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CIVIL ENGINEERING AND CONSTRUCTION SERVICES

ENGINEERS, PLANNERS, SURVEYORS,AND GENERAL CONTRACTORS

PUBLIC FACILITIES REPORT & WQIA

RZN-2021-0018 LAKE KILBY

SUBDIVISION 2056 LAKE

COHOON ROAD SUFFOLK, VA

Narrative

Project Description

The subject properties are identified as Tax Map Parcels 33*48, 33*48A,33*49 and 34*26. Parcel 33 *48 is addressed as 2600 Lake Cohoon Rd. The property is generally bounded to the east by 1-58, to the west by Lake Cohoon Rd.,and Lake Kilby Rd, to the south by Lake Cahoon Rd and property zoned RE. and to the north by properties zoned RL, RE, and CP. The existing parcels consists of approximately 87.58 acres. The proposed development intends to Rezone the project limits to RM to allow for the proposed single-family detached use. See Appendix A for a Rezoning Survey Exhibit. The proposed project limits are shown below in red on Figure 1.0 and has approximately 2,624 linear feet of frontage along I-58, 738 linear feet of frontage along Lake Kilby Rd. and about 950 linear feet of frontage along Lake Cohoon Rd.

Figure 1.0- Existing Zoning Exhibit

2.1 The intent of the project is to develop the proposed property into a development that will meet the provisions set forth in the UDO for single-family detached developments. The development will consist of 204 single family units as shown below in Figure 2.0. The infrastructure improvements include parks and open space amenities, domestic water and sanitary sewer services, and storm drainage system.

Primary access to the development is proposed from Lake Cohoon Rd. and Lake Kilby Rd. as shown in Figure 2.0 below. Additional access information is provided in the Traffic Report submitted under separate cover.

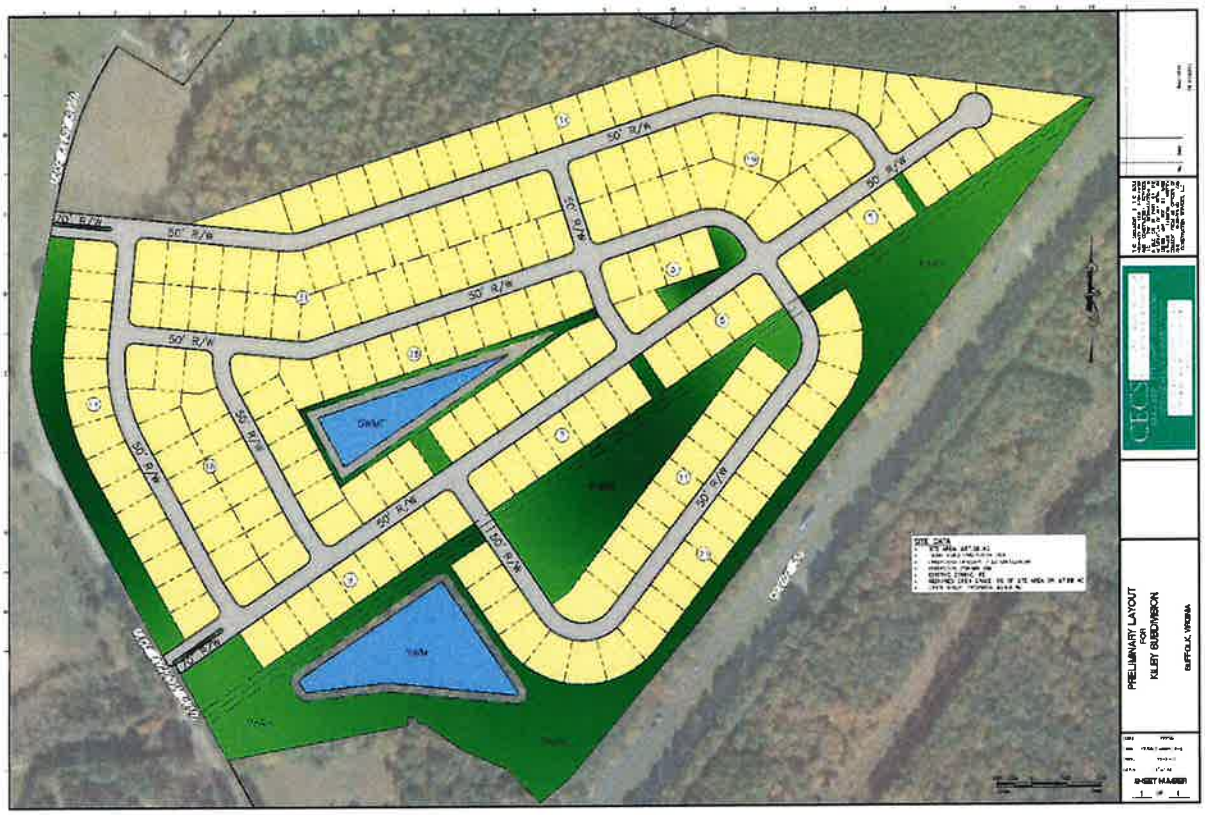

Figure 2.0 - Preliminary Concept Plan

2.0 Public Facilities Report

2.2 Water Level of Service

Based on the information provided by the City, there is a 10" water main adjacent to the property in Pitchkettle Farm Lane. Per city of Suffolk Public Utilities this is the most attractive connection point for the proposed domestic service and fire flow demand. A water main extension is proposed to service this development. The proposed development will utilize fire hydrants adequately spaced as required to address the fire flow requirements.

2.3 Sewer Level of Service

The approximate sewer demand for the proposed 204 units is 43.92 gpm (average) and 109.79 gpm (peak). Based on the information provided by the city, this development would build a terminal pumping station and pump sewer flows to the existing HRSD 24-inch forcemain that crosses Lake Cohoon Rd. between Rt 58 and Holland Rd. The size of the pump station and force main will be fully assessed and confirmed when more information is available during Engineering Plan Review.

PUBLIC FACILITIES REPORT & WQIA
KILBY SHORES SUBDIVISION
2056 LAKE COHOON ROAD
SUFFOLK, VA

TABLE OF CONTENTS

3.0 Major Water Quality Impact Assessment

3.1 Existing Topography

Most of the property is currently being used for agricultural purposes. The property currently drains to the south, west and east through a series of drainage ditches to a culvert under Route 58 that ultimately discharges into Lake Meade. The project area is located within the Chesapeake Bay Preservation Overlay District and is designated as a Resource Management Area (RMA). The proposed development area is not located in nor impacted by the Resource Protection (RPA).

