



HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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Ellicott City, Maryland 21043

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Voice/Relay

Valdis Lazdins, Director

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TECHNICAL STAFF REPORT

Linden Grove

Lots 1 – 44, Buildable Preservation Parcel A and Non-Buildable Preservation Parcels B - D

Planning Board Hearing of December 7, 2017

File No./Petitioner:

PB-432/Heritage Land Development

Project Name:

Linden Grove

DPZ Planner:

**Tanya Krista-Maenhardt, AICP, Planning Supervisor
(410) 313-2350, tmaenhardt@howardcountymd.gov**

Request:

For the Planning Board to approve a preliminary equivalent sketch plan (SP-17-003) for 44 cluster lots, one buildable preservation parcel, and three non-buildable preservation parcels in the RC-DEO (Rural Conservation – Density Exchange Option) zoning district. Review is in accordance with State Senate Bill 236, The Sustainable Growth and Agricultural Preservation Act of 2012.

Recommendation:

The Department of Planning and Zoning recommends approval in accordance with Subdivision Review Committee comments, Senate Bill 236, and any conditions by the Planning Board.

Location:

Southwest corner of the intersection of Frederick and Daisy Roads, Lisbon, Maryland, 21765. The property consists of 176.68 acres located on Tax Map 8, Grid 13, Parcel 5.

Vicinal Properties:

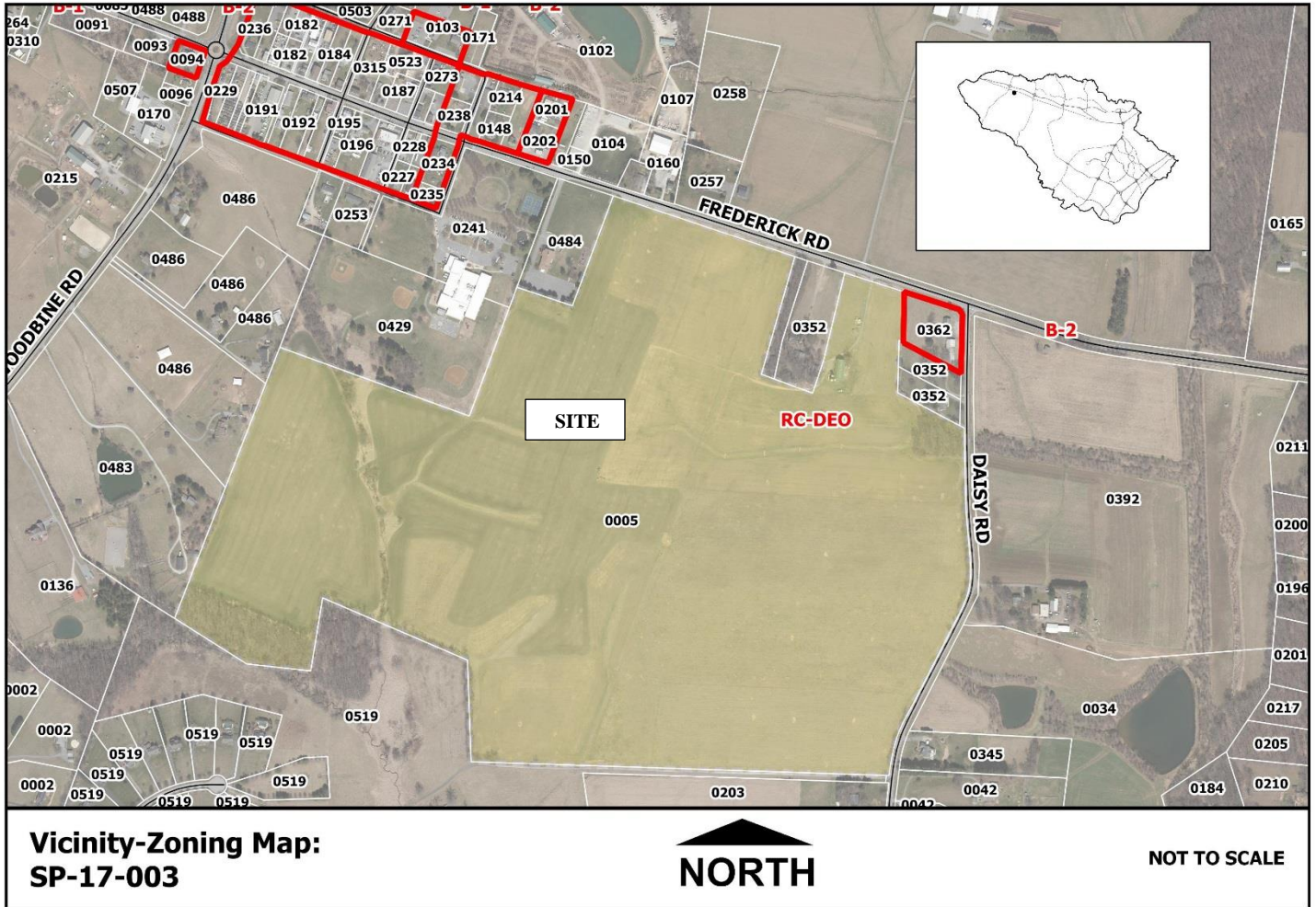
North: Frederick Road (MD RT 144)

East: Daisy Road

West: Lot 1-Sharon Sachs property, lots 8 and 9-Weller property, and property owned by Howard County Board of Education. All zoned RC-DEO (Rural Conservation – Density Exchange Option)

South: Cattail Woods, Section 2, Preservation Parcel ‘D’ and Charles and Gordon Knills property. Both zoned RC-DEO (Rural Conservation – Density Exchange Option)

Vicinity Map:



Legal Notice:

The property was posted with two Planning Board posters and verified by the Department of Planning and Zoning. The case was advertised in two local newspapers, a minimum 30 days prior to the hearing date.

Regulatory Compliance:

This project is subject to the Amended Fifth Edition of the Subdivision and Land Development Regulations, the 2013 Howard County Zoning Regulations (effective October 6, 2013), the Howard County Design Manual, the Adequate Public Facilities Ordinance, the Forest Conservation Manual, and the Landscape Manual.

Plan History:

A **Pre-Submission Community Meeting** was held February 23, 2017, at the Glenwood Library.

An **Environmental Concept Plan (ECP-17-019)** was approved September 2017.

An **Alternative Compliance Petition (WP-18-001) to the Subdivision and Land Development Regulations** Section 16.119(f)(3) was submitted July 6, 2017. Regulations state that the Department of Planning and Zoning may approve a single

use-in-common driveway that meets the minimum sight distance requirements of the Design Manual, or the State Highway Administration’s access requirements, if the Department determines that a public road is not required in accordance with Section 16.119(a)(8). WP-18-001 would allow the applicant to retain the existing farm access drive to the barn and silos and install an additional use-in-common driveway to serve future lots 40-44. Both driveways would access MD. Rt. 144 (a minor arterial).

The petitioner has provided written justification for the SRC to consider. On August 9, 2017, the planning director determined that no action would be taken until after the Planning Board had reviewed and considered SP-17-003 at a public hearing.

Site Information:

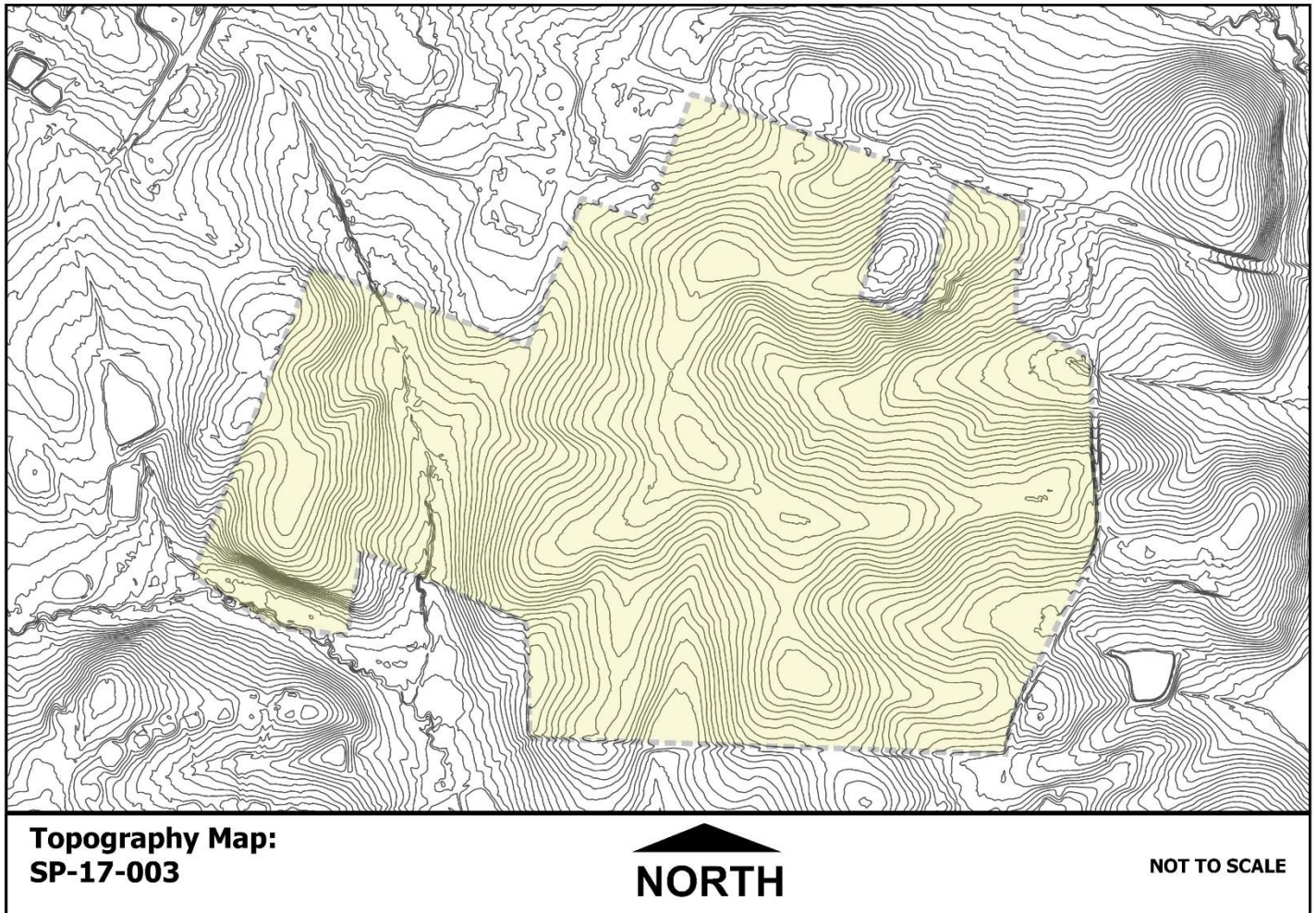
ACREAGE	
Gross Acreage of Property.....	176.68 ac.
Area of 100-year Floodplain.....	6.204 ac.
Area of 25% or Greater Steep Slopes (outside of floodplain)	0.60 ac.
Net Tract Area.....	169.876 ac.
DENSITY – Cluster Subdivision	
Total No. of Lots Allowed By Right (Base Density)	41 lots
(1 dwelling unit per 4.25 gross acres)	
Bonus density allowed per Sec. 104.0. G.1. c.2.....	4 lots
(1 dwelling unit per 25 acres of gross preservation parcel created)	
Total Number of Lots Proposed, Inc. 1 Buildable Preservation Parcel.....	45 lots

Site Proposal:

Preliminary Equivalent Sketch Plan, SP-17-003, initially submitted April 2017, proposes 44 residential cluster lots, one buildable preservation parcel, and three non-buildable preservation parcels on 176.680 acres. A new public road (Linden Grove) will intersect existing Daisy Road to access the main portion of the subdivision. A named use-in-common easement (Kimberlys Way) will provide access to lots 40-44 from Frederick Road. An existing 70 foot wide Colonial pipeline easement bisects the property and written permission is being sought to cross the easement with driveways for lots 9-11.

Residential lots 1-44 encompass 50.765 acres and buildable preservation parcel A encompasses 113.756 acres. Parcel A will be privately owned, with the HOA and Howard County as easement holders. Non-buildable preservation parcels B, C, and D total 7.749 acres. They will be deeded to the homeowner’s association as green space, with some areas for stormwater management. Howard County would be the easement holder for these preservation parcels. The Colonial pipeline easement crosses through both buildable preservation parcel A and non-buildable preservation parcel B. The applicant proposes six forest conservation easement areas, totaling 4.24 acres of retention and 12.27 acres of afforestation. These easements will be within Parcels A and C, adjacent to existing forest, streams, wetlands, and/or steep slopes.

The site contains 6.204 acres of floodplain, 1.57 acres of wetlands, 7.84 acres of streams, 0.6 acres of steep slopes 25% or greater, and 4.3 acres of forest. There will be no impacts to environmental areas, except for 0.06 acres of forest clearing for right-of-way improvements.



Planning Board Review: The Sustainable Growth and Agricultural Preservation Act of 2012 (Senate Bill 236) requires all major residential subdivisions within Growth Tier III to be presented before the Planning Board at a public hearing. A major subdivision may only be approved if the Planning Board has reviewed and recommended approval, based upon the following Planning Board criteria.

Planning Board Criteria: In accordance with State Senate Bill 236, the review of a residential major subdivision by the Planning Board shall include:

- 1. The cost of providing local government services to the residential major subdivision unless a local jurisdiction's adequate public facilities ordinance already requires a review of government services.**

Howard County has adopted an Adequate Public Facilities Ordinance; therefore, this requirement has been met. The purpose of the Ordinance is to provide a predictable planning environment for adequate public road

facilities and adequate public school facilities by requiring residential and nonresidential projects to pass certain tests as conditions of subdivision or site development plan approval.

The test for adequate public road facilities was conducted and approved by the Department of Public Works and Department of Planning and Zoning with the review of the preliminary equivalent sketch plan.

The test for adequate housing unit allocations and the test for adequate public schools will be conducted once the Planning Board's Decision and Order has been approved.

2. The potential environmental issues or a natural resource inventory related to the proposed residential major subdivision.

The Natural Resource Inventory indicates two perennial stream, one intermittent stream area, and four wetland systems. These areas are within Lisbon Little Creek watershed, which is part of the Cattail Creek watershed.

- The first perennial stream system is an unnamed, Class IV, perennial stream located along Daisy Road and within proposed forest conservation easement #2.*
- The second stream system is a Class IV, perennial stream and is the mainstem of Lisbon Little Creek. It flows north to south and is along the western portion of the property and within forest conservation easement areas #3 and #4.*
- The third stream system is an unnamed intermittent stream located in the lower southwestern portion of the property and within proposed forest conservation easement #1.*

All Wetland Systems, totaling 1.57 acres, are located on the northwestern and eastern portions of the property, are adjacent to the perennial and intermittent streams, and will be contained within proposed buildable preservation parcel A:

- Wetland Systems A-1 and A-2 are grassy, nontidal wetlands, located along the perennial stream labeled Lisbon Little Creek, in the northwestern portion of the property.*
- Wetland System B is associated with Forest Stand B and occupies most of the streamside terrace of the intermittent stream.*
- Wetland System C is a small headwater wetland seep located within Forest Stand A, near Daisy Road.*

The Natural Resource Inventory indicates there are two distinct forest stands that encompass approximately 4.3 acres and there are no specimen trees or champion trees outside of the forest limits. Except for a small area along the road, forest clearing is not proposed and, therefore, no specimen tree data within the forest stands was collected.

- *Forest Stand #1 occupies approximately 1.1 acres, located on the northeastern portion of the property, along Daisy Road and adjacent to the perennial stream and wetland system C.*
- *Forest Stand #2 occupies approximately 3.2 acres and is in the lower southwestern corner of the project area, adjacent to the intermittent stream, wetland system B and steep slope area.*

The Natural Resource Inventory and Floodplain report indicates 6.2 acres of floodplain along both perennial streams. The plan also indicates a total of 0.60 acres of steep slopes located in the lower southwestern corner of the project area, within proposed forest conservation easement #1.

There is no indication of any state or federal records for rare, threatened or endangered species within the project site.

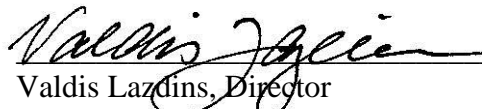
The plan does not propose disturbing the above referenced streams, wetlands, their buffers, floodplain, or steep slopes (defined as 20,000 contiguous square feet). The plan does propose removing 0.06 acres of forest for the roadway dedication. The remaining 4.24 acres of forest will be maintained within the easement and an additional 12.27 acres will be planted and maintained within the easement.

SRC Action:

The Subdivision Review Committee has recommended approval.

Recommendation:

The Department of Planning and Zoning recommends approval of the preliminary equivalent sketch plan (SP-17-003) in accordance with the Subdivision Review Committee comments, Senate Bill 236, and subject to any conditions by the Planning Board.

 11/21/17
 Valdis Lazdins, Director Date
 Department of Planning and Zoning

Please note that this file is available for public review, by appointment, at the Department of Planning and Zoning’s public service counter, Monday – Thursday, 8:00 a.m. to 5:00 p.m. and Friday, 8:00 a.m. to 3:00 p.m.

PRELIMINARY EQUIVALENT SKETCH & REVISED PERCOLATION CERTIFICATION PLAN

LINDEN GROVE

LOTS 1 THRU 44, BUILDABLE PRESERVATION PARCEL 'A' & NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'D'

**ZONED: RC-DEO
TAX MAP No. 7 GRID No. 18 & TAX MAP No. 8 GRID No. 13 PARCEL No. 5
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND**

U.S. Equalizer Certificate Table

Point #	Northing	Easting
413	864516.22	1294952.11
414	864967.99	1295075.68
415	865418.79	1295211.81
416	865915.41	1295375.04
417	866456.42	1295554.77
419	866410.07	1295347.09
411	866572.93	1295011.07
410	866841.20	1295018.49
319	866629.47	1295039.37
409	867092.56	1295043.90
408	867191.07	1294736.24
334	866743.92	1294837.81
407	866572.20	1294904.22
316	866863.51	1294319.80
408	867220.46	1294463.68
405	867563.10	1295344.61
302	867012.99	1295337.74
404	867105.27	1295302.37
303	868457.27	1292817.47
304	866609.39	1291048.32
400	865416.79	1291307.70
401	865192.44	1291689.78
402	865117.59	1291996.72
403	865222.24	1292057.21
311	865204.37	1292799.86
412	864684.68	1292819.55

SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-4	PRELIMINARY EQUIVALENT SKETCH, REVISED PERCOLATION CERTIFICATION & LANDSCAPE PLAN
5-8	SEDIMENT & EROSION CONTROL PLAN
9-11	PRELIMINARY FOREST CONSERVATION PLAN
12-13	STORM DRAIN DRAINAGE AREA & SOILS MAP
14	STORMWATER MANAGEMENT NOTES & DETAILS

Minimum Lot Size Chart

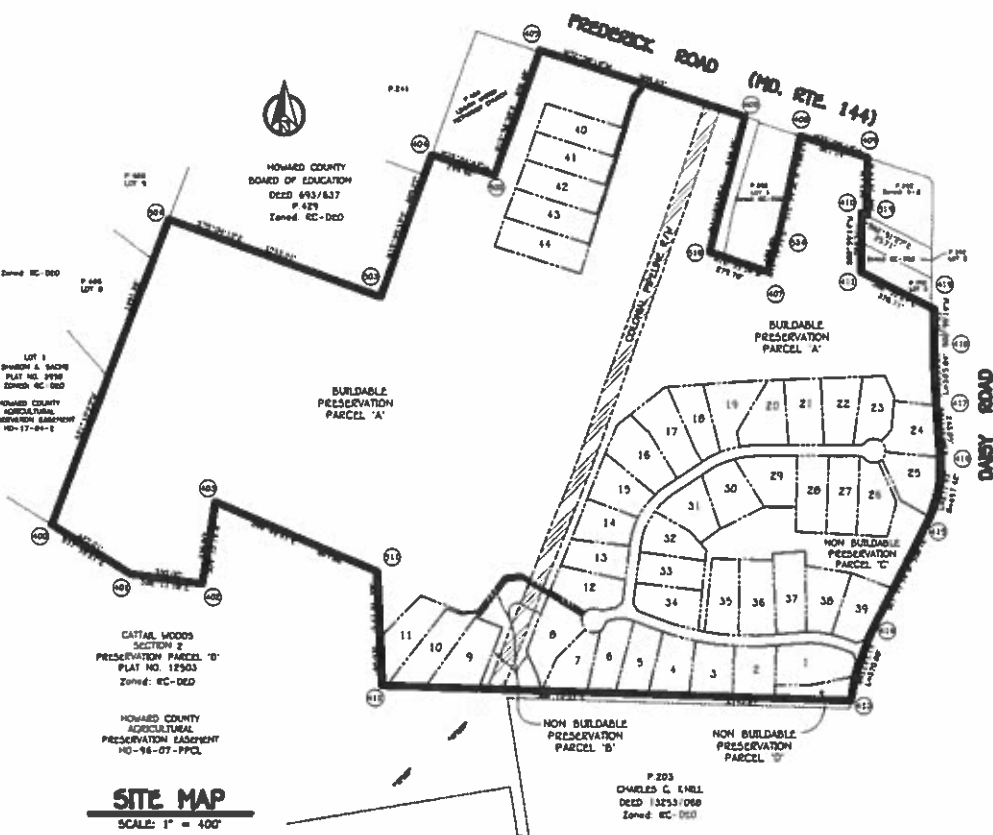
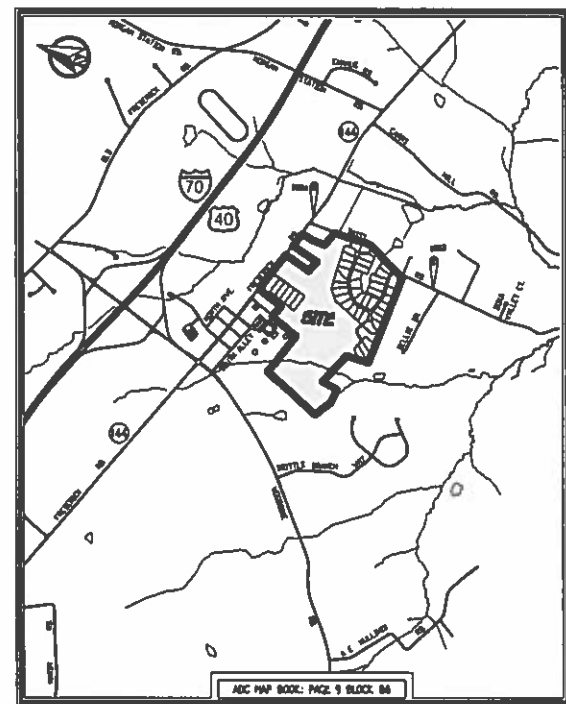
LOT No.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
9	83,809 Sq. Ft.	4,313 Sq. Ft.	39,498 Sq. Ft.
10	81,871 Sq. Ft.	5,781 Sq. Ft.	55,910 Sq. Ft.
11	80,719 Sq. Ft.	5,881 Sq. Ft.	55,034 Sq. Ft.
40	51,551 Sq. Ft.	1,050 Sq. Ft.	50,501 Sq. Ft.
41	52,788 Sq. Ft.	1,707 Sq. Ft.	51,079 Sq. Ft.
42	58,698 Sq. Ft.	2,358 Sq. Ft.	54,342 Sq. Ft.
43	58,754 Sq. Ft.	1,655 Sq. Ft.	55,728 Sq. Ft.
44	60,810 Sq. Ft.	3,700 Sq. Ft.	57,110 Sq. Ft.

ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	POSTED SPEED LIMIT	R/W WIDTH
LINDEN GROVE	PUBLIC ACCESS STREET	30 M.P.H.	25 M.P.H.	50'
HERITAGE BRIDGE	PUBLIC ACCESS STREET	30 M.P.H.	25 M.P.H.	50'
EMERALDS WAY	PRIVATE DRIVEWAY	15 M.P.H.	-----	BY EASE

TRAFFIC CONTROL SIGNS

ROAD NAME	CENTERLINE STA.	OFFSET	POSTED SIGN	SIGN CODE
LINDEN GROVE	0+43	Z1'L	STOP w/ROAD NAME SIGN	R1-1
LINDEN GROVE	2+00	11'E	SPEED LIMIT 25	R2-
HERITAGE BRIDGE	0+33	18'L	STOP	R1-
HERITAGE BRIDGE	17+32	11'E	SPEED LIMIT 25	R2-
PREDECESSOR ROAD	14+00	20'L	STOP	R1-



DENSITY TABULATION

- TRACT AREA = 176,880 ACRES
- FLOODPLAIN AREA = 6,824 ACRES
- STEEP SLOPED AREA = 0.80 ACRES
- NET TRACT AREA = 169,276 ACRES (176,880 AC - 6,824 AC - 0.80 AC)
- DENSITY ALLOWED BY NOTICE OF DECISION 176,880 ACRES X 1 DWELLING UNIT/4.25 ACRES = 41.37 = 41 SINGLE FAMILY DETACHED UNITS
- BONUS DENSITY ALLOWED PER SEC. 19A.02.02.2 IS ONE (1) ADDITIONAL LOT PER 25 ACRES (176,880 AC - 113,882 AC = 63,000 AC) BONUS DENSITY ALLOWED = 113,882/25 = 4.55 OR FOUR (4) LOTS
- TOTAL NUMBER OF PROPOSED DWELLING UNITS = 45 UNITS (44 CLUSTER LOTS + 1 BUILDABLE PRESERVATION PARCEL)

GENERAL NOTES CONTINUED:

- NET TRACT AREA IS SUBJECT TO UP-18-001, NO ADDITIONAL INFORMATION CAN BE SUPPLIED UNTIL THE PLAN IS REVIEWED BY THE HOWARD COUNTY PLANNING BOARD.
- THIS PROPERTY IS DESIGNATED AS A RES B PROPERTY FOR THE SUSTAINABLE GROWTH AND AGRICULTURAL ACT OF 2012, PAR 1-2, AS APPROVED BY THE HOWARD COUNTY COUNCIL, AS PART OF PLAN HOWARD 2230.
- LOTS 1, 2 AND 3 HAVE SOLID DISPOSAL AREAS THAT ARE UPGRADIENT FROM AN EXISTING WELL AT 1825 DUMB ROAD. LOTS 1, 2 AND 3 SHALL NOT BE CONSIDERED BUILDABLE UNTIL THE DRAINAGE/SEWERAGE WELL AT 1825 DUMB ROAD IS SEALED. A NEW WELL MUST BE INSTALLED AT 1825 DUMB ROAD AND CONNECTED TO THE RESIDENCE PRIOR TO HEALTH DEPARTMENT SIGNATURE OF THE FINAL PLAN. IF THE EXISTING WELL IS TO BE SEALED, IT MUST BE SEALED PRIOR TO HEALTH DEPARTMENT SIGNATURE OF THE FINAL PLAN.

GENERAL NOTES:

- PROPERTY ZONED RC-DEO WITH A TR B DESIGNATION PER 10/8/13 COMPREHENSIVE ZONING PLAN.
- AREA TABULATION:
A. TOTAL TRACT AREA = 176,880 AC.
B. AREA OF PROPOSED ROAD R/W = 4,410 AC.
C. AREA OF PROPOSED BUILDABLE LOTS = 50,795 AC.
D. AREA OF PROPOSED NON-BUILDABLE PRESERVATION PARCELS 'A' = 513,756 AC.
E. AREA OF PROPOSED NON-BUILDABLE PRESERVATION PARCELS = 7,745 AC.
F. FLOODPLAIN AREA = 6,824 AC.
G. STEEP SLOPED AREA = 0.80 AC.
H. AREA OF STREAMS (INCLUDING BUFFERS) = 7.84 AC.
I. NET TRACT AREA = 169,276 AC.
J. PREVIOUS HOWARD COUNTY FILE NUMBERS: CCP-17-019, WF-18-001, PG-1, DECISION REFERENCE: L. 451/F. 787, L. 954/F. 441, L. 953/F. 360, L. 1599/F. 216
K. TOTAL AREA OF WETLANDS (INCLUDING BUFFERS) = 1.57 AC.
- NUMBER OF LOTS/PARCELS:
A. BUILDABLE LOTS = 44
B. BUILDABLE PRESERVATION PARCELS = 1
C. NON-BUILDABLE PRESERVATION PARCELS = 3
D. PROPOSED INCOME HOUSING UNITS (REQUIRE) = 9 UNITS
E. 145 UNITS X 1 LITE = 145 UNITS; THE REQUIREMENT WILL BE MET BY A FEE-IN-LIEU PAYMENT.
- SOILS INFORMATION TAKEN FROM NRCS WEB SOIL SURVEY.
- THE FOREST STAND & WETLANDS DESIGNATION REPORT DATED DECEMBER, 2016 WAS PREPARED BY ECO-SCIENCE PROFESSIONAL, INC AND WAS UPDATED ON AUGUST 4, 2017.
- THERE ARE STEEP SLOPES OF 25% OR GREATER ON SITE OF 0.80 ACRES.
- NO COMPENSATED EXIST OR TO BE VISUAL OBSERVATION DE LISTED IN AVAILABLE HOWARD COUNTY CEMETERY INVENTORY MAP.
- THERE ARE NO HISTORIC HOUSE STRUCTURES ON-SITE.
- SITE IS ADJACENT TO TWO SCENIC ROADS (DUMB ROAD & PREDECESSOR ROAD). A SCENIC ROADS REPORT HAS BEEN PROVIDED BY FISHER, COLLINS & CARTER, INC. DATED 10/24/18.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY HANS GROUP DATED AFTER 19, 2016.
- THERE ARE EXISTING STRUCTURES LOCATED WITHIN BUILDABLE PRESERVATION PARCEL 'A' TO BE REPAIRED PER THE ZONING DIVISION. A BARN IS A PERMITTED ACCESSORY USE TO A PRINCIPAL FARM USE. A DWELLING IS NOT REQUIRED IN ORDER TO RETAIN THE BARN.
- BUILDABLE PRESERVATION PARCEL 'A' TO BE PRIVATELY OWNED AND ENCUMBERED BY AN EASEMENT AGREEMENT WITH THE LINDEN GROVE HOMEOWNERS ASSOCIATION, INC. AND HOWARD COUNTY, MARYLAND.
- NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'D' WILL BE OWNED BY THE LINDEN GROVE PROPERTY HOMEOWNERS ASSOCIATION, INC. AND THE PRESERVATION EASEMENT WILL BE HELD BY HOWARD COUNTY, MARYLAND.
- ALL LOTS AREAS ARE MORE OR LESS.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO COMMENCEMENT OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES FOR THE FOLLOWING MINIMUM REQUIREMENTS:
A) WIDTH = 12 FEET (16 FEET) SERVING MORE THAN ONE RESIDENCE;
B) SURFACE OF COMPACTED CRUSHED GRANITE BASE WITH THE AND CHIP COATING
C) 1" - 1 1/2" CURBING
D) GEOMETRY = MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS.
E) STRUCTURES (GARAGES/SHEDS) = CAPABLE OF SUPPORTING 25,000 LBS (125-TONS) (125-TONS)
F) DISTANCE ELEMENTS = CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OF SURFACE
G) STRUCTURE CLEARANCES = MINIMUM 12 FEET.
H) MAINTENANCE = SUFFICIENT TO ENSURE ALL WEATHER USE.
- FOR FLAG OR PIPESTEM LOTS, GRADE COLLECTION, SIGN REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT TO THE PIPESTEM LOT DRIVEWAY.
- ARTICLES OF INCORPORATION FOR THE LINDEN GROVE PROPERTY HOMEOWNERS ASSOCIATION, INC. WILL BE FILED WITH THE STATE DEPARTMENT OF ASSOCIATIONS AND TAXATION PRIOR TO RECORDATION OF THE FINAL PLAN.
- A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON 2/23/17 AT THE GLENWOOD LIBRARY AT 6:00 P.M.
- THIS AREA DESIGNATES A PRIVATE SEWERAGE AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THESE AREAS ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE AREA. RECORDATION OF A RESERVED AREA SHALL NOT BE NECESSARY.
- THE LOTS SHOWN HEREIN COMPLY WITH THE MINIMUM DWELLSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- ANY CHANGES TO THE PRIVATE SEWERAGE AREA SHALL REQUIRE A REVISED PERCOLATION PLAN.
- NO GRASSING, PLANTING, OR VEGETATIVE COVER OR VEGETATIVE PLANTING SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR OTHER REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- THE 100 YEAR FLOODPLAIN DELINEATED ON THIS PLAN HAS BEEN DETERMINED TO BE "NOT CRITICAL" BASED ON A REPORT PREPARED BY FISHER, COLLINS & CARTER, INC. ON JANUARY 8, 2017.
- THE FOREST CONSERVATION REQUIREMENTS PER SECTION 18.1209 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION WILL BE FULFILLED BY A 2" X 4" ON-SITE EROSION RESTRICTION AND 15.27 AC. OF ON-SITE AFForestation. THERE IS NO SURETY FOR FOREST RESTRICTION.
- CONTROL STATION NO. 08 CB
E. 1295,730.52
N. 806,934.19
ELEV. 570.587
E. 1294,991.90
N. 803,784.82
ELEV. 570.587
- THIS PROPERTY IS NOT LOCATED WITHIN THE METROPOLITAN DISTRICT. PRIVATE WELL AND PRIVATE SEPTIC WILL BE UTILIZED FOR THIS PROJECT.
- STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES 1 & 2, REVISED 2009. WE ARE PROVIDING STORM WATER MANAGEMENT BY THE USE OF 3 AREAS OF (1)-1" SLOTTED DISPERSED CREEP, 3 AREAS OF (1)-2" HIGH-ROOF TOP DISPERSED CREEP, 3 AREAS OF (1)-5" MINIMUMS, 8 (1)-8" MINIMUMS FACILITIES TO MEET AND EXCEED THE REQUIRED ESD VOLUME.
- STORM WATER MANAGEMENT DEVICES LOCATED ON INDIVIDUAL LOTS WILL BE OWNED AND MAINTAINED BY THAT PARTICULAR LOT OWNER AND SUBJECT TO THE REQUIREMENTS OF A RECORDING DECLARATION OF COVENANT. SWM DEVICES LOCATED WITHIN THE PUBLIC R/W WILL BE PRIVATELY OWNED AND JOINTLY MAINTAINED, AND SWM DEVICES LOCATED ON PARCELS WILL BE OWNED AND MAINTAINED BY THE H.O.A. SWM FACILITIES SERVING PUBLIC ROADS, BUT LOCATED ON PRIVATE LOTS WILL BE PRIVATELY OWNED AND JOINTLY MAINTAINED.
- A NOISE STUDY WAS PREPARED BY HANS GROUP DATED MAY, 2011 AND APPROVED ON OCTOBER 24, 2017.
- ALL WELLS SHALL BE SEALED PRIOR TO FINAL PLAT RECORDATION. IT IS THE DEVELOPER'S RESPONSIBILITY TO SCHEDULE THE WELL SEALING, PRIOR TO FINAL PLAT SUBMISSION. IT WILL NOT BE CONSIDERED "CONVEYANCE DELAY" IF THE WELL SEALING HOLDS UP HEALTH DEPARTMENT SIGNATURE OF THE RECORDED PLAT.
- ALL EXISTING WELL AND SEPTIC COMPONENTS TO BE ABANDONED OR REPLACED MUST BE PROPERLY ABANDONED AND REPLACEMENT COMPONENTS APPROVED BY THE HEALTH DEPARTMENT PRIOR TO COMMENCEMENT OF THE FINAL PLAN.
- THE R1-1 "STOP" SIGN AND THE STREET NAME SIGN (SWS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BIDDING IS COMPLETED.
- THE TRAFFIC CONTROL SIGNS AND SPEED LIMIT SIGNS ABOVE DESCRIBED ARE APPROPRIATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410) 313-2450 PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
- ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED 1" O.D. PUNCH TYPE SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED SQUARE TUBE SLAVE (12 GAUGE) - 2" LONG THE ANCHOR SHALL NOT EXCEED MORE THAN 1/2" ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE INSTALLED ON TOP OF EACH POST.
- THE PLANNING BOARD APPROVED PER CASE NO. PB 438 IS SCHEDULED ON DECEMBER 7, 2017.
- A DRAINAGE/SEWERAGE APPROXIMATION PERMIT HAS BEEN ISSUED FOR THIS PROPOSED SUBDIVISION.
- EXISTING WELLS, SEPTIC SYSTEMS AND SOLID DISPOSAL AREAS WITHIN 100 FEET OF THE PROPERTY AND THOSE WELLS WITHIN 200 FEET DOWN GRADIENT OF EXISTING AND PROPOSED SEPTIC SYSTEMS OR SOLID DISPOSAL AREAS HAVE BEEN SHOWN.
- ALL PROPOSED ROADSIDE SHALES FOR THE SUBDIVISION MUST BE AT LEAST 30 FEET FROM ALL WELL AREAS OR AT LEAST 100 FEET IF THE SHALE IS DESIGNATED FOR WETLANDS.
- TECHNICAL DRAWING, E.G. THE PLAN VIEW ON A SEPTIC SYSTEM INSTALLATION PLAN, ILLUSTRATING THE DRAINFIELD TRENCH LAYOUT FOR AN INITIAL SYSTEM AND FOR TWO REPLACEMENT SYSTEMS MUST BE SUBMITTED FOR THE PROPOSED RESIDENCE ON EACH RESPECTIVE LOT OF THIS SUBDIVISION PRIOR TO BUILDING PERMIT APPROVAL BY THE HEALTH DEPARTMENT.
A. ON LOT 34, THE LIMITATIONS OF SOIL PROPERTIES ARE SUCH THAT A HOUSE WITH NO MORE THAN 4 BEDROOMS CAN BE SUPPORTED WITHIN THE DESCRIBED SOLID DISPOSAL AREA UNLESS AN EXHIBIT PREPARED BY A CERTIFIED PROFESSIONAL ILLUSTRATES THAT ABSORPTION TRENCH AREA FOR MORE BEDROOMS CAN BE ACCOMMODATED WITHIN THE SDA.
B. ON PROPOSED LOTS 2, 3, 29, 36, 37, AND 38, THE LIMITATIONS OF SOIL PROPERTIES ARE SUCH THAT A RESIDENCE WITH NO MORE THAN FIVE (5) BEDROOMS CAN BE SUPPORTED WITHIN THE DESCRIBED SOLID DISPOSAL AREA UNLESS AN EXHIBIT PREPARED BY A CERTIFIED PROFESSIONAL ILLUSTRATES THAT ABSORPTION TRENCH AREA FOR MORE BEDROOMS CAN BE ACCOMMODATED WITHIN THE SDA.
C. ON ALL OTHER LOTS, 6 OR MORE BEDROOMS MAY BE PERMITTED IF AN EXHIBIT DEMONSTRATING THAT THE SDA WILL ACCOMMODATE 3 DRAINFIELDS FOR A RESIDENCE HAVING 6 BEDROOMS OR MORE IS PRESENTED BY A CERTIFIED PROFESSIONAL.

APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE _____

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY
PLANNING DIRECTOR _____ DATE _____

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT.
COUNTY HEALTH OFFICER _____ DATE _____

CLASS & DEVELOPER
HERITAGE LAND DEVELOPMENT
15920 NORTH AVENUE,
LISBON, MARYLAND 21765
410-489-7900

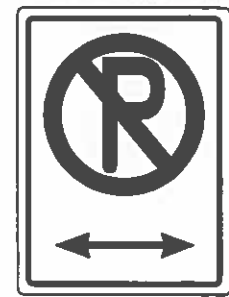
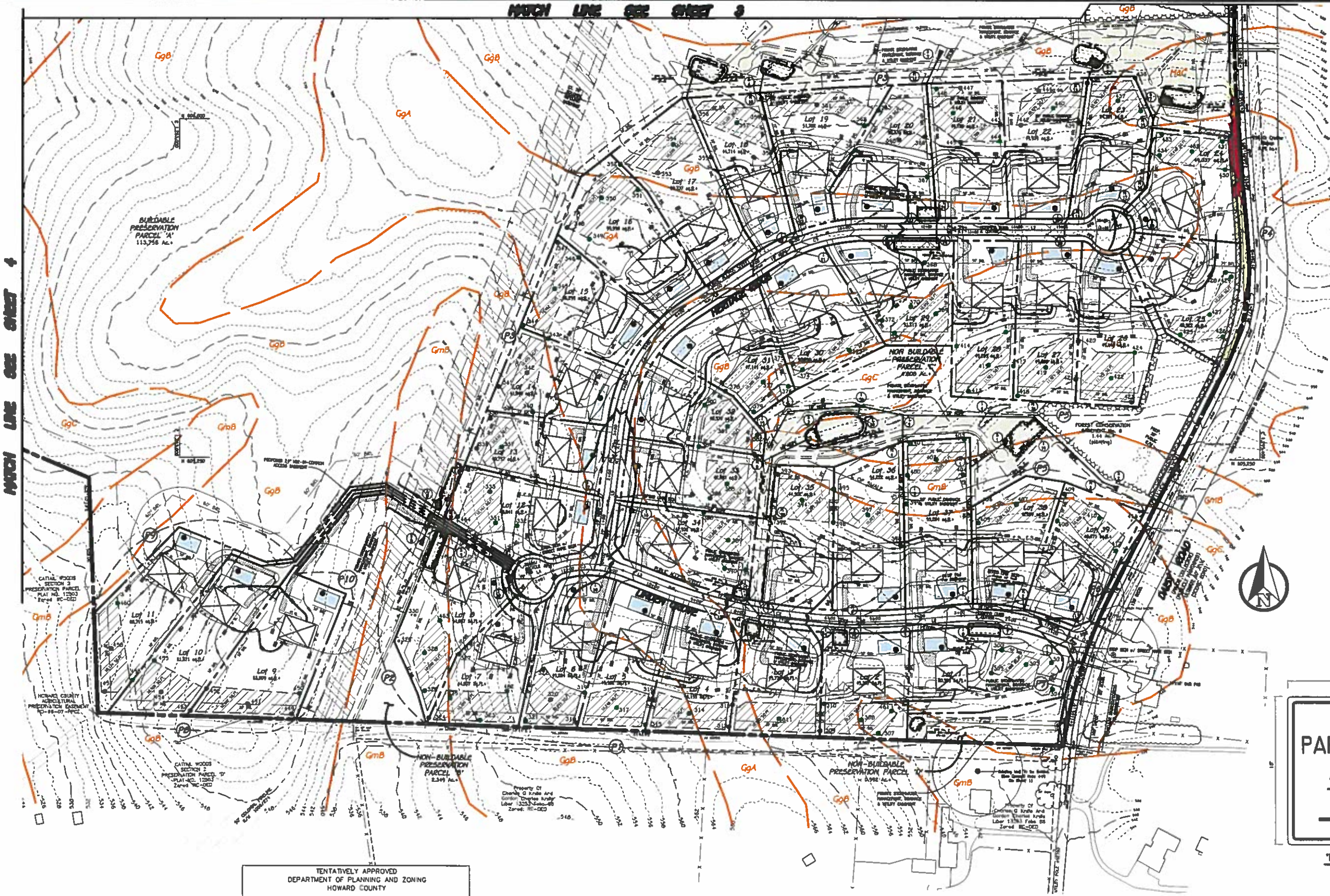


Aide N. Vuocol, P.E.
Date _____
Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland. License No. 20716, Expiration Date 2-22-19.

