODPLAIN AREA
- FOREST CONSERVATION RETENTION
- FOREST CONSERVATION SIGNAGE

**APPENDIX G FOREST CONSERVATION WORKSHEET**

	ACRES (1/10 acre)
I. BASIC SITE DATA	
GROSS SITE AREA	269.9
AREA WITHIN 100 YEAR FLOODPLAIN	44.8
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	N/A
NET TRACT AREA	225.1
LAND USE CATEGORY (R-RLD, R-RMD, R-S, C/I/O, I)	Rc-DEO
II. INFORMATION FOR CALCULATIONS	
A. NET TRACT AREA	225.1
B. REFORESTATION THRESHOLD (25% x A)	56.28
C. AFFORESTATION MINIMUM (20% x A)	45.02
D. EXISTING FOREST ON NET TRACT AREA	117.30
E. FOREST AREAS TO BE CLEARED	50.65
F. FOREST AREAS TO BE RETAINED	66.65**

\* CLEARING FOR PHASE 1 AND PHASE 2 (11.85 ACRES FOR PHASE 2). \*\*61.04 ACRES WITHIN RETENTION EASEMENTS CREATED UNDER PHASE 1 (F=0-082).

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 (1/10 acre)

A. NET TRACT AREA	225.10
B. REFORESTATION THRESHOLD (25% x A)	56.28
C. EXISTING FOREST ON NET TRACT AREA	117.30
D. FOREST AREAS TO BE CLEARED	50.65
E. FOREST AREAS TO BE RETAINED	66.65
F. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D-B, if F equals or is greater than B, Alternate 1)	50.65
G. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (D-B, if F is less than B, Alternate 2)	N/A
H. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (B-F, if applicable)	10.37
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (F-B, Retention Credit, if applicable)	0.00

NOTE: THIS SUBDIVISION COMPLIES WITH THE RURAL CLUSTER OPTION B OF APPENDIX L OF THE FOREST CONSERVATION MANUAL TO SATISFY FOREST CONSERVATION REQUIREMENTS.

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	12.66
CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD	10.37
TOTAL REFORESTATION REQUIRED (G x 1/4) - I	2.29***

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	N/A
REFORESTATION FOR CLEARING BELOW THRESHOLD	N/A
TOTAL REFORESTATION REQUIRED (G x 1/4) + (H x 2)	N/A

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

\*\*\* AT THIS TIME THE EXACT LAYOUT OF THE SEPTIC FORCE MAIN IS NOT KNOWN. THE LIMITS OF THE RETENTION AREAS MAY BE MODIFIED SO WE HAVE PROVIDED AN ADDITIONAL 0.27 ACRES OF REFORESTATION AT THIS TIME.

Professional Certification. I 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. 21443, Expiration Date: 12-31-2010.

