Lockheed Martin Corporation
6801 Rockledge Drive
MP-CCT 246-19
Bethesda, MD 20817
Telephone 301-548-2223

March 16, 2018 **VIA OVERNIGHT CARRIER**

Ms. Claudia Jones
Natural Resources Planner
Critical Area Commission
1804 West St., Suite 100
Annapolis, MD 21401

Re: Transmittal of the Dump Road Groundwater Remediation Project – Critical Area Mitigation Plan
Martin State Airport, 701 Wilson Point Road, Middle River, Maryland

Dear Ms. Jones:

For your review, please find enclosed the Dump Road Groundwater Remediation Project – Critical Area Mitigation Plan. This final mitigation plan addresses the forest mitigation for impacts to 3.63 acres of forest within the critical area of the Dump Road project area at the Martin State Airport in Middle River, Maryland.

If you have any questions or require any additional information please contact me by phone at 301-548-2223, or via e-mail at charles.trione@lmco.com.

Sincerely,

Charles Trione
Project Lead, Environmental Remediation
Lockheed Martin Corporation

cc: (via email without enclosure)
Christine Kline, Lockheed Martin
Norm Varney, Lockheed Martin
Michael Martin, Tetra Tech
Peter Shilland, CDM Smith
Cannon Silver, CDM Smith
Pete Lekas, EA Environmental

cc: (via shipping courier; with enclosures)
Mark Williams, Maryland Aviation Administration
Robin Bowie, Maryland Aviation Administration
Al Pollard, Martin State Airport
Tom Blackman, Lockheed Martin
Tom Green, LMCPI
Matthew Carter, LMCPI

cc: (via mail with CD enclosure)
Jann Richardson, Lockheed Martin

Dump Road Groundwater Remediation Project – Critical Area Mitigation Plan
Martin State Airport
Middle River, Maryland

Prepared for:

Lockheed Martin Corporation

Prepared by:

Tetra Tech, Inc.

March 2018

Michael Martin, P.G.
Regional Manager

Samantha Brenner
Project Manager

TABLE OF CONTENTS

LIST OF TABLES

Page

ACRONYMS

CAC	Critical Area Commission
DRA	Dump Road Area
ft^2	square feet
Lockheed Martin	Lockheed Martin Corporation
MRC	Middle River Complex
MSA	Martin State Airport

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Section 1
Introduction

On December 4, 2014, the Maryland Critical Area Commission (CAC) approved the Lockheed Martin Corporation (Lockheed Martin) groundwater remediation project at the Dump Road Area (DRA) within Martin State Airport (MSA) in Middle River, Maryland. As part of the CAC approval, Lockheed Martin is required to provide forest mitigation for impacts to 3.63 acres (158,524 square feet [ft^2]) of forest within the critical area of the Dump Road project area. This includes mitigation for impacts to 0.87 acres (37,957 ft^2) of forested area within the 100-foot tidal buffer at a 2:1 ratio, and 1:1 mitigation to 2.76 acres (120,567 ft^2) of forest outside the buffer. Therefore, the total mitigation required associated with this project is 4.50 acres, or 196,481 ft^2.

On-site mitigation for impacts to existing forest at the DRA is not permitted by the Federal Aviation Administration (FAA) because of its potential for creating wildlife hazards for aviation. Therefore, off-site mitigation is proposed for two locations, including the Middle River Complex (MRC) and the Radebaugh Farm property located in Freeland, Baltimore County, Maryland. Mitigation of 1.93 acres (84,204 ft^2) is proposed at the MRC site, while mitigation of 2.74 acres (119,174 ft^2) is proposed at the Radebaugh Farm. The total mitigation area of 4.67 acres (203,378 ft^2) for these two sites exceeds the 4.50 acres required for critical area mitigation. Attachment A includes the DRA Mitigation Plan Drawings and Attachment B includes the legal survey descriptions. Details of the proposed mitigation plan for both the MRC and Radebaugh Farm sites follow.

Section 2
Existing Conditions

2.1 MIDDLE RIVER COMPLEX

Sheet C-1 depicts existing conditions at the MRC. As indicated, the site is entirely within the Chesapeake Bay Critical Area, and consists primarily of a mowed area of turf grass and paved areas between Cow Pen Creek and developed portions of the MRC. A portion of the proposed mitigation area also includes a few stands of mature canopy trees (labeled as individual tree clusters on Sheet C-1) that contain turf grass or mowed lawn understory. Areas adjacent to the proposed mitigation site include a relatively narrow band of mixed hardwood forest along the banks of Cow Pen Creek and paved and otherwise developed portions of the MRC. Areas of delineated wetlands that include areas of forested, scrub-shrub, and emergent wetlands also occur along the edge of Cow Pen Creek. Note that the MRC project area includes two separate parcels that are divided by property owned by Total Industrial Group as depicted on Sheet C-1.

Topography is relatively level but gently slopes from northeast to southwest toward Cow Pen Creek. Elevations range from approximately six to 12 feet above sea level, with 0 to 5% slopes. The site soil is designated Sassafras-Urban Land Complex, typical of commercial/industrial areas where disturbance and fill materials are found.

2.2 RADEBAUGH FARM

Existing conditions at the Radebaugh Farm site in Freeland, northern Baltimore County are depicted on Sheet C-2. The proposed mitigation area on this site is on a hilltop and adjacent slope, above a tributary to the nearby Bee Tree Run. Currently, the entire proposed mitigation site consists of cropped land. Mature mixed hardwood forest is located to the east and north, a shrub/emergent wetland and tributary stream are to the south, and cropped land is to the west of the mitigation site.

The adjacent mixed hardwood forest contains a mature canopy consisting primarily of white oak (*Quercus alba*) and hickory (*Carya cordiformis*, *C. glabra*), with some maple (*Acer sacharrum*, *A. rubrum*) and black cherry (*Prunus serotina*) trees. Understory trees consist of sassafrass (*Sassafras albidum*) and occasional umbrella magnolia (*Magnolia tripetala*). The herbaceous layer appears to be relatively sparse, but contains scattered patches of Christmas fern (*Polystichum acrostichoides*) and several non-native herbs. Occasional dense stands of multiflora rose (*Rosa multiflora*), a non-native shrub, also occur.

Topography is relatively level on the hilltop, with a moderate to steep slope from north to south toward the tributary drainage with a grade of up to 25%. Elevations range approximately 720-760 feet above sea level. Soil at the site includes Glenelg loam (with 0-3% and 3-8% slopes) and Brinklow Channery loam (with 15-25% slopes). Both soil types occur on hilltops and sideslopes, and are considered to be relatively fertile, and are considered suitable for agricultural and silvicultural purposes.

Section 3
Planting Plan and Landscaping Schedule

3.1 Middle River Complex

3.1.1 Planting Plan/Layout

The layout for the proposed planting plan at the Middle River Complex (MRC) site is depicted on Sheet C-3. As indicated in Table 1 below, 1.70 acres (74,078 ft^2) of the proposed planting area will be combined landscape and flexible stocking, of which landscape stocking will cover approximately 0.85 acres (37,039 ft^2) and flexible stocking will cover approximately 0.85 acres (37,039 ft^2). Landscape stocking of understory trees only will also be within two separate existing canopy tree stands comprising 0.23 acres (10,126 ft^2). As described above and indicated on Sheet C-1, these tree stands currently contain an understory of turf grass. Therefore, 56%, or 1.08 acres of the total 1.93-acres mitigation area will be landscaping stocking (0.85 acres landscape stocking + 0.23 acres landscape understory stocking), while 44% (0.85 acres) will be flexible stocking.

Table 1
Middle River Complex Planting Area

Middle River Complex Total	ft^2	acres
Landscape stocking/ flexible stocking combined	74,078 (37,039 landscape; 37,039 flexible)	1.70 (0.85 landscape; 0.85 flexible)
Landscape stocking understory	10,126	0.23
Total=	84,204	1.93

ft^2-square feet

Sample planting configurations for the MRC landscape stocking/flexible stocking and landscape stocking understory are indicated on Sheet C-5. Each approximately 100×100-foot (10,000 ft^2) area will contain a landscape stocking planting density of 33 canopy and 18 understory trees and a flexible stocking planting density of 85 canopy tree whips. Each 100×100-foot area of landscape stocking understory will contain a planting density of 136 understory trees to yield the necessary 10,000 ft^2 forest credit.

3.1.2 Landscaping Schedule

Before developing the landscape schedule, Lockheed Martin reviewed the *Natural Communities of Maryland: 2016 Natural Community Classification Framework* (Harrison, 2016) to determine the forest type that typically occurs on the MRC landscape so that appropriate native plant species could be used for the restoration effort. This review indicated that the MRC area may have historically consisted of a mixed hardwood forest (such as mesic coastal plain oak forest or a similar variant) native to the northern coastal plain of the Chesapeake Bay region. The following plant species were chosen based on this forest type, and because they are included on the Martin State Airport (MSA) zoning district approved-plants list.

Landscape stocking at MRC is depicted on Sheet C-6 and in Table 2, and will include planting 227 canopy trees (including 76 sweetgum; *Liquidambar styraciflua*, 76 tulip poplar (*Liriodendron tulipifera*), and 75 red maple; *Acer rubrum*) within the 1.70 acre landscape stocking/flexible stocking area at MRC, for a total credit of 22,700 ft^2. In addition, 135 understory trees (including 45 American holly [*Ilex opaca*], 45 musclewood [*Carpinus caroliniana*], and 45 mountain laurel [*Kalmia latifolia*]) will also be planted for a credit of 10,125 ft^2. A three-foot radius around each planted tree will be treated with herbicide and covered with mulch to reduce competition during tree establishment. Turf grass will remain throughout most of the landscape stocking area to limit erosion.

In addition, approximately 4,400 ft^2 of existing asphalt will be removed (see Sheet C-3). This area will be seeded with a 25/25/25/25 mix of little bluestem (*Schizachyrium scoparium*), joe-pye weed (*Eupatorium purpureum*), spotted joe-pye weed (*Eupatorium maculatum*), and switchgrass (*Panicum virgatum*) to minimize erosion and to provide a more diverse and native herbaceous cover. Although the maximum credit allowed for this seeding is only 4,303 ft^2 (10% of the

maximum allowable credit), over 4,400 ft^2 will be seeded with the native seed mix. We expect that the turf grass portions of the mitigation area will be shaded out over time, and that the forest/woodland plant species will colonize these areas. Total square footage of the resulting landscape stocking credit over the 1.70-acre area will be 37,128 ft^2, an area that exceeds the 37,039 ft^2 landscape stocking credit needed for this area.

Table 2
Landscape Stocking Schedule – Middle River Complex

Species	Common Name	Quantity	Credit each (ft^2)	Credit total (ft^2)	Maximum % allowed	% Used
Canopy trees—¾-inch caliper					N/A	N/A
Liquadambar styraciflua	sweetgum	76	100	7,600		
Liriodendron tulipifera	Tulip poplar	76	100	7,600		
Acer rubrum	red maple	75	100	7,500		
Understory trees— ¾-inch caliper					N/A	N/A
Ilex opaca	American holly	45	75	3,375		
Carpinus caroliniana	musclewood	45	75	3,375		
Kalmia latifolia	Mountain laurel	45	75	3,375		
Herbaceous seeding			4,303	4,303	10	10
Totals				**37,128**		

N/A- not applicable

Landscape understory stocking at MRC (Sheet C-6 and Table 3) will include planting 136 understory trees (68 American holly and 68 musclewood) within a 0.23-acre area containing existing canopy trees for a credit of 10,200 ft^2. A three-foot radius around each planted tree will be treated with herbicide and covered with mulch to reduce competition during tree establishment. Turf grass will remain throughout to limit erosion, but is expected to be shaded out over time, and colonized with forest/woodland plant species. A total credit of 10,200 ft^2 will result; this square footage will meet the credit (10,125 ft^2) needed for this area.

maximum allowable credit), over 4,400 ft^2 will be seeded with the native seed mix. We expect that the turf grass portions of the mitigation area will be shaded out over time, and that the forest/woodland plant species will colonize these areas. Total square footage of the resulting landscape stocking credit over the 1.70-acre area will be 37,128 ft^2, an area that exceeds the 37,039 ft^2 landscape stocking credit needed for this area.