LINDEN GROVE
LOTS 1 THRU 44, BUILDABLE PRESERVATION PARCEL 'A' & NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'D'
ZONED: RC-DEO
TAX MAP No. 7 GRID No. 18 & TAX MAP No. 8 GRID No. 13 PARCEL No. 5
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: OCTOBER 20, 2017
SHEET 1 of 14

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
14000 WOODBURN AVENUE, SUITE 100
BETHESDA, MARYLAND 20814
(301) 481-8899

HIGH LINE SEE SHEET 3



'R7-(I) NO PARKING' SIGN DETAIL
NOT TO SCALE

INDICATED AREAS OF BRANCHED LANDSCAPING TO SCREEN PROPOSED VEHICLES FROM SCENIC ROADWAY. PROPOSED LANDSCAPING TO BE SHOWN AND REVEALED AT FINAL PLAN STAGE.

CENTERLINE LINE TABLE

Line #	Length	Direction
L1	101.83'	S68° 33' 59"E
L2	123.50'	S69° 15' 28"W
L3	78.99'	S68° 50' 50"E
L4	47.41'	N87° 48' 54"E
L5	318.99'	S7° 32' 08"W
L6	202.93'	N56° 47' 38"E
L7	534.14'	S69° 59' 07"W

LEGEND

SYMBOL	DESCRIPTION
—	PROPOSED STORY DRAIN LINE
⊠	PROPOSED DRYWELL
▨	NON-ROOFTOP DISCON.
—	BOUNDARY/RIGHT OF WAY LINE
—	BUILDING RESTRICTION LINE
—	PROPOSED CURB
⊙	PROPOSED WELL
⊠	PROPOSED WELL BOX
---	EXISTING 10 FT. CONTOUR
---	EXISTING 2 FT. CONTOUR
▨	PROPOSED SEPTIC FIELD
Red Area	25% OR GREATER SLOPES
Yellow Area	15% - 24.99% SLOPES
---	EXISTING/PROPOSED TREE LINE
⊙	PASSED PERC
⊙	FAILED PERC
---	INDICATES NO PARKING ZONE
GmB	SOIL TYPE



'R7-I NO PARKING' SIGN DETAIL
NOT TO SCALE

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

PLANNING DIRECTOR _____ DATE _____

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT.

COUNTY HEALTH OFFICER _____ DATE _____

CENTERLINE CURVE TABLE

Curve #	Delta	Arc Length	Radius	Chord Bearing	Chord Length
C1	028.1750	209.50'	430.00'	N61° 39' 19"W	203.80'
C2	025.8949	564.94'	1250.00'	S61° 47' 41"E	950.14'
C3	049.2369	300.91'	350.00'	S32° 09' 32"W	291.72'
C4	033.1914	248.20'	425.00'	S73° 23' 23"W	242.77'
C5	043.3711	158.98'	210.00'	S69° 28' 02"W	159.20'



OWNER & DEVELOPER:
HERITAGE LAND DEVELOPMENT
17950 NORTH AVENUE
LUSKIN, MARYLAND 21765
410-481-7900

DATE: _____

NOTE:
*Professional Certificate: 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. 20756, Expiration Date 2-22-19.

FERRO, COLLINS & CANTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
13000 GREENWOOD DRIVE, SUITE 100
BETHESDA, MARYLAND 20814
301-414-3000

**PRELIMINARY BOUNDARY SKETCH,
REVISED PERCOLATION CERTIFICATION & LANDSCAPE PLAN
LINDEN GROVE**
LOTS 1 THRU 44, BUILDABLE PRESERVATION
PARCEL 'A' & NON-BUILDABLE PRESERVATION
PARCELS 'B' THRU 'D'

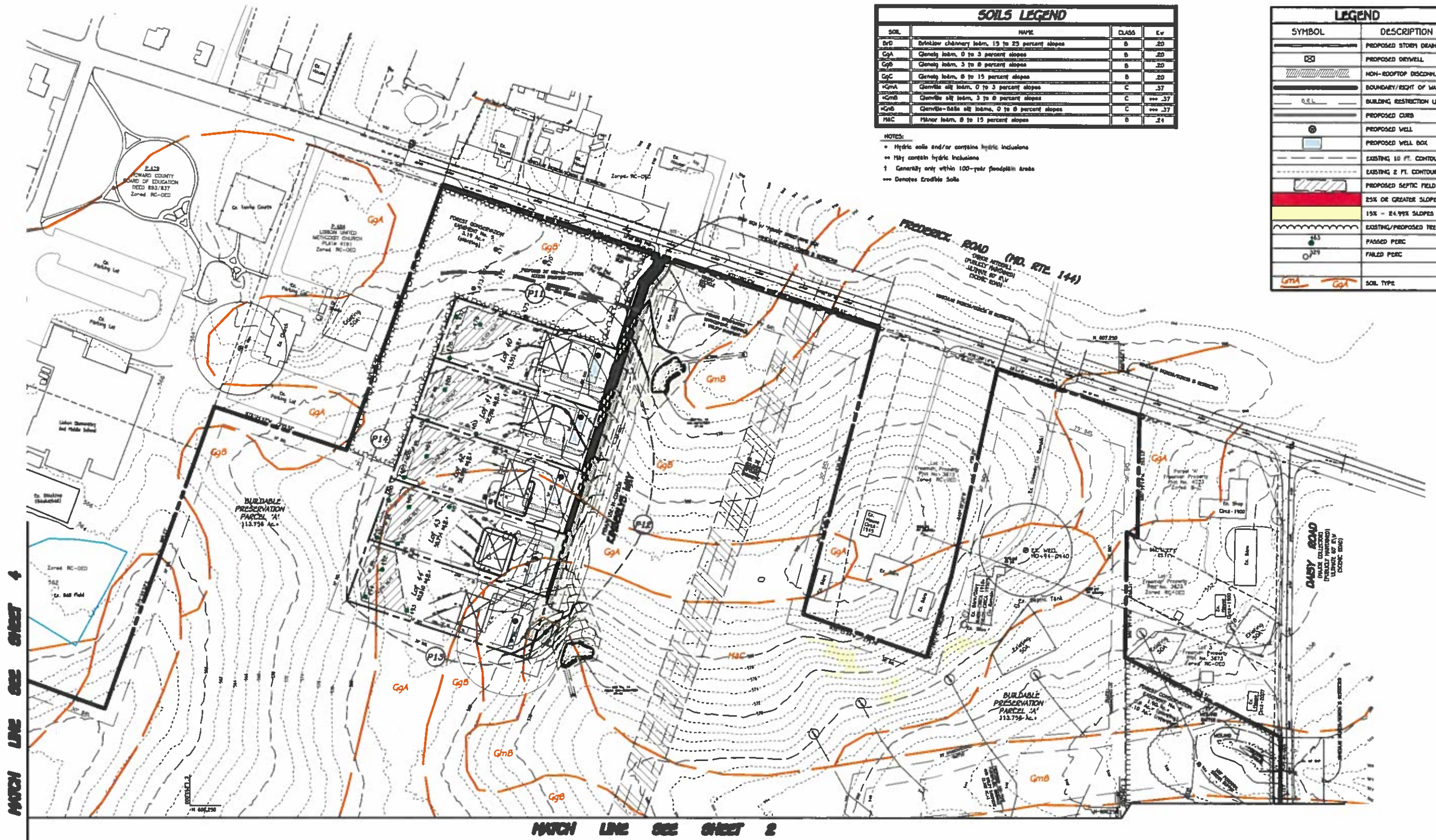
TAX MAP No. 7 GRID No. 18 &
TAX MAP No. 6 GRID No. 13 PARCEL No. 9
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: OCTOBER 20, 2017
SHEET 2 OF 14



SOILS LEGEND			
SOIL	NAME	CLASS	E _v
BtD	Brinlow clayey loam, 15 to 25 percent slopes	B	.20
G ₁ A	Genesee loam, 0 to 3 percent slopes	B	.20
G ₂ B	Genesee loam, 3 to 6 percent slopes	B	.20
G ₃ C	Genesee loam, 6 to 15 percent slopes	B	.20
G ₁ M	Genesee silt loam, 0 to 3 percent slopes	C	.37
G ₂ M	Genesee silt loam, 3 to 6 percent slopes	C	.37
G ₃ M	Genesee-silt loam, 6 to 15 percent slopes	C	.37
M ₁ C	M ₁ mor loam, 0 to 15 percent slopes	B	.24

NOTES:
 • Hydric soils and/or contains hydric inclusions
 • May contain hydric inclusions
 † Generally only within 100-year floodplain areas
 --- Denotes Erodeble Soils

LEGEND	
SYMBOL	DESCRIPTION
—	PROPOSED STORY DEAN LINE
⊗	PROPOSED DRYWELL
▨	NON-ROOFTOP DISCHARGE
—	BOUNDARY/RIGHT OF WAY LINE
—	BUILDING RESTRICTION LINE
—	PROPOSED CURB
⊙	PROPOSED WELL
⊙	PROPOSED WELL BOX
—	EXISTING 10 FT. CONTOUR
—	EXISTING 2 FT. CONTOUR
▨	PROPOSED SEPTIC FIELD
▨	25% OR GREATER SLOPES
▨	15% - 24.9% SLOPES
—	EXISTING/PROPOSED TREE LINE
⊙	FAILED PERC
⊙	FAILED PERC
G ₁ A	SOIL TYPE



MATCH LINE SEE SHEET 4

MATCH LINE SEE SHEET 2

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

PLANNING DIRECTOR _____ DATE _____



APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS,
 HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER _____ DATE _____

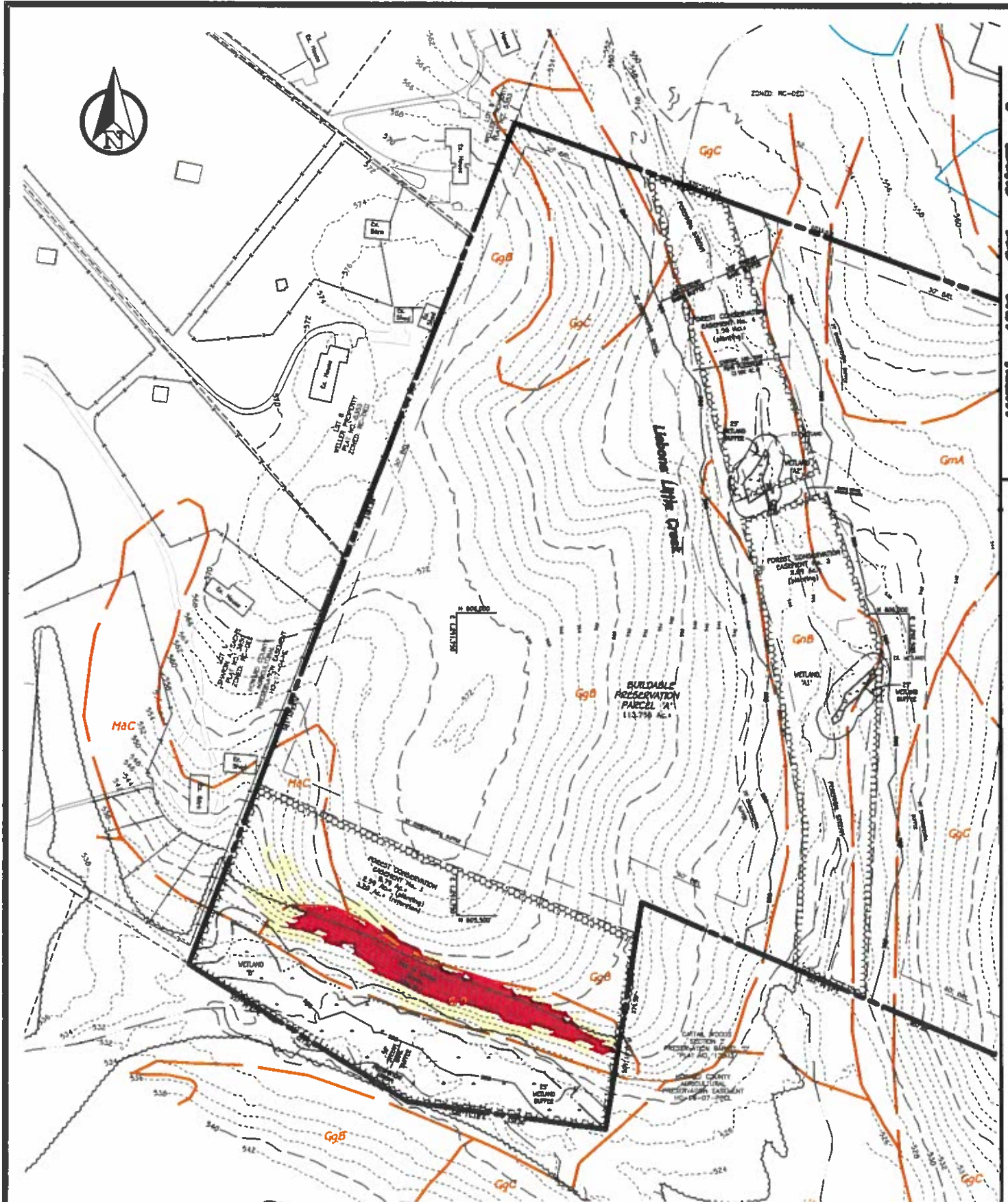
FERRIS, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL BRANCH OFFICE: P.O. Box 18223, Baltimore, MD 21288
 SLIGHT CITY OFFICE: 1200 N. W. 10th St., Ft. Lauderdale, FL 33304
 (410) 461-1000

OWNER & DEVELOPER:
 HERITAGE LAND DEVELOPMENT
 19550 NORTH AVENUE
 LISBON, MARYLAND 21785
 410-469-7900



Alan H. Vogel, P.E. _____ Date _____
 Professional Certifications 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. 20748, Expiration Date 2-22-19.

PRELIMINARY EQUIPMENT SKETCH,
 REVISED PERCOLATION CERTIFICATION & LANDSCAPE PLAN
LINDEN GROVE
 LOTS 1 THRU 44, BULDBLE PRESERVATION
 PARCEL 'A' & NON-BULDBLE PRESERVATION
 PARCELS 'B' THRU 'D'
 ZONED: RC-020
 TAX MAP No. 7 GRID No. 1B &
 TAX MAP No. 8 GRID No. 1B PARCEL No. 5
 4TH ELECTORAL DISTRICT HOWARD COUNTY, MARYLAND
 DATE: OCTOBER 20, 2017
 SHEET 3 of 14



APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT.

COUNTY HEALTH OFFICER _____ DATE _____

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

PLANNING DIRECTOR _____ DATE _____

FENDER COLLINS & CRETHER, INC.
CIVIL, ENGINEERING, CONSULTANTS & LAND SURVEYORS
1100 WEST BAYVIEW AVENUE - SUITE 200
ANNAPOLIS, MARYLAND 21403
(410) 491-8999

**SCHEDULE A
PERIMETER LANDSCAPE EDGE**

PERIMETER	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	P-9	P-10	P-11	P-12	P-13	P-14
CATEGORY	Adjacent to Particular Property	Adjacent to Preservation Parcel	Adjacent to Preservation Parcel	Adjacent to Boundary	Adjacent to Preservation Parcel	Front to Boundary	Adjacent to Boundary	Adjacent to Particular Property	Adjacent to Preservation Parcel	Adjacent to Preservation Parcel	Adjacent to Boundary	Adjacent to Preservation Parcel	Adjacent to Preservation Parcel	Adjacent to Preservation Parcel
LANDSCAPE TYPE	A	A	A	C	A	A/A	B	A	A	A	B	A	A	A
LINEAR FEET OF BOUNDARY FRONTAGE/PERIMETER	1478.0'	484.9'	2408.2'	1087.2'	2355.4'	288.1'	79.8'	693.0'	537.1'	418.2'	393.9'	708.7'	386.7'	708.9'
CREDIT FOR EXISTING VEGETATION (YES, NO LINEAR FEET) (DISCLOSE BELOW IF NEEDED)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CREDIT FOR WALL, FENCE OR BORN (YES, NO LINEAR FEET) (DISCLOSE BELOW IF NEEDED)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NUMBER OF PLANTS REQUIRED	23	8	40	27	39	-	2	11	9	7	7	12	6	12
SHRUB TREES	-	-	-	54	-	-	-	-	-	-	-	-	-	-
EMERGENT TREES	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SHRUBS	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*P-4 HAS BEEN EXTENDED BEYOND THE LOTS ONTO THE NON-BUILDABLE PRESERVATION PARCELS TO SCREEN THE PROPOSED HOUSES FROM THE SCENE EDGWAY.

LEGEND

SYMBOL	DESCRIPTION
—	PROPOSED STORM DRAIN LINE
⊗	PROPOSED DRYWELL
	NON-EDROTOP DISCOM.
—	BOUNDARY/RIGHT OF WAY LINE
—	BUILDING RESTRICTION LINE
—	PROPOSED CURB
⊙	PROPOSED WELL
⊕	PROPOSED WELL BOX
---	EXISTING 10 FT. CONTOUR
---	EXISTING 2 FT. CONTOUR
▨	PROPOSED SEPTIC FIELD
█	25% OR GREATER SLOPES
█	15% - 24.99% SLOPES
---	EXISTING/PROPOSED TREELINE
○	PROPOSED PERC
○	FAILED PERC
GmB, GgA	SOL. TYPE

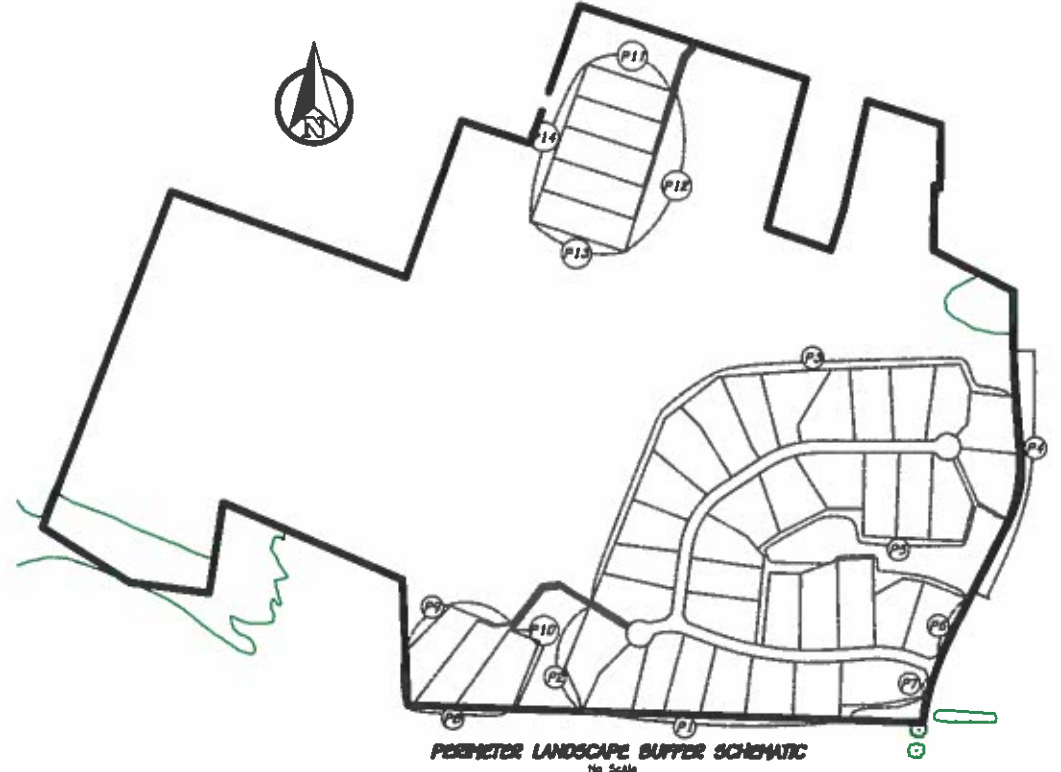
STREET TREE SCHEDULE

CITY	SEE	COMMENTS
ROW LENGTH = 1281' 2562'/40' = 64.05 64 TREES	2 1/2-3" CAL.	40' APART ON PUBLIC R/W (Road 'A')
ROW LENGTH = 1803' 3606'/40' = 90.15 90 TREES	2 1/2-3" CAL.	40' APART ON PUBLIC R/W (Road 'B')

TRASH/RECYCLE PAD LANDSCAPING

LINEAR FEET OF PERIMETER	LOTS 9-11 PAD: 18 1/2'	LOTS 40-44 PAD: 24 1/2'
NUMBER OF SHRUBS PROVIDED:	8	10

NOTES: 1. THE TRASH/RECYCLE PAD LANDSCAPING WILL BE MAINTAINED BY THE USERS OF THE PRIVATE USE-IN-COMMON MAINTENANCE AGREEMENT.
2. THE LANDSCAPING SHALL BE INSTALLED AROUND THE PERIMETER OF THE PAD EXCLUDING THE SIDE ADJACENT TO THE PUBLIC ROAD RIGHT-OF-WAY.
3. THE PERIMETER LANDSCAPING OBLIGATIONS WILL BE FULFILLED AND BE THE RESPONSIBILITY OF THE DEVELOPER FOR THE LANDSCAPING AT THE P-PLAN STAGE.