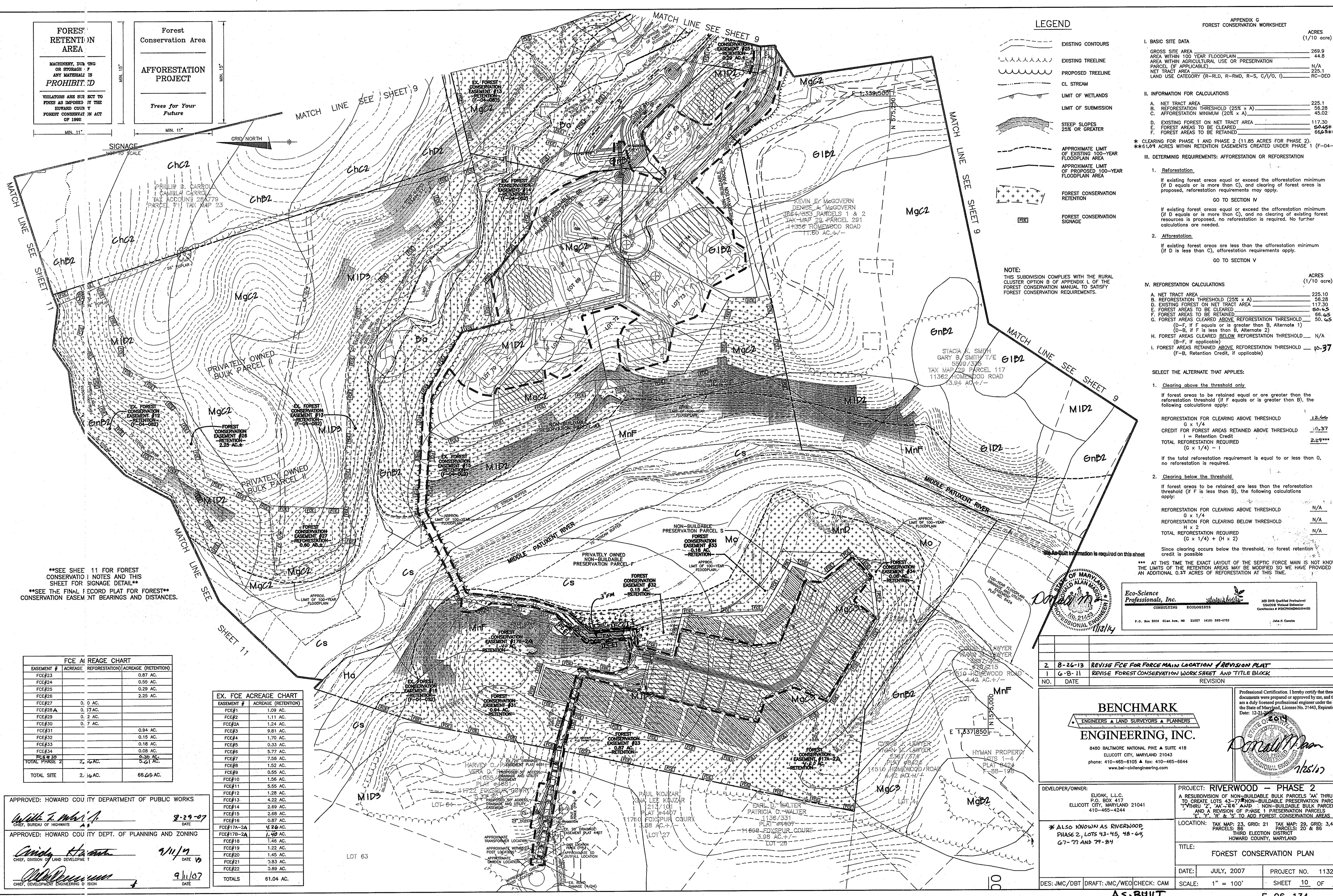
**Eco-Science Professionals, Inc.**

CONSULTING ENGINEERS

1801 20th Street, Suite 200, Annapolis, MD 21403

410-465-8105 • Fax: 410-465-8644

www.eco-science.com



\*\*SEE SHEET 11 FOR FOREST CONSERVATION NOTES AND THIS SHEET FOR SIGNAGE DETAIL\*\*

\*\*SEE THE FINAL RECORD PLAT FOR FOREST CONSERVATION EASEMENT BEARINGS AND DISTANCES.

**FCE ACREAGE CHART**

EASEMENT #	ACREAGE	REFORESTATION	ACREAGE (RETENTION)
FCE#23			0.87 AC.
FCE#24			0.55 AC.
FCE#25			0.29 AC.
FCE#26			2.25 AC.
FCE#27	0.0 AC.		
FCE#28-A	0.37 AC.		
FCE#29	0.2 AC.		
FCE#30	0.7 AC.		
FCE#31			0.94 AC.
FCE#32			0.15 AC.
FCE#33			0.18 AC.
FCE#34			0.08 AC.
FCE#35			0.35 AC.
TOTAL PHASE 2	2.27 AC.		5.61 AC.
TOTAL SITE	2.27 AC.		66.65 AC.

**EX. FCE ACREAGE CHART**

EASEMENT #	ACREAGE (RETENTION)
FCE#1	1.09 AC.
FCE#2	1.11 AC.
FCE#2A	1.24 AC.
FCE#3	9.81 AC.
FCE#4	1.70 AC.
FCE#5	0.33 AC.
FCE#6	5.77 AC.
FCE#7	7.56 AC.
FCE#8	1.52 AC.
FCE#9	0.55 AC.
FCE#10	1.56 AC.
FCE#11	5.55 AC.
FCE#12	1.28 AC.
FCE#13	4.22 AC.
FCE#14	2.89 AC.
FCE#15	2.88 AC.
FCE#16	0.87 AC.
FCE#17A-2A	4.26 AC.
FCE#17B-2A	1.40 AC.
FCE#18	1.45 AC.
FCE#19	1.22 AC.
FCE#20	1.45 AC.
FCE#21	0.83 AC.
FCE#22	0.89 AC.
TOTALS	61.04 AC.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*William F. Mason* 8-29-07  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