Table 2
Landscape Stocking Schedule – Middle River Complex

Species	Common Name	Quantity	Credit each (ft^2)	Credit total (ft^2)	Maximum % allowed	% Used
Canopy trees—¾-inch caliper					N/A	N/A
Liquadambar styraciflua	sweetgum	76	100	7,600		
Liriodendron tulipifera	Tulip poplar	76	100	7,600		
Acer rubrum	red maple	75	100	7,500		
Understory trees— ¾-inch caliper					N/A	N/A
Ilex opaca	American holly	45	75	3,375		
Carpinus caroliniana	musclewood	45	75	3,375		
Kalmia latifolia	Mountain laurel	45	75	3,375		
Herbaceous seeding			4,303	4,303	10	10
Totals				**37,128**		

N/A- not applicable

Landscape understory stocking at MRC (Sheet C-6 and Table 3) will include planting 136 understory trees (68 American holly and 68 musclewood) within a 0.23-acre area containing existing canopy trees for a credit of 10,200 ft^2. A three-foot radius around each planted tree will be treated with herbicide and covered with mulch to reduce competition during tree establishment. Turf grass will remain throughout to limit erosion, but is expected to be shaded out over time, and colonized with forest/woodland plant species. A total credit of 10,200 ft^2 will result; this square footage will meet the credit (10,125 ft^2) needed for this area.

Table 3
Landscape Understory Stocking Schedule – Middle River Complex

Species	Common Name	Quantity	Credit each (ft^2)	Credit total (ft^2)	Maximum % allowed	% Used
Canopy trees—¾-inch caliper					N/A	N/A
Understory trees—¾-inch caliper					N/A	N/A
Ilex opaca	American holly	68	75	5,100		
Carpinus caroliniana	musclewood	68	75	5,100		
			Totals	***10,200***		

N/A- not applicable

Sheet C-6 and Table 4 depict flexible stocking at MRC that will include planting 596 tree whips/ tubelings (consisting of 298 sweetgums and 298 red maples) within the 1.70-acre area, for a total credit of 37,039 ft^2.

A three-foot radius around each planted tree will be treated with herbicide and covered with mulch to reduce competition during tree establishment. Turf grass will remain to limit erosion; however, it is expected that the grass will be shaded out over time, and that forest/woodland plant species will colonize these areas. The total square-footage (37,040 ft^2) of the flexible stocking area will meet the required flexible stocking credit (37,039 ft^2) needed for this area.

Table 4
Flexible Stocking Schedule – Middle River Complex

Species	Common name	Area (ft^2)	Quantity	Stock size	Survivability requirement	Financial assurance
Liquidambar styraciflua	sweetgum	18,520	298	whips/tublings (700/acre)	50%	5 years
Acer rubrum	red maple	18,520	298	whips/tublings (700/acre)	50%	5 years
	Total	***37,040***	***596***			

3.2 RADEBAUGH FARM

3.2.1 Planting Plan/Layout

The proposed planting plan configuration for the Radebaugh Farm is depicted on Sheet C-4. As indicated in Table 5, approximately 50% (1.37 acres, or 59,587 ft^2) of the total 2.74-acre planting

area will be planted with landscape stocking. The remaining 50%, or 1.37 acres (59,587 ft^2), will be planted through flexible stocking.

Table 5
Radebaugh Farm Planting Area

Block G	ft^2	acres
Landscape stocking	*59,587*	*1.37*
Flexible stocking	*59,587*	*1.37*
Total	***119,174***	***2.74***

Sample planting configurations for the landscape and flexible stocking areas at the Radebaugh Farm are indicated on Sheet C-5. As described on Sheet C-5, each approximately 100×100-foot (10,000 ft^2) area of the landscape stocking/flexible stocking area will contain a landscape stocking planting density of 33 canopy and 18 understory trees and a flexible stocking planting density of approximately 85 canopy tree whips in order to meet the 700 whips/acre required for the area.

3.2.2 Landscaping Schedule

Before developing the landscape schedule Lockheed Martin reviewed the *Natural Communities of Maryland: 2016 Natural Community Classification Framework* (Harrison, 2016) to determine the forest type that typically occurs at the Radebaugh Farm landscape so that appropriate native plant species could be planted during the restoration effort. This review revealed that the cropped area at Radebaugh Farm may have historically consisted of a mixed hardwood forest (e.g., an upper piedmont mesic oak-hickory-sugar maple forest, or a similar variant) typically found in the piedmont region of northern Maryland. The following plant species indicated in the landscape schedule for Radebaugh Farm were chosen based on this forest type.

Sheet C-6 and Table 6 contain details about landscape stocking at the Radebaugh Farm that will include planting 385 landscape stocking canopy trees (including 129 white oaks (*Quercus alba*), 128 sugar maple (*Acer sacharum*), and 128 mockernut hickories (*Carya cordiformis*) within the 2.75-acre area, for a total credit of 38,500 ft^2. In addition, 210 landscape stocking understory trees (including 105 redbud and 105 sassafras trees) will be planted for 15,750 ft^2 of credit. Soil throughout the area will be tilled to a depth of 12 inches, amended with fertilizer, and seeded with a native seed mix as described under Step 10 on Sheet C-6. Although the maximum credit allowed for this seeding is 5,425 ft^2 (10% maximum allowable credit), approximately 2.75 acres will be

seeded with the native seed mix. The resulting total square-footage of landscape stocking credit will be 59,675 ft^2, which will exceed the 59,587 ft^2 credit needed for this area.

Table 6
Landscape Stocking Schedule – Radebaugh Farm

Species	Common name	Quantity	Credit each (ft^2)	Credit total (ft^2)	Maximum % allowed	% Used
Canopy trees—¾-inch caliper					N/A	N/A
Quercus alba	white oak	129	100	12,900		
Acer saccharum	Sugar maple	128	100	12,800		
Carya cordiformis	mockernut hickory	128	100	12,800		
Understory trees—¾-inch caliper					N/A	N/A
Cercis canadensis	redbud	105	75	7,875		
Sassafras albidum	sassafrass	105	75	7,875		
Herbaceous seeding			5,425	5,425	10	10
			Total	***59,675***		

N/A- not applicable

Flexible stocking at Radebaugh Farm is depicted on Sheet C-6 and in Table 7, and will include planting 960 tree whips/tubelings (consisting of 320 white oaks, 320 mockernut hickories, and 320 redbuds) within the 2.75-acre area for a total credit of 595891 ft^2 square feet. The resulting credit will be 59,589 ft^2 of flexible stocking credit, which will meet the flexible stocking credit (59,587 ft^2) needed for this area.

Table 7
Flexible Stocking - Radebaugh Farm

	Common name	Area (ft^2)	Quantity	Stock size	Survivability requirement	Financial assurance
Quercus alba	white oak	19,863	320	whips/tublings (700/acre)	50%	5 years
Carya cordiformis	mockernut hickory	19,863	320	whips/tublings (700/acre)	50%	5 years
Cercis canadensis	redbud	19,863	320	whips/tublings (700/acre)	50%	5 years
	Total	59,589	960			

Sheet C-6 shows the maintenance and long term protection plans for the project, as well as standards for mitigation management and a description of signage to be used. In addition, Sheet C-6 provides the inspection agreement and signature for final plan approval of the project.

ATTACHMENT A—MITIGATION PLAN AREA DRAWINGS

C-1 Project Vicinity, Site, and Existing Condition Maps, Middle River Complex

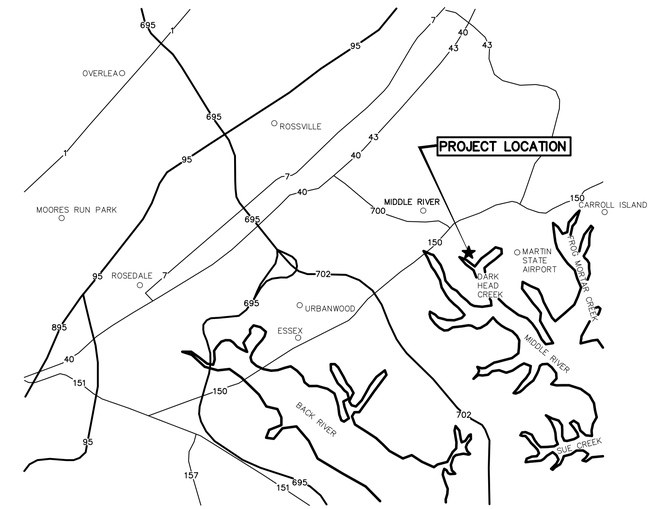
C-2 Project Vicinity, Site, and Existing Condition Maps, Radebaugh Farm

C-3 Planting Site Plan, Middle River Complex Blocks F and G

C-4 Planting Site Plan, Radebaugh Farm

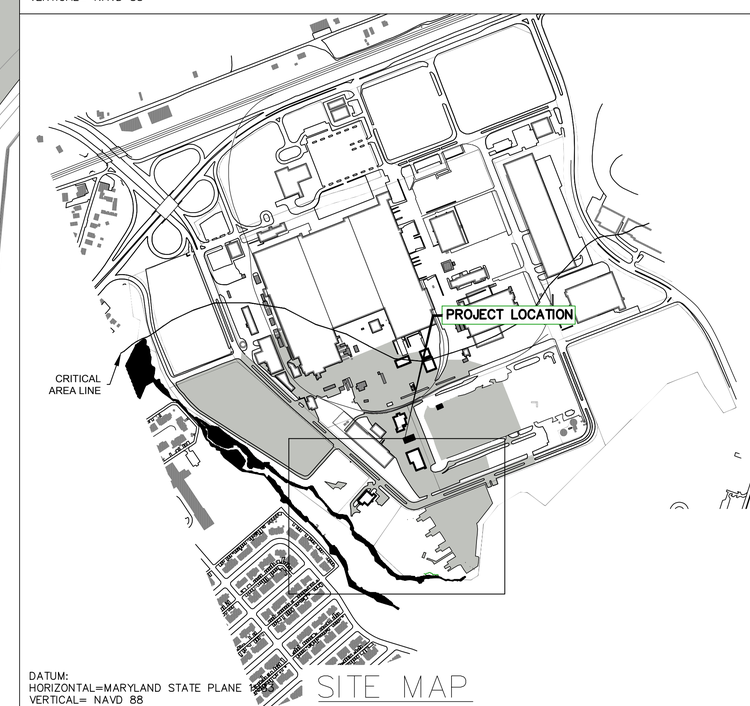
C-5 Planting Configuration

C-6 Planting Notes and Details & Planting Plan and Landscape Schedule



PROJECT VICINITY MAP

DATUM:
HORIZONTAL=MARYLAND STATE PLANE 1983
VERTICAL= NAVD 88



DATUM:
HORIZONTAL=MARYLAND STATE PLANE
VERTICAL= NAVD 88

SITE MAP

LEGEND:

- EXISTING TREE LINE
- EXISTING TREE CLUSTERS
- EXISTING WETLAND BOUNDARY
- EXISTING GRADE
- MIDDLE RIVER COMPLEX PROPERTY BOUNDARY
- PAVED AREAS

TETRA TECH
www.tetratech.com
20251 CENTURY BLVD
GERMANTOWN, MD 20874
T: (301) 528-5552 | F: (301) 528-3000

