BUENA VISTA PROPERTY

FOREST STAND DELINEATION REPORT

prepared for:

Stonewall Capital
1206 Sparks Road
Sparks, Maryland 21152

prepared by:

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I. INTRODUCTION

Eco-Science Professionals, Inc. was contracted by Stonewall Capital to perform a Forest Stand Delineation for the Buena Vista Avenue property. The property includes 0.64 acres ± and is located off of Buena Vista Avenue in the Hampden section of Baltimore City, Maryland. This study was done to assess the regulated natural resources on the site.

II. SITE DESCRIPTION

The subject property is located along Buena Vista Avenue between Dellwood Avenue and Cox Street in the Hampden section of Baltimore City, Maryland. Land use in the vicinity of the site consists of high density residential development to the east of Buena Vista Avenue and commercial uses to the west of Buena Vista Ave.

The site is located within the Piedmont physiographic province of Maryland. In Baltimore City, this province is typified by rolling hills drained by numerous small streams in fairly narrow valleys.

The subject property is currently vacant of any improved buildings or structures. A portion of the southern end of the site appears to be used for parking and storage/disposal of landscape debris and other materials. On the northern end of the site the extension of Cox Street cuts through the property. Though the tax map shows the road right of way being offsite, it appears that the actual location of the road may extend into the property.

The property is moderately to steeply sloping. The highpoint of the property is located where Cox Street becomes Morling Avenue. From this point the property slopes downward to the south toward Dellwood and to the west toward Buena Vista Avenue. The slope from Cox Street down to Buena Vista is very steep and tall.

The majority of the site is forested. With the exception of paved sections of Cox Street and the far southern end of the site that partially maintained, the balance of the site is forest. The property is dominated by a mixed, young successional community with scattered large and specimen sized trees.

There is evidence of active uses on the property. The southern end of the site appears to be used for storage/disposal of landscape debris and other materials. Trails that cross through the forested portion of the property are common. Evidence of other uses includes chairs set around a

heavily used area with a campfire were noted near the south end of the forest. Several lawn mowers were also noted on the property. They seem to have been stashed along the various trails.

Field review of the property has determined that no wetlands, streams or buffers are present.

The Web Soil Survey indicates the site has the following soil types:

18UC Legore-Urban land complex, 8 to 15 percent slopes

III. FOREST STAND DELINEATION

Methods

The Forest Stand Delineation for the Buena Vista Avenue Property was performed May 2018. The requirements outlined in Section 1 of the State of Maryland Forest Conservation Act and in the *Baltimore City Supplement to the State Forest Conservation Manual* were used to delineate and report the characteristics of the existing forest resources on the property.

Forest Stand Narratives

The project area contains one forest stand types. The total area encompassed by forest on the project site is approximately 0.4 acres. The forest has been mapped on the Forest Stand Delineation map. The Forest Stand Data Sheets for the stand can be found in Appendix A. Given the small size of the stands, an overall species inventory/assessment was used to characterize the stand.

Stand F-1

Stand F-1 is a 0.4 acre successional community that occurs across the site. The canopy of the stand is mixed but notable species include white ash, black locust, Norway maple, silver maple, and red oak. Less common canopy associates and understory representatives includes slippery elm, box elder and mulberry. The canopy trees are generally 12-18 inches dbh with several larger individuals also being identified.

The shrub layer of the stand is dense and is made up of invasive species. Bush honeysuckle and multiflora rose are very common across the site. Shrub coverage is reduced on the steep slopes in the northern end of the site. The herbaceous community is dominated by invasive species with garlic mustard and lesser celandine being noted.

The stand also includes a diverse invasive vine community. Poison ivy, English ivy, sweet pea vine, and Oriental bittersweet are common throughout.

The overall condition of the stand is fair. The canopy trees appear to be relatively healthy and do not exhibit any major dieback but are impacted by vine cover. No significant insect or disease problems were noted at the time of our investigation. Vine cover is reaching into the crowns of some trees and may potentially smother these trees the high percentage of invasive species in the shrub and herb layer reduce the stand's successional ability and its ability to provide viable habitat for native wildlife and insects. The stand scored a 18 on the Forest Structure Analysis, indicating good structure.