*Carolee H. Mason* 9/11/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT

*William F. Mason* 9/11/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

NO.	DATE	REVISION
2	8-26-13	REVISE FCE FOR FORCE MAIN LOCATION / REVISION PLAT
1	6-8-11	REVISE FOREST CONSERVATION WORKSHEET AND TITLE BLOCK

**BENCHMARK ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE & SUITE 418  
 ELLICOTT CITY, MARYLAND 21043  
 410-465-8105 • Fax: 410-465-8644  
 www.benchmark-engineering.com

DEVELOPER/OWNER: ELIOAK, L.L.C.  
 P.O. BOX 417  
 ELLICOTT CITY, MARYLAND 21041  
 410-465-4244

PROJECT: RIVERWOOD - PHASE 2  
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCELS 'A' THRU 'G' TO CREATE LOTS 43-77, NON-BUILDABLE PRESERVATION PARCELS 'I' THRU 'Z', 'AA'-'ZZ' AND 'NON-BUILDABLE BULK PARCEL 'II' AND A REVISION OF PHASE 1 PRESERVATION PARCELS 'E', 'F', 'R' & 'S' TO ADD FOREST CONSERVATION AREAS

LOCATION: TAX MAP: 23, GRID: 21 TAX MAP: 29, GRID: 3,4,9,10 PARCELS: 86 PARCELS: 20 & 86 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: FOREST CONSERVATION PLAN

DATE: JULY, 2007 PROJECT NO. 1132

DES: JMC/DBT DRAFT: JMC/WEO CHECK: CAM SCALE: 1" = 100' SHEET 10 OF 11



EX. FCE ACREAGE CHART	ACREAGE (RETENTION)
FCE#1	1.09 AC.
FCE#2	1.11 AC.
FCE#3	1.24 AC.
FCE#4	9.81 AC.
FCE#5	1.70 AC.
FCE#6	0.33 AC.
FCE#7	5.77 AC.
FCE#8	7.56 AC.
FCE#9	1.52 AC.
FCE#10	0.55 AC.
FCE#11	1.56 AC.
FCE#12	5.55 AC.
FCE#13	1.28 AC.
FCE#14	4.22 AC.
FCE#15	2.69 AC.
FCE#16	2.88 AC.
FCE#17	0.87 AC.
FCE#18	4.07 AC.
FCE#19	1.59 AC.
FCE#20	1.46 AC.
FCE#21	1.22 AC.
FCE#22	1.45 AC.
FCE#23	0.83 AC.
FCE#24	0.89 AC.
TOTALS	61.04 AC.

FCE ACREAGE CHART	ACREAGE (REFORESTATION)	ACREAGE (RETENTION)
FCE#25		0.87 AC.
FCE#26		0.55 AC.
FCE#27	0.50 AC.	0.29 AC.
FCE#28	0.57 AC.	1.14 AC.
FCE#29	0.92 AC.	0.33 AC.
FCE#30	0.87 AC.	5.77 AC.
FCE#31		0.55 AC.
FCE#32		1.56 AC.
FCE#33		5.55 AC.
FCE#34		1.28 AC.
FCE#35		4.22 AC.
FCE#36		2.69 AC.
FCE#37		2.88 AC.
FCE#38		0.87 AC.
FCE#39		4.07 AC.
FCE#40		1.59 AC.
FCE#41		1.46 AC.
FCE#42		1.22 AC.
FCE#43		1.45 AC.
FCE#44		0.83 AC.
FCE#45		0.89 AC.
TOTAL SITE	2.56 AC.	66.45 AC.