MARK	DATE	DESCRIPTION	BY

LOCKHEED MARTIN
DUMP ROAD AREA MITIGATION PLAN

PROJECT VICINITY, SITE, AND EXISTING CONDITIONS MAPS
MIDDLE RIVER COMPLEX

DATE:	2/5/2018
PROJECT NO.:	
DESIGNED BY:	ISG
DRAWN BY:	ISG
CHECKED BY:	PM
SHEET: 1 OF 6	

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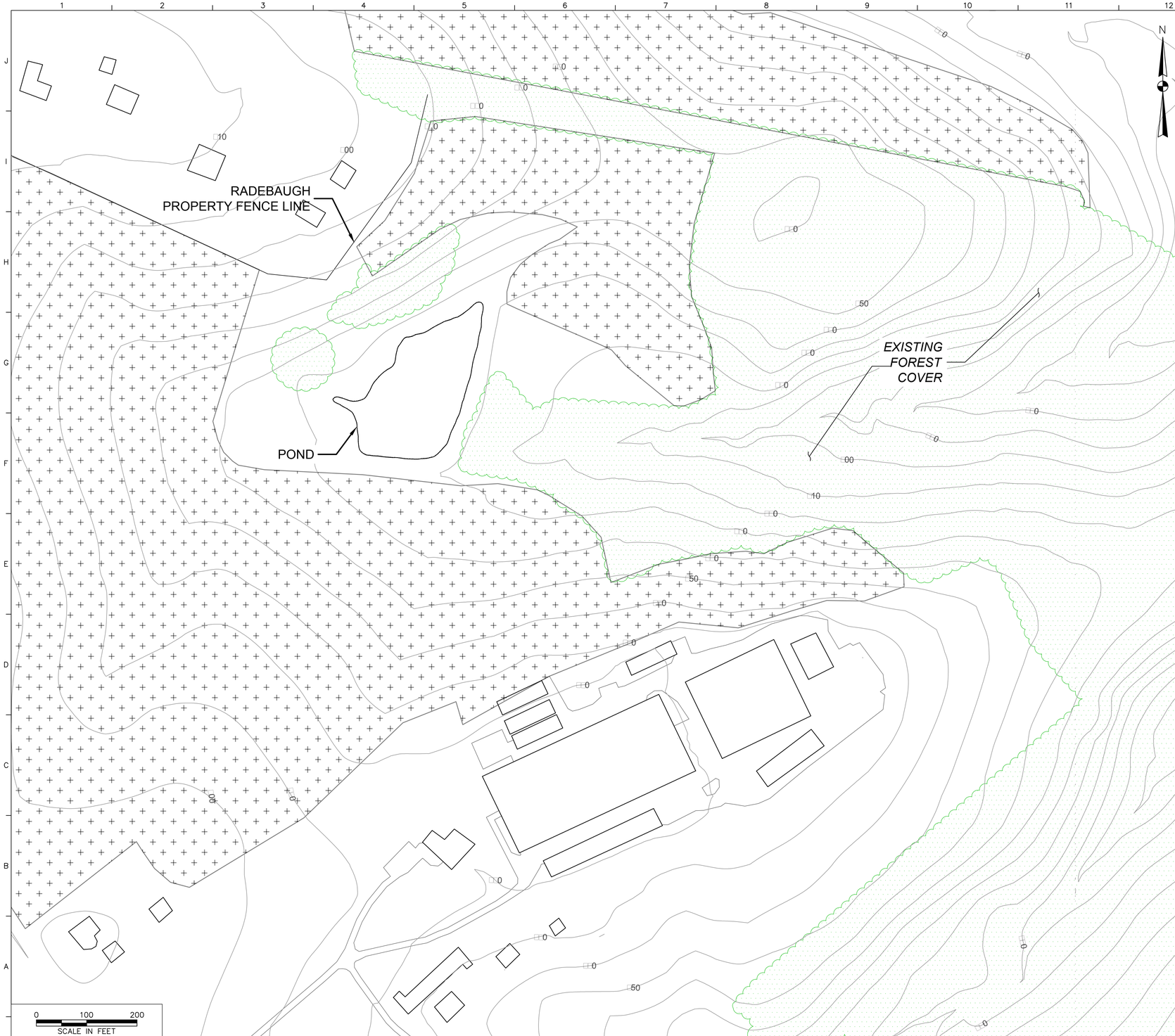
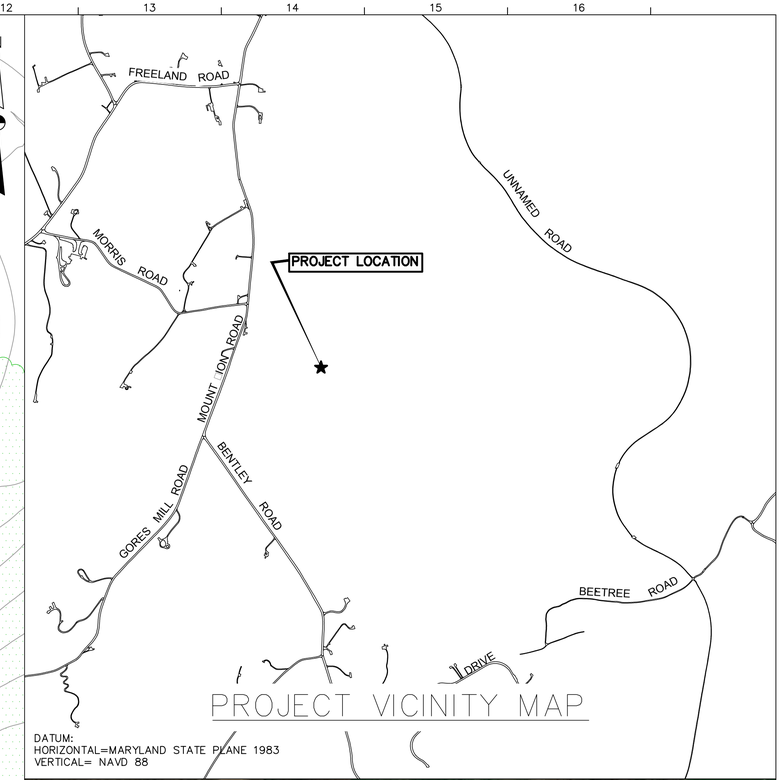
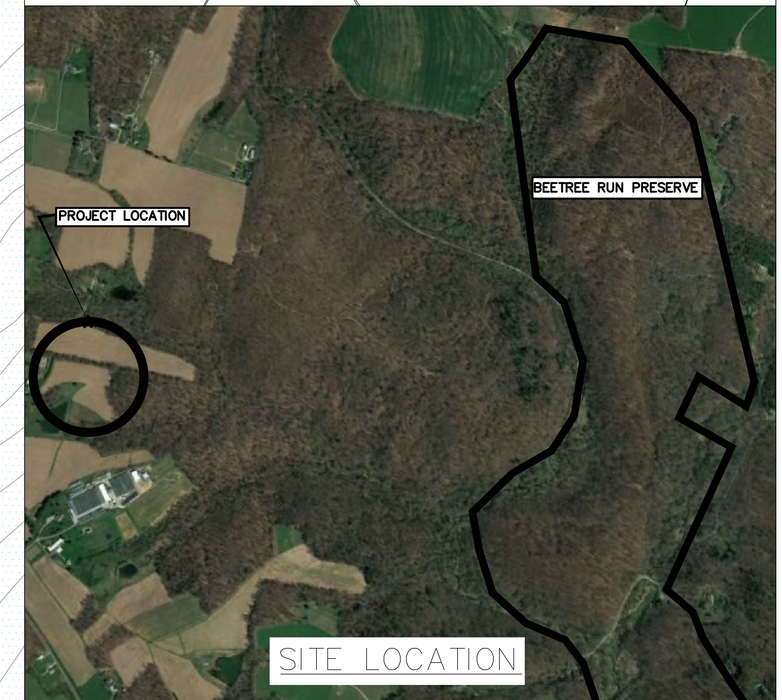
C-1





PROJECT VICINITY MAP

DATUM:
HORIZONTAL=MARYLAND STATE PLANE 1983
VERTICAL= NAVD 88



SITE LOCATION

LEGEND:

- EXISTING TREE LINE
- EXISTING CROPPED LAND
- EXISTING GRADE

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MARK	DATE	DESCRIPTION	BY

LOCKHEED MARTIN
DUMP ROAD AREA MITIGATION PLAN

PROJECT VICINITY, SITE LOCATION, AND EXISTING CONDITIONS MAPS
RADEBAUGH FARM

DATE:	12/23/2016
PROJECT NO.:	
DESIGNED BY:	ISG
DRAWN BY:	ISG
CHECKED BY:	PM
SHEET: 2 OF 6	

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C-2

PROTECTED UTILITY POLE AND LINES

BLOCK G

100-FT BUFFER

50% LANDSCAPE STOCKING/50% FLEXIBLE STOCKING
(SEE SHEET C-5 FOR PLANTING CONFIGURATION)

CHESAPEAKE PARK PLAZA

FOREST MITIGATION AREA
36,144 SQ. FT.
0.8297 AC±

PAVEMENT TO BE REMOVED PRIOR TO PLANTING

100-FT BUFFER

TOTAL INDUSTRIAL GROUP PROPERTY

CHAINLINK FENCE

100-FT BUFFER

COW PEN CREEK

BLOCK F

50% LANDSCAPE STOCKING/50% FLEXIBLE STOCKING

25-FT WETLAND BUFFER

100-FT BUFFER

LANDSCAPE STOCKING UNDERSTORY
(SEE SHEET C-5 FOR PLANTING CONFIGURATION)

WETLAND BOUNDARY

EXISTING FOREST COVER

100-FT BUFFER

LEGEND:

- EXISTING TREE LINE
- EXISTING WETLAND BOUNDARY
- 100-FOOT BUFFER
- EXISTING GRADE
- MIDDLE RIVER COMPLEX PROPERTY BOUNDARY
- 25-FOOT WETLAND BUFFER

REVEGETATION AREAS:

- 50% LANDSCAPE STOCKING/ 50% FLEXIBLE STOCKING (1.70 ACRES)
- LANDSCAPE STOCKING UNDERSTORY (0.23 ACRES)
- PAVEMENT TO BE REMOVED PRIOR TO PLANTING (0.10 ACRES)
- PROTECTED UTILITY POLE AND LINES

NOTES:

THE WATERWARD AND LANDWARD BOUNDARIES OF THE PLANTING AREA COINCIDE WITH THE EXISTING TREELINE AND THE 100 FOOT BUFFER, RESPECTIVELY. SEE SHEET C-6 FOR FULL PLANTING DETAIL.

N

0 40 80
SCALE IN FEET

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MARK	DATE	DESCRIPTION	BY

LOCKHEED MARTIN
DUMP ROAD AREA MITIGATION PLAN

PLANTING SITE PLAN
MIDDLE RIVER COMPLEX BLOCKS F AND G

DATE:	2/5/2018
PROJECT NO.:	
DESIGNED BY:	SBG
DRAWN BY:	SBG
CHECKED BY:	PM
SHEET:	3 OF 6

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C-3

50% LANDSCAPE STOCKING/50% FLEXIBLE STOCKING
(SEE SHEET C-5 FOR PLANTING CONFIGURATION)

N 83°57'28" E
87.66'

S 81°17'50" E 219.22'

587.75'

S 81°23'35" E 261.42'

N 10°32'16" E
10.30' (TIE)

S 79°27'16" E 1248.28'
9th LINE OF DEED L. 22715 F. 540.

S 16°14'20" W 146.13'

N 15°05'58" E 151.26'
8th LINE OF DEED L. 22715 F. 540

RADEBAUGH
PROPERTY
FENCE LINE

N 17°27'09" E
108.46'

S 59°27'52" E
23.76' (TIE)

P.O.B.

N 32°02'40" E
10.27'

N 46°33'30" E
76.33'

N 28°13'09" W
65.26'

S 55°14'47" W 162.07'

L6 L5 L4 L3 L2 L1

N 54°33'32" E 42.25'

N 68°07'10" E 22.72'

N 57°05'00" E
40.42'

S 79°10'35" W 326.85'

FOREST MITIGATION AREA - AMENDMENT TO THE
RADEBAUGH LAND PRESERVATION TRUST EASEMENT

119,174 SQ. FT.
2.7359 AC±

POND

EXISTING
CROPPED LAND

EXISTING
FOREST
COVER

770 780 790 800 760 750 740 730 720 700

LEGEND:

- EXISTING TREE LINE
- EXISTING CROPPED LAND
- EXISTING GRADE

REVEGETATION AREAS:

- 50% LANDSCAPE STOCKING/ 50% FLEXIBLE STOCKING (2.75 ACRES)