3.2 Impacts on topography

The proposed site design shall utilize the existing topography as much as possible to minimize propose earthwork. No offsite work is proposed except for the proposed right-of-way improvements, water and sewer connections with the understanding of no impacts to adjacent properties.

Soil Characteristics

Based on USDA's Natural Resources Conservation Service (NRCS) Web Soil Survey information, the project area consists of a majority of Eunola loamy fine SAND.

Tables – AASHTO Group Classification (Surface) – Summary By Map Unit

Summary by Map Unit — City of Suffolk, Virginia (VA800)

Summary by Map Unit — City of Suffolk, Virginia (VA800)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
5A	Dogue fine sandy loam, 0 to 2 percent slopes	A-4	15.9	12.6%
5B2	Dogue fine sandy loam, 2 to 6 percent slopes, eroded	A-4	20.0	15.8%
8A	Eunola loamy fine sand, 0 to 2 percent slopes	A-4	48.7	38.6%
14	Lynchburg fine sandy loam	A-4	19.1	15.1%
15D	Nansemond loamy fine sand, 6 to 15 percent slopes	A-4	4.5	3.5%
16A	Nansemond fine sandy loam, 0 to 2 percent slopes	A-4	12.2	9.7%
22A	Suffolk loamy sand, 0 to 2 percent slopes	A-2	5.9	4.7%
Totals for Area of Interest			**126.3**	**100.0%**

i) A total of approximately 2.35 acres of non-tidal palustrine forested (PFO) wetlands were identified within the property during the wetland delineation by MSA. Approximately 0.63 acres of isolated wetlands are proposed to be impacted by this development. The wetlands delineation Report is included in Appendix D

ii) The proposed design will collect stormwater runoff from the proposed improvements and discharge into a stormwater management facilities located onsite and discharged into the existing drainage ditch along the southern portions of the property. There are approximately 1.76 acres of existing freshwater forested/shrub wetlands located along the southern boundary of the property.

iiiSee ii.

iv) Any fill material shall be concentrated within the proposed improvements such as, the active open space and building footprints if needed.

v) There is no dredging proposed with this development.

vi) No impacts to shellfish beds or other aquatic features are proposed.

vii) The project will be designed using DEQ's II B stormwater design criteria with Virginia's Runoff Reduction Method (VRRM). The proposed development will be required to remove approximately 64.81 pounds of phosphorus per year. All required water quantity reduction will be achieved using a stormwater management facility located on the property at total of 64.85 pounds of phosphorus will be removed by the proposed Stormwater management system (see calculation in Appendix C). The stormwater management facility shall meet all local and state requirements. A copy of the preliminary calculations can be found in Appendix C

viii) The proposed development is estimated to increase the impervious area by about thirty-five acres (35) acres as shown in the VRRM calculations in Appendix C.

ix) The proposed development anticipates about (84) acres of land disturbance. The actual number shall be determined during site plan design.

x) The developer anticipates that the construction process shall take two (2) years to complete.

xi) The proposed project anticipates needing the following permits for construction; site plan approval, building, plumbing, electrical, mechanical, DEQ General Construction Permit, land disturbance permit, and right-of-way permit.

vii) l. The proposed development's erosion and sediment control measures shall include but not limited to; silt fencing, tree protection, check dams, temporary sediment basin, construction entrance(s), and diversion dikes. The temporary sediment basin shall be sized according to the Virginia Erosion and Sediment Control Handbook. This will ensure proper treatment of any sediment collected during the construction process.

2. As discussed above, several stormwater management facilities are proposed for the development to address stormwater runoff. The preliminary design assumes two Wet Pond #2 under the Virginia BMP Clearinghouse shall be used and as shown in the preliminary VRRM calculations provided in Appendix C. Both the proposed stormwater management facilities and onsite drainage system will be

designed in accordance with DEQ's water quantity requirements for the 1-year, 10-year, and 100-year storm events.

3. A total of approximately 2.39 acres of non-tidal palustrine forested (PFO) wetlands were identified within the property during the wetland delineation by MSA. Approximately 0.63 acres of isolated wetlands are proposed to be removed with this development.

4. As mentioned above, the proposed site plan design will minimize cut/fill within the limits of construction. This is a standard practice in development to minimize construction cost.

4.0 Landscape Element

A. The existing property is currently used as three single family home sites as well as an agricultural farm and forested areas. Trees within the proximity of newly proposed infrastructure will be removed. Where possible, trees within the development will be saved to improve the quality and character of the development.

B. i) The proposed development anticipates approximately eighty-five (85) acres of land disturbance for the purposes of constructing the buildings, roadways, parks and stormwater management facilities. As we enter the engineering phase of the project, we anticipate this number to significantly reduce.

ii) Individual trees to be removed will be assessed during the engineering phase of the project. In general trees will be saved within park areas, other passive open space as well as along the perimeter of the property to create a visual buffer.

iii) Specific plant species are not identified at this stage of the process and with this size project which is in excess of 87 acres.

iv) During the design process, efforts will be made to design the proposed improvements to minimize impacts to the existing trees and vegetation. The landscape design will incorporate the use of native plants and trees.

5.0 Wastewater Element

A. The proposed development will not use a septic system or mass drain field.

B. The proposed development does not propose sewer line locations in sensitive areas.

C. The proposed development intends to collect all sanitary sewer within a gravity sewer system that will discharge into a proposed public system. The discharge will be supported by an onsite terminal pump station and discharged into the existing HRSD force main located offsite.

D. No impacts are proposed.

E. As part of our preliminary site investigation a review of the wetland inventory was performed within the proposed project limits. The wetland inventory review identified approximately 2.39 acres of wetlands within the proposed property limits located in the southern portion of the property. Per the Suffolk VA Parcel Data Viewer, no CBPA RPA areas or buffers are located on site. All onsite areas are located within the CBPA Resource Management area.

F. As mentioned above, the existing property is currently used as an agricultural farm and several single-family homes. The property drains to the south and west where runoff is collected and conveyed through an existing ditch system that flows toward an existing culvert under Routh 58. The change in use will remove the use of pesticides and strong fertilizers typically used in farming practices. The proposed development will capture the runoff and discharge into a stormwater management facility where sediment and pollutants will be removed prior to discharging into the existing ditch system. This process shall improve water quality within the existing watershed.