The stand is very small and is subject to edge effect throughout. The stand may provide suitable habitat for typical woodland and common urban wildlife. The stand does not provide forest interior habitat.

Portions of the stand occur on steep slopes are considered a high priority for retention. Otherwise the stand has limited function and only good structure and would be considered a low priority for retention on the basis of its high invasive composition.

Specimen Trees

The State of Maryland Forest Conservation Program defines specimen trees as trees having a diameter measured at 4.5 feet above the ground of 30 inches or more, or trees having 75 percent or more of the diameter of the current state, county, or city champion tree of that species. Two specimen trees were identified adjacent to the site. The location, type, size, and condition of each tree is shown on the attached plan.

Significant Trees 20-30 Inches DBH

In addition to specimen trees, the Baltimore City Forest Conservation Program also requires that any tree in excess of 20 inches DBH be identified when proposed for removal. Nine trees between 20-30" dbh were located on or adjacent to the site. These trees and the appropriate identifying characteristics are shown on the attached plan.

IV. RECOMMENDATIONS

The project site is proposed for high density residential use. Property with this zoning has a conservation threshold of 20 percent and afforestation threshold of 15 percent of the net tract area The net tract area is defined as the gross site area minus land within a 100 year floodplain. No floodplain is present on the site therefore the gross tract area equals the net tract area. Existing forest on the site exceeds the afforestation threshold therefore no afforestation is required. Existing forest also exceeds the conservation threshold therefore a break-even point (BEP) can be determined. The break-even point is the point where reforestation for clearing above the conservation threshold is

offset by retention of forest above the conservation threshold. The Preliminary Forest Conservation Worksheet (Appendix A) indicates that the BEP for this site is 0.2 acres, meaning that if 0.2 acres of forest can be retained in a conservation easement, no reforestation would be required. If forest clearing exceeds this threshold a reforestation obligation will be generated.

V. AUTHORSHIP

This study was performed by John Canoles and Henry Leskinen. Co-founders of Eco-Science Professionals, Inc., they have extensive experience in natural resources assessments and inventories. Mr. Canoles received his Bachelor of Sciences degree in Natural Science with an Environmental Conservation Concentration from Towson State University in Towson, Maryland. Mr. Leskinen received his Bachelor of Sciences degree from St. Marys College of Maryland in St. Marys City, Maryland. Messrs. Canoles and Leskinen have attended the Maryland State Forestry Conservation Act workshop and have been accepted as Qualified Professionals by MD DNR Public Lands and Forestry (Appendix B).

VI. LITERATURE CITED

Baltimore City Planning Department. October 2, 1992. *Baltimore City Supplement to the State Forest Conservation Manual*.

Maryland Department of Natural Resources. 1995. *State Forest Conservation Technical Manual*. 2nd Edition.

U.S. Department of Agriculture, Soil Conservation Service. *City of Baltimore, Maryland Soil Survey Interim Report and Soil Maps*. April 1990.

Web Soil Survey, site specific search. 2018

APPENDIX A

Forest Stand Data Sheets
and
Preliminary Forest Conservation Worksheet

Eco-Science Professionals, Inc.

FOREST STAND DELINEATION - DOMINANT PLANT SPECIES

Project Name: Buena Vista Date: 5/15/18

Location: Buena Vista Ave Hampton Investigator(s): ESPI

Stand: F1 Type: Mixed successional Acreage: 0.4

Slope: 10-25%+ Aspect: S/W

Reviewed by: Date:

Botanical Names of: Dominant Tree Species	Most Common dbh (in.)	dbh Range	Average Height (ft.)	* Approximate % of Each Dominant Species in Canopy	in Understory
1. Fraxinus americana	10-18	4-39	40-60	25	5
2. Robinia pseudo-acacia	8-14	8-16	40-60	25	10
3. Acer platanoides	10-16	2-18	30-50	15	25
4. Acer saccharinum	10-18	2-18	40-60	10	10
5. Acer negundo	8-14	2-14	30-50	5	20
6. Quercus Nbra	8-16	6-23	40-60	10	5

Common regeneration species:

**Common Shrubs and Vines	Average Height (ft.)	Approx. % Cover	Herbaceous Species	Approx. % Cover
1. Lonicera tatarica	4-6	40	1. garlic mustard	5
2. Rosa multiflora	3-5	35	2.	
3.			3. lesser celandine	10
4. Lonicera japonica	Vine	25	4.	
5. Celastrus orbiculatus	Vine	15	5.	
6. Toxicodendron radicans	Vine	10	6.	
7. Hedera helix	Vine	15	7.	
8. Dioscorea lignosus	Vine	15	8.	