N

0 40 80
SCALE IN FEET

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MARK	DATE	DESCRIPTION	BY

LOCKHEED MARTIN
DUMP ROAD AREA MITIGATION PLAN

PLANTING SITE PLAN
RADEBAUGH FARM

DATE:	2/5/2018
PROJECT NO.:	
DESIGNED BY:	ISG
DRAWN BY:	ISG
CHECKED BY:	PM
SHEET:	4 OF 6

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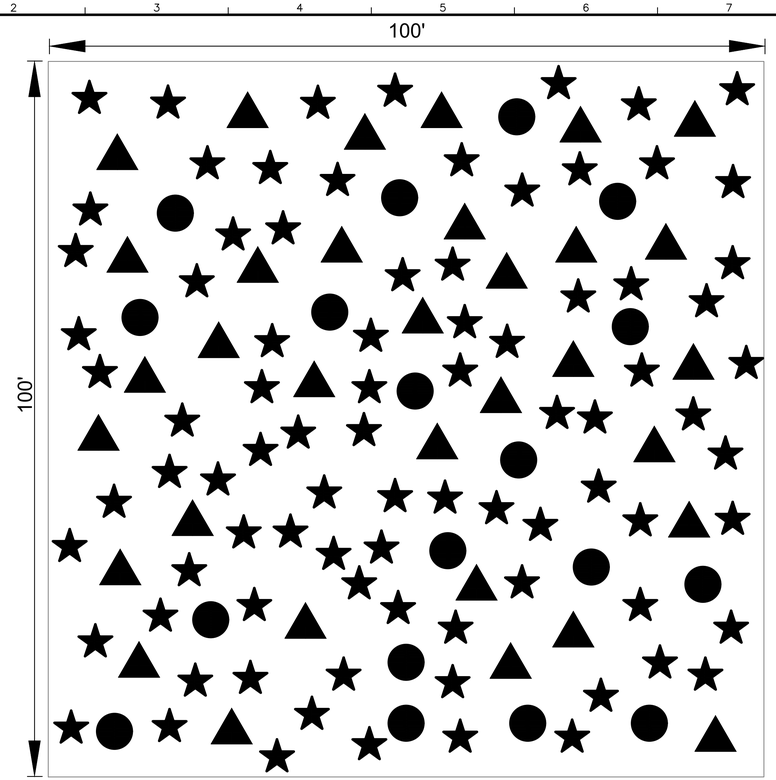
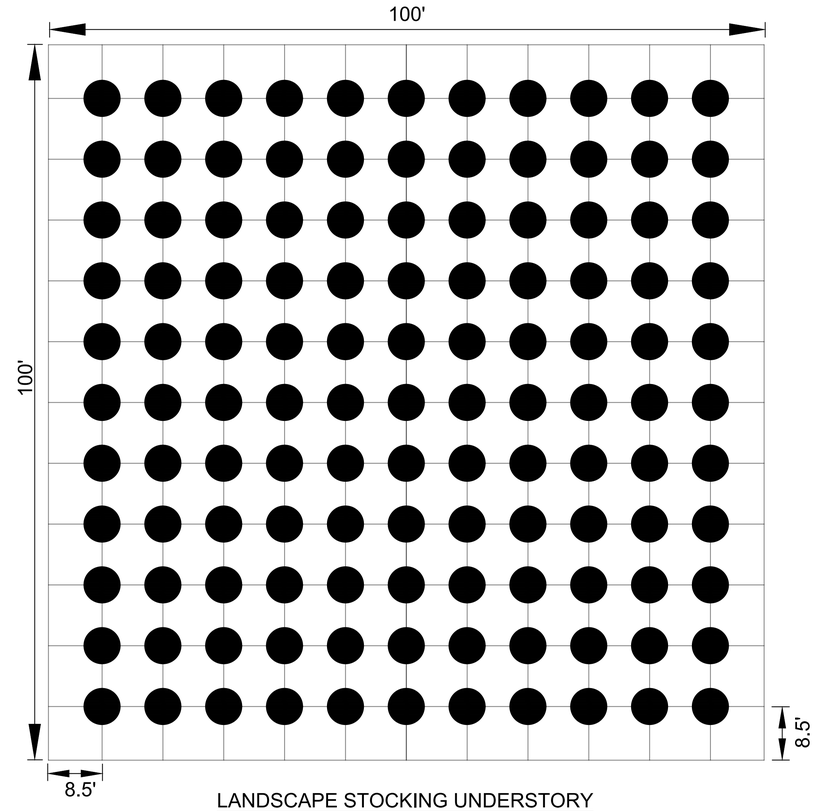
C-4





LANDSCAPE STOCKING

▲ 33 CANOPY TREES PER 10,000 SQUARE FEET

- MIDDLE RIVER COMPLEX
  - ⅓ RED MAPLE
  - ⅓ SWEET GUM
  - ⅓ TULIP POPLAR
- RADEBAUGH FARM:
  - ⅓ WHITE OAK
  - ⅓ SUGAR MAPLE
  - ⅓ MOCKERNUT HICKORY

● 18 UNDERSTORY TREES PER 10,000 SQUARE FEET

- MIDDLE RIVER COMPLEX
  - ⅓ AMERICAN HOLLY
  - ⅓ MUSCLE WOOD
  - ⅓ MOUNTAIN LAUREL
- RADEBAUGH FARM:
  - ½ SASSAFRAS
  - ½ REDBUD

FLEXIBLE STOCKING

★ 85 WHIPS (TUBLINGS) PER 10,000 SQUARE FEET:

- MIDDLE RIVER COMPLEX:
  - ½ RED MAPLE
  - ½ SWEET GUM
- RADEBAUGH FARM:
  - ⅓ WHITE OAK
  - ⅓ MOCKERNUT HICKORY
  - ⅓ REDBUD

NOTE: 10,000 SQUARE FEET OF HERBACEOUS SEED WILL ALSO BE APPLIED TO THE AREAS WITHIN THE LANDSCAPE STOCKING/FLEXIBLE STOCKING AREAS OF MIDDLE RIVER COMPLEX WHERE PAVEMENT WILL BE REMOVED AND ALL LANDSCAPE STOCKING/FLEXIBLE STOCKING AREAS AT RADEBAUGH FARM.

LANDSCAPE STOCKING UNDERSTORY

MIDDLE RIVER COMPLEX ONLY

● 136 UNDERSTORY TREES PER 10,000 SQUARE FEET

- ½ AMERICAN HOLLY
- ½ MUSCLE WOOD

TETRA TECH
www.tetratech.com
20251 CENTURY BLVD
GERMANTOWN, MD 20874
T: (301) 528-5552 | F: (301) 528-3000

MARK	DATE	DESCRIPTION	BY

LOCKHEED MARTIN
DUMP ROAD AREA MITIGATION PLAN

PLANTING CONFIGURATION

DATE:	2/5/2018
PROJECT NO.:	
DESIGNED BY:	ISG
DRAWN BY:	ISG
CHECKED BY:	PM
SHEET:	5 OF 6

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GENERAL NOTES:

1. THE PURPOSE OF THIS MITIGATION PLAN IS TO COMPLY WITH THE REQUIREMENTS OF THE MARYLAND CRITICAL AREA COMMISSION'S APPROVAL OF THE DUMP ROAD AREA GROUNDWATER REMEDIATION PROJECT AT MARTIN STATE AIRPORT DATED DECEMBER 4, 2014, WHICH STATES THAT A TOTAL OF AT LEAST 4.5 ACRES OF FORESTED MITIGATION BE PROVIDED FOR IMPACTS TO FOREST HABITAT WITHIN THE DUMP ROAD PROJECT AREA.
2. THE MIDDLE RIVER COMPLEX PROPERTY SHOWN HERE WITHIN IS LOCATED TOTALLY WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
3. THE ZONING CLASSIFICATION FOR RADEBAUGH FARM IS AGRICULTURE. THE ZONING CLASSIFICATION FOR MIDDLE RIVER COMPLEX IS HEAVY MANUFACTURING.
4. FOR MIDDLE RIVER COMPLEX PLAT REFERENCE SEE PLAT BOOK EHK JR 51 PAGE 43.
5. ACCESS TO BLOCKS F AND G SHALL BE FROM CHESAPEAKE PARK PLAZA.
6. THIS REVEGETATION PLAN HAS BEEN DESIGNED IN CONSULTATION WITH THE MARYLAND CRITICAL AREA COMMISSION AND THE MARYLAND AVIATION ADMINISTRATION. IN ADDITION, THE MITIGATION PLAN FOR MRC FOLLOWS THE SPECIES PLANTING REQUIREMENTS FOR PLANTING WITHIN THE MARTIN STATE AIRPORT ZONING DISTRICT.
7. LOCAL STOCK OF NATIVE SPECIES WILL BE USED TO THE EXTENT POSSIBLE AS THESE STOCKS WOULD BE BEST SUITED TO AND ADAPTED TO LOCAL CONDITIONS.
8. PLANTING LAYOUT TO BE FIELD VERIFIED. TO FACILITATE PLANT SURVIVAL, FACTORS SUCH AS TOPOGRAPHY AND DISTANCE TO THE STREAM WILL BE TAKEN INTO ACCOUNT WHEN DETERMINING FINAL PLANT PLACEMENT. MEASURES TO BE IMPLEMENTED INCLUDE:
   a. FINAL PLACEMENT OF PLANTS WILL BE CHOSEN BASED ON MICROSITE CONDITIONS SUCH THAT SPECIES ARE BEST MATCHED TO THEIR SITE CONDITIONS, BECAUSE SOIL PROPERTIES AND WATER TABLE DEPTH CAN VARY OVER SHORT DISTANCES.
   b. PRIOR TO APPLICATION OF FERTILIZER, A RUTGERS SOIL TEST SHOULD BE CONDUCTED TO CONFIRM THE FERTILIZER APPLICATION. IF THE SOIL TEST REVEALS THAT THE FERTILIZER APPLICATION WOULD NOT BE SUFFICIENT, AND/OR THAT OTHER NUTRIENTS ARE LACKING, THE CONTRACTOR WILL NOTIFY LOCKHEED MARTIN CORPORATION AND MAKE ANY NECESSARY ADJUSTMENTS. FERTILIZER SHOULD BE APPLIED PRIOR TO APRIL 15 OF THE PLANTING YEAR. A SLOW RELEASE FERTILIZER SHOULD BE INCORPORATED INTO THE BACKFILLED HOLE OF EACH PLANTING AT A RATE OF 0.2-LB N/100-SQUARE FEET. ALTERNATIVELY, A QUICK RELEASE FERTILIZER CAN BE BROADCAST APPLIED AT A RATE NOT EXCEEDING 0.1 LB N/100-SQUARE FEET.
   c. MEASURES SUCH AS TUBING WILL BE UTILIZED TO PROTECT PLANTS FROM HERBIVORY OR GRAZING. ENERGIZED GOOSE FENCING WILL BE INSTALLED AT MIDDLE RIVER COMPLEX. GOOSE FENCING WILL BE A MINIMUM OF 18-INCHES IN HEIGHT, CONSIST OF A MINIMUM OF TWO STRANDS, AND BE INSTALLED ALONG THE FOREST EDGE/WATERLINE OF COW PEN CREEK AND DARK HEAD COVE. THE GOOSE FENCING WILL EXTEND AT A MINIMUM OF 100-FEET BEYOND THE UPSTREAM AND DOWNSTREAM LIMITS OF THE MITIGATION AREA.
   d. PLANTS WILL BE INSTALLED IN THE LATE FALL OR EARLY SPRING TO MINIMIZE THE NEED FOR SUPPLEMENTAL WATER.
9. PLANTINGS NEED NOT COVER THE ENTIRE MAPPED AREA FOR EACH SPECIFIC ZONE (E.G., LANDSCAPE STOCKING AREA). MOST ZONES EXHIBIT A DIVERSITY OF MICROSITE CONDITIONS. AT THE TIME OF PLANTING THESE MICROSITE VARIATIONS WILL BE CONSIDERED AND PLANT SPECIES WILL BE PLANTED ACCORDINGLY.
10. PAVEMENT REMOVAL AREAS WITHIN THE MITIGATION AREAS AT MIDDLE RIVER COMPLEX WILL BE GRADED TO MATCH SURROUNDING CONTOURS, AMENDED WITH A MINIMUM OF 6-INCHES OF TOPSOIL, AND AN QUICK RELEASE FERTILIZER WILL BE APPLIED AS SPECIFIED IN 8.b. ABOVE. THE AREAS WILL ALSO BE SEEDED WITH AN HERBACEOUS SEED MIX CONTAINING LITTLE BLUESTEM (*SCHIZACHYRIM SCOPARIUM*), SWITCHGRASS (*PANICUMVIRGATUM*), JOE-PYE WEEK (*EUPATORIUM PURPUREUM*), AND SPOTTED JOE-PYE WEED (*EUPATORIUM MACULATUM*) AT A RATE OF 6-LBS/ACRE IF DRILLED, AND 8-LBS/ACRE IF BROADCAST SEEDED.