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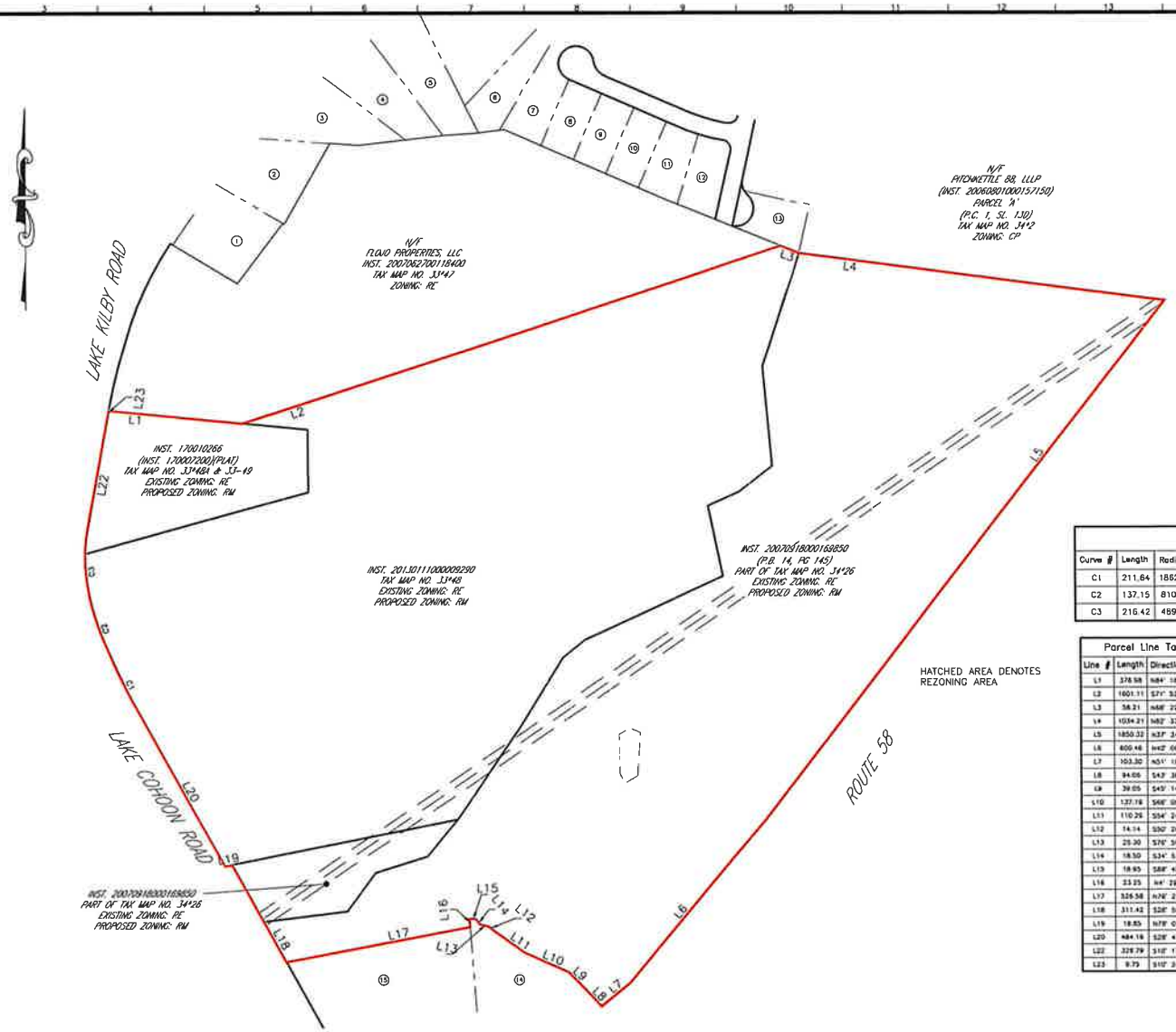
APPENDIX A

REZONING BOUNDARY
&
PRELIMINARY LAYOUT



Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	211.64	1862.11	6.51	S26° 08' 15"E	211.53
C2	137.15	810.52	9.70	S19° 20' 10"E	136.99
C3	216.42	489.12	25.35	S2° 18' 29"E	214.66

Parcel Line Table		
Line #	Length	Direction
L1	376.58	N84° 18' 24.54"W
L2	1601.11	S71° 32' 38.74"W
L3	38.21	N68° 22' 02.88"W
L4	1034.21	N82° 33' 40.00"W
L5	1850.33	N37° 34' 36.00"E
L6	800.46	N42° 06' 50.00"E
L7	103.30	N51° 18' 05.00"E
L8	94.05	S43° 38' 42.12"E
L9	39.05	S45° 14' 33.00"E
L10	137.76	S68° 08' 13.00"E
L11	110.26	S54° 24' 18.00"E
L12	14.14	S30° 26' 53.00"E
L13	25.30	S76° 36' 57.00"E
L14	18.50	S34° 57' 47.00"E
L15	18.95	S88° 45' 15.00"E
L16	33.25	N4° 29' 21.00"W
L17	326.56	N76° 27' 08.00"E
L18	311.42	S28° 58' 11.49"E
L19	18.85	N78° 02' 29.94"E
L20	484.16	S28° 41' 43.21"E
L22	328.79	S10° 17' 00.85"W
L23	9.73	S10° 24' 42.84"W