Rare, threatened or endangered plant species listed by the +MNHP and/or found:
None observed

List specimen-sized trees: (75% of champion size or ≥30" dbh; except Tuliptree)

Species	dbh (in.)	Condition
See plan		

* Dominant tree species - each column reading down should equal 100%
** Shrubs - include young plants that are taxonomically considered tree species but are less than six feet tall.
% Cover for vines - indicate % distribution between the canopy and understory.
+ Maryland Natural Heritage Program of the Department of Natural Resources
DATASHT.1A/TXTPHC

EXOTIC PLANT SPECIES MOST LIKELY TO BE FOUND IN FOREST COMMUNITIES

Indicate the occurrence of any of the following species using one symbol from both (a) and (b):

(a) O = occasional
C = common
A = abundant

(b) S = scattered throughout
L = localized

	SPECIES	IF OCCURRENCE IS A AND L, RECORD LOCATION IN STAND:
CS	Acer platanoides (Norway Maple)	
OS	Ailanthus altissima (Tree of Heaven)	
CS	Alliaria officinalis (Garlic Mustard)	
	Ampelopsis brevipedunculata (Porcelain Berry)	
	Berberis thunbergii (Japanese Barberry)	
AS	Celastrus orbiculatus (Oriental Bittersweet)	
	Euonymus alatus (Winged Euonymous)	
	Euonymus fortunei (Climbing Euonymous)	
	Glecoma hederacea (Ground Ivy)	
AS	Hedera helix (English Ivy)	
	Hemerocallis fulva (Common Daylily)	
AS	Lonicera japonica (Japanese Honeysuckle)	
AS	Lonicera tatarica (Tatarian Honeysuckle)	
	Pachysandra terminalis (Japanese Pachysandra)	
	Paulownia tomentosa (Empress Tree)	
	Pueraria lobata (Kudzu)	
	Polygonum perfoliatum (Asian Tearthumb)	
AS	Rosa multiflora (Multiflora Rose)	
	Rubus phoenicolasius (Wineberry)	
OS	Vinca minor (Periwinkle)	
	Wisteria floribunda (Wisteria)	
	Wisteria sinensis (Chinese Wisteria)	

Others:

CS	Dipogon lignosus	

Estimate total % cover by all exotic species in:

Canopy	5	Shrub Layer	90
Understory	40	Ground Cover	90

DATASHT.1B/TXTPHC

FOREST STAND DELINEATION - FOREST STRUCTURE

Project Name: Buena Vista Date: 5/15/18

Location: Buena Vista Ave

Stand: F1 Type: mixed successional

Acreage: 0.4 Slope: 10-25%+ Aspect: S/W

% Canopy Closure: (>80% X) (50% to 80%) (30% to 49 %) (<30%)
% Shrub Cover: 60 Shrub height range: 3 feet to 7 feet
% Ground Cover (May to October): 25
Number of woody vegetation layers: (<3) (3 X) (4) (> 5)
Litter Depth (inches) to mineral soil (exclusive of fresh leaf fall): <1
Downed woody debris: (>6" dia.) rare X common abundant
Tally standing snags (>20" dbh): none noted

Stand Narrative:

1) Condition of canopy trees: healthy but impacted by vine cover

2) Evidence of significant disease or insect infestation in the stand: none noted though ash are present in stand. No evidence of borer was observed, possibly due to heavy vine cover.

3) Patterns of disruption within the stand: trails

4) Evidence of management: none

5) Recommendations for improving the structural diversity of the stand: remove invasive species

DATASHT.2A/TXTPHC

FOREST STRUCTURE ANALYSIS

For each of the following parameters, circle the value that best describes the structural conditions in the stand. Add the numerical score for each parameter to get a total value for the stand.