**PLANTING SCHEDULE**

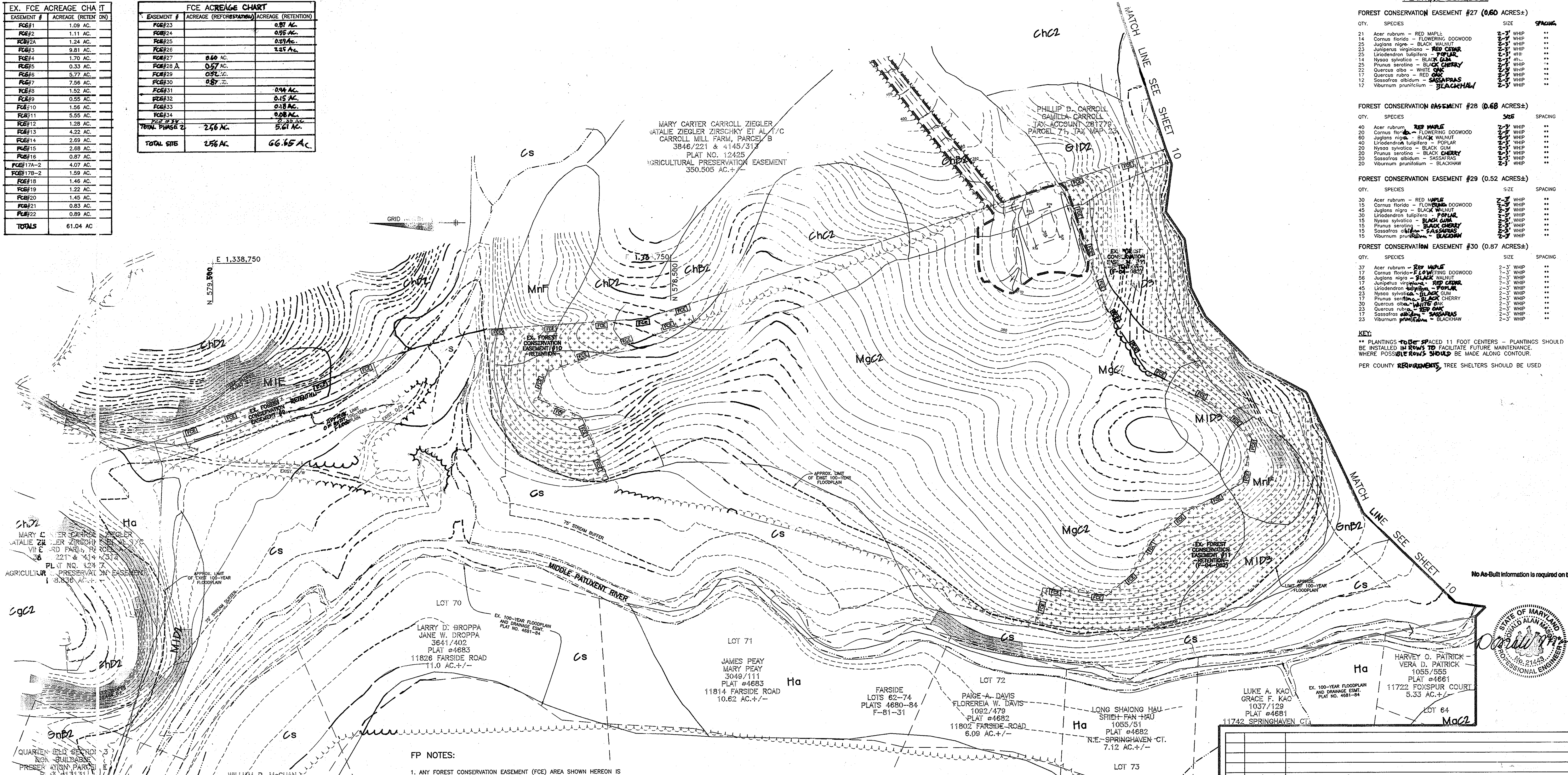
QTY.	SPECIES	SIZE	SPACING
21	Acer rubrum - RED MAPLE	2-3"	WHIP
14	Cornus florida - FLOWERING DOGWOOD	2-3"	WHIP
25	Juglans nigra - BLACK WALNUT	2-3"	WHIP
23	Juniperus virginiana - RED CEDAR	2-3"	WHIP
25	Liriodendron tulipifera - POPLAR	2-3"	WHIP
14	Nyssa sylvatica - BLACK GUM	2-3"	WHIP
25	Prunus serotina - BLACK CHERRY	2-3"	WHIP
22	Quercus alba - WHITE OAK	2-3"	WHIP
17	Quercus rubra - RED OAK	2-3"	WHIP
12	Sassafras albidum - SASSAPARILLA	2-3"	WHIP
12	Viburnum prunifolium - BLACKHAW	2-3"	WHIP