200 100 0 200 400
scale feet

No.	Date	Description
		REVISIONS

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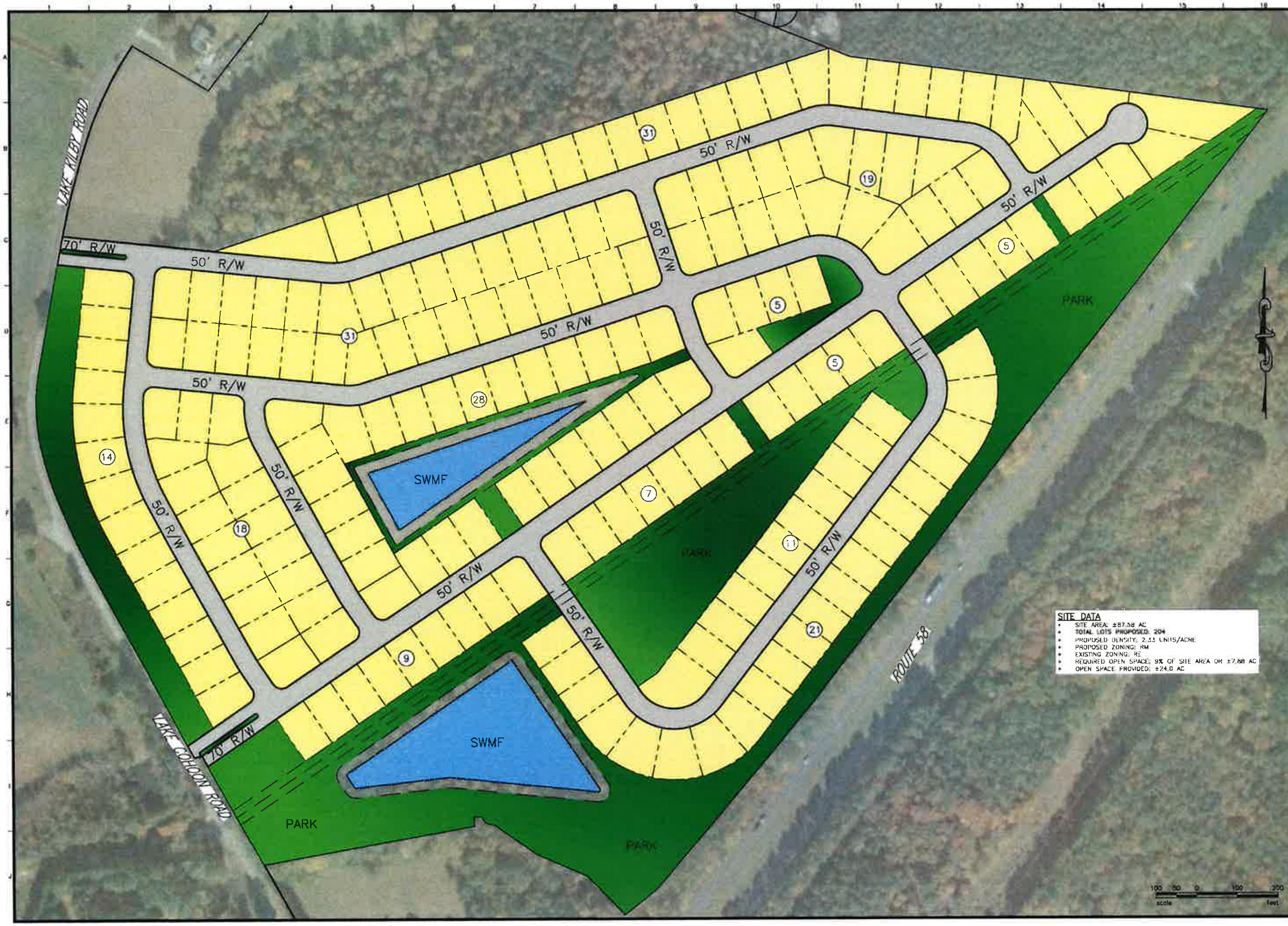
EXISTING ZONING MAP FOR KILBY SUBDIVISION

SUFFOLK, VIRGINIA

JOB# 22295
DWG 22295 Plan-3.dwg
DATE: 11-2-22
SCALE: 1"=200'

SHEET NUMBER
1 OF 1



No.	Date	Description

REVISIONS

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PRELIMINARY LAYOUT FOR KILBY SUBDIVISION

SUFFOLK, VIRGINIA

JOB	22256
DWG.	22256 Prelim-3.dwg
DATE	11-2-22
SCALE	1"=100'

SHEET NUMBER 1 OF 1

MSA, P.C.
5032 Rouse Drive, Suite 200
Virginia Beach, VA 23462-3764
757-490-9264 | www.msaonline.com

Environmental Sciences • Surveying • Civil & Environmental Engineering

November 8, 2022

Bob Arnette
Coastal Virginia Developers
5807 Portsmouth Boulevard
Portsmouth, VA. 23701

RE: Flojo-Sternat Property; MSA Project Number 21142
Corps NAO-2021-2220

Greetings Mr. Arnette,

MSA, P.C. completed a wetland delineation for what is known as the Flojo-Sternat Property located at 2056 Lake Cohoon Road in Suffolk, Virginia, named for the prior owners. The Corps of Engineers has reviewed and approved this delineation under NAO-2021-2220. That effort was completed on approximately 108-acres of land comprised of four parcels at the time. A total of 4.38 acres of forested wetlands were identified, and streams were also mapped.

As per the rezoning exhibit, the limits of the property have been changed to include only the following parcels as shown currently in City records:

- 25142100 (33*48 at 43.62 acres)
- 250732000 (34*26 at 41.13 acres)
- 251419600 (33*48A at 2.45 acres)
- 251419400 (33*49 at 1.76 acres).

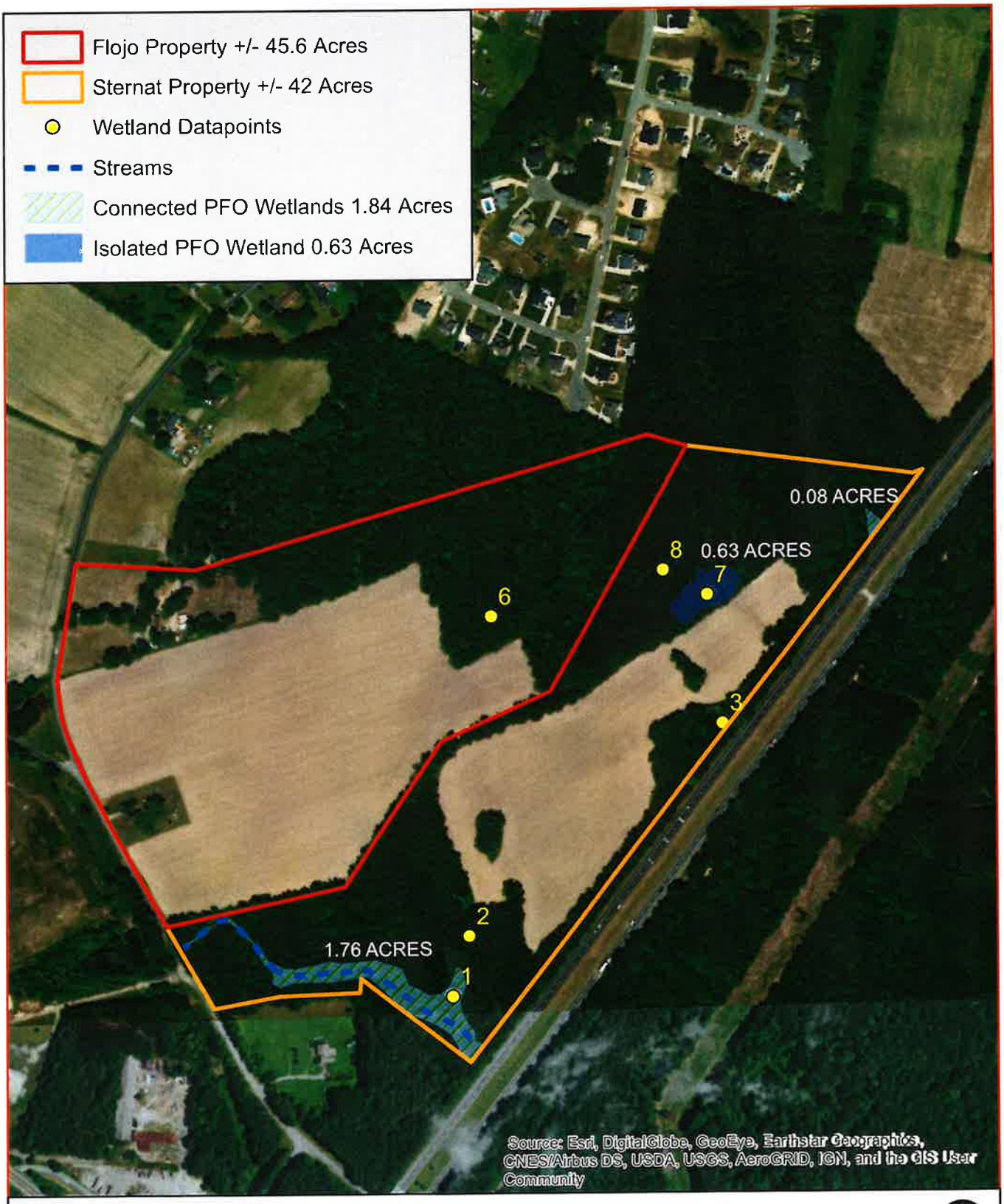
Parcel 25142000 (33*47 at 18.25 acres) is no longer involved in this project.