CHARLES A. DEVELOPER
HERITAGE LAND DEVELOPMENT
15950 NORTH AVENUE
LISBON, MARYLAND 21765
410-469-7900

Aide N. Viscusi, P.E.
Date _____
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. 25748, Expiration Date 2-22-19.

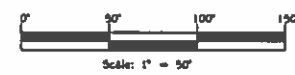
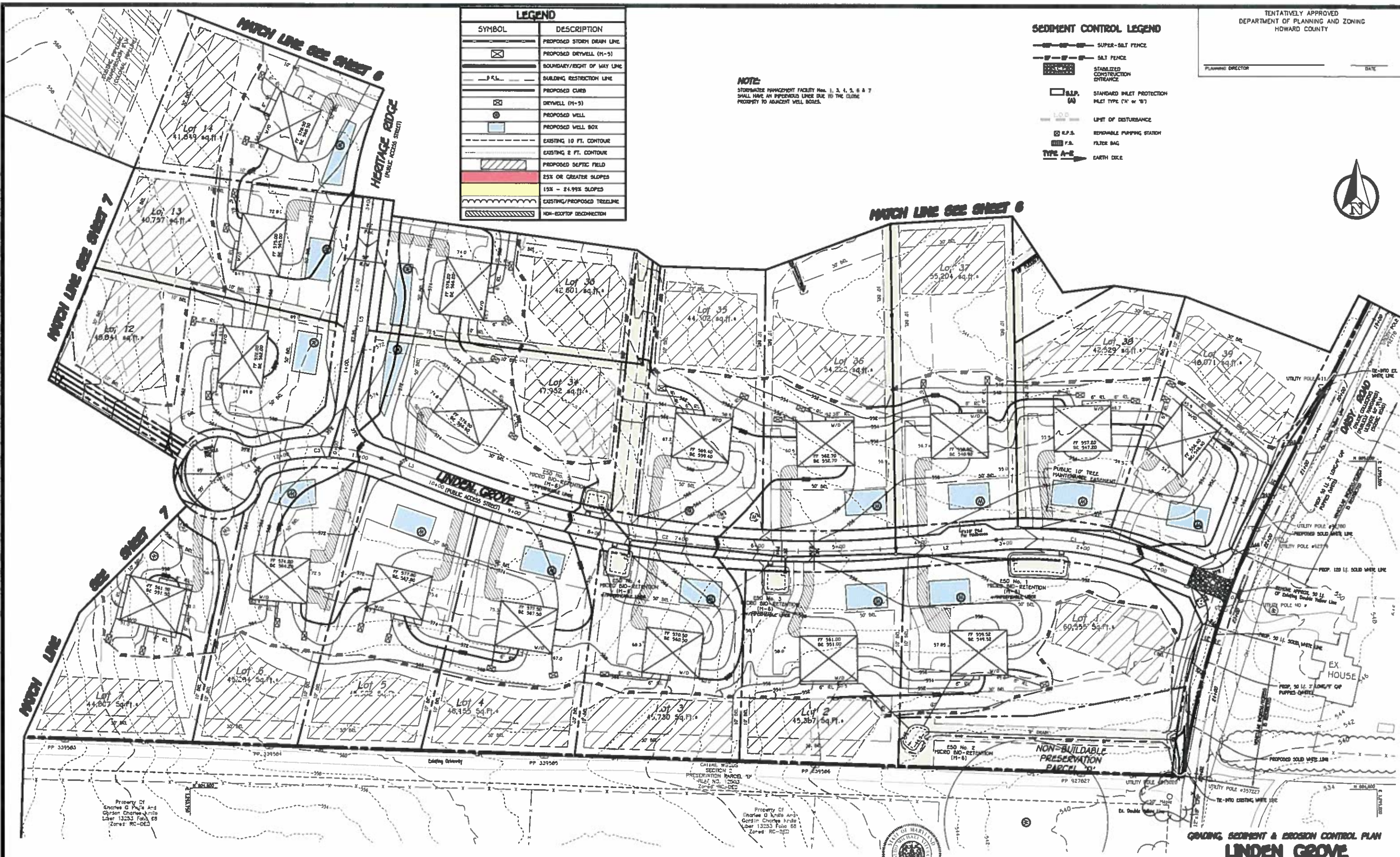
**PRELIMINARY EQUIPMENT SKETCH,
REVISED PERCOLATION CERTIFICATION & LANDSCAPE PLAN
LINDEN GROVE**
LOTS 1 THRU 44, BUILDABLE PRESERVATION
PARCEL 'A' & NON-BUILDABLE PRESERVATION
PARCELS 'B' THRU 'D'

ZONED: EC-02D
TAX MAP No. 7, Q2D No. 10 &
TAX MAP No. 9, Q2D No. 13, PARCEL No. 5
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: OCTOBER 20, 2017
SHEET 6 of 14

LEGEND	
SYMBOL	DESCRIPTION
	PROPOSED STORM DRAIN LINE
	PROPOSED DRYWELL (M-5)
	BOUNDARY/RIGHT OF WAY LINE
	BUILDING RESTRICTION LINE
	PROPOSED CURB
	DRYWELL (M-5)
	PROPOSED WELL
	PROPOSED WELL BOX
	EXISTING 10 FT. CONTOUR
	EXISTING 2 FT. CONTOUR
	PROPOSED SEPTIC FIELD
	25% OR GREATER SLOPES
	15% - 24.99% SLOPES
	EXISTING/PROPOSED TERRESTRIAL
	NON-EDD/OTF DISCONNECTION

NOTE:
STORMWATER MANAGEMENT FACILITY Nos. 1, 3, 4, 5, 6 & 7 SHALL HAVE AN IMPERVIOUS LINSE DUE TO THE CLOSE PROXIMITY TO ADJACENT WELL BOXES.

SEDIMENT CONTROL LEGEND	
	SUPER-SALT FENCE
	SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	STANDARD INLET PROTECTION INLET TYPE (A' or 'B')
	LIMIT OF DISTURBANCE
	REMOVABLE PUMPING STATION
	FILTER BAG
	EARTH DIKE



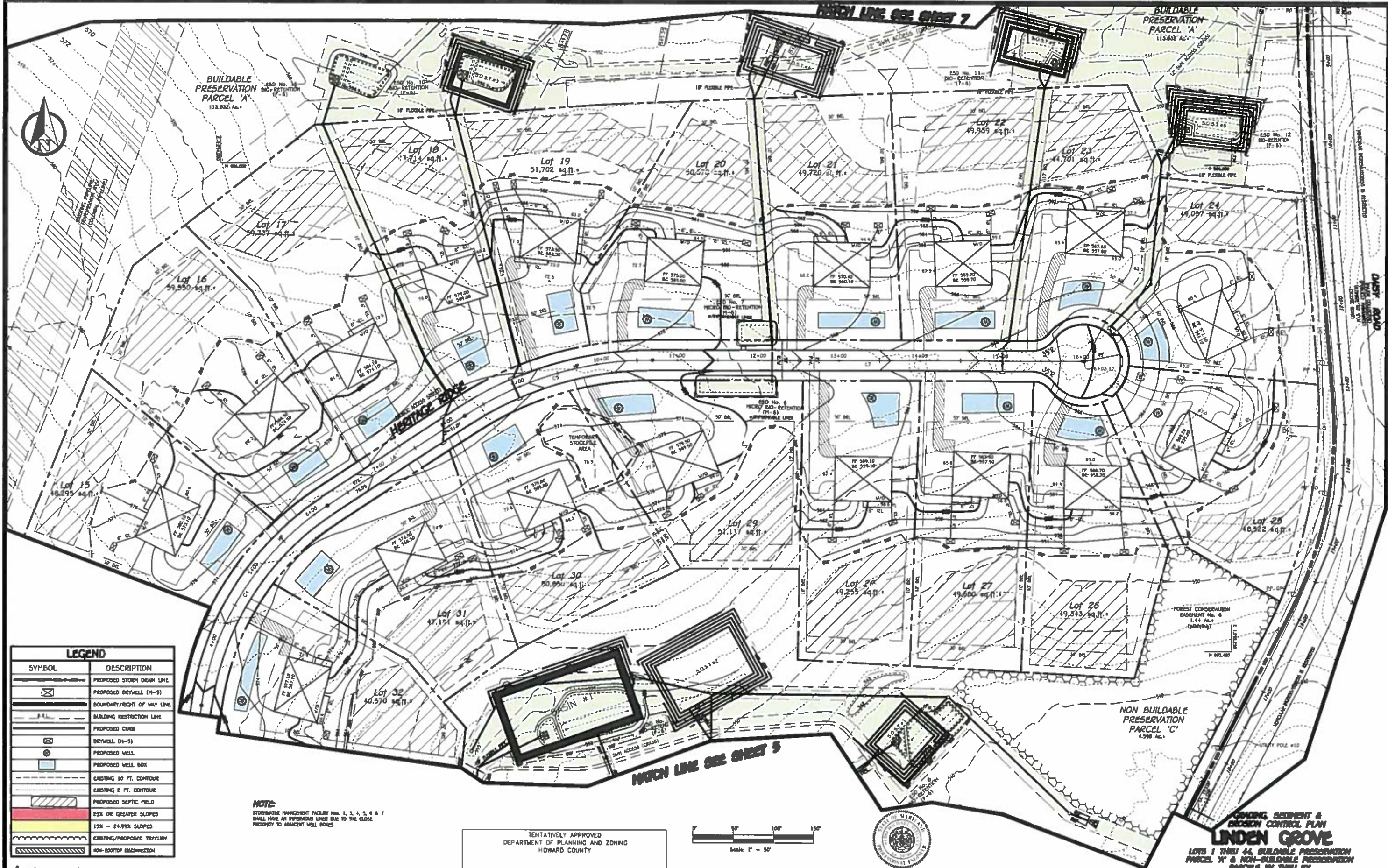
OWNER & DEVELOPER:
HERITAGE LAND DEVELOPMENT
15950 NORTH AVENUE
LISBON, MARYLAND 21785
410-489-7900

Also Pt. Vertical, P.E.
Date _____
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. 20725. Expiration Date 2-22-17.

**GRADING, SEDIMENT & EROSION CONTROL PLAN
LINDEN GROVE**

**LOTS 1 THRU 44, BUILDABLE PRESERVATION
PARCEL 'A' & NON-BUILDABLE PRESERVATION
PARCELS 'B' THRU 'D'**

ZONED: RC-DE2
TAX MAP No. 7 GRID No. 18 &
TAX MAP No. 8 GRID No. 15 PARCEL No. 5
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: OCTOBER 20, 2017
SHEET 9 OF 14

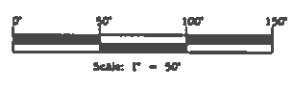


LEGEND	
SYMBOL	DESCRIPTION
	PROPOSED STORM DRAIN LINE
	PROPOSED DRYWELL (M-S)
	BOUNDARY/RIGHT OF WAY LINE
	BUILDING RESTRICTION LINE
	PROPOSED CURB
	DRYWELL (M-S)
	PROPOSED WELL
	PROPOSED WELL BOX
	EXISTING 10 FT. CONTOUR
	EXISTING 2 FT. CONTOUR
	PROPOSED SEPTIC FIELD
	25% OR GREATER SLOPES
	15% - 24.99% SLOPES
	EXISTING/PROPOSED TREELINE
	NON-ROOFTOP RECONNECTION

NOTE:
 STORMWATER MANAGEMENT FACILITY Nos. 1, 3, 4, 5, 6 & 7
 SHALL HAVE AN IMPERVIOUS LINER DUE TO THE CLOSE
 PROXIMITY TO ADJACENT WELL BODIES.

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

PLANNING DIRECTOR _____ DATE _____



DATE & DEVELOPER:
 HERITAGE LAND DEVELOPMENT
 19950 NORTH AVENUE
 LITTLE ROCK, MARYLAND 21785
 410-469-7903

DATE:
 Date: _____
 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. 26716, Expiration Date 2-28-15.
















**ENDING SEGMENT & EROSION CONTROL PLAN
 LINDEN GROVE**
 LOTS 1 THRU 44, BUILDABLE PRESERVATION
 PARCEL 'A' & NON-BUILDABLE PRESERVATION
 PARCELS 'B' THRU 'D'

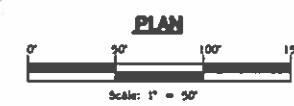
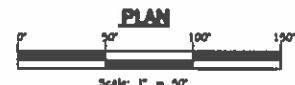
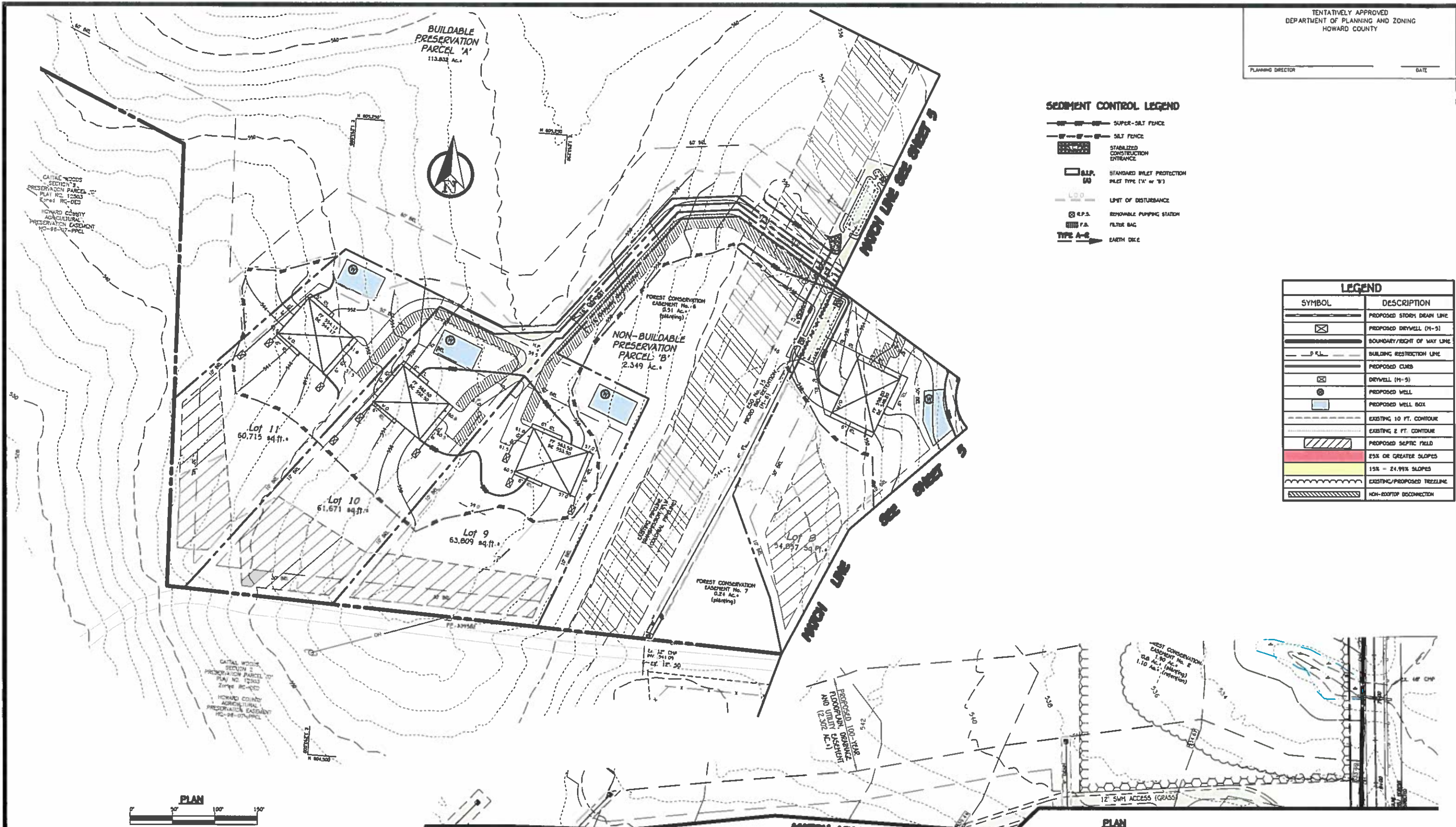
ZONED: EC-DD
 TAX MAP No. 7 CSD No. 10 &
 TAX MAP No. 9 CSD No. 15 PARCELS No. 3
 4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 DATE: OCTOBER 20, 2017
 SHEET 6 of 14

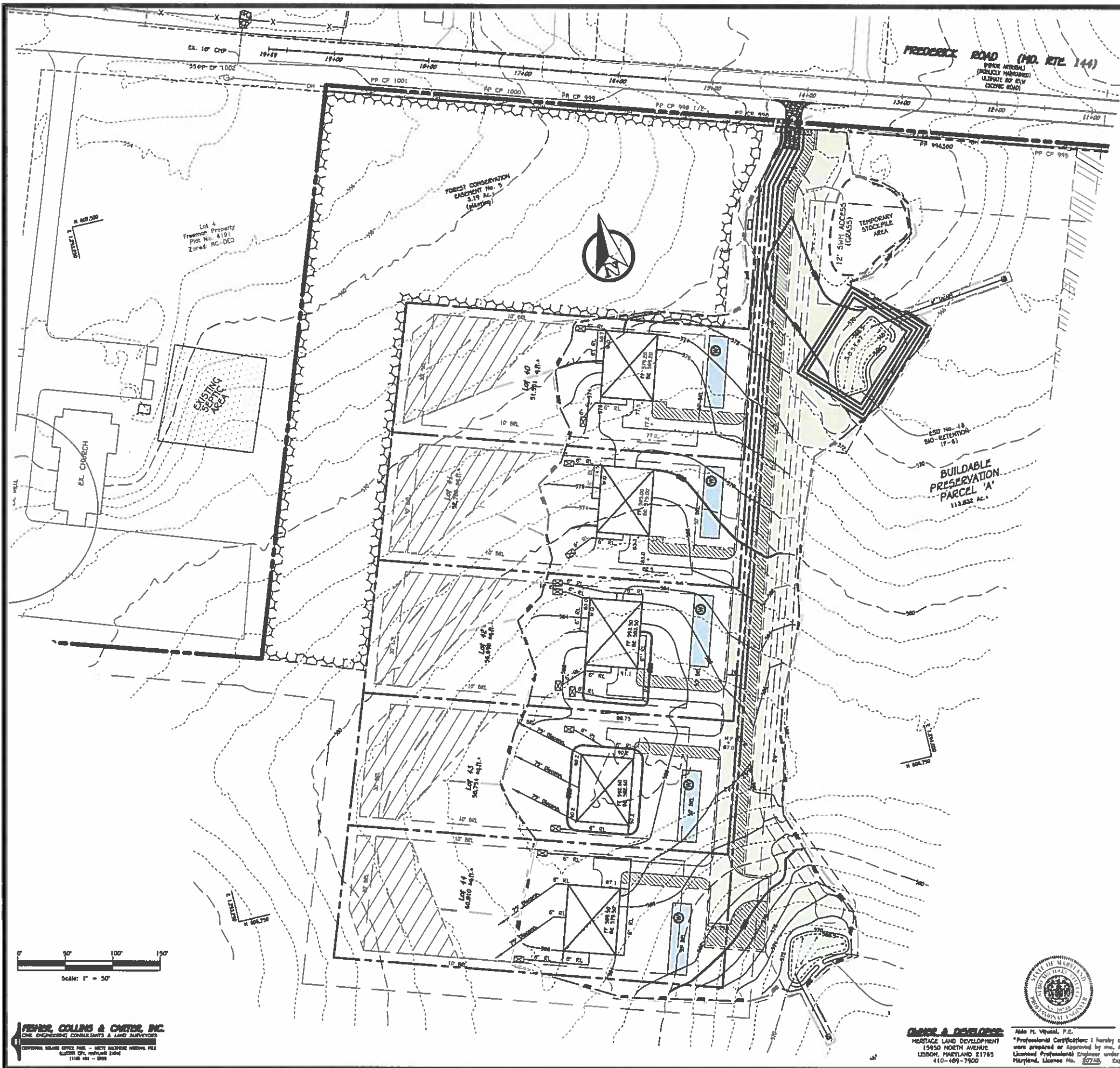
FISHER, COLLINS & CHASE, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 10000 WOODBURN AVENUE, SUITE 100
 BELTSVILLE, MD 21152
 (410) 461-2800

SEDIMENT CONTROL LEGEND

-  SUPER-SALT FENCE
-  SALT FENCE
-  STABILIZED CONSTRUCTION ENTRANCE
-  STANDARD INLET PROTECTION PILE TYPE ('A' or 'B')
-  LIMIT OF DISTURBANCE
-  REMOVABLE PUMPING STATION
-  FILTER BAG
-  EARTH DIKE

LEGEND	
SYMBOL	DESCRIPTION
	PROPOSED STORM DRAIN LINE
	PROPOSED DRYWELL (H-S)
	BOUNDARY/RIGHT OF WAY LINE
	BUILDING RESTRICTION LINE
	PROPOSED CURB
	DRYWELL (H-S)
	PROPOSED WELL
	PROPOSED WELL BOX
	EXISTING 10 FT. CONTOUR
	EXISTING 2 FT. CONTOUR
	PROPOSED SEPTIC FIELD
	25% OR GREATER SLOPES
	15% - 24.99% SLOPES
	EXISTING/PROPOSED TREELINE
	NON-ROOFTOP DISCONNECTION





TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

PLANNING DIRECTOR _____ DATE _____

LEGEND	
SYMBOL	DESCRIPTION
	PROPOSED STORM DRAIN LINE
	PROPOSED DRYWELL (14-5)
	BOUNDARY/RIGHT OF WAY LINE
	BUILDING RESTRICTION LINE
	PROPOSED CURB
	DRYWELL (14-5)
	PROPOSED WELL
	PROPOSED WELL BOX
	EXISTING 10 FT. CONTOUR
	EXISTING 2 FT. CONTOUR
	PROPOSED SEPTIC FIELD
	25% OR GREATER SLOPES
	15% - 24.99% SLOPES
	EXISTING/PROPOSED TREELINE
	NON-ROOFTOP DISCONNECT

SEDIMENT CONTROL LEGEND

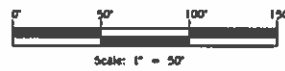
- SUPER-SILT FENCE
- SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- STANDARD INLET PROTECTION INLET TYPE (14" or 18")
- L.O.D. LIMIT OF DISTURBANCE
- R.P.S. REMEDIABLE PUMPING STATION
- F.B. FILTER BAG
- TYPE A-E EARTH DIKE

CULVERT DESIGN SUMMARY- Revised TC Paths									
CULVERT #	Roadway	Inv. In.	Inv. Out	Pipe Size	Design Storm	Ex. Q	Design Q	Roadway Elev.	Headwater Elev.
A-54" pipe	Daisy Rd.	526.80	526.60	48" CMP	100-YR	113.92	152.66	533.00	533.95
*B-3-42"x27" culverts	Daisy Rd.	534.88	533.78	15"x18" CMP	50-YR	70.64	66.26	538.29	537.29
C-5-36"x22" Conc. Pipe Arches	Daisy Rd.	536.72	536.20	12"x18" CMP	50-YR	47.40	39.68	539.30	537.15
D-4-15" Circular Culverts	Ex. Driveway	541.09	539.43	12" CMP	10-YR	17.84	25.90	544.25	542.97
E-3-24" HDPE Culverts	RL 144	560.28	558.64	15" HDPE	100-YR	23.66	43.86	563.52	562.47

* - Denotes that storage is required for the existing contours and is reflected in this chart.