QTY.	SPECIES	SIZE	SPACING
40	Acer rubrum - RED MAPLE	2-3"	WHIP
20	Cornus florida - FLOWERING DOGWOOD	2-3"	WHIP
60	Juglans nigra - BLACK WALNUT	2-3"	WHIP
40	Liriodendron tulipifera - POPLAR	2-3"	WHIP
20	Nyssa sylvatica - BLACK GUM	2-3"	WHIP
20	Prunus serotina - BLACK CHERRY	2-3"	WHIP
20	Sassafras albidum - SASSAPARILLA	2-3"	WHIP
20	Viburnum prunifolium - BLACKHAW	2-3"	WHIP

QTY.	SPECIES	SIZE	SPACING
30	Acer rubrum - RED MAPLE	2-3"	WHIP
15	Cornus florida - FLOWERING DOGWOOD	2-3"	WHIP
45	Juglans nigra - BLACK WALNUT	2-3"	WHIP
30	Liriodendron tulipifera - POPLAR	2-3"	WHIP
15	Nyssa sylvatica - BLACK GUM	2-3"	WHIP
15	Prunus serotina - BLACK CHERRY	2-3"	WHIP
15	Quercus alba - WHITE OAK	2-3"	WHIP
17	Quercus rubra - RED OAK	2-3"	WHIP
23	Sassafras albidum - SASSAPARILLA	2-3"	WHIP
15	Viburnum prunifolium - BLACKHAW	2-3"	WHIP

QTY.	SPECIES	SIZE	SPACING
37	Acer rubrum - RED MAPLE	2-3"	WHIP
17	Cornus florida - FLOWERING DOGWOOD	2-3"	WHIP
56	Juglans nigra - BLACK WALNUT	2-3"	WHIP
17	Juniperus virginiana - RED CEDAR	2-3"	WHIP
45	Liriodendron tulipifera - POPLAR	2-3"	WHIP
23	Nyssa sylvatica - BLACK GUM	2-3"	WHIP
17	Prunus serotina - BLACK CHERRY	2-3"	WHIP
30	Quercus alba - WHITE OAK	2-3"	WHIP
23	Quercus rubra - RED OAK	2-3"	WHIP
17	Sassafras albidum - SASSAPARILLA	2-3"	WHIP
23	Viburnum prunifolium - BLACKHAW	2-3"	WHIP

**KEY:**  
 \*\* PLANTINGS TO BE SPACED 11 FOOT CENTERS - PLANTINGS SHOULD BE INSTALLED IN ROWS TO FACILITATE FUTURE MAINTENANCE. WHERE POSSIBLE ROWS SHOULD BE MADE ALONG CONTOUR.  
 PER COUNTY REQUIREMENTS, TREE SHELTERS SHOULD BE USED



**APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS**  
 With 2/2/07  
 DATE 2-29-07

**APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING**  
 Cridy Hamilton  
 DATE 9/11/07

**APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING**  
 DATE 9/11/07

**FP 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.
- 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. FENCING SHALL BE INSTALLED ALONG LIMITS OF DISTURBANCE OCCURRING WITHIN 50 FEET OF THE PROPOSED FCE LIMITS. PERMANENT SIGNAGE WILL BE POSTED AT 50-100 FOOT INTERVALS ALONG ALL FCE LIMITS.
- THE TOTAL FOREST CONSERVATION OBLIGATION IS 69.02 ACRES FOR THIS SUBMISSION AND HAS BEEN MET BY THE ON-SITE RETENTION OF 66.35 ACRES OF NET TRACT AREA FOREST AND 2.67 ACRES OF REFORESTATION. 61.04 ACRES OF RETENTION WAS RECORDED WITHIN THE LIMITS OF FOREST CONSERVATION EASEMENTS RECORDED UNDER PHASE 1, F-04-082. DUE TO THE CREATION OF LOT 45, REVISION TO THE COMMUNITY SEPTIC DESIGN AND NON-BUILDABLE PRESERVATION PARCEL 'U' FOREST CONSERVATION EASEMENTS #2 AND #17 HAVE BEEN MODIFIED TO EXCLUDE 0.64 ACRES. THIS AREA IS COMPENSATED FOR IN THE PHASE TWO FOREST CONSERVATION AREAS. THE REMAINING FOREST CONSERVATION OBLIGATION IS THE OVERALL FOREST CONSERVATION OBLIGATION MINUS THE AREA PROVIDED IN PHASE 1 AND IS PROVIDED WITH PHASE 2. PHASE 2 PROVIDES AN ADDITIONAL 5.31 ACRES OF RETENTION AND 2.67 ACRES OF REFORESTATION. THIS RESULTS IN THE OVERALL FOREST OBLIGATION BEING ADDRESSED BY 66.35 ACRES OF RETENTION AND 2.67 ACRES OF REFORESTATION. FINANCIAL SURETY FOR THE REQUIRED FOREST CONSERVATION ADDRESSED IN PHASE 2 IN THE AMOUNT OF \$104,413.32 (5.31 ACRES OF RETENTION AT \$9,712 PER ACRE (\$46,260.72) AND 2.67 ACRES OF REFORESTATION AT \$21,780 PER ACRE (\$58,152.60)) SHALL BE PAID AS PART OF THE DEVELOPER'S AGREEMENT.

**PLANTING/SOIL SPECIFICATIONS**

- PLANTING OF NURSERY STOCK SHALL TAKE PLACE BETWEEN MARCH 15TH AND APRIL 30TH. CONTAINER STOCK MAY BE PLANTED BETWEEN SEPTEMBER 1ST AND OCTOBER 30TH.
- A TWELVE (12) INCH LAYER OF TOPSOIL SHALL BE SPREAD OVER ALL REFORESTATION AREAS IMPACTED BY SITE GRADING TO ASSURE A SUITABLE PLANTING AREA. DISTURBED AREAS SHALL BE SEEDED AND STABILIZED AS PER GENERAL CONSTRUCTION PLAN FOR PROJECT. PLANTING AREAS NOT IMPACTED BY SITE GRADING SHALL HAVE NO ADDITIONAL TOPSOIL. TREE SHELTERS
- ALL BAREROOT PLANTING STOCK SHALL HAVE THEIR ROOT SYSTEMS DIPPED INTO AN ANTI-DESICCANT GEL TO BE PLANTED TO THE TOP OF ROOT MADE 9 LEVEL WITH THE TOP OF EXISTING GRADE. BACKFILL IN THE PLANTING PITS SHALL CONSIST OF 3 PARTS EXISTING SOIL TO 1 PART FERTILIZER. FERTILIZER SHALL BE AGRIFORM 22-8-2, OR EQUIVALENT, APPLIED AS PER MANUFACTURER'S SPECIFICATIONS. MULCH SHALL BE PLACED OVER THE ROOT AREA OF ALL PLANTING.
- PLANT MATERIAL SHALL BE TRANSPORTED TO THE SITE IN A TARPED OR COVERED TRUCK. PLANTS SHALL BE KEPT MOIST PRIOR TO PLANTING.
- ALL NON-ORGANIC DEBRIS ASSOCIATED WITH THE PLANTING OPERATION SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.

**SEQUENCE OF CONSTRUCTION**

- PLANTS SHALL BE INSTALLED AS PER PLANT SCHEDULE AND PLANTING/SOIL SPECIFICATIONS FOR THE PROJECT.
- UPON COMPLETION OF THE PLANTING, SIGNAGE SHALL BE INSTALLED AS PER THE FOREST RETENTION AREA PROTECTION DOCUMENT SHOWN ON THE FOREST CONSERVATION PLAN.
- PLANTINGS SHALL BE MAINTAINED AND GUARANTEED IN ACCORDANCE WITH THE MAINTENANCE AND GUARANTEE REQUIREMENTS FOR PROJECT.

**MAINTENANCE OF PLANTINGS**

- MAINTENANCE OF ALL PLANTINGS SHALL LAST FOR A PERIOD OF 24 MONTHS.
- AFTER ONE GROWING SEASON, PLANT MATERIAL SHALL BE MAINTAINED AT 80% SURVIVAL THRESHOLD. A 75% PERCENT SURVIVAL RATE OF REFORESTATION PLANTINGS WILL BE REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. PLANT MATERIAL BELOW THE 75% PERCENT THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.
- DEAD BRANCHES WILL BE PRUNED FROM PLANTINGS.