MSA has revised the wetland delineation exhibit to only show the limits of wetlands that were approved in the four parcels that remain part of the proposed development. That exhibit is attached for our record and use. A total of 2.47 acres of wetlands were identified, including 0.63 acres of isolated forested wetlands and 1.84 acres of connected forested wetlands.

Feel free to forward this letter and exhibit to any interested parties. Let me know if you have any questions, or need to discuss this further.

Sincerely;

Brian R. Owen, PWD
Wetland Specialist



Mapped by BRO
Suffolk and Buckhorn, VA USGS Quadrangle Topographic Maps

0 250 500 1,000 1,500 Feet

N

REVISED WETLAND DELINEATION EXHIBIT

JURISDICTIONAL DETERMINATION REQUEST
FLOJO-STERNAT PROPERTY
LAKE CAHOON ROAD, SUFFOLK, VIRGINIA

MSA, P.C.
Environmental Sciences, Surveying,
Civil & Environmental Engineering
5032 Rouse Drive, Suite 100
Virginia Beach, VA. 23462
757-490-9264 (Ofc) 757-490-0634 (Fax)
www.msaonline.com

MSA JOB #	DATE:	MAPPED BY:	SCALE
21142	NOV 4, 2022	BRO	AS SHOWN

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APPENDIX B

SEWER CALCULATIONS

Sanitary Sewer Flow Calculations

HRSD Sanitary Sewer Flow Calculations Worksheet

Applicants with projects generating sanitary sewer flow must use this worksheet to calculate flows and submit to HRSD Development Services using the email link: developrequest@hrsd.com

Project Name: Kilby Subdivision

Pump Station Replacements - Upgrades - Modifications projects

HRSD shall certify a pump station based on metered data if available. In absence of metered data, water consumption data shall be used instead. If there is a future flow component in the calculations for the catchment, please use the worksheet below.

PS No:				
PS Name:				
	Pump Station Catchment Basin			
	Avg. Dry Weather Flow		Wet Weather Flow	
	gpd	gpm	gpd	gpm
Enter Metered →				
OR Water Consumption Flow →				
Sub-totals:				

Proposed Development

Please use the table below to calculate sanitary sewer flows for your project

Land Use	Contributing Unit Type	Flow (gpd/Unit)	Flow Duration (hours)	Peak Factor	Enter No. of Units	Avg. Flow (gpd)	Avg. Flow (gpm)	Peak Flow (gpd)	Peak Flow (gpm)
Residential									
Single Family Homes, Trailers, Apartments, Condos, Townhomes, Duplexes	Residential Dwelling	310	24	2.5	204	63,240	43.92	158,100	109.79
Medical Facilities									
Hospitals	Medical Bed	300	24	3					
Nursing Homes & Assisted Living		160	24	3					
Funeral Homes	Gross SF	0.25	12	3					
Medical Office Building	Gross SF	0.25	12	3					
Tourism Facilities									
Motels & Hotels	Room	130	24	3					
Educational Facilities									
High School (w/ showers)	Student / Faculty	15	8	3					
Elementary & Middle School		10	8	3					
College/University Campus & Day Care		10	12	3					
Boarding Schools		75	16	3					
Recreational Facilities									
Picnic Areas, Parks & Amusement Parks	Person	5	12	3					
Movie Theater	Seat	2.5	12	3					
Religious Assembly		2.5	6	3					
Campground / Cabins	Camping site	100	24	3					
Dining /Eatery Facilities									
Restaurants	Seat	30	16	3					
Service & Retail Facilities									
Shopping Mall & Retail Shops	Gross SF	0.2	12	3					
Convenient Store		0.3	24	3					
Office Building, Storage Units Office		0.1	12	3					
Fitness Center		0.1	16	3					
Service Stations		0.4	16	3					
Laundromats	Machine	500	16	3					
Industrial Facilities									
Heavy Industrial	Gross SF	0.35	16	3					
Light Industrial		0.1	16	3					
Warehouse		0.05	24	3					
					Sub-Totals:	63,240	43.92	158,100	109.79

Future Growth Flow Calculations

Land use	Contributing Unit Type	Enter Flow (gpd/Unit)	Flow Duration (hrs)	Peak Factor	Enter No. of Units	Avg. Flow (gpd)	Avg. Flow (gpm)	Peak Flow (gpd)	Peak Flow (gpm)
Residential									
Single Family Homes, Trailers, Apartments, Condos, Townhomes, Duplexes	Residential Dwelling	310	24	2.5					
Commercial									
Medical, Tourism, Educational, Recreational, Dining, Service & Retail Facilities	Acres	1,000.00	24	3					
Industrial									
Heavy & Light Industrial, Manufacturing, Warehouses	Acres	1,000.00	24	3					
					Sub-totals:				
					Grand Totals:	63,240	43.92	158,100	109.79

NOTE: Enter the number of units as indicated in the appropriate land use to calculate project design flows.