SEQUENCE OF IMPLEMENTATION

1. CONTRACTOR SHALL ARRANGE PRE-PLANTING MEETING WITH CRITICAL AREA COMMISSION STAFF AT LEAST 5-DAYS PRIOR TO DISTURBANCES OF ANY LAND ON SITE.
2. PAVED AREAS WITHIN THE MITIGATION AREA BOUNDARY OF MIDDLE RIVER COMPLEX WILL BE REMOVED, GRADED, AMENDED, AND SEEDED. ALL CROPPED AREAS WITHIN THE MITIGATION AREA AT RADEBAUGH WILL BE TILLED, AMENDED, AND SEEDED AS DESCRIBED IN THE GENERAL NOTES ABOVE.
3. TREE SHELTER TUBES WITH MESH TOPS WILL BE USED FOR ALL WOODY PLANTINGS TO REDUCE ANIMAL DAMAGE. TREE TUBES WILL BE BIODEGRADABLE.
4. HERBICIDE APPLICATION, FOLLOWED BY MULCH, WILL BE PLACED AT A MINIMUM RADIUS OF 3-FEET AROUND EACH WOODY PLANTING IN TURF GRASS PORTIONS OF MIDDLE RIVER COMPLEX. MULCH ONLY WILL BE PLACED AT A MINIMUM RADIUS OF 3-FEET AROUND EACH WOODY PLANTING AT THE RADEBAUGH SITE AND WITHIN THE PREVIOUSLY PAVED AREAS AT MIDDLE RIVER MARYLAND.
5. THE CONTRACTOR SHALL MONITOR THE PLANTINGS AT LEAST ONCE A WEEK DURING THE FIRST YEAR FOLLOWING PLANTING AND PROVIDE NECESSARY MAINTENANCE TO REDUCE PLANT STRESS SUCH AS WATER DEFICIENCY, NUTRIENT DEFICIENCY, INVASIVE SPECIES COMPETITION, PEST DAMAGE, AND DISEASE.
6. THE CONTRACTOR WILL OBSERVE MINIMAL SITE PREPARATION/DAMAGE, PROTECTION OF PLANTS AFTER DELIVERY UNTIL PLANTING, PROPER DIGGING AND HANDLING OF PLANT MATERIALS, PROPER EXCAVATION OF PLANTING AREAS, PLANTING OPERATIONS, STABILIZATION OF THE PLANTING AREAS WITH MULCH AFTER PLANTING, STAKING AND PRUNING, AND INSTALLATION OF BUFFER PROTECTION SIGNAGE.

MAINTENANCE PLAN

1. WATER AT LEAST ONCE EVER 10-DAYS WITHOUT RAINFALL, OR AS NEEDED, FROM MAY THROUGH SEPTEMBER, DEPENDING ON SOIL MOISTURE LEVELS, MONITOR TO ENSURE THAT OVER-WATERING DOES NOT OCCUR.
2. USE LOW NITROGEN AND SLOW RELEASE FERTILIZERS AND APPLY IN LATE FALL OR EARLY SPRING.
3. INSPECTIONS FOR SURVIVAL SHALL BE PERFORMED ANNUALLY AND PLANTS REPLACED AS NEEDED IN THE NEXT APPROPRIATE PLANTING SEASON. THE SURVIVAL REQUIREMENTS CAN BE MET AT THE END OF THE 2-YEAR OR 5-YEAR PERIOD. IF THE CRITICAL AREA COMMISSION DETERMINES THAT SURVIVAL IS NOT ADEQUATE, THE MONITORING PERIOD MAY BE EXTENDED AND ADDITIONAL INSPECTIONS MAY BE REQUIRED AT THE DISCRETION OF THE COUNTY.
4. AT THE END OF THE 2-YEAR MONITORING PERIOD FOR PLANTED LANDSCAPE STOCK, ALL PLANTS ARE REQUIRED TO SURVIVE PER CODE OF MARYLAND REGULATIONS (COMAR) 27.01.09.01-2J. ANY LANDSCAPE STOCK PLANT OR PLANTS THAT DID NOT SURVIVE WILL BE REPLACED.
5. AT THE END OF THE 2-YEAR OR 5-YEAR MONITORING PERIOD FOR SMALLER STOCK, REQUIRED SURVIVAL SHALL BE IN ACCORDANCE WITH THE TABLE IN STEP 11.
6. ITEMS 1 THROUGH 6 OF THE MAINTENANCE PLAN WILL BE IMPLEMENTED AT NO ADDITIONAL EXPENSE TO THE OWNER.

MITIGATION AREA PROTECTION SIGNS

PERMANENT SIGNS ARE REQUIRED TO IDENTIFY THE BUFFER AS SPECIFIED IN COMAR 27.01.09.01-2. SIGNS MUST BE LOCATED AT THE UPLAND BOUNDARY OF THE BUFFER WITH AT LEAST ONE SIGN PER 20-FEET OF SHORELINE. SIGNS MUST BE AT LEAST 11" WIDE BY 15" HIGH. SIGNS WILL BE PLACED AT A HEIGHT OF 4.5-FEET AND NOT ATTACHED TO A TREE. THE SIGN WILL CLEARLY STATE "CRITICAL AREA BUFFER-NO CLEANING OR DISTURBANCE PERMITTED."

MITIGATION MANAGEMENT AND PROTECTION STANDARDS

1. THE 100-FOOT BUFFER AREAS IN BLOCKS F AND G SHALL BE ESTABLISHED IN ACCORDANCE WITH THIS PLAN. ALL EXISTING AND PLANTED VEGETATION WITHIN THE MITIGATION AREAS SHALL BE MAINTAINED AND SURVIVAL OF PLANNED AND NATURALLY REGENERATED AREAS OF BUFFER SHALL BE AS DESCRIBED IN THIS PLAN.
2. NEW LAWN AREAS SHALL NOT BE CREATED WITHIN THE BUFFER UNLESS SPECIFICALLY ADDRESSED IN THIS MITIGATION PLAN.

INSPECTION AGREEMENT:

I, _____, OWNER OF THE SUBJECT PROPERTY, SHOWN HEREON, DO HEREBY GRANT PERMISSION TO THE APPROVING AUTHORITY TO INSPECT THE PLANTING AT APPROPRIATE TIMES AT THE ADDRESS PROVIDED BELOW.

STREET ADDRESS: _____

TAX MAP: _____

PARCEL #: _____

SECTION: _____

LOT #: _____

OWNER DATE

MITIGATION MANAGEMENT PLAN APPROVAL:

THIS MITIGATION MANAGEMENT PLAN HAS BEEN REVIEWED AND APPROVED FOR CONSISTENCY WITH THE LOCAL CRITICAL AREA PROGRAM AND THE PROVISIONS OF COMAR 27.01.09.01–1–7.

STAFF NAME STAFF TITLE DATE

PLANTING PLAN AND LANDSCAPE SCHEDULE

STEPS 1 THROUGH 6: SEE APPROVED MARTIN STATE AIRPORT DUMP ROAD INTERIM REMEDIAL ACTION CRITICAL AREA PERMIT

STEP 7
ELIGIBILITY OF NATURAL REGENERATION

SITE IS ELIGIBLE FOR NATURAL REGENERATION; HOWEVER, THIS PROPOSED PLAN INCLUDES FULL PLANTING.

STEP 8
DETERMINE STOCKING

MITIGATION REQUIREMENT: 4.5 ACRES

STOCKING REQUIREMENT:

MIDDLE RIVER COMPLEX:

LANDSCAPING STOCK: 50% X 1.93 (ACRES) = 0.965 (ACRES)

FLEXIBLE STOCK: 50% X 1.93 (ACRES) = 0.965 (ACRES)

RADEBAUGH FARM:

LANDSCAPING STOCK: 50% X 2.75 (ACRES) = 1.375 (ACRES)

FLEXIBLE STOCK: 50% X 2.75 (ACRES) = 1.375 (ACRES)

STEP 9
CLUSTER PLANTING EVALUATION

CLUSTER PLANTING IS NOT PROPOSED AS THE MITIGATION AREA EXCEEDS ONE ACRE.

STEP 10
LANDSCAPE SCHEDULE: SPECIES, STOCK, SIZE, AND QUANTITY

MIDDLE RIVER COMPLEX:

LANDSCAPE STOCKING						
SPECIES	COMMON NAME	QUANTITY	CREDIT EACH (SF)	CREDIT TOTAL (SF)	MAX % ALLOWED	% USED
CANOPY TREE 3/4" CALIPER					N/A	N/A
LIQUADAMBAR STYRACIFLUA	SWEETGUM	76	100	7,600		
LIRIODENDRON TULIPIFERA	TULIP POPLAR	76	100	7,600		
ACER RUBRUM	RED MAPLE	75	100	7,500		
UNDERSTORY TREE 3/4" CALIPER					N/A	N/A
ILEX OPACA	AMERICAN HOLLY	45	75	3,375		
CARPINUS CAROLINIANA	MUSCLEWOOD	45	75	3,375		
KAMIA LATIFOLIA	MOUNTAIN LAUREL	45	75	3,375		
HERBACEOUS SEEDING			4,303	4,303	10	10
TOTALS				37,128		

LANDSCAPE STOCKING UNDERSTORY						
SPECIES	COMMON NAME	QUANTITY	CREDIT EACH (SF)	CREDIT TOTAL (SF)	MAX % ALLOWED	% USED
UNDERSTORY TREE 3/4" CALIPER					N/A	N/A
ILEX OPACA	AMERICAN HOLLY	68	75	5100		
CARPINUS CAROLINIANA	MUSCLEWOOD	68	75	5100		
TOTALS				10,200		

RADEBAUGH FARM:

LANDSCAPE STOCKING						
SPECIES	COMMON NAME	QUANTITY	CREDIT EACH (SF)	CREDIT TOTAL (SF)	MAX % ALLOWED	% USED
CANOPY TREE 3/4" CALIPER					N/A	N/A
QUERCUS ALBA	WHITE OAK	129	100	12,900		
ACER SACHARUM	SUGAR MAPLE	128	100	12,800		
CACRYA CORDIFORMIS	MOCKERNUT HICKORY	128	100	12,800		
UNDERSTORY TREE 3/4" CALIPER					N/A	N/A
CERCIS CANADENSIS	REDBUD	105	75	7,875		
SASSAFRAS ALBIDUM	SASSAFRASS	105	75	7,875		
HERBACEOUS SEEDING			5,425	5,425	10	10
TOTALS				59,675		

STEP 10 (CONTINUED)
LANDSCAPE SCHEDULE: SPECIES, STOCK, SIZE, AND QUANTITY

LANDSCAPE SCHEDULE NOTES:

1. ALL PLANT SPECIES FOR THE MIDDLE RIVER COMPLEX SITE SHALL BE PLANTS NATIVE TO MARYLAND THAT ARE ON THE MARYLAND AVIATION ADMINISTRATION LIST OF APPROVED SPECIES FOR USE WITHIN THE MARTIN STATE AIRPORT ZONING DISTRICT. ALL PLANT SPECIES USED AT THE RADEBAUGH SITE SHALL BE NATIVE TO THE CHESAPEAKE AND ATLANTIC BAYS REGION BASED ON THE U.S. FISH AND WILDLIFE SERVICE PUBLICATION NATIVE PLANTS FOR WILDLIFE HABITAT AND CONSERVATION LANDSCAPING.
2. SPECIES CLASSIFICATION (CANOPY TREE, UNDERSTORY TREE, ETC.) IS IN ACCORDANCE WITH MATURE HEIGHTS AS SET FORTH IN THE U.S. FISH AND WILDLIFE SERVICE PUBLICATION, NATIVE PLANTS FOR WILDLIFE HABITAT, AND CONSERVATION LANDSCAPING.
3. SPECIES FOR THE MIDDLE RIVER COMPLEX SITE HAVE BEEN SELECTED BASED ON THE MARYLAND AVIATION ADMINISTRATION'S LIST OF APPROVED PLANTS FOR USE WITHIN THE MARTIN STATE AIRPORT ZONING DISTRICT, WHILE SPECIES SELECTED FOR THE RADEBAUGH SITE ARE BASED ON AN EVALUATION OF SURROUNDING FOREST COMMUNITIES.
4. HERBACEOUS PLANTING AT BOTH THE MIDDLE RIVER COMPLEX AND RADEBAUGH SITES DOES NOT EXCEED 10% OF THE OVERALL PLANTING AREA.
5. HERBACEOUS PLANTING AT THE MIDDLE RIVER COMPLEX SITE SHALL CONSIST OF SEEDING LITTLE BLUESTEM (SCIZACHYRIUM SCOPARIUM) 50% AND SWITCH GRASS (PANICUM VIRGATUM) 50% AT A RATE OF 6-LBS/ACRE IF DRILLED AND 8-LBS/ACRE IF BROADCAST SEEDED IN AREAS WHERE PAVEMENT WILL BE REMOVED.
6. HERBACEOUS PLANTING AT THE RADEBAUGH SITE SHALL CONSIST OF SEEDING LITTLE BLUESTEM (SCIZACHYRIUM SCOPARIUM) 50%, BLACK-EYED SUSAN (RUDBECKIA HIRTA) 20%, BUTTERFLY MILKWEED (ASCLEPIUS TUBEROSA) 10%, WILD BERGAMOT (MONARDA FISTULOSA) 10%, AND HOARY MOUNTAIN MINT (PYCANTHEMUM INCANUM) 10% AT A RATE OF 20-LBS/ACRE.
7. ALL WHIPINGS/TUBLINGS WILL BE WELL ROOTED, FREE OF LOOSE DIRT, AND WILL NOT BE ROOT BOUND.