RECOMMENDATIONS:

The culverts are being design on the 10, 50 and 100 year storms pending the classification of the roadways. The requirement of providing 1-foot of freeboard from the design storm headwater elevation to the edge of roadway is a design manual requirement in the Howard County Design Manual Volume I - Storm Drainage and Floodplains. The majority of the culverts will need to be replaced with either multiple culverts or a single pipe culvert that is larger in diameter to obtain the required 1-foot of freeboard. As shown in the chart above in the culvert # column, the proposed pipe information is located there. These culverts vary in size and material type which depends on how much vertical room we have to place the culvert in. Since Drainage Area "A" which is a 48" pipe is located in a 100-year floodplain, we have analyzed this culvert with the 100-year storm as requested.



FERNER, COLLINS & CHASE, INC.
 ONE ENGINEERING CONSULTANTS & LAND SURVEYORS
 CERTIFIED GEOTECHNICAL ENGINEER - 10000 BELLEVUE AVENUE, SUITE 200
 BELLEVUE, WA 98004-3100
 206-461-8899



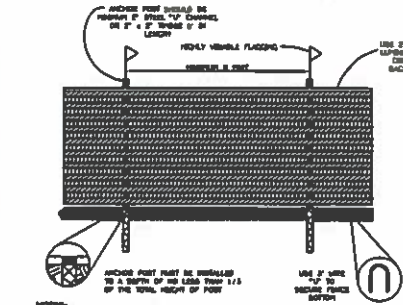
OWNER & DEVELOPER:
 HERITAGE LAND DEVELOPMENT
 15950 NORTH AVENUE
 LUSK, MARYLAND 21785
 410-495-7900

Allen H. Vignati, P.E.
 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. 20718, Expiration Date 2-22-19.

GRADING, SEDIMENT & EROSION CONTROL PLAN
LINDEN GROVE
 LOTS 1 THRU 44, BUILDABLE PRESERVATION PARCEL 'A' & NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'D'

ZONED: EC-DED
 TAX MAP No. 7 Q00 No. 18 &
 TAX MAP No. 8 Q00 No. 13 PARCEL No. 5
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: OCTOBER 20, 2017
 SHEET 9 of 14

BLAZE ORANGE PLASTIC MESH



- NOTES:
1. PROTECT PROPOSED TREES ONLY.
2. PROTECT AREA SHALL BE SET AS PART OF THE GRADING PROCESS.
3. PROTECT AREA SHALL BE INSTALLED AND MAINTAINED THROUGHOUT CONSTRUCTION.
4. MESH SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

SEE TO SCALE

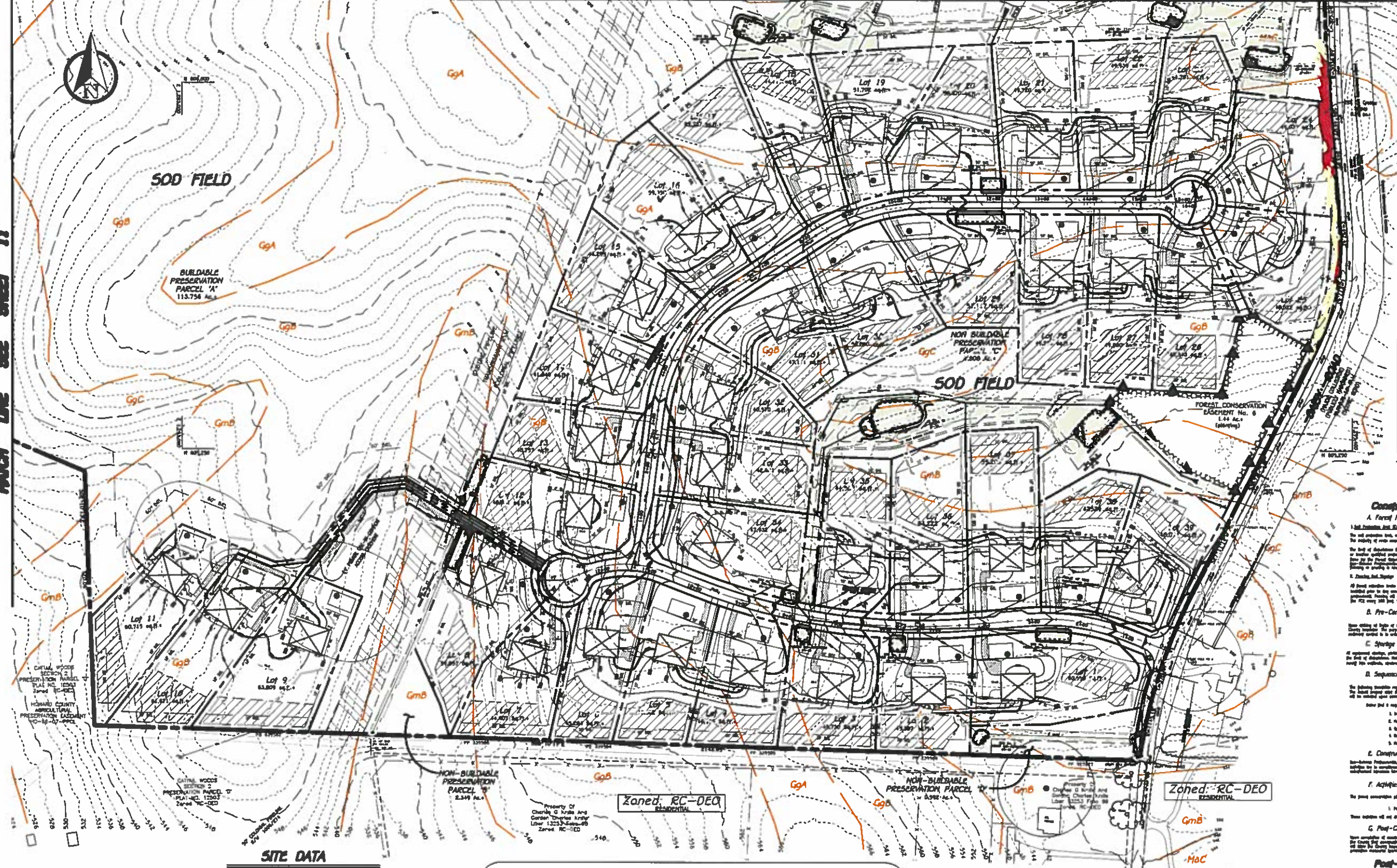
SOILS LEGEND

SOIL	NAME	CLASS
G9a	Cherty clay loam, 15 to 25 percent slopes	D
G9b	Cherty loam, 0 to 3 percent slopes	B
G9c	Cherty loam, 3 to 8 percent slopes	B
G9d	Cherty loam, 0 to 15 percent slopes	B
G9e	Cherty silt loam, 0 to 3 percent slopes	C
G9f	Cherty silt loam, 3 to 8 percent slopes	C
G9g	Cherty silt loam, 0 to 8 percent slopes	C
G9h	Cherty silt loam, 0 to 15 percent slopes	B

- NOTES:
1. Hydraulic conductivity and/or variable hydraulic conductivity.
2. May contain hydraulic conductivity.
3. Generally only within 100-year floodplain areas.

Construction Period Protection Program

- A. Forest Protection Techniques**
1. Soil Protection and Erosion Control
 - The soil protection plan, as detailed on the site plan, shall be installed prior to the start of construction. The plan shall include the installation of erosion control measures, such as silt fences, sediment basins, and straw bales, to prevent soil erosion and sediment transport from the construction site. The plan shall also include the installation of erosion control measures, such as silt fences, sediment basins, and straw bales, to prevent soil erosion and sediment transport from the construction site.
 2. Tree Protection
 - All trees within the site shall be protected from construction activities by appropriate signage and fencing. Signage and fencing shall be installed prior to the start of construction. The plan shall include the installation of tree protection measures, such as tree protection rings, tree protection fences, and tree protection signs, to protect trees from construction activities.
 3. Pre-Construction Planning
 - The plan shall include a detailed site plan showing the location of all trees, the location of all construction activities, and the location of all erosion control measures. The plan shall also include a detailed site plan showing the location of all trees, the location of all construction activities, and the location of all erosion control measures.
 4. Storage Facilities/Equipment Cleaning
 - All equipment, materials, and supplies shall be stored in a designated area. The plan shall include the installation of storage facilities, such as storage sheds, to protect equipment, materials, and supplies from construction activities.
 5. Sequence of Construction
 - The plan shall include a detailed site plan showing the sequence of construction activities. The plan shall also include a detailed site plan showing the sequence of construction activities.
 6. Construction Monitoring
 - The plan shall include a detailed site plan showing the location of all trees, the location of all construction activities, and the location of all erosion control measures. The plan shall also include a detailed site plan showing the location of all trees, the location of all construction activities, and the location of all erosion control measures.
 7. Activities Permitted During Construction
 - The plan shall include a detailed site plan showing the location of all trees, the location of all construction activities, and the location of all erosion control measures. The plan shall also include a detailed site plan showing the location of all trees, the location of all construction activities, and the location of all erosion control measures.
 8. Post-Construction Management Plan
 - The plan shall include a detailed site plan showing the location of all trees, the location of all construction activities, and the location of all erosion control measures. The plan shall also include a detailed site plan showing the location of all trees, the location of all construction activities, and the location of all erosion control measures.



SITE DATA

- TOTAL AREA OF THIS SUBDIVISION = 174,680 AC.
- PRESENT ZONING DESIGNATION = RC-DEQ
- PROPOSED USE: RESIDENTIAL SUBDIVISION (SINGLE FAMILY DETACHED)
- TOTAL AREA OF FLOODPLAIN: 0.824 AC.
- TOTAL AREA OF SLOPES 2% OR GREATER = 0.86 AC.
13% - 24.9% = 1.94 AC.
- NET TRACT AREA = 189,876 AC.
(TOTAL SITE AREA - FLOODPLAIN - STEEP SLOPES AREA)
- TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 1.57 AC.
- TOTAL AREA OF STREAMS (INCLUDING BUFFER) = 7.84 AC.
- TOTAL AREA OF EXISTING FOREST = 4.3 AC.
- NO SPECIFIC TREES/CHARMION TREES ARE PRESENT OUTSIDE OF THE EXISTING FOREST LIMITS. BECAUSE NO FOREST CLEARING IS PROPOSED, SPECIFIC TREE DATA WAS NOT COLLECTED.

Zoned: RC-DEQ

Zoned: RC-DEO

FOREST STAND ANALYSIS TABLE

KEY	TYPE OF COMMUNITY	AREA	SOIL INFORMATION			EXISTING VEGETATION (Type and approx. %)	STAND CHARACTERISTICS			FOREST AREA IN EXISTING ENVIRONMENT	
			SOIL TYPE	TYPICAL FOREST COVER	WOODLAND SUITABILITY INDEX		HABITAT VALUE	SIZE (AVG. DIAM)	AGE		GENERAL CONDITIONS
A	Successional	1.10 Ac	G9b	Mixed Hardwoods	80-90	Good	Acer Saccharinum 25% Acer Rubrum 20% Liquidambar 15% Prunus Serotina 10%	8-16	30-40	Fair high canopy cover	1.10 & buffers
B	Oak/Pine	3.20 Ac	G9c G9d	Oak/Pine oak Hardwoods	80-90 90-100	Good	Liquidambar 70% Acer Rubrum 10% Prunus Serotina 10% Quercus Alba 10%	8-20	40-60	Good	3.14 & buffers and slopes

JUSTIFICATION FOR FOREST EASEMENT PLACEMENT

THE PROPOSED FOREST CONSERVATION EASEMENT AREA HAS BEEN LOCATED WITHIN PRIORITY AREAS WHICH CONSIST OF WETLANDS, STREAMS, THOSE BUFFERED AND/OR FLOODPLAIN. THESE AREAS ARE LOCATED IN F.C.E. #1 THRU #4. THE EASEMENT AREAS (F.C.E. #5 & #6) ARE PLACED TO HELP SCREEN THE PROPOSED HOUSES FROM THE EXISTING ROADWAYS.



OWNER & DEVELOPER:
HERITAGE LAND DEVELOPMENT
19950 NORTH AVENUE
LUSK, MARYLAND 21765
410-689-7900

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. 57745, Expiration Date 8-22-13.

Wetland Data

Wetland System	Common Classification	Wetland Vegetation
A-1	LOD1A/C	reed colony grass and Juncus
A-2	LOD1A/C	reed colony grass, Blue nettle, Juncus and Juncus
B	PTD1A/C	Red Maple, Spicebush, Winterberry, Arrowwood, Black callage, Blue nettle and Juncus
C	PTD1A/C	Juncus and Silver Maple

RENEE COLLINS & CHITZ, INC.
LAND ENGINEERING CONSULTANTS & LAND SURVEYORS
1100 W. WASHINGTON STREET, SUITE 200, WASHINGTON, DC 20004
TEL: 202-638-1100

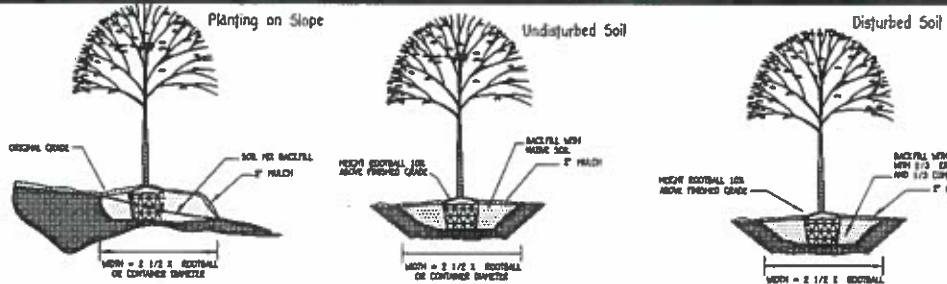
Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

NO ONE Qualified Professional USACE Wetland Delineator Certification
MDCP#31006100448
JLCS
JOHN P. CAHOLES

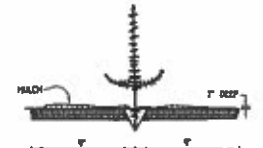
PRELIMINARY FOREST CONSERVATION PLAN
LINDEN GROVE
LOTS 1 THRU 44, BUILDABLE PRESERVATION PARCEL 'X' & NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'D'
ZONED: RC-DEO
TAX MAP No. 7 GRID No. 18 &
TAX MAP No. 8 GRID No. 15 PARCEL No. 5
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: OCTOBER 20, 2017
SHEET 9 of 14

Planting Notes:

Planting units defined by the zoning requirements established in the FCA Manual. One planting unit is defined as 1 seedling or whip without shelter. The Manual states that 700 seedlings/whips without shelters are required per acre, or 350 whips w/shelters, or 200 1" caliper trees, or 100 2" caliper trees by conversion it has been determined that 8 seedlings or whips without shelter = 1 unit, whips with shelter = 2 units, 1" caliper tree = 3.5 units and 2" caliper tree = 7 units. The use of plant units using the plant density calculations when making stock lists. These numbers should not be planted within the wetland limits. 1" caliper trees should be staggered along the outer perimeter of the planting area to serve as demarcation of the boundary. The trees should be no more than 15 feet spacing whips within to be planted on 11 foot centers, shelters will be required per Howard County policy. Planting shall be made in a circular fashion along contour. The planting should avoid a grid appearance but should be spaced to facilitate maintenance. Pruning and heavy brush removal/control may be required prior to installation of planting. All whips are required to be installed with tree shelters per Howard County FCA requirements.