Under the Future Growth Flow Calculations section, you may edit the default values for the flow factor (gpd/Unit) based on best engineering practices.

Comments:

Applicant's Name:
Phone No:
Email:

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APPENDIX C

STORMWATER / DRAINAGE CALCULATIONS

DEQ VRRM Calculations

DEQ Virginia Runoff Reduction Method New Development Compliance Spreadsheet - Version 3.0

☐ 2011 BMP Standards and Specifications ☑ 2013 Draft BMP Standards and Specifications

Project Name: Kilby Subdivision
Date: 11/3/2022
BMP Design Specifications List: 2013 Draft Stds & Specs

CLEAR ALL (Ctrl+Shift+R)

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested land			4.30		4.30 *
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed			48.12		48.12
Impervious Cover (acres)			35.16		35.16
					87.58

* Forest/Open Space areas must be protected in accordance with the Virginia Runoff Reduction Method

Constants

Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

Runoff Coefficients (Rv)

	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	64.81

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary

Forest/Open Space Cover (acres)	4.30
Weighted Rv (forest)	0.04
% Forest	5%
Managed Turf Cover (acres)	48.12
Weighted Rv (turf)	0.22
% Managed Turf	55%
Impervious Cover (acres)	35.16
Rv (impervious)	0.95
% Impervious	40%
Site Area (acres)	87.58
Site Rv	0.50

Treatment Volume and Nutrient Loads

Treatment Volume (acre-ft)	3.6800
Treatment Volume (cubic feet)	160,302
TP Load (lb/yr)	100.72
TN Load (lb/yr) (Informational Purposes Only)	720.52

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)			4.30		4.30	0.04
Managed Turf (acres)			48.12		48.12	0.22
Impervious Cover (acres)			35.16		35.16	0.95
				Total	87.58	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	100.33
Post Development Treatment Volume in D.A. A (ft³)	159,678

Stormwater Best Management Practices (RR = Runoff Reduction)

–Select from dropdown lists–

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft³)	Runoff Reduction (ft³)	Remaining Runoff Volume (ft³)	Total BMP Treatment Volume (ft³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed	Nitrogen Removal Efficiency (%)	Nitrogen Load from Upstream Practices (lbs)	Untreated Nitrogen Load to Practice (lbs)	Nitrogen Removed By Practice (lbs)	Remaining Nitrogen Load (lbs)
1. Vegetated Roof (RR)																		
1.a Vegetated Roof #1 (Spec #5)	45				0	0	0	0		0.00	0.00	0.00		0		0.00	0.00	0.00
1.b Vegetated Roof #2 (Spec #5)	60				0	0	0	0		0.00	0.00	0.00		0		0.00	0.00	0.00
2. Rooftop Disconnection (RR)																		
2.a Simple Disconnection to A/B Soils (Spec #1)	50			0	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00
2.b Simple Disconnection to C/D Soils (Spec #1)	25			0	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00
2.c To Soil Amended Filter Paths as per specifications (existing C/D soils) (Spec #4)	50			0	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00
2.d To Dry Well or French Drain #1, Micro-Infiltration #1 (Spec #8)	50			0	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00
2.e To Dry Well or French Drain #2, Micro-Infiltration #2 (Spec #8)	90			0	0	0	0	25	0.00	0.00	0.00	0.00		15	0.00	0.00	0.00	0.00
2.f To Rain Garden #1, Micro-Bioretention #1 (Spec #9)	40			0	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00
2.g To Rain Garden #2, Micro-Bioretention #2 (Spec #9)	80			0	0	0	0	50	0.00	0.00	0.00	0.00		60	0.00	0.00	0.00	0.00
2.h To Rainwater Harvesting (Spec #6)	0			0	0	0	0	0	0.00	0.00	0.00	0.00		0	0.00	0.00	0.00	0.00
2.i To Stormwater Planter, Urban Bioretention (Spec #9, Appendix A)	40			0	0	0	0	25	0.00	0.00	0.00	0.00		40	0.00	0.00	0.00	0.00
3. Permeable Pavement (RR)																		
3.a Permeable Pavement #1 (Spec #7)	45			0	0	0	0	25	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00
3.b Permeable Pavement #2 (Spec #7)	75				0	0	0	25		0.00	0.00	0.00		25		0.00	0.00	0.00
4. Grass Channel (RR)																		
4.a Grass Channel A/B Soils (Spec #3)	20			0	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00
4.b Grass Channel C/D Soils (Spec #3)	10			0	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00
4.c Grass Channel with Compost Amended Soils as per specs (see Spec #4)	20			0	0	0	0	15	0.00	0.00	0.00	0.00		20	0.00	0.00	0.00	0.00
5. Dry Swale (RR)																		
5.a Dry Swale #1 (Spec #10)	40			0	0	0	0	20	0.00	0.00	0.00	0.00		25	0.00	0.00	0.00	0.00
5.b Dry Swale #2 (Spec #10)	60			0	0	0	0	40	0.00	0.00	0.00	0.00		35	0.00	0.00	0.00	0.00

6. Bioretention (RR)													
6.a Bioretention #1 or Micro Bioretention #1 or Urban Bioretention (Spec #6)	40			0	0	0	0	25	0.00	0.00	0.00	0.00	
6.b Bioretention #2 or Micro Bioretention #2 (Spec #6)	60			0	0	0	0	50	0.00	0.00	0.00	0.00	None

7. Infiltration (RR)													
7.a Infiltration #1 (Spec #8)	50			0	0	0	0	25	0.00	0.00	0.00	0.00	
7.b Infiltration #2 (Spec #8)	90			0	0	0	0	25	0.00	0.00	0.00	0.00	

8. Extended Detention Pond (RR)													
8.a ED #1 (Spec #15)	0			0	0	0	0	15	0.00	0.00	0.00	0.00	
8.b ED #2 (Spec #15)	15			0	0	0	0	15	0.00	0.00	0.00	0.00	

9. Sheetflow to Filter/Open Space (RR)													
9.a Sheetflow to Conservation Area, A/B Soils (Spec #7)	75			0	0	0	0	0	0.00	0.00	0.00	0.00	
9.b Sheetflow to Conservation Area, C/D Soils (Spec #7)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
9.c Sheetflow to Vegetated Filter Strip, A Soils or Compost Amended B/C/D Soils (Spec #2 & #4)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac)	0.00	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	0.00	AREA CHECK: OK.
TOTAL RUNOFF REDUCTION IN D.A. A (ft^3)	0	

TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	100.33
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.00
TOTAL PHOSPHORUS REMAINING AFTER APPLYING RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	100.33