STEP 11
FLEXIBLE STOCKING ANALYSIS

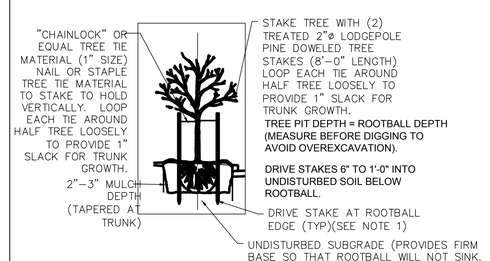
MIDDLE RIVER COMPLEX:

FLEXIBLE STOCKING						
AREA SIZE	SPECIES	COMMON NAME	QUANTITY	STOCK SIZE	SURVIVABILITY REQUIREMENT	FINANCIAL ASSURANCE
18,520	*LIQUADAMBAR STYRACIFLUA*	SWEETGUM	298	Whips/Tublings (700/Acre)	50%	5 years
18,520	*ACER RUBRUM*	RED MAPLE	298	Whips/Tublings (700/Acre)	50%	5 years
37,040			**596**			

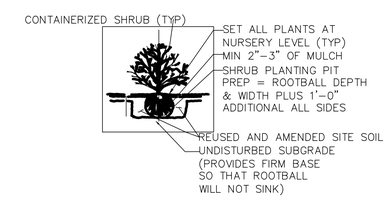
RADEBAUGH FARM:

FLEXIBLE STOCKING						
AREA SIZE	SPECIES	COMMON NAME	QUANTITY	STOCK SIZE	SURVIVABILITY REQUIREMENT	FINANCIAL ASSURANCE
19,863	*QUERCUS ALBA*	WHITE OAK	320	Whips/Tublings (700/Acre)	50%	5 years
19,863	*CACRYA CORDIFORMIS*	MOCKERNUT HICKORY	320	Whips/Tublings (700/Acre)	50%	5 years
19,863	*CERCIS CANADENSIS*	REDBUD	320	Whips/Tublings (700/Acre)	50%	5 years
59,589			**960**			

TREE PLANTING DETAIL



SHRUB PLANTING DETAIL



DETAIL NOTES:

1. PLANTING INCLUDES REMOVAL OF STAKES ONE YEAR AFTER INSTALLATION.
2. SHAPE SOIL SURFACE TO PROVIDE 4' DIAMETER WATERING RING.
3. ADJUST TREE TIES DURING ESTABLISHMENT TO ALLOW ROOM FOR GROWTH (>1" SLACK).

TETRA TECH
www.tetratech.com
20251 CENTURY BLVD
GERMANTOWN, MD 20874
T: (301) 528–5552 | F: (301) 528–3000

MARK	DATE	DESCRIPTION	BY

LOCKHEED MARTIN
DUMP ROAD AREA MITIGATION PLAN

PLANTING NOTES AND DETAILS &
PLANTING PLAN AND LANDSCAPE SCHEDULE

DATE:	2/5/2018
PROJECT NO.:	
DESIGNED BY:	ISG
DRAWN BY:	ISG
CHECKED BY:	PM
SHEET: 6 OF 6	

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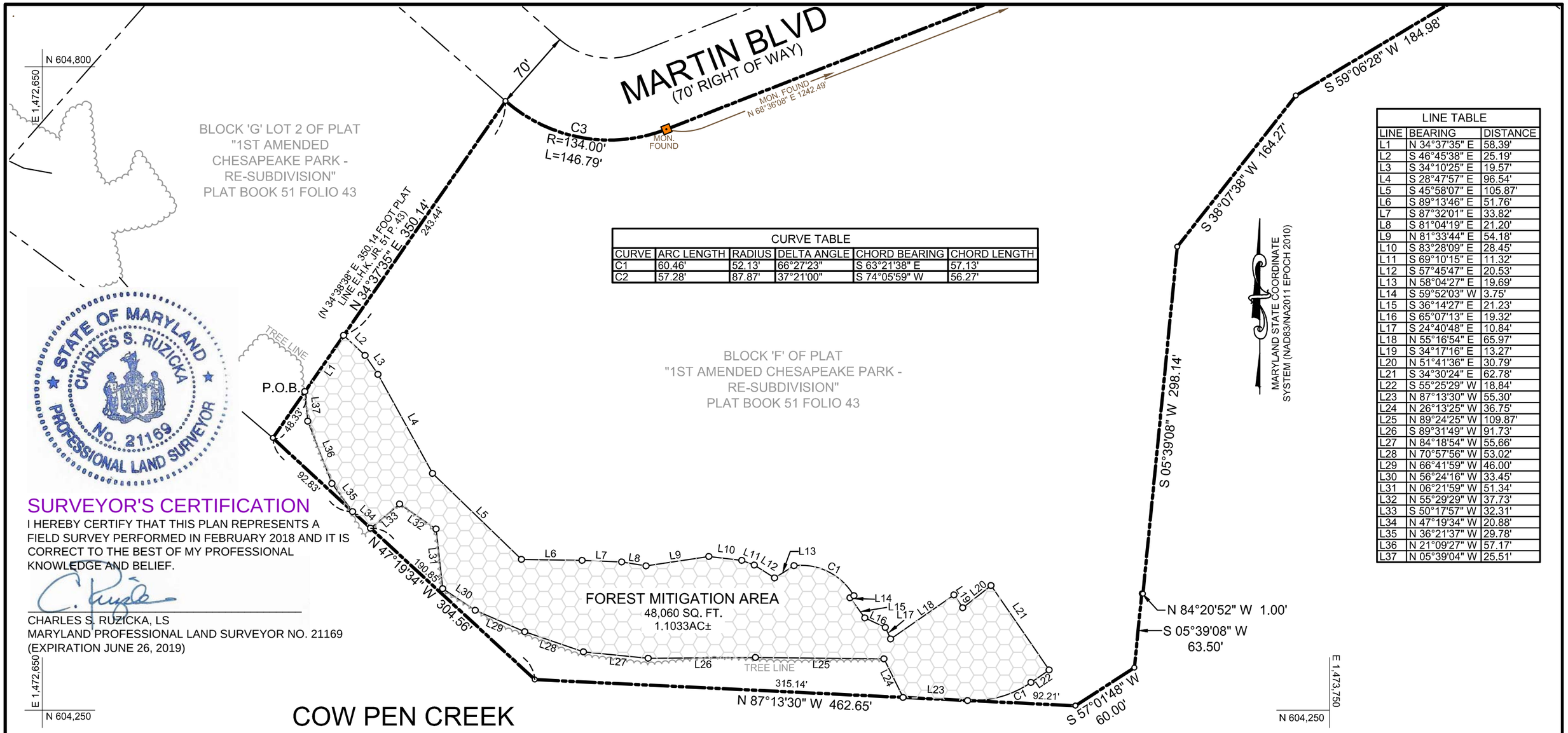
ATTACHMENT B—LEGAL SURVEY DISCRIPTION



CURVE TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	60.46'	52.13'	66°27'23"	S 63°21'38" E	57.13'
C2	57.28'	87.87'	37°21'00"	S 74°05'59" W	56.27'

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 34°37'35" E	58.39'
L2	S 46°45'38" E	25.19'
L3	S 34°10'25" E	19.57'
L4	S 28°47'57" E	96.54'
L5	S 45°58'07" E	105.87'
L6	S 89°13'46" E	51.76'
L7	S 87°32'01" E	33.82'
L8	S 81°04'19" E	21.20'
L9	N 81°33'44" E	54.18'
L10	S 83°28'09" E	28.45'
L11	S 69°10'15" E	11.32'
L12	S 57°45'47" E	20.53'
L13	N 58°04'27" E	19.69'
L14	S 59°52'03" W	3.75'
L15	S 36°14'27" E	21.23'
L16	S 65°07'13" E	19.32'
L17	S 24°40'48" E	10.84'
L18	N 55°16'54" E	65.97'
L19	S 34°17'16" E	13.27'
L20	N 51°41'36" E	30.79'
L21	S 34°30'24" E	62.78'
L22	S 55°25'29" W	18.84'
L23	N 87°13'30" W	55.30'
L24	N 26°13'25" W	36.75'
L25	N 89°24'25" W	109.87'
L26	S 89°31'49" W	91.73'
L27	N 84°18'54" W	55.66'
L28	N 70°57'56" W	53.02'
L29	N 66°41'59" W	46.00'
L30	N 56°24'16" W	33.45'
L31	N 06°21'59" W	51.34'
L32	N 55°29'29" W	37.73'
L33	S 50°17'57" W	32.31'
L34	N 47°19'34" W	20.88'
L35	N 36°21'37" W	29.78'
L36	N 21°09'27" W	57.17'
L37	N 05°39'04" W	25.51'

STATE OF MARYLAND
CHARLES S. RUZICKA
No. 21169
PROFESSIONAL LAND SURVEYOR

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN REPRESENTS A FIELD SURVEY PERFORMED IN FEBRUARY 2018 AND IT IS CORRECT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF.

CHARLES S. RUZICKA, LS
MARYLAND PROFESSIONAL LAND SURVEYOR NO. 21169
(EXPIRATION JUNE 26, 2019)

GENERAL NOTES

1. COORDINATES AND BEARINGS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS DERIVED FROM THE MARYLAND STATE COORDINATE SYSTEM (NAD83/NA2011 EPOCH 2010).

2. SITE: BLOCK 'F'
PLAT REF.: "1ST AMENDED CHESAPEAKE PARK - RE-SUBDIVISION" W.P.C. 51 FOLIO 43

3. THE LOCATION OF PROPERTY & EASEMENTS SHOWN HEREON ARE DERIVED FROM FIELD RUN SURVEY PERFORMED BY PRECISION SURVEYING AND MAPPING, LLC IN FEBRUARY 2018.THE SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT.

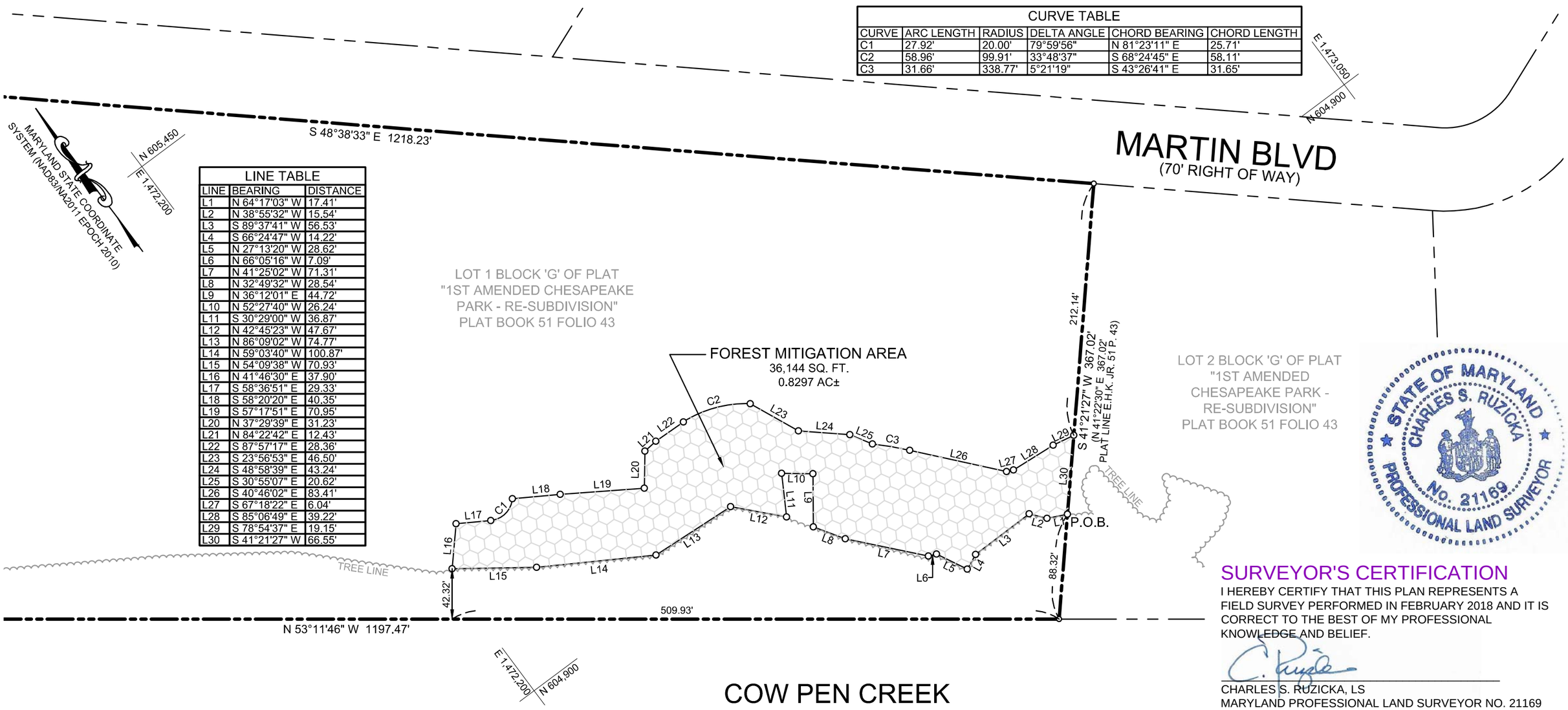
PRECISION
SURVEY AND MAPPING LLC
Using Modern Technology to Map America
6809 South River Drive
Baltimore, Maryland 21220
www.precisionsurveys.us
Phone: 410-459-2124