**SURETY FOR REFORESTATION**

- THE DEVELOPER SHALL POST A SURETY BOND, LETTER OF CREDIT TO ENSURE THAT REFORESTATION PLANTINGS ARE COMPLETED. UPON ACCEPTANCE OF THE PLANTINGS BY THE COUNTY, THE BOND SHALL BE RELEASED.

**MULTIFLORA ROSE CONTROL NOTE**

MULTIFLORA ROSE IS PREVALENT IN CERTAIN AREAS TO BE REFORESTED. PRIOR TO PLANTING ALL MULTIFLORA ROSE SHOULD BE REMOVED. REMOVAL OF THE ROSE MAY BE PERFORMED WITH MOWING AND HERBICIDE TREATMENTS. PHYSICAL REMOVAL OF ALL TOP GROWTH FOLLOWED BY A PERIODIC HERBICIDE TREATMENT OF STUMP SPROUTS IS RECOMMENDED. NATIVE TREE AND SHRUB SPECIES OCCURRING WITHIN THE ROSE THICKETS SHOULD BE RETAINED WHEREVER POSSIBLE. HERBICIDE TREATMENTS SHALL OCCUR ON 2 MONTH INTERVALS DURING THE FIRST GROWING SEASON AND ONCE EACH IN THE SPRING AND FALL FOR SUBSEQUENT YEARS. HERBICIDE USED SHALL BE MADE SPECIFICALLY TO ADDRESS WOODY PLANT MATERIAL AND SHALL BE APPLIED AS PER MANUFACTURER'S SPECIFICATIONS. CARE SHOULD BE TAKEN NOT TO SPRAY PLANTED TREES OR NATURALLY OCCURRING NATIVE TREE/SHRUB SEEDLINGS. IT IS RECOMMENDED THAT INITIATION OF ROSE REMOVAL BEGIN AT LEAST SIX MONTHS PRIOR TO PLANTING.

**PLANTING NOTES:**

- MULTIFLORA ROSE CONTROL MAY BE REQUIRED AS PART OF THIS PLANTING PLAN.
- BAREROOT PLANT MATERIAL MAY BE USED TO OFFSET THE COST OF MULTIFLORA ROSE REMOVAL AND MAINTENANCE IF BAREROOT MATERIAL IS USED IT MUST BE PLANTED IN MARCH - APRIL AND AN ANTI-DESICCANT GEL SHOULD BE UTILIZED TO PROTECT ROOT SYSTEMS. CONTAINER GROWN STOCK IS RECOMMENDED.
- PLANTS SHOULD BE FLAGGED TO GROW ON LOCATION DURING MAINTENANCE. PLANTINGS SHOULD ALSO BE PLANTED IN A GRID PATTERN TO FACILITATE MAINTENANCE AND REMOVAL OF INVASIVE AND EXOTIC SPECIES.

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Professional Certification. I 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. #1443, Expiration Date: 12-31-2010

*David A. ...*  
 1/25/07

**DEVELOPER/ OWNER:** ELIOAK, L.L.C. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244

**PROJECT: RIVERWOOD - PHASE 2**  
 A RESUBDIVISION OF NON-BUILDABLE BULK PARCELS 'AA' THRU 'GG' TO CREATE LOTS 43-77 NON-BUILDABLE PRESERVATION PARCELS 'V' THRU 'Z', 'AA' - 'EE' AND NON-BUILDABLE BULK PARCELS 'II' AND A REVISION OF PHASE 1 PRESERVATION PARCELS 'E', 'F', 'R' & 'S' TO ADD FOREST CONSERVATION AREAS

**LOCATION:** TAX MAP: 23, GRID: 21 TAX MAP: 29, GRID: 3, 4, 9&10 PARCELS: 85 PARCELS: 20 & 86

**TITLE:** FOREST CONSERVATION PLAN

**DATE:** JULY, 2007 **PROJECT NO.:** 1132

**SCALE:** 1" = 100' **SHEET:** 11 OF 11

**DES: JMC/DBT DRAFT: JMC/WEO CHECK: CAM**