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

6. Bioretention (RR)				
40	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00

7. Infiltration (RR)				
15	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00

8. Extended Detention Pond (RR)				
10	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00

9. Sheetflow to Filter/Open Space (RR)				
0	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00

TOTAL RUNOFF REDUCTION IN D.A. A (ft^3)	0
NITROGEN REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.00

SEE WATER QUALITY COMPLIANCE TAB FOR SITE CALCULATIONS (Information Only)

10. Wet Swale (no RR)													
10.a Wet Swale #1 (Spec #11)	0			0	0	0	0	20	0.00	0.00	0.00	0.00	
10.b Wet Swale #2 (Spec #11)	0			0	0	0	0	40	0.00	0.00	0.00	0.00	

11. Filtering Practices (no RR)													
11.a Filtering Practice #1 (Spec #12)	0			0	0	0	0	60	0.00	0.00	0.00	0.00	
11.b Filtering Practice #2 (Spec #12)	0			0	0	0	0	65	0.00	0.00	0.00	0.00	

12. Constructed Wetland (no RR)													
12.a Constructed Wetland #1 (Spec #13)	0			0	0	0	0	50	0.00	0.00	0.00	0.00	
12.b Constructed Wetland #2 (Spec #13)	0			0	0	0	0	75	0.00	0.00	0.00	0.00	

13. Wet Ponds (no RR)													
13.a Wet Pond #1 (Spec #14)	0			0	0	0	0	50	0.00	0.00	0.00	0.00	
13.b Wet Pond #1 (Coastal Plain) (Spec #14)	0			0	0	0	0	45	0.00	0.00	0.00	0.00	
13.c Wet Pond #2 (Spec #14)	0			0	0	0	0	75	0.00	0.00	0.00	0.00	
13.d Wet Pond #2 (Coastal Plain) (Spec #14)	0	48.13	35.16	0	0	159,678	159,678	65	0.00	100.21	65.14	36.07	

14. Manufactured Treatment Devices (no RR)													
14.a Manufactured Treatment Device: Hydrodynamic	0			0	0	0	0	25	0.00	0.00	0.00	0.00	
14.b Manufactured Treatment Device: Filtering	0			0	0	0	0	50	0.00	0.00	0.00	0.00	None

10. Wet Swale (Coastal Plain) (no RR)				
25	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00

11. Filtering Practices (no RR)				
30	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00

12. Constructed Wetland (no RR)				
25	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00

13. Wet Ponds (no RR)				
30	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00
30	0.00	718.90	215.07	501.83

14. Manufactured BMP (no RR)				
0	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00

14.c. Manufactured Treatment Device Generic	0			0	0	0	0	33	0.00	0.00	0.00	0.00			0	0.00	0.00	0.00	0.00

TOTAL IMPERVIOUS COVER TREATED (ac)	35.16	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	48.12	AREA CHECK: OK.

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)	[illegible]
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	100.33
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	65.14
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.00
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. A (lb/yr)	65.14
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. A (lb/yr)	35.19

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

NITROGEN REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.00
NITROGEN REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	215.07
TOTAL NITROGEN REMOVED IN D.A. A (lb/yr)	215.07

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	4.30	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	35.16	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	35.16	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	48.12	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	48.12	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3)	4

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft^3)	0	0	0	0	0	0
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	100.33	0.00	0.00	0.00	0.00	100.33
TP LOAD REDUCTION ACHIEVED (lb/yr)	65.14	0.00	0.00	0.00	0.00	65.14
TP LOAD REMAINING (lb/yr)	35.19	0.00	0.00	0.00	0.00	35.19
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	215.07	0.00	0.00	0.00	0.00	215.07

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	100.72	
TP LOAD REDUCTION REQUIRED (lb/yr)	64.81	
TP LOAD REDUCTION ACHIEVED (lb/yr)	65.14	
TP LOAD REMAINING (lb/yr):	35.58	
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00	**

** TARGET TP REDUCTION EXCEEDED BY 0.33 LB/YEAR **

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	720.52
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	215.07
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	505.45

DEQ Virginia Runoff Reduction Method New Development Compliance Spreadsheet - Version 3.0

BMP Design Specifications List: **2013 Draft Stds & Specs**

Site Summary

Total Rainfall = 43 inches

Site Land Cover Summary

	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	4.30	0.00	4.30	5
Managed Turf (acres)	0.00	0.00	48.12	0.00	48.12	55
Impervious Cover (acres)	0.00	0.00	35.16	0.00	35.16	40
					87.58	100

Site Tv and Land Cover Nutrient Loads

Site Rv	0.50
Treatment Volume (ft^3)	160,302
TP Load (lb/yr)	100.72
TN Load (lb/yr)	720.52

Total TP Load Reduction Required (lb/yr)	64.81

Site Compliance Summary

Total Runoff Volume Reduction (ft^3)	0
Total TP Load Reduction Achieved (lb/yr)	65.14
Total TN Load Reduction Achieved (lb/yr)	215.07
Remaining Post Development TP Load (lb/yr)	35.58
Remaining TP Load Reduction (lb/yr) Required	0.00

** TARGET TP REDUCTION EXCEEDED BY 0.33 LB/YEAR **

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest/Open (acres)	4.30	0.00	0.00	0.00	0.00	4.30
Managed Turf (acres)	48.12	0.00	0.00	0.00	0.00	48.12
Impervious Cover (acres)	35.16	0.00	0.00	0.00	0.00	35.16
Total Area (acres)	**87.58**	**0.00**	**0.00**	**0.00**	**0.00**	**87.58**

Drainage Area Compliance Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Reduced (lb/yr)	65.14	0.00	0.00	0.00	0.00	65.14
TN Load Reduced (lb/yr)	215.07	0.00	0.00	0.00	0.00	215.07

CECS

CIVIL ENGINEERING AND CONSTRUCTION SERVICES

ENGINEERS, PLANNERS, SURVEYORS,AND GENERAL CONTRACTORS

APPENDIX D

WETLAND DELNEATION REPORT

FLOJO-STERNAT PROPERTY

NORFOLK DISTRICT REGULATORY OFFICE
PRE-APPLICATION AND/OR JURISDICTIONAL WATERS DETERMINATION REQUEST FORM

This form is used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE). Please supply the following information and supporting documents described below. This form can be filled out online and/or printed and then mailed, faxed, or e-mailed to the Norfolk District. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. THIS FORM MUST BE SIGNED BY THE PROPERTY OWNER TO BE CONSIDERED A FORMAL REQUEST.