DATE 2-28-18
SCALE 1"=100'
DESIGNED BY
DRAWN BY SLS

PLAT TO ACCOMPANY DESCRIPTION

FOREST MITIGATION AREA

BEING PART OF BLOCK 'F' OF PLAT
"1ST AMENDED CHESAPEAKE PARK - RE-SUBDIVISION"
PLAT BOOK 51 PAGE 43
BALTIMORE COUNTY, MARYLAND



CURVE TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	27.92'	20.00'	79°59'56"	N 81°23'11" E	25.71'
C2	58.96'	99.91'	33°48'37"	S 68°24'45" E	58.11'
C3	31.66'	338.77'	5°21'19"	S 43°26'41" E	31.65'

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 64°17'03" W	17.41'
L2	N 38°55'32" W	15.54'
L3	S 89°37'41" W	56.53'
L4	S 66°24'47" W	14.22'
L5	N 27°13'20" W	28.62'
L6	N 66°05'16" W	7.09'
L7	N 41°25'02" W	71.31'
L8	N 32°49'32" W	28.54'
L9	N 36°12'01" E	44.72'
L10	N 52°27'40" W	26.24'
L11	S 30°29'00" W	36.87'
L12	N 42°45'23" W	47.67'
L13	N 86°09'02" W	74.77'
L14	N 59°03'40" W	100.87'
L15	N 54°09'38" W	70.93'
L16	N 41°46'30" E	37.90'
L17	S 58°36'51" E	29.33'
L18	S 58°20'20" E	40.35'
L19	S 57°17'51" E	70.95'
L20	N 37°29'39" E	31.23'
L21	N 84°22'42" E	12.43'
L22	S 87°57'17" E	28.36'
L23	S 23°56'53" E	46.50'
L24	S 48°58'39" E	43.24'
L25	S 30°55'07" E	20.62'
L26	S 40°46'02" E	83.41'
L27	S 67°18'22" E	6.04'
L28	S 85°06'49" E	39.22'
L29	S 78°54'37" W	19.15'
L30	S 41°21'27" W	66.55'

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN REPRESENTS A FIELD SURVEY PERFORMED IN FEBRUARY 2018 AND IT IS CORRECT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF.

CHARLES S. RUZICKA, LS
MARYLAND PROFESSIONAL LAND SURVEYOR NO. 21169
(EXPIRATION JUNE 26, 2019)

STATE OF MARYLAND
CHARLES S. RUZICKA
No. 21169
PROFESSIONAL LAND SURVEYOR

GENERAL NOTES

1. COORDINATES AND BEARINGS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS DERIVED FROM THE MARYLAND STATE COORDINATE SYSTEM (NAD83/NA2011 EPOCH 2010).

2. SITE: LOT 1 OF BLOCK 'G'
PLAT REF.: "CHESAPEAKE PARK" W.P.C. 51 FOLIO 43

3. THE LOCATION OF IMPROVEMENTS SHOWN HEREON ARE DERIVED FROM FIELD RUN SURVEY PERFORMED BY PRECISION SURVEYING AND MAPPING, LLC IN FEBRUARY 2018.THE SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT.

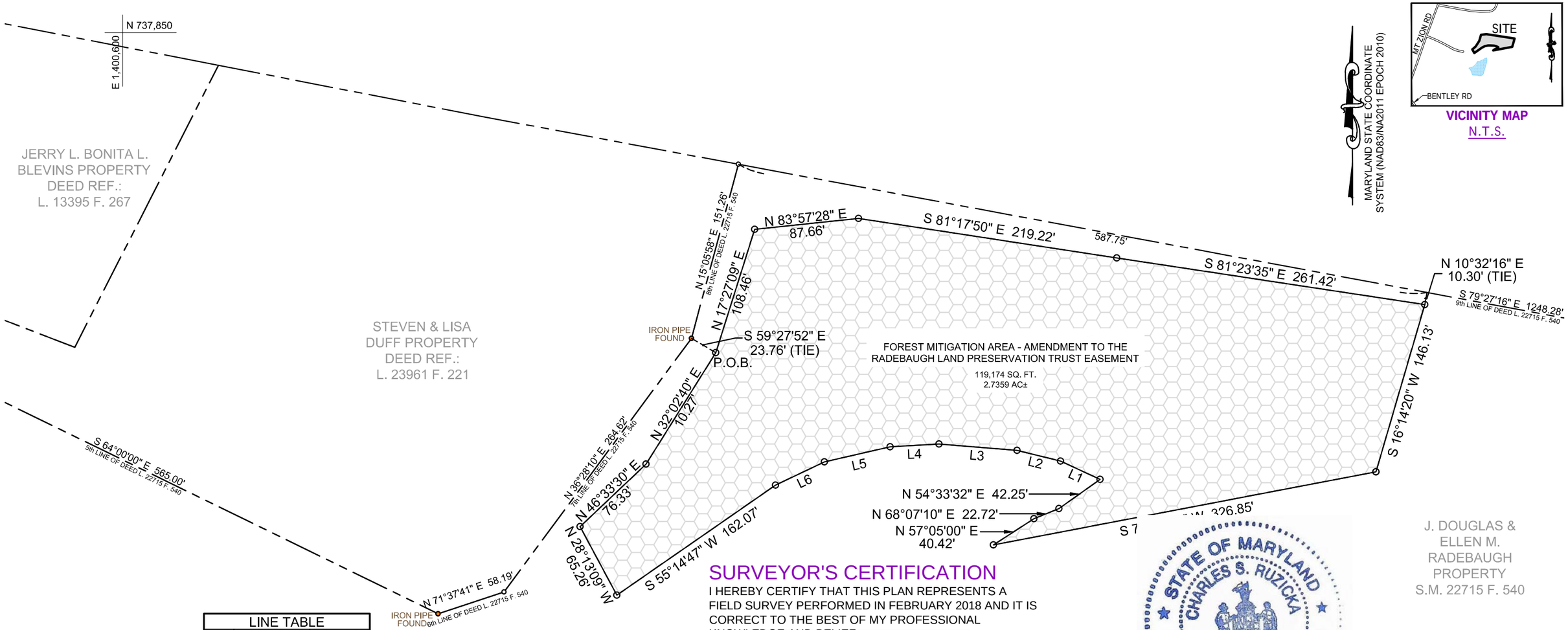
PRECISION SURVEY AND MAPPING LLC
Using Modern Technology to Map America
6809 South River Drive
Baltimore, Maryland 21220
www.precisionsurveys.us
Phone: 410-459-2124

DATE	2-28-18
SCALE	1"=100'
DESIGNED BY	
DRAWN BY	SLS

PLAT TO ACCOMPANY DESCRIPTION

FOREST MITIGATION AREA

BEING PART OF BLOCK 'G' LOT 1 OF PLAT
"1ST AMENDED CHESAPEAKE PARK - RE-SUBDIVISION"
PLAT BOOK 51 PAGE 43
BALTIMORE COUNTY, MARYLAND



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 65°01'38" W	36.58'
L2	N 76°17'25" W	37.48'
L3	N 85°19'21" W	65.71'
L4	S 86°52'23" W	41.11'
L5	S 76°59'02" W	56.57'
L6	S 64°41'12" W	45.46'

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN REPRESENTS A FIELD SURVEY PERFORMED IN FEBRUARY 2018 AND IT IS CORRECT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF.

CHARLES S. RUZICKA, LS
MARYLAND PROFESSIONAL LAND SURVEYOR NO. 21169
(EXPIRATION JUNE 26, 2019)

STATE OF MARYLAND
CHARLES S. RUZICKA
No. 21169
PROFESSIONAL LAND SURVEYOR

GENERAL NOTES

1. COORDINATES AND BEARINGS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS DERIVED FROM THE MARYLAND STATE COORDINATE SYSTEM (NAD83/NA2011 EPOCH 2010).

2. OWNERSHIP: J. DOUGLAS & ELLEN M. RADEBAUGH BY VIRTUE OF THE FOLLOWING DEED: S.M. 2275 FOLIO 540
ADDRESS: MT ZION RD, FREELAND, MARYLAND 21053

3. THE LOCATION OF PROPERTY & EASEMENTS SHOWN HEREON ARE DERIVED FROM FIELD RUN SURVEY PERFORMED BY PRECISION SURVEYING AND MAPPING, LLC IN FEBRUARY 2018.THE SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT.

PRECISION SURVEY AND MAPPING LLC
Using Modern Technology to Map America
6809 South River Drive
Baltimore, Maryland 21220
www.precisionsurveys.us
Phone: 410-459-2124

DATE	2-23-18
SCALE	1"=100'
DESIGNED BY	
DRAWN BY	SLS

PLAT TO ACCOMPANY DESCRIPTION

FOREST MITIGATION AREA - AMENDMENT TO THE RADEBAUGH LAND PRESERVATION TRUST EASEMENT

J. DOUGLAS & ELLEN M. RADEBAUGH PROPERTY
MT ZION RD, FREELAND, MARYLAND 21053
DEED REF.:S.M. 22715 FOLIO 540
BALTIMORE COUNTY, MARYLAND

Legal Description
Forest Mitigation Area
A portion of Block 'F'
"1st Amended Chesapeake Park Re-Subdivision"
Plat Book E.H.K. Jr. 51, Page 43
Baltimore County, Maryland

Beginning for the same on the North 34 degrees 38 minutes 38 seconds East 350.14 plat line of Block 'F' as shown on the plat entitled "1st Amended Chesapeake Park Re-Subdivision" recorded among the Land Records of Baltimore County, Maryland in Plat Book E.H.K. Jr. 51, Page 43, distant South 34 degrees 37 minutes 35 seconds West 301.83 feet from the intersection of the southwestern right of way line of Martin Boulevard, 70 feet wide and the northwest corner of Block 'F' as now surveyed by Precision Survey and Mapping LLC, thence running with said lot line, referring all courses and distances of this description to the Maryland Coordinate System (NAD83/NA2011 epoch 2010),

1) North 34 degrees 37 minutes 35 seconds East for a distance of 58.39 feet, thence leaving the aforementioned lot line of Block 'F' and running for a new line of easement through Block 'F',
2) South 46 degrees 45 minutes 38 seconds East for a distance of 25.19 feet, thence
3) South 34 degrees 10 minutes 25 seconds East for a distance of 19.57 feet, thence
4) South 28 degrees 47 minutes 57 seconds East for a distance of 96.54 feet, thence
5) South 45 degrees 58 minutes 07 seconds East for a distance of 105.87 feet, thence
6) South 89 degrees 13 minutes 46 seconds East for a distance of 51.76 feet, thence
7) South 87 degrees 32 minutes 01 seconds East for a distance of 33.82 feet, thence
8) South 81 degrees 04 minutes 19 seconds East for a distance of 21.20 feet, thence
9) North 81 degrees 33 minutes 44 seconds East for a distance of 54.18 feet, thence
10) South 83 degrees 28 minutes 09 seconds East for a distance of 28.45 feet, thence
11) South 69 degrees 10 minutes 15 seconds East for a distance of 11.32 feet, thence
12) South 57 degrees 45 minutes 47 seconds East for a distance of 20.53 feet, thence
13) North 58 degrees 04 minutes 27 seconds East for a distance of 19.69 feet, thence
14) thence with a non-tangent curve turning to the right with an arc length of 60.46 feet, having a radius of 52.13 feet, and a chord bearing of South 63 degrees 21 minutes 38 seconds East , with a chord length of 57.13 feet,
15) South 59 degrees 52 minutes 03 seconds West for a distance of 3.75 feet, thence
16) South 36 degrees 14 minutes 27 seconds East for a distance of 21.23 feet, thence
17) South 65 degrees 07 minutes 13 seconds East for a distance of 19.32 feet;
18) South 24 degrees 40 minutes 48 seconds East for a distance of 10.84 feet, thence
19) North 55 degrees 16 minutes 54 seconds East for a distance of 65.97 feet, thence
20) South 34 degrees 17 minutes 16 seconds East for a distance of 13.27 feet, thence
21) North 51 degrees 41 minutes 36 seconds East for a distance of 30.79 feet, thence
22) South 34 degrees 30 minutes 24 seconds East for a distance of 62.78 feet, thence
23) South 55 degrees 25 minutes 29 seconds West for a distance of 18.84 feet, thence