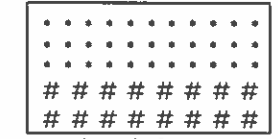


Seeding and Whip Planting Specification



LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	PROPOSED STORM DRAIN LINE
[Symbol]	PROPOSED DRYWELL (H-5)
[Symbol]	BOUNDARY/RIGHT OF WAY LINE
[Symbol]	BUILDING RESTRICTION LINE
[Symbol]	PROPOSED CURB
[Symbol]	DRYWELL (H-5)
[Symbol]	PROPOSED WELL
[Symbol]	PROPOSED WELL BOX
[Symbol]	EXISTING 10 FT. CONTOUR
[Symbol]	EXISTING 2 FT. CONTOUR
[Symbol]	PROPOSED SEEDING FIELD
[Symbol]	25% OR GREATER SLOPES
[Symbol]	15% - 24.99% SLOPES
[Symbol]	EXISTING/PROPOSED TREELINE

PATTERN SPACING DIAGRAM



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

FCE Planting Area # 1 - 2.99 Acres

Planting units required: 1814 (1977 whips)
Planting units provided: 1814 (1977 whips)

Qty	Species	Size	Spacing	Total FCA Units
120	Acer rubrum - Red maple	2-2" whip	11' x 11'	11' x 11'
120	Cornus canadensis - Red bud	2-2" whip	11' x 11'	11' x 11'
117	Cornus florida - Flowering dogwood	2-2" whip	11' x 11'	11' x 11'
118	Liriodendron tulipifera - Tulip poplar	2-2" whip	11' x 11'	11' x 11'
118	Prunus americana - Black cherry	2-2" whip	11' x 11'	11' x 11'
118	Sabotina pseudo-accata - Black locust	2-2" whip	11' x 11'	11' x 11'
118	Quercus alba - White oak	2-2" whip	11' x 11'	11' x 11'
118	Viburnum prunifolium - Blackhaw	2-2" whip	11' x 11'	11' x 11'

1814 total whip plantings (12 planting units per acre) = 1814 total FCA units available
WHPS w/shelters = 250/ACRE = 250 x 2.99 AC = 748 WHPS
2 Planting units = 1 Whip

FCE Planting Area # 2 - 0.80 Acres

Planting units required: 560 (1200 whips)
Planting units provided: 560 (1200 whips)

Qty	Species	Size	Spacing	Total FCA Units
25	Acer rubrum - Red maple	2-2" whip	11' x 11'	11' x 11'
25	Cornus canadensis - Red bud	2-2" whip	11' x 11'	11' x 11'
25	Cornus florida - Flowering dogwood	2-2" whip	11' x 11'	11' x 11'
25	Liriodendron tulipifera - Tulip poplar	2-2" whip	11' x 11'	11' x 11'
25	Prunus americana - Black cherry	2-2" whip	11' x 11'	11' x 11'
25	Sabotina pseudo-accata - Black locust	2-2" whip	11' x 11'	11' x 11'
25	Quercus alba - White oak	2-2" whip	11' x 11'	11' x 11'
25	Viburnum prunifolium - Blackhaw	2-2" whip	11' x 11'	11' x 11'

560 total whip plantings (12 planting units per acre) = 560 total FCA units available
WHPS w/shelters = 250/ACRE = 250 x 0.80 AC = 200 WHPS
2 Planting units = 1 Whip

FCE Planting Area # 3 - 2.69 Acres

Planting units required: 1804 (1948 whips)
Planting units provided: 1804 (1948 whips)

Qty	Species	Size	Spacing	Total FCA Units
125	Acer rubrum - Red maple	2-2" whip	11' x 11'	11' x 11'
124	Cornus canadensis - Red bud	2-2" whip	11' x 11'	11' x 11'
124	Cornus florida - Flowering dogwood	2-2" whip	11' x 11'	11' x 11'
125	Liriodendron tulipifera - Tulip poplar	2-2" whip	11' x 11'	11' x 11'
118	Prunus americana - Black cherry	2-2" whip	11' x 11'	11' x 11'
118	Sabotina pseudo-accata - Black locust	2-2" whip	11' x 11'	11' x 11'
118	Quercus alba - White oak	2-2" whip	11' x 11'	11' x 11'
118	Viburnum prunifolium - Blackhaw	2-2" whip	11' x 11'	11' x 11'

1804 total whip plantings (12 planting units per acre) = 1804 total FCA units available
WHPS w/shelters = 250/ACRE = 250 x 2.69 AC = 673 WHPS
2 Planting units = 1 Whip

FCE Planting Area # 4 - 1.36 Acres

Planting units required: 1096 (1248 whips)
Planting units provided: 1096 (1248 whips)

Qty	Species	Size	Spacing	Total FCA Units
70	Acer rubrum - Red maple	2-2" whip	11' x 11'	11' x 11'
70	Cornus canadensis - Red bud	2-2" whip	11' x 11'	11' x 11'
70	Cornus florida - Flowering dogwood	2-2" whip	11' x 11'	11' x 11'
70	Liriodendron tulipifera - Tulip poplar	2-2" whip	11' x 11'	11' x 11'
70	Prunus americana - Black cherry	2-2" whip	11' x 11'	11' x 11'
70	Sabotina pseudo-accata - Black locust	2-2" whip	11' x 11'	11' x 11'
70	Quercus alba - White oak	2-2" whip	11' x 11'	11' x 11'
70	Viburnum prunifolium - Blackhaw	2-2" whip	11' x 11'	11' x 11'

1096 total whip plantings (12 planting units per acre) = 1096 total FCA units available
WHPS w/shelters = 250/ACRE = 250 x 1.36 AC = 340 WHPS
2 Planting units = 1 Whip

FCE Planting Area # 5 - 3.19 Acres

Planting units required: 2234 (1117 whips)
Planting units provided: 2234 (1117 whips and 200 trees)

Qty	Species	Size	Spacing	Total FCA Units
100	Acer rubrum - Red maple	1" cal.	15' x 15'	15' x 15'
100	Quercus alba - White oak	1" cal.	15' x 15'	15' x 15'
200	Acer rubrum - Red maple	2-2" whip	11' x 11'	11' x 11'
75	Acer rubrum - Red maple	2-2" whip	11' x 11'	11' x 11'
75	Cornus canadensis - Red bud	2-2" whip	11' x 11'	11' x 11'
117	Cornus florida - Flowering dogwood	2-2" whip	11' x 11'	11' x 11'
100	Liriodendron tulipifera - Tulip poplar	2-2" whip	11' x 11'	11' x 11'
100	Prunus americana - Black cherry	2-2" whip	11' x 11'	11' x 11'
100	Sabotina pseudo-accata - Black locust	2-2" whip	11' x 11'	11' x 11'
100	Quercus alba - White oak	2-2" whip	11' x 11'	11' x 11'
100	Viburnum prunifolium - Blackhaw	2-2" whip	11' x 11'	11' x 11'

2234 total whip plantings (12 planting units per acre) = 2234 total FCA units available
Total Line Credit: (1134 + 700) = 2834
F CA 1022 = 200/ACRE (100 TREES/200) = 1.00 AC
WHPS w/shelters = 250/ACRE = 250 x 2.19 AC = 748 WHPS
2.5 Planting units = 1" Cal Tree
2 Planting units = 1 Whip

FCE Planting Area # 6 - 1.44 Acres

Planting units required: 1000 (504 whips)
Planting units provided: 1000 (504 whips and 100 trees)

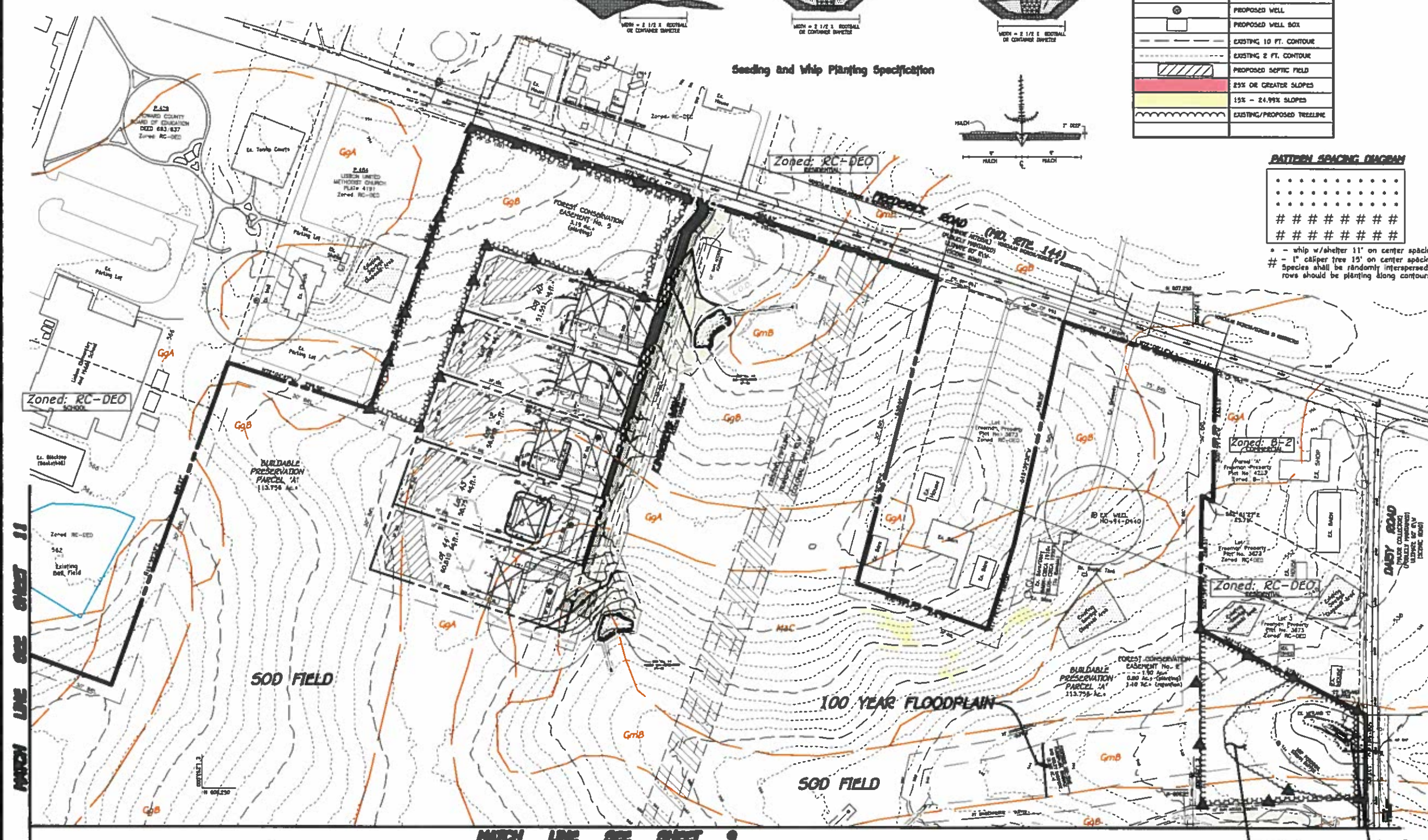
Qty	Species	Size	Spacing	Total FCA Units
50	Acer rubrum - Red maple	1" cal.	15' x 15'	15' x 15'
50	Quercus alba - White oak	1" cal.	15' x 15'	15' x 15'
100	Acer rubrum - Red maple	2-2" whip	11' x 11'	11' x 11'
50	Cornus canadensis - Red bud	2-2" whip	11' x 11'	11' x 11'
50	Cornus florida - Flowering dogwood	2-2" whip	11' x 11'	11' x 11'
50	Liriodendron tulipifera - Tulip poplar	2-2" whip	11' x 11'	11' x 11'
50	Prunus americana - Black cherry	2-2" whip	11' x 11'	11' x 11'
50	Sabotina pseudo-accata - Black locust	2-2" whip	11' x 11'	11' x 11'
50	Quercus alba - White oak	2-2" whip	11' x 11'	11' x 11'
50	Viburnum prunifolium - Blackhaw	2-2" whip	11' x 11'	11' x 11'

1000 total whip plantings (12 planting units per acre) = 1000 total FCA units available
Total Line Credit: 1000 + 200 = 1200
F CA 1022 = 200/ACRE (100 TREES/200) = 0.50 AC
WHPS w/shelters = 250/ACRE = 250 x 0.94 AC = 235 WHPS
2.5 Planting units = 1" Cal Tree
2 Planting units = 1 Whip

Preliminary Forest Conservation Plan

LINDEN GROVE
LOTS 1 THRU 44, BUILDABLE PRESERVATION PARCEL 'A' & NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'D'

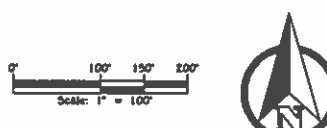
ZONED: RC-DEO
TAX MAP No. 7 GRD No. 10 & TAX MAP No. 6 GRD No. 13 PARCEL No. 5
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: OCTOBER 21, 2017
SHEET 10 of 14



PERKINS, COLLINS & CHYER, INC.
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(410) 441-1000

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS
10000 BELT ROAD, SUITE 1000, GREENBELT, MD 20814
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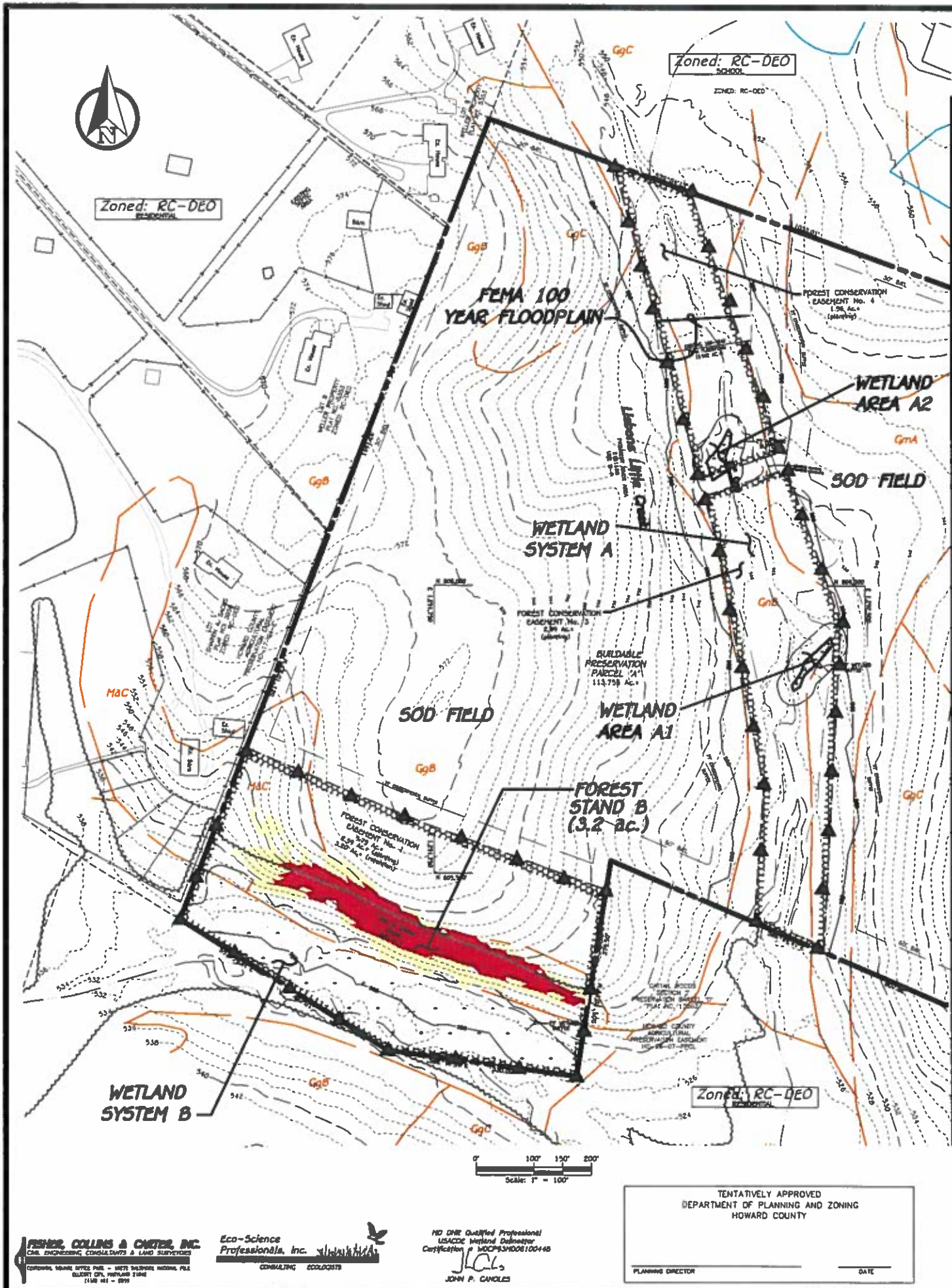
MD DME Qualified Professional USACE Wetland Delimitation Certification
JOHN P. CAHOLES



DAVIS & DEVELOPER
HERITAGE LAND DEVELOPMENT
19450 NORTH AVENUE
LEESON, MARYLAND 21745
410-469-7900



Ado H. Vlastos, P.E.
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. 50746. Expiration Date 2-22-19.



FOREST CONSERVATION WORKSHEET

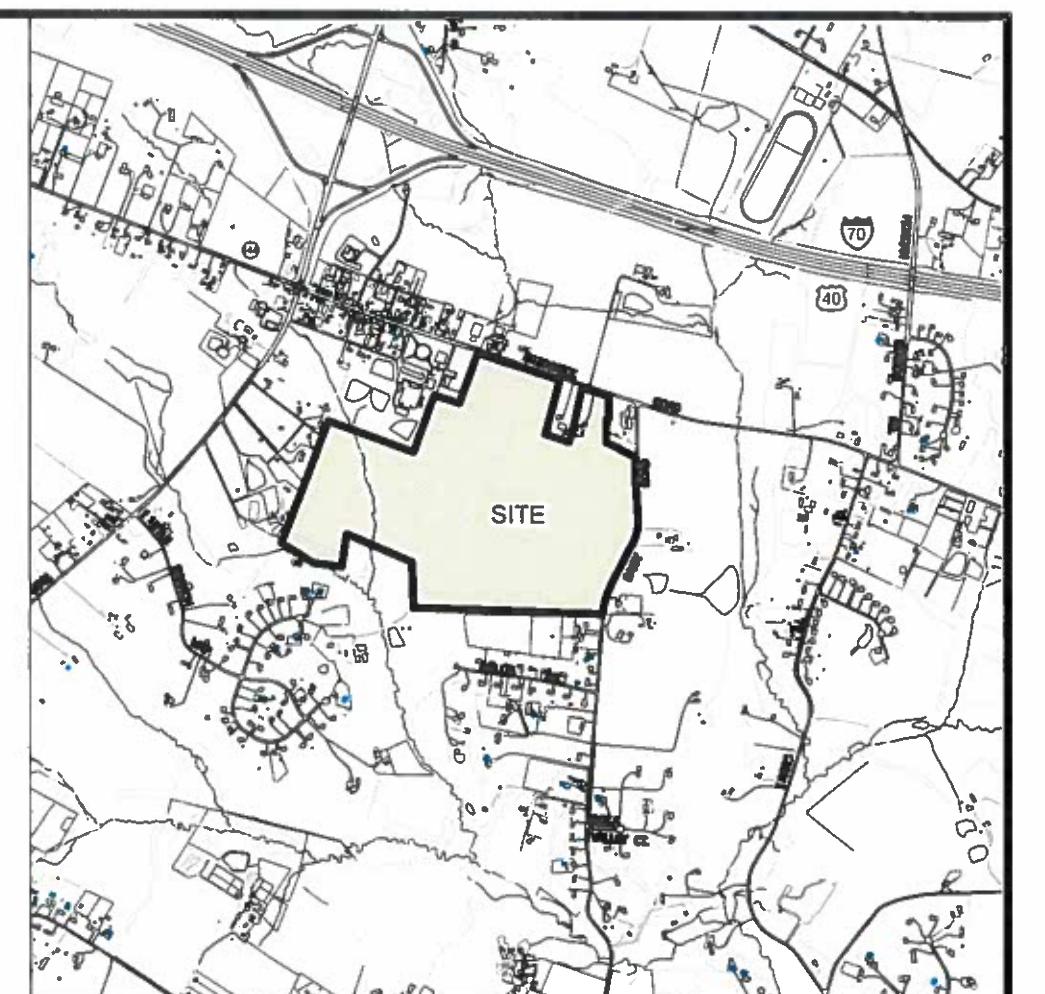
NET TRACT AREA	ACRES
A. TOTAL TRACT AREA	276.00
B. DEDUCTIONS (FOREST AREA RESTRICTED BY LOCAL OR PROGRAM) (FLOODPLAIN AREA)	6.80
C. NET TRACT AREA = NET TRACT AREA - DEDUCTIONS (B)	269.20
D. FORESTABLE AREA = (80.25 % of Net Tract Area)	216.85
E. APPOINTMENT THRESHOLD (NET TRACT AREA (C) x 20%)	53.84 ACRES REMAINING
F. CONSERVATION THRESHOLD (NET TRACT AREA (C) x 25%)	67.30 ACRES REMAINING
EXISTING FOREST COVER	
G. EXISTING FOREST COVER WITHIN THE NET TRACT AREA	4.87
H. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	0
IF THE EXISTING FOREST COVER (G) IS GREATER THAN THE CONSERVATION THRESHOLD (F), THEN G - F = I. OTHERWISE C = 0	
BREAK-EVEN POINT	
J. BREAK-EVEN POINT (AMOUNT OF FOREST THAT MUST BE RETAINED SO THAT NO NET LOSS IS INCURRED)	4.87
IF THE AREA OF FOREST ABOVE CONSERVATION THRESHOLD (H) IS GREATER THAN 0, THEN	
K = (H) x (E) = THE AREA OF FOREST ABOVE CONSERVATION THRESHOLD (H) x THE CONSERVATION THRESHOLD (E).	
IF THE AREA OF FOREST ABOVE CONSERVATION THRESHOLD (H) IS EQUAL TO 0, THEN	
L = EXISTING FOREST COVER (G)	
M. FOREST CLEARING PERMITTED WITHOUT REPLANTING	
N = EXISTING FOREST COVER (G) - BREAK-EVEN POINT (J)	
PROPOSED FOREST CLEARING	
O. TOTAL AREA OF FOREST TO BE CLEARED	0.00
P. TOTAL AREA OF FOREST TO BE RETAINED	4.87
Q = EXISTING FOREST COVER (G) - FOREST TO BE CLEARED (O)	
PLANTING REQUIREMENTS	
IF THE TOTAL AREA OF FOREST TO BE RETAINED (Q) IS AT OR ABOVE THE BREAK-EVEN POINT (J), NO PLANTING IS REQUIRED, AND NO FURTHER CALCULATIONS ARE NECESSARY. (L = Q, M = Q, N = Q, O = 0)	
OTHERWISE, CALCULATE THE PLANTING REQUIREMENTS AS FOLLOWS:	
R. REFORESTATION FOR CLEARING ABOVE THE CONSERVATION THRESHOLD	
IF THE TOTAL AREA OF FOREST TO BE RETAINED (Q) IS GREATER THAN THE CONSERVATION THRESHOLD (F), THEN L = THE AREA OF FOREST TO BE CLEARED (O) x 0.25.	
IF THE FOREST TO BE RETAINED (Q) IS LESS THAN OR EQUAL TO THE CONSERVATION THRESHOLD (F), THEN L = AREA OF FOREST ABOVE CONSERVATION THRESHOLD (H) x 0.25	
S. REFORESTATION FOR CLEARING BELOW THE CONSERVATION THRESHOLD	
IF EXISTING FOREST COVER (G) IS GREATER THAN THE CONSERVATION THRESHOLD (F) AND THE FOREST TO BE RETAINED (Q) IS LESS THAN OR EQUAL TO THE CONSERVATION THRESHOLD (F), THEN M = (Q) x (CONSERVATION THRESHOLD (F) - FOREST TO BE CLEARED (O)).	
IF EXISTING FOREST COVER (G) IS LESS THAN OR EQUAL TO THE CONSERVATION THRESHOLD (F), THEN M = 0.25 x FOREST TO BE CLEARED (O)	
N. FOREST FOR RETENTION ABOVE THE CONSERVATION THRESHOLD	
IF THE AREA OF FOREST TO BE RETAINED (Q) IS GREATER THAN THE CONSERVATION THRESHOLD (F), THEN N = (Q) - (CONSERVATION THRESHOLD (F))	
IF EXISTING FOREST COVER (G) IS LESS THAN OR EQUAL TO THE CONSERVATION THRESHOLD (F), THEN N = 0	
P. TOTAL REFORESTATION REQUIRED R + M = 0	
Q. TOTAL APPOINTMENT REQUIRED	
R = EXISTING FOREST COVER (G) IS LESS THAN THE APPOINTMENT THRESHOLD (E), THEN	
S = APPOINTMENT THRESHOLD (E) - EXISTING FOREST COVER (G)	12.27
T. TOTAL PLANTING REQUIREMENT Q + P + S	12.27

NOTE:
THE FOLLOWING DEDUCTIONS ARE ALLOWED WITHIN THE CALCULATION OF THE FOREST CONSERVATION WORKSHEET:

- 1) FLOODPLAIN = 6.80 AC.
- 2) FARMABLE AREA = 68.25 AC.
- 3) TOTAL DEDUCTIONS = 75.05 AC.
- 4) NET TRACT AREA = 269.20 AC.
- 5) FOREST RETENTION = 4.87 AC.
- 6) FOREST CONSERVATION PLANTING = 12.27 AC.