From April through October A score of:	From November through March, omit #5 & #6 A score of:
22 to 33 <-------indicates priority forest structure------->	16 to 27
14 to 21 <-------indicates good forest structure---------->	8 to 15
0 to 13 <-------indicates poor forest structure---------->	0 to 7

1. Percent Canopy Closure (2)

≥ 80%	6
≥ 50 < 80	4
≥ 30 < 50	2
< 30	0

2. Size Class of Dominant Trees (1)

≥ 20" dbh	6
12 - < 20	4
6 - < 12	2
< 6	0

3. Number of Native Tree Species (≥ 6" dbh) (1)

> 6	6
4 - 6	4
2 - 3	2
1	0

4. Number of Woody Vegetation Layers (2)

≥ 5	6
4	4
3	2
< 3	0

5. Number of Native Shrub Species (1) (April through October)

> 6	3
4 - 6	2
2 - 3	1
1	0

6. Number of Common Native Herbaceous Species (1) (April through October)

> 12	3
8 - 12	2
3 - 7	1
> 1	0

7. Average Litter Depth* (in.) (2)

> 6	3
4 - 6	2
1 - 3	1
< 1	0

Total Value = 18

(1) From Data Sheet 1A
(2) From Data Sheet 2A

* exclusive of fresh leaf fall in the autumn

HABITAT POTENTIAL FOR FOREST INTERIOR BIRD (FIB) SPECIES

If the forested area is ≥ 25 acres, or if the forested area and any adjacent forest combined is ≥ 25 acres, indicate Breeding Bird Atlas Survey documentation for FIB species within the nearest sixth block of the appropriate USGS topographical quadrangle: _____

DATASHT.2B/TXTPHC

PRELIMINARY
FOREST CONSERVATION WORKSHEET

Project: Buena Vista May 16, 2018

I. BASIC SITE DATA			Acres
1. Gross Site Acreage			0.6
2. Area within 100 Year Floodplain			0.0
3. Area in Easement			
4. Net Tract Area			0.6
5. Land Use Category			HDR
II. INFORMATION FOR CALCULATIONS			
A. Net Tract Area			0.6
B. Forest Conservation Threshold	(percentage)	.20	0.1
C. Afforestation Threshold	(percentage)	.15	0.1
D. Existing Forest on NTA			0.4
E. Existing Forest above Forest Conservation Threshold			0.3
F. Break-Even Point			0.2

APPENDIX B

Notice of "Qualified Professional" Status

Eco-Science Professionals, Inc.

William Donald Schaefer
Governor

Maryland Department Of Natural Resources
Public Lands and Forestry
Tawes State Office Building
580 Taylor Avenue
Annapolis, MD 21401

Torrey C. Brown, M.D.
Secretary

January 12, 1993

Mr. John Canoles
Eco-Science Professionals, Inc.
P.O. Box 5006
Glen Arm, MD 21057

Dear Mr. Canoles,

We of the Maryland Department of Natural Resources have reviewed your application for qualified professional status for the purpose of developing Forest Stand Delineations and Forest Conservation Plans. We are happy to inform you that our review found you met the requirements of COMAR 08.19.06.01 for this status. Your name will be included on a list of qualified professionals to be sent to jurisdictions with power to review Forest Stand Delineations and Forest Conservation Plans.

Participation by professionals like you is key to successful implementation of the Forest Conservation Act. Thank you for submitting your application.

Sincerely,

Eric Schwaab
Director, Forestry Programs

e:\letters\qualpro.apr

Telephone:_____
DNR TTY for the Deaf: 410-974-3683

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MD 21203-1715

U.S. ARMY CORPS OF ENGINEERS

CERTIFIES THAT

JOHN PRESTON CANOLES

CERTIFICATE NUMBER: WDCP93MD0610044B

has successfully demonstrated to the U.S. Army Corps of Engineers, Baltimore District, sufficient understanding of, and the capability to perform satisfactory wetland delineations consistent with, the Corps 1987 Wetland Delineation Manual and supplemental guidance. This verifies that wetland delineations performed by the certified wetland delineator named above will receive expedited consideration and acceptance by the certifying district, for purposes of the Corps' final determination of wetland jurisdiction pursuant to Section 404 of the Clean Water Act.

Donald W. Roeseke
Chief, Regulatory Branch

Baltimore District

August 19, 1993
Date

*This is a provisional certification for the purposes of the demonstration phase of the Corps Wetland Delineator Certification Program

APPENDIX C

Forest Stand Delineation Map