24) thence with a tangent curve turning to the right with an arc length of 57.28 feet, having a radius of 87.87 feet, and a chord bearing of South 74 degrees 05 minutes 59 seconds West , with a chord length of 56.27 feet to intersect Cow Pen Creek and the North 87 degrees 12 minutes 27 seconds West 462.65 foot line of Block 'F' as shown on the aforementioned plat of Chesapeake Park, said point being distant 92.21 feet from the beginning of said plat line, thence with a portion of said line,
25) North 87 degrees 13 minutes 30 seconds West for a distance of 55.30 feet, thence leaving said plat line and running again through Block 'F'
26) North 26 degrees 13 minutes 25 seconds West for a distance of 36.75 feet, thence
27) North 89 degrees 24 minutes 25 seconds West for a distance of 109.87 feet, thence
28) South 89 degrees 31 minutes 49 seconds West for a distance of 91.73 feet, thence
29) North 84 degrees 18 minutes 54 seconds West for a distance of 55.66 feet, thence
30) North 70 degrees 57 minutes 56 seconds West for a distance of 53.02 feet, thence
31) North 66 degrees 41 minutes 59 seconds West for a distance of 46.00 feet, thence
32) North 56 degrees 24 minutes 16 seconds West for a distance of 33.45 feet, thence
33) North 06 degrees 21 minutes 59 seconds West for a distance of 51.34 feet, thence
34) North 55 degrees 29 minutes 29 seconds West for a distance of 37.73 feet, thence
35) South 50 degrees 17 minutes 57 seconds West for a distance of 32.31 feet to intersect Cow Pen Creek and the North 87 degrees 12 minutes 27 seconds West 462.65 foot line of Block 'F' as shown on the aforementioned plat of Chesapeake Park, thence with a portion of said line,
36) North 47 degrees 19 minutes 34 seconds West for a distance of 20.88 feet, being 92.83 feet from the end of said plat line, thence leaving said outline and running again through Block 'F'
37) North 36 degrees 21 minutes 37 seconds West for a distance of 29.78 feet, thence
38) North 21 degrees 09 minutes 27 seconds West for a distance of 57.17 feet, thence
39) North 05 degrees 39 minutes 04 seconds West for a distance of 25.51 feet TO THE point of beginning.

Containing 48,060 square feet or 1.1033 acres of land, more or less.

Being known as part of Block 'F' as shown on the plat entitled "1st Amended Chesapeake Park Re-Subdivision" recorded among the Land Records of Baltimore County, Maryland in Plat Book E.H.K. Jr. 51, Page 43.

Also being a portion of the land which by January 2, 1969 and recorded among the Land Records of Baltimore County, Maryland in Liber 4953, Page 235 was conveyed by Martin Marietta Corporation to Chesapeake Park, Inc.

Charles S. Ruzicka, LS 3/9/18
Registered Maryland Professional Land Surveyor, No. 21169,
Expiration Date: 6/26/2019

STATE OF MARYLAND
CHARLES S. RUZICKA
No. 21169
PROFESSIONAL LAND SURVEYOR

Legal Description

Forest Mitigation Area

A portion of Block 'G' Lot 1

"1st Amended Chesapeake Park Re-Subdivision"

Plat Book E.H.K. Jr. 51, Page 43

Baltimore County, Maryland

Beginning for the same on the North 41 degrees 22 minutes 30 seconds East 367.02 foot plat line or southeasterly line of Block 'G' Lot 1 as shown the plat entitled "1st Amended Chesapeake Park Re-Subdivision" recorded among the Land Records of Baltimore County, Maryland in Plat Book E.H.K. Jr. 51, Page 43, distant South 41 degrees 21 minutes 27 seconds West 278.69 feet from intersection of Martin Boulevard, 70 feet wide and the southeast corner of the aforementioned Block 'G' Lot 1, thence running through Block 'G' Lot 1 for a new line of easement, as now surveyed by Precision Survey and Mapping LLC, referring all courses of this description to the Maryland Coordinate System NAD 83/2011 epoch 2010,

1) North 64 degrees 17 minutes 03 seconds West for a distance of 17.41 feet, thence
2) North 38 degrees 55 minutes 32 seconds West for a distance of 15.54 feet,
3) South 89 degrees 37 minutes 41 seconds West for a distance of 56.53 feet,
4) South 66 degrees 24 minutes 47 seconds West for a distance of 14.22 feet,
5) North 27 degrees 13 minutes 20 seconds West for a distance of 28.62 feet,
6) North 66 degrees 05 minutes 16 seconds West for a distance of 7.09 feet,
7) North 41 degrees 25 minutes 02 seconds West for a distance of 71.31 feet,
8) North 32 degrees 49 minutes 32 seconds West for a distance of 28.54 feet, thence
9) North 36 degrees 12 minutes 01 seconds East for a distance of 44.72 feet, thence
10) North 52 degrees 27 minutes 40 seconds West for a distance of 26.24 feet, thence
11) South 30 degrees 29 minutes 00 seconds West for a distance of 36.87 feet, thence
12) North 42 degrees 45 minutes 23 seconds West for a distance of 47.67 feet, thence
13) North 86 degrees 09 minutes 02 seconds West for a distance of 74.77 feet,
14) North 59 degrees 03 minutes 40 seconds West for a distance of 100.87 feet,
15) North 54 degrees 09 minutes 38 seconds West for a distance of 70.93 feet,
16) North 41 degrees 46 minutes 30 seconds East for a distance of 37.90 feet, thence
17) South 58 degrees 36 minutes 51 seconds East for a distance of 29.33 feet, thence
18) with a curve turning to the left with an arc length of 27.92 feet, having a radius of 20.00 feet, and a chord bearing of North 81 degrees 23 minutes 11 seconds East , with a chord length of 25.71 feet, thence
19) South 58 degrees 20 minutes 20 seconds East for a distance of 40.35 feet, thence
20) South 57 degrees 17 minutes 51 seconds East for a distance of 70.95 feet, thence
21) North 37 degrees 29 minutes 39 seconds East for a distance of 31.23 feet, thence
22) North 84 degrees 22 minutes 42 seconds East for a distance of 12.43 feet, thence
23) South 87 degrees 57 minutes 17 seconds East for a distance of 28.36 feet, thence

24) thence with a non-tangent curve turning to the right with an arc length of 58.96 feet, having a radius of 99.91 feet, and a chord bearing of South 68 degrees 24 minutes 45 seconds East , with a chord length of 58.11 feet,
25) South 23 degrees 56 minutes 53 seconds East for a distance of 46.50 feet, thence
26) South 48 degrees 58 minutes 39 seconds East for a distance of 43.24 feet, thence
27) South 30 degrees 55 minutes 07 seconds East for a distance of 20.62 feet, thence
28) thence with a non-tangent curve turning to the right with an arc length of 31.66 feet, having a radius of 338.77 feet, and a chord bearing of South 43 degrees 26 minutes 41 seconds East , with a chord length of 31.65 feet,
29) South 40 degrees 46 minutes 02 seconds East for a distance of 83.41 feet, thence
30) South 67 degrees 18 minutes 22 seconds East for a distance of 6.04 feet;
31) South 85 degrees 06 minutes 49 seconds East for a distance of 39.22 feet, thence
32) South 78 degrees 54 minutes 37 seconds East for a distance of 19.15 feet to intersect the aforementioned North 41 degrees 22 minutes 30 seconds East 367.02 plat line or southeasterly line of Block 'G' Lot 1 as shown the plat entitled "1st Amended Chesapeake Park Re-Subdivision", thence running reversely with said plat line
33) South 41 degrees 21 minutes 27 seconds West for a distance of 66.55 feet to the point of beginning.

Containing 36,140 square feet or 0.8297 acres of land, more or less.

Being known as part of Block 'G' Lot 1 as shown on the plat entitled "1st Amended Chesapeake Park Re-Subdivision" recorded among the Land Records of Baltimore County, Maryland in Plat Book E.H.K. Jr. 51, Page 43.

Also being a portion of the land which by January 2, 1969 and recorded among the Land Records of Baltimore County, Maryland in Liber 4953, Page 235 was conveyed by Martin Marietta Corporation to Chesapeake Park, Inc.

Charles S. Ruzicka, LS 2/28/17
Registered Maryland Professional Land Surveyor, No. 21169,
Expiration Date: 6/26/2019

STATE OF MARYLAND
CHARLES S. RUZICKA
No. 21169
PROFESSIONAL LAND SURVEYOR

PRECISION
SURVEY AND MAPPING LLC
Using Modern Technology to Map America

Legal Description
Forest Mitigation Area
(Amendment to the Radebaugh Land Preservation Trust Easement)
A portion of the land of
J. Douglas Radebaugh and Ellen M. Radebaugh Property
S.M. 22715 Folio 540
Baltimore County, Maryland

Beginning for the same distant South 59 degrees 27 minutes 52 seconds East 23.76 feet from a pipe found at the end of the 7th or North 36 degrees 28 minutes 10 seconds East 264.62 foot line of that tract or parcel of land which by deed dated September 30, 2005 and recorded among the land records of Baltimore County, Maryland in Liber S.M. 22715 folio 540, was conveyed by Ernest R. Price and Mary Jane Price to J. Douglas Radebaugh and Ellen M. Radebaugh, thence running through the land of the Grantor, as now surveyed by Precision Survey and Mapping LLC, referring all courses of this description referenced to the meridian established by the Maryland Coordinate system (NAD83/NA2011 epoch 2010), for the following courses:

1) North 17 degrees 27 minutes 09 seconds East for a distance of 108.46 feet, thence
2) North 83 degrees 57 minutes 28 seconds East for a distance of 87.66 feet,
3) South 81 degrees 17 minutes 50 seconds East for a distance of 219.22 feet,
4) South 81 degrees 23 minutes 35 seconds East for a distance of 261.42 feet,
5) South 16 degrees 14 minutes 20 seconds West for a distance of 146.13 feet,
6) South 79 degrees 10 minutes 35 seconds West for a distance of 326.85 feet,
7) North 57 degrees 05 minutes 00 seconds East for a distance of 40.42 feet,
8) North 68 degrees 07 minutes 10 seconds East for a distance of 22.72 feet,
9) North 54 degrees 33 minutes 32 seconds East for a distance of 42.25 feet,
10) North 65 degrees 01 minutes 38 seconds West for a distance of 36.58 feet,
11) North 76 degrees 17 minutes 25 seconds West for a distance of 37.48 feet,
12) North 85 degrees 19 minutes 21 seconds West for a distance of 65.71 feet,
13) South 86 degrees 52 minutes 23 seconds West for a distance of 41.11 feet,
14) South 76 degrees 59 minutes 02 seconds West for a distance of 56.57 feet,
15) South 64 degrees 41 minutes 12 seconds West for a distance of 45.46 feet,
16) South 55 degrees 14 minutes 47 seconds West for a distance of 162.07 feet,
17) North 28 degrees 13 minutes 09 seconds West for a distance of 65.26 feet,
18) North 46 degrees 33 minutes 30 seconds East for a distance of 76.33 feet,
19) North 32 degrees 02 minutes 40 seconds East for a distance of 110.27 feet to the point of beginning.

Containing 119,174 square feet or 2.7359 acres of land, more or less.

Being a portion of the land which by deed dated September 30, 2005 and recorded among the land records of Baltimore County, Maryland in Liber S.M. 22715 folio 540, was conveyed by Ernest R. Price and Mary Jane Price to J. Douglas Radebaugh and Ellen M. Radebaugh.

Charles S. Ruzicka, LS 2/28/17
Registered Maryland Professional Land Surveyor, No. 21169,
Expiration Date: 6/26/2019

REFERENCES

Harrison, Jason W. 2016. The Natural Communities of Maryland: 2016 Natural Community Classification Framework. Maryland Department of Natural Resources, Wildlife and Heritage Service, Natural Heritage Program, Annapolis, Maryland. Unpublished report. 35 pages