LEGEND

SYMBOL	DESCRIPTION
—	PROPOSED STORM DRAIN LINE
—	PROPOSED DRYWELL (14-5)
—	BOUNDARY/HEIGHT OF WAY LINE
—	BUILDING RESTRICTION LINE
—	PROPOSED CURB
—	DRYWELL (14-5)
—	PROPOSED WELL
—	PROPOSED WELL BOX
—	EXISTING 10 FT. CONTOUR
—	EXISTING 2 FT. CONTOUR
—	PROPOSED SEPTIC FIELD
—	25% OR GREATER SLOPES
—	15% - 24.99% SLOPES
—	EXISTING/PROPOSED TREELINE



VICINITY MAP

Scale: 1" = 1000'

FOREST CONSERVATION EASEMENT

UNAUTHORIZED DISTURBANCE OF VEGETATION IS PROHIBITED. VIOLATORS SUBJECT TO PENALTIES UNDER THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1991.

TREES FOR YOUR FUTURE

11" MINIMUM

ON-SITE SIGNAGE
SIGNS SHALL BE IN PLACE FOR PERPETUITY

Forest Stand Delineation Narrative

The subject property is located in the southeast corner of the intersection of Frederick and Dairy Roads in the Unincorporated County, Maryland. The property is shown on the map as parcel 5. The property encompasses 176.26 acres of land. The majority of the site is maintained as open field. At the time of our site visit the fields were being used to grow soybeans and corn. An underground gas transmission line crosses the property. Forest resources on the property are limited. A small remnant forest community, Stand A, is present in a creek located in the northern corner of the site and a larger mature community, Stand B, is present along steep slopes and stream valley in the southern corner of the property. Stand A is dominated by white oak, red maple, and black cherry. The stream banks are mixed age. The shrub layer includes a high percentage of invasive species including Japanese barberry and multiflora rose. Pileated, Red-shouldered, and Virginia nuthatches are also present in the area. This limited patch of forest occupies approximately 1.1 acres of the site. The forest is associated with a wetland/stream system and associated buffers.

Stand B is a fully canopy dominated community that includes black cherry, red maple, and common black locust. Black oaks are present in the understory. The shrub layer is highly influenced by invasive species including Japanese barberry, multiflora rose, and also contains sparrowhawk, red maple, and black cherry. The stream banks are generally 10-20 high diameter with scattered larger individuals. This community occurs along steep slopes and into a stream valley along the property boundary in wetland and stream banks in the valley bottom road maps in the most common adjacent boundaries. Stand B occupies approximately 3.2 acres of the site. The community does extend slightly but is the overall forest patch is located within the riparian and stream corridors.

As indicated, the site also contains wetland and stream resources. Three distinct resources were identified during our field visit. All of these areas are within the Little Lick Creek watershed which is part of the Use B-P watershed of Capital Creek. This system is part of the Brighton Dam/Parsons watershed.

System A is the remnant of Little Lick Creek. This stream runs across the western end of the property. The riparian stream is mostly intact but does have some adjacent wetland development along some that have not been disturbed by past agricultural practices. Wetland Area A1 is dominated by red maple, black cherry, and white oak. This system is highly influenced by invasive species dominated by agriculture and other land uses. Adjunctive use also noted in the wetland. A grass foundation also present at the head of the stream, this may suggest that a wetland area was once present in this area. Wetland Area A2 is dominated by a degraded white oak forest along the stream. It appears that floodplain back up into this area along wetland boundaries. Stand B is a small remnant forest community that is present in the northern corner of the site. A small remnant forest is present along the bank of the stream along the wetland boundary. The streamside forest, red maple, sparrowhawk, white oak, and burrhead are common woody plants in the wetland. Shrub oaks, black cherry, and Japanese barberry are common herbaceous species. This system occupies approximately 1.1 acres of the site.

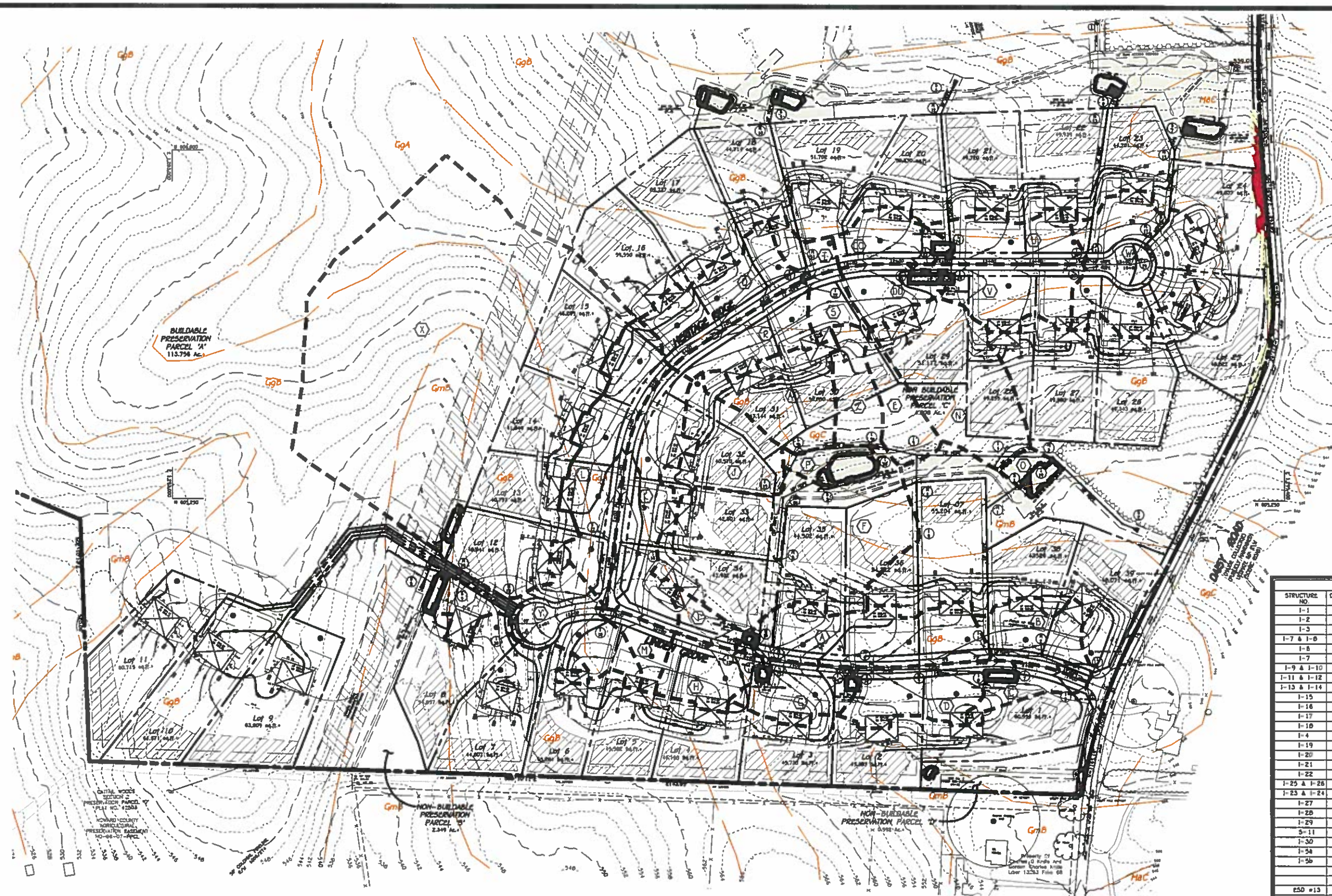
System C is a small remnant forest community located within forest stand A in the northeast corner of the site. A small remnant forest is present along the bank of the stream along the wetland boundary. The streamside forest, red maple, sparrowhawk, white oak, and burrhead are common woody plants in the wetland. Shrub oaks, black cherry, and Japanese barberry are common herbaceous species. This system occupies approximately 0.9 acres of the property.

10. The Forest Conservation Requirements Per Section 16.1200 Of The Howard County Code And Forest Conservation Manual For This Subdivision Will Be Fulfilled By 4.24 AC. Of On-site Credited Retention And 12.27 AC. Of On-site Reforestation. There Is No Surety For Forest Retention. Surety For On-site Planting Is \$257,241.00. (12.27 AC. X \$3,560 Sq.Ft. X \$6.50).

PRELIMINARY FOREST CONSERVATION PLAN LINDEN GROVE

LOTS 1 THRU 44, BUILDABLE PRESERVATION PARCEL 'A' & NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'D'

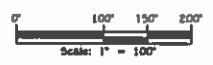
ZONED: RC-DEO
TAX MAP No. 7 GRID No. 10 A
TAX MAP No. 9 GRID No. 13 PARCEL No. 5
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: OCTOBER 20, 2017
SHEET 11 of 14



DRAINAGE AREA DATA						
STRUCTURE NO.	DRAINAGE AREA	AREA	ZONED	T _C FACTOR	TIME (Min.)	REMARKS
I-1	A	1.35 AC	RC-DEO	0.46	5.00	D-4.03
I-2	B	0.67 AC	RC-DEO	0.49	5.00	D-4.03
I-3	C	0.30 AC	RC-DEO	0.41	5.00	D-4.03
I-7 & I-8	D	0.84 AC	RC-DEO	0.45	5.00	D-4.22 & MD-374.68
I-8	E	0.47 AC	RC-DEO	0.25	5.00	D-4.10
I-7	F	3.13 AC	RC-DEO	0.25	5.00	D-4.10
I-9 & I-10	G	0.59 AC	RC-DEO	0.42	5.00	D-4.22 & MD-374.68
I-11 & I-12	H	0.59 AC	RC-DEO	0.52	5.00	D-4.22 & MD-374.68
I-13 & I-14	I	0.26 AC	RC-DEO	0.43	5.00	D-4.22 & MD-374.68
I-15	J	0.93 AC	RC-DEO	0.27	5.00	D-4.14
I-16	K	1.34 AC	RC-DEO	0.46	5.00	D-4.03
I-17	L	1.43 AC	RC-DEO	0.47	5.00	D-4.03
I-18	M	0.28 AC	RC-DEO	0.39	5.00	D-4.03
I-4	N	1.59 AC	RC-DEO	0.45	5.00	D-4.10
I-19	O	0.18 AC	RC-DEO	0.25	5.00	D-4.22
I-20	P	0.30 AC	RC-DEO	0.30	5.00	D-4.22
I-21	Q	1.00 AC	RC-DEO	0.44	5.00	D-4.03
I-22	R	0.70 AC	RC-DEO	0.50	5.00	D-4.03
I-23 & I-24	S	0.28 AC	RC-DEO	0.44	5.00	D-4.22 & MD-374.68
I-25 & I-26	T	0.24 AC	RC-DEO	0.41	5.00	D-4.22 & MD-374.68
I-27	U	0.70 AC	RC-DEO	0.47	5.00	D-4.03
I-28	V	0.60 AC	RC-DEO	0.47	5.00	D-4.03
I-29	W	1.53 AC	RC-DEO	0.49	5.00	D-4.03
I-11	X	9.92 AC	RC-DEO	0.64	5.00	CULVERT
I-30	Y	1.29 AC	RC-DEO	0.64	5.00	D-4.03
I-31	Z	0.52 AC	RC-DEO	0.94	5.00	D-4.14
I-32	AA	0.97 AC	RC-DEO	0.95	5.00	D-4.14
ESD #13	BB	2.34 AC	RC-DEO	0.09	5.00	BIO-RETENTION
ESD #14	CC	0.99 AC	RC-DEO	0.91	5.00	MICRO BIO-RETENTION
ESD #15	CC	0.54 AC	RC-DEO	0.84	5.00	MICRO BIO-RETENTION

SOILS LEGEND			
SOIL	NAME	CLASS	K _v
BvD	Brittlow channery loam, 15 to 25 percent slopes	B	.20
CgA	Densly loam, 0 to 3 percent slopes	B	.20
CgB	Densly loam, 3 to 8 percent slopes	B	.20
CgC	Densly loam, 8 to 15 percent slopes	B	.20
GmA	Gensly all loam, 0 to 3 percent slopes	E	.37
GmB	Gensly all loam, 3 to 8 percent slopes	E	.37
GmC	Gensly all loam, 8 to 15 percent slopes	E	.37
HmR	Honor loam, 0 to 15 percent slopes	B	.24

NOTES:
 * Hydric soils and/or contains hydric inclusions
 ** May contain hydric inclusions
 † Generally only within 100-year floodplain areas
 ‡ Denotes Erodeable Soils



PERDUE COLLINS & CHASE, INC.
 CIVIL, ARCHITECTURAL, ENGINEERING & LAND SURVEYING
 1100 4th Street, Suite 200, Annapolis, MD 21403
 (410) 491-1000

OWNER & DEVELOPER
 HERITAGE LAND DEVELOPMENT
 15950 NORTH AVENUE
 LUSKON, MARYLAND 21765
 410-489-7900



Ade P. Vlucci, P.E.
 Date: _____
 I, the undersigned, being a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20746, do 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. 20746, Expiration Date 2-22-15.

STORM DRAIN DRAINAGE AREA MAP
LINDEN GROVE
 LOTS 1 THRU 30, BUILDABLE PRESERVATION PARCEL 'X' & NON-BUILDABLE PRESERVATION PARCELS 'Y' THRU 'D'
 ZONED: RC-DEO
 TAX MAP No. 7 Q2D No. 18 & TAX MAP No. 8 Q2D No. 13 PARCEL No. 5
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: OCTOBER 20, 2017
 SHEET 12 OF 14



SOILS LEGEND			
SOIL	NAME	CLASS	K _v
BvD	Brown channery loam, 15 to 25 percent slopes	B	.20
GpA	Genesee loam, 0 to 3 percent slopes	B	.20
GpB	Genesee loam, 3 to 8 percent slopes	B	.20
GpC	Genesee loam, 8 to 15 percent slopes	B	.20
GmA	Genesee all loam, 0 to 3 percent slopes	C	.37
GmB	Genesee all loam, 3 to 8 percent slopes	C	.37
GmC	Genesee-Belle all loams, 0 to 8 percent slopes	C	.37
MBC	Manner loam, 8 to 15 percent slopes	B	.24

- NOTES:
- Hydric soils and/or contains hydric inclusions
 - May contain hydric inclusions
 - † Generally only within 100-year floodplain areas
 - Denotes Erodible Soils

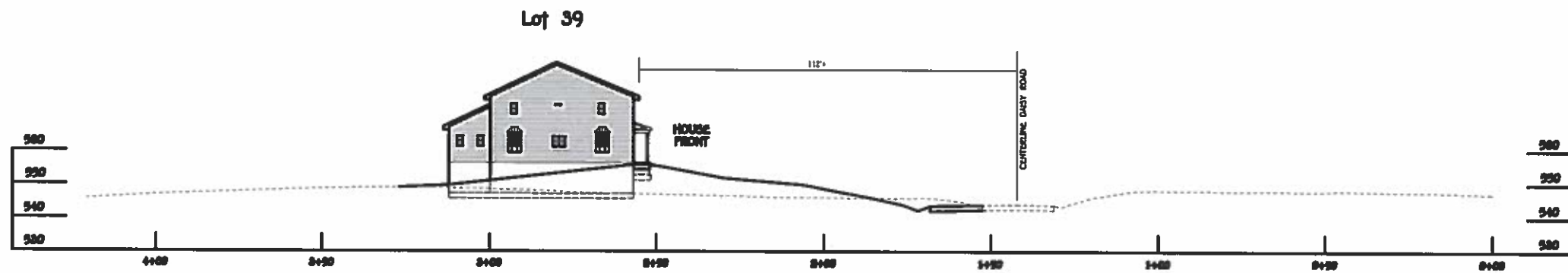


OWNER & DEVELOPER
HERITAGE LAND DEVELOPMENT
15950 NORTH AVENUE
LISBON, MARYLAND 21765
410-469-7900

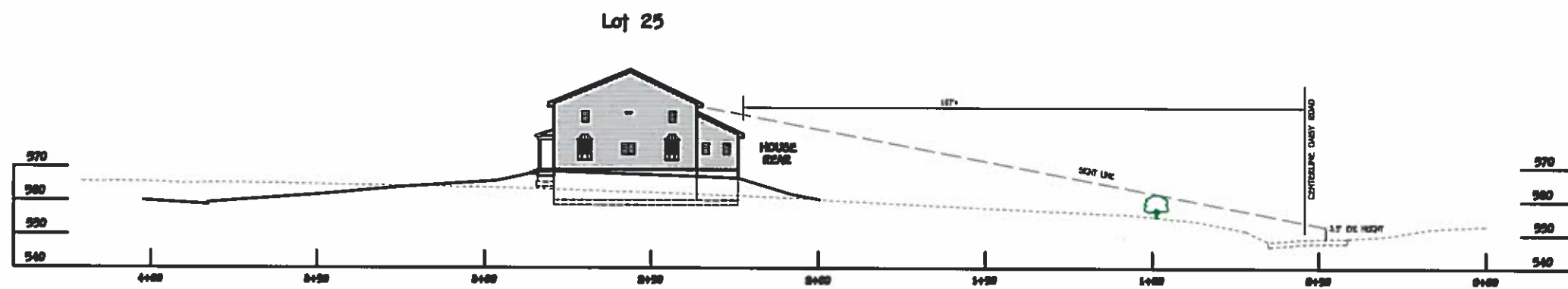
Alex H. Vrecc, P.E.
DATE: _____
Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20746. Expiration Date: 2-22-17.

STORM DRAIN DRAINAGE AREA MAP
LINDEN GROVE
LOTS 1 THRU 44, BULIDABLE PRESERVATION
PARCEL 'A' & NON-BULIDABLE PRESERVATION
PARCELS 'B' THRU 'D'

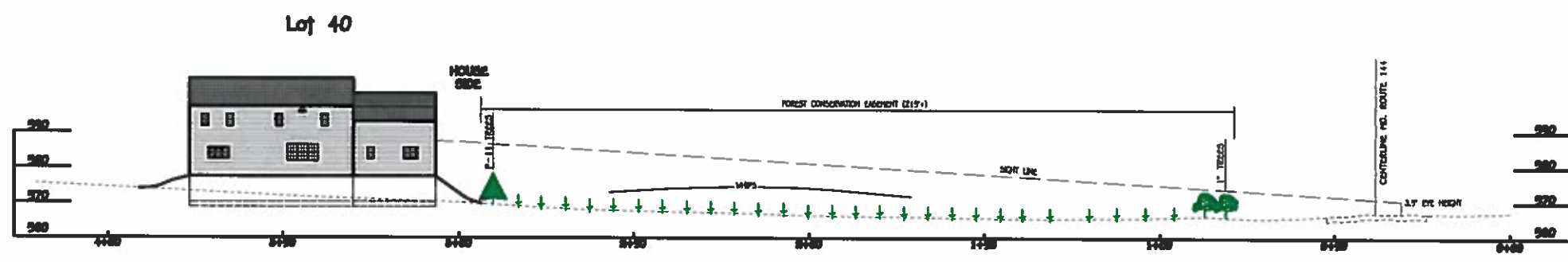
ZONED: EC-DEO
TAX MAP No. 7, GRID No. 18 &
TAX MAP No. 8, GRID No. 13, PARCEL No. 5
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: OCTOBER 20, 2017
SHEET 13 of 14



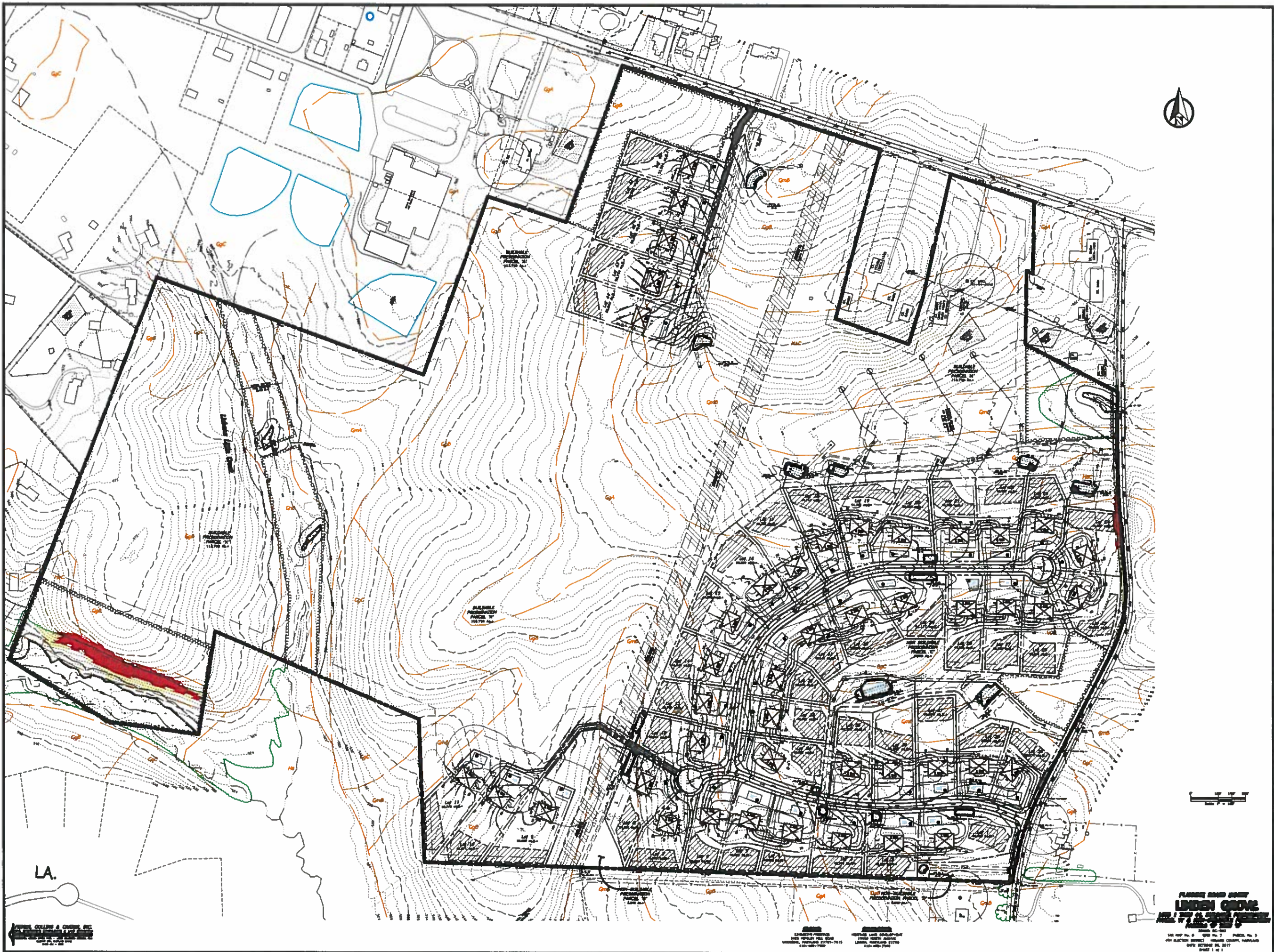
PROFILE SECTION A-A
 SCALE: HORIZ. 1" = 20'
 VERT. 1" = 20'



PROFILE SECTION B-B
 SCALE: HORIZ. 1" = 20'
 VERT. 1" = 20'



PROFILE SECTION C-C
 SCALE: HORIZ. 1" = 20'
 VERT. 1" = 20'

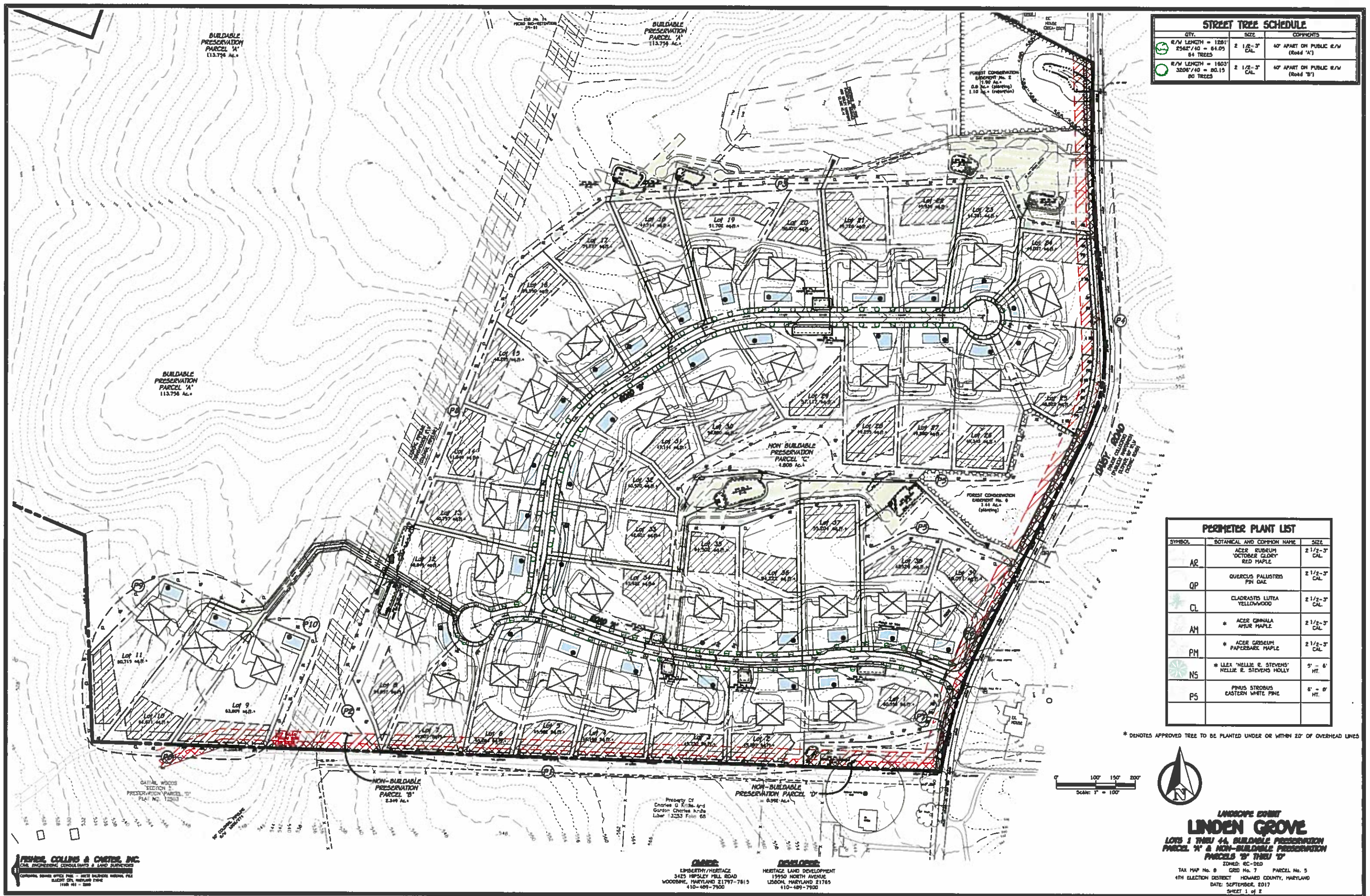


LA.

ARTHUR COLLINS & COMPANY, INC.
PLANNING ENGINEERS & ARCHITECTS
1000 W. BROAD STREET
ANNAPOLIS, MD 21403
TEL: 410-291-1100
FAX: 410-291-1101

DATE: 10/20/17
DRAWN BY: JAC
CHECKED BY: JAC
SCALE: AS SHOWN

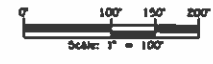
PLANNING BOARD MEETING
LINDEN GROVE
PHASE 1 SITE & UTILITY PLAN
PARCEL 17 OF 21
APPROVED FOR THE BOARD OF ZONING
OFFICIALS
DATE: OCTOBER 24, 2017
PAGE 1 OF 1



STREET TREE SCHEDULE		
QTY.	SIZE	COMMENTS
64 TREES	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W (Road 'A')
80 TREES	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W (Road 'B')

PERIMETER PLANT LIST		
SYMBOL	BOTANICAL AND COMMON NAME	SIZE
AR	ACER RUBRUM OCTOBER GLORY RED MAPLE	2 1/2"-3" CAL.
QP	QUERCUS PALLETIS PIN OAK	2 1/2"-3" CAL.
CL	CLADASTIS LUTEA YELLOWWOOD	2 1/2"-3" CAL.
AM	* ACER CERNIALA AFRUR MAPLE	2 1/2"-3" CAL.
PM	* ACER GIBBERUM PAPERBARK MAPLE	2 1/2"-3" CAL.
N5	* ILEX 'NELLIE E. STEVENS' NELLIE E. STEVENS HOLLY	5' - 6' HT.
P5	PRINUS STROBUS EASTERN WHITE PINE	6' - 8' HT.

* DENOTES APPROVED TREE TO BE PLANTED UNDER OR WITHIN 20' OF OVERHEAD LINES

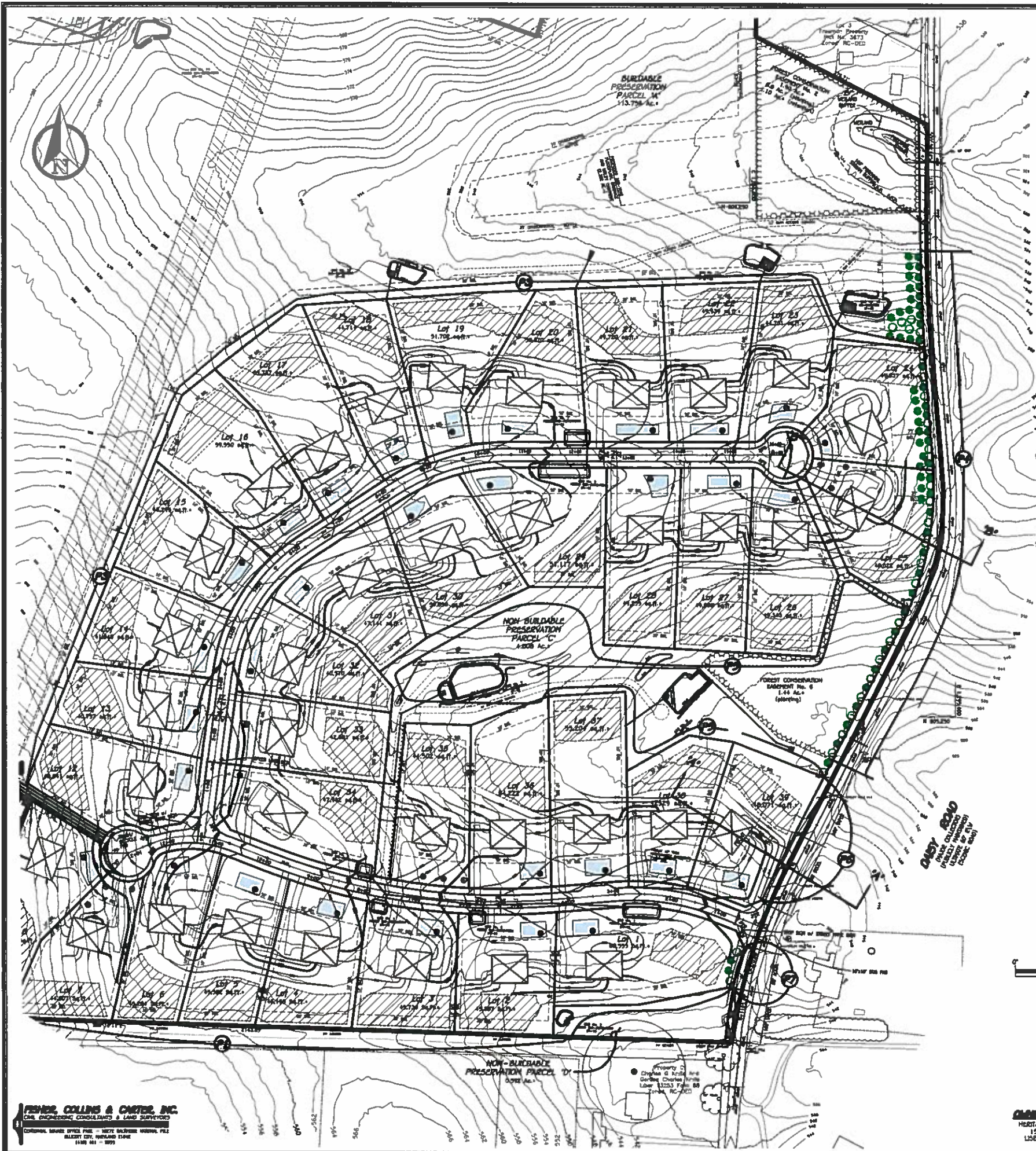


LANDSCAPE ARCHITECT
LINDEN GROVE
 LOTS 1 THRU 44, BUILDABLE PRESERVATION PARCEL 'A' & NON-BUILDABLE PRESERVATION PARCELS 'B' THRU 'D'
 ZONED: GC-DED
 TAX MAP No. 8 GRID No. 7 PARCEL No. 5
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: SEPTEMBER, 2017
 SHEET 1 of 2

PERKINS COLLINS & CHASE, INC.
 CIVIL, ENGINEERING, CONSULTANTS & LAND SURVEYORS
 1100 N. WASHINGTON BLVD., SUITE 200
 WASHINGTON, DC 20004
 (202) 462-1000

OWNER
 EMBERTY/HERITAGE
 3425 WINDLEY HILL ROAD
 WOODBRIDGE, MARYLAND 21785
 410-489-7500

DEVELOPER
 HERITAGE LAND DEVELOPMENT
 19950 NORTH AVENUE
 LUSK, MARYLAND 21785
 410-489-7500



**SCHEDULE A
PERMITS LANDSCAPE EDGE**

PERMITS	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	P-9	P-10	P-11	P-12	P-13	P-14
CATEGORY	Adjacent to Particular Property	Adjacent to Preservation Parcel	Adjacent to Preservation Parcel	Adjacent to Particular Property	Adjacent to Preservation Parcel	Front to Building	Adjacent to Particular Property	Adjacent to Particular Property	Adjacent to Preservation Parcel	Adjacent to Preservation Parcel	Adjacent to Particular Property	Adjacent to Preservation Parcel	Adjacent to Preservation Parcel	Adjacent to Preservation Parcel
LANDSCAPE TYPE	A	S	S	E	S	S/A	S	S	S	S	S	S	S	S
LINEAR FEET OF SCENIC FRONTAGE/PERMITS	1474.0'	483.0'	2362.0'	388.0'	2284.0'	228.0'	79.0'	884.0'	884.0'	415.0'	385.0'	782.0'	884.0'	782.0'
CREDIT FOR SCENIC VEGETATION TREA. NO LINEAR FEET DEDUCTION BELOW IF REDUCED	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CREDIT FOR WALL, FENCE OR BORN TREA. NO LINEAR FEET DEDUCTION BELOW IF REDUCED	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AMOUNT OF PLANTS REQUIRED WIDE TREES NARROW TREES SHRUBS	25 - -	0 - -	10 - -	22 - -	29 - -	2 - -	1 - -	11 - -	11 - -	2 - -	7 - -	12 - -	11 - -	12 - -

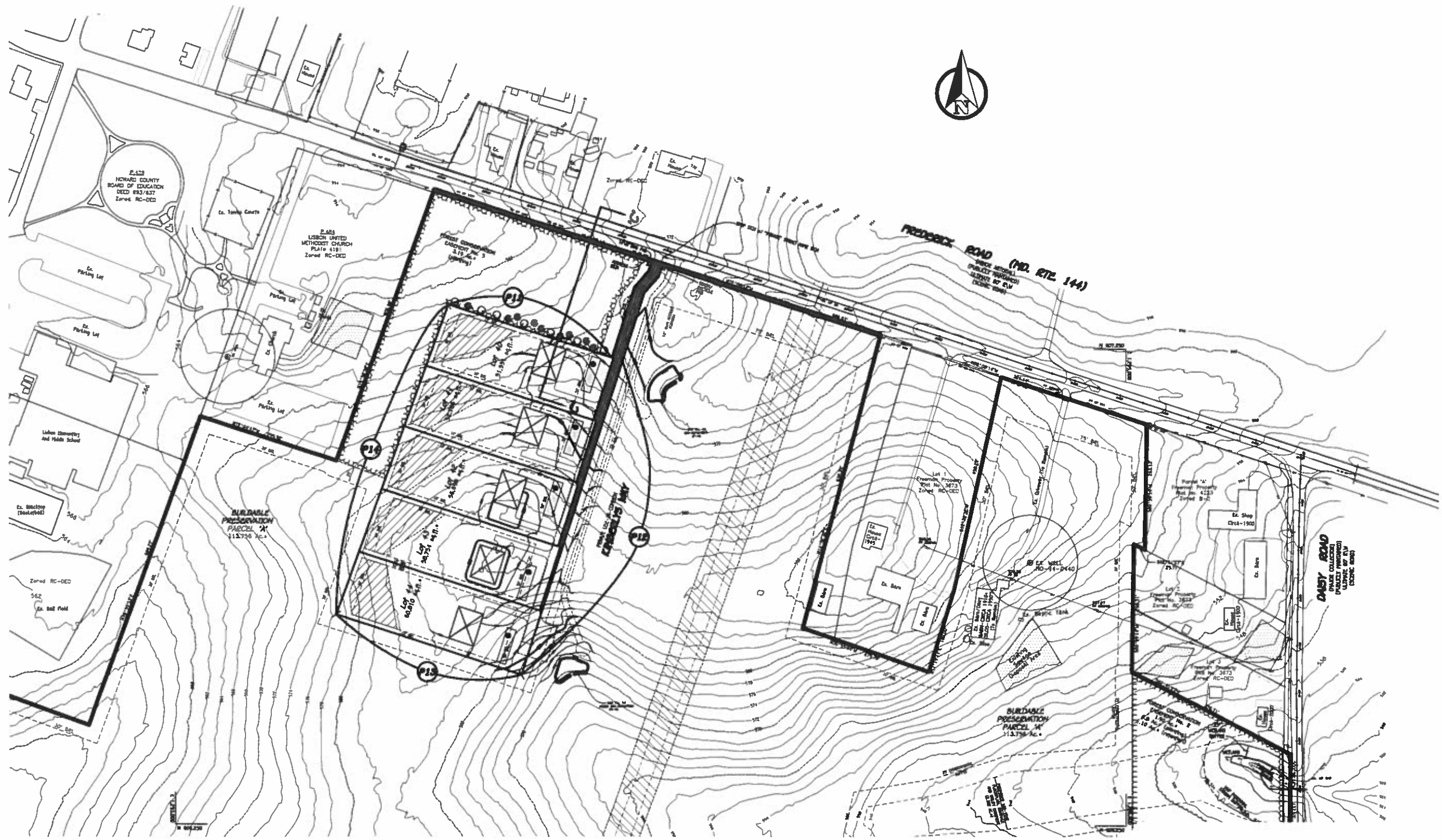
P-1 AND P-2 ARE LOCATED BEHIND THE LOTS AND THE NON-BUILDABLE PRESERVATION PARCELS TO SCREEN THE PROPOSED BUILDINGS FROM THE SCENIC ROADWAY.



FENNER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CORPORATE OFFICE: 1000 W. BROADWAY, SUITE 1000, NEW YORK, NY 10001
BALTIMORE OFFICE: 1000 W. BROADWAY, SUITE 1000, BALTIMORE, MD 21201

OWNER & DEVELOPER
HERITAGE LAND DEVELOPMENT
15950 NORTH AVENUE
LISBON, MARYLAND 21785
410-489-7900

**SCENIC ROAD EXHIBIT
LINDEN GROVE**
LOTS 1 THRU 44, BULDABLE PRESERVATION
PARCEL W & NON-BULDABLE PRESERVATION
PARCELS 15^A THRU 17^A
TAX MAP No. 7 GRID No. 10 &
TAX MAP No. 8 GRID No. 13 PARCEL No. 5
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: AUGUST 15, 2017
SHEET 1 of 3



OWNER & DEVELOPER
 HERITAGE LAND DEVELOPMENT
 19950 NORTH AVENUE
 USBA, MARYLAND 21785
 410-409-7500

Also H. V. V. P.E.
 Date
 "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. 52745, Expiration Date 2-22-19."

**SCenic ROAD EXHIBIT
 LINDEN GROVE**
 LOTS 1 THRU 44, BUILDABLE PRESERVATION
 PARCEL 'A' & NON-BUILDABLE PRESERVATION
 PARCELS 'B' THRU 'D'
 ZONED EC-DED
 TAX MAP No. 7 CED No. 10 &
 TAX MAP No. 8 CED No. 13 PARCEL No. 5
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: AUGUST 15, 2017
 SHEET 2 of 3

FRENCH COLLINS & CARTER, INC.
 CIVIL ENGINEERS, EXHIBITS & LAND SURVEYORS
 11000 WOODBURN ROAD, SUITE 100
 BELLEVILLE, MARYLAND 21038
 410-409-7500