The printed form and supporting documents should be mailed to:

U.S. Army Corps of Engineers, Norfolk District
Regulatory Branch
803 Front Street
Norfolk, Virginia 23510-1096

Or faxed to (757) 201-7678

Or sent via e-mail to: CENAO.REG ROD@usace.army.mil

Additional information on the Regulatory Program is available on our website at: http://www.nao-usace.army.mil/
Please contact us at 757-201-7652 if you need any assistance with filling out this form.

Location and Information about Property to be subject to a Jurisdictional Determination:

1. Date of Request: July 13, 2021
2. Project Name: Flojo-Sternat Property
3. City or County where property located: Suffolk
4. Address of property and directions (attach a map of the property location and a copy of the property plat): 2056 Lake Cohoon Road, take US 58 around Suffolk, exit Pitchkettle Road and go north. Turn left on Lake Kilby Drive (turns into Lake Cohoon Road), the site is on the left. Best place to park is on the right at the gated entrance to the old landfill.
5. Coordinates of property (if known): 36.738 -76.626

6. Size of property in acres: +/- 108

November

7. Tax Parcel Number / GPIN (if available): Sternat - 250732000, Flojo - 251419600, 251420000, 251421000

8. Name of Nearest Waterway: Tributaries to Lake Meade and Lake Kilby

9. Brief Description of Proposed Activity, Reason for Preapplication Request, and/or Reason for Jurisdictional Waters Determination Request: The property is being considered for residential development.

10. Has a wetland delineation/determination been completed by a consultant or the Corps on the property previously? UNKNOWN

    If yes, please provide the name of the consultant and/or Corps staff and Corps permit number, if available: None known.

Property Owner Contact Information:

Property Owner Name: Flojo Properties, LLC C/O Ed Joyner
Mailing Address: P.O. Box 1080
City: State: Zip: Norfolk, VA. 23501
Daytime Telephone: 757-636-5591
E-mail Address: agconllcva@gmail.com

If the person requesting the Jurisdictional Determination is NOT the Property Owner, please also supply the Requestor's contact information here:

Requestor Name: Bob Amette, Coastal Virginia Partners, LLC.
Mailing Address: 5807 Portsmouth Boulevard
City: State: Zip: Portsmouth, VA. 23701
Daytime Telephone: 757-735-0993
E-mail Address: bobamette@coastalva.org

Additionally, if you have any of the following information, please include it with your request: wetland delineation map, other relevant maps, drain tile survey, topographic survey, and/or site photographs.

CERTIFICATION: I am hereby requesting a preapplication consultation or jurisdictional waters and/or wetlands determination from the U.S. Army Corps of Engineers, for the property(ies) I have described herein. I agree to allow the duly authorized representatives of the Norfolk District Corps of Engineers and other regulatory or advisory agencies to enter upon the premises of the project site at reasonable times to evaluate inspect and photograph site conditions. This consent to enter the property is superior to, takes precedence over, and waives any communication to the contrary. For example, if the property is posted as "no trespassing" this consent specifically supersedes and waives that prohibition and grants permission to enter the property despite such posting. I hereby certify that the information contained in the Request for a Jurisdictional Determination is accurate and complete:

Property Owner's Signature (EMAILED) Date 7/26/21

7- Tax Parcel Number / GPN (if available): Sternat - 250732000, Flojo - 251419600, 251420000, 251421000

8. Name of Nearest Waterway: Tributaries to Lake Meade and Lake Kilby

9. Brief Description of Proposed Activity, Reason for Preapplication Request, and/or Reason for Jurisdictional Waters Determination Request: The property is being considered for residential development.

10. Has a wetland delineation/determination been completed by a consultant or the Corps on the property previously? UNKNOWN

    If yes, please provide the name of the consultant and/or Corps staff and Corps permit number, if available: None known.

Property Owner Contact Information:

Property Owner Name: Harvey Sternat
Mailing Address: P.O. Box 1345
City: State: Zip: Bayfield, Wisconsin. 54814
Daytime Telephone: E-mail Address:

If the person requesting the Jurisdictional Determination is NOT the Property Owner, please also supply the Requestor's contact information here:

Requestor Name: Bob Arnette, Coastal Virginia Developers
Mailing Address: 5807 Portsmouth Boulevard
City: State: Zip: Portsmouth, VA. 23701
Daytime Telephone: 757-735-0993
E-mail Address: bobamette@coastalva.org

Additionally, if you have any of the following information, please include it with your request: wetland delineation map, other relevant maps, drain tile survey, topographic survey, and/or site photographs.

CERTIFICATION: I am hereby requesting a preapplication consultation or jurisdictional waters and/or wetlands determination from the U.S. Army Corps of Engineers, for the property(ies) I have described herein. I agree to allow the duly authorized representatives of the Norfolk District Corps of Engineers and other regulatory or advisory agencies to enter upon the premises of the project site at reasonable times to evaluate inspect and photograph site conditions. This consent to enter the property is superior to, takes precedence over, and waives any communication to the contrary. For

example, if the property is posted as "no trespassing" this consent specifically supercedes and waives that prohibition and grants permission to enter the property despite such posting. L hereby certify that the information contained in the Request for a Jurisdictional

Determination is accurate and complete:

Property Ow er's Signature

Date

November

North Carolina Division of Water Quality — Stream Identification Form; Version 3.1

Date: 67 BOA J	Project: D Sterrat	Latitude:
Evaluator: BRO	Site: 5 /	Longitude:
Total Points: Steam is at least intemfttent 19 or rennial 30	County: Suffolk	Other e.g. Quad Name:

A. Geomo holo Subtotal =	Absent	Weak	Moderate	Strong
13. Continuous bed and bank		1		3
2. Sinuosity			2	3
3. In-channel structure: riffle-pool sequence			2	3
4. Soil texture or stream substrate sorting		1	2	3
5. Active/retic floodplain		1		3
6. Depositional bars or benches		1	2	3
7. Braided channel			2	3
8. Recent alluvial deposits	0	1	2	3
9 [a] Natural levees		1	2	3
10. Headcuts		1	2	3
11 . Grade controls		0.5	1	1.5
12. Natural valley or dralnageway		.5		1.5
13. Second or greater order channel on exi9tinq USGS or NRCS map or other documented evidence.	No		Yes = 3	

Man-made ditches are not rated; see discussions in manual

B. H drolo Subtotal =				
14, Groundwater flow/discharge			2	3
15. Water in channel and > 48 hrs since rain, Water in channel d or rowin season		1		3
16. Leafitter	1.5		0.5	
17. Sediment on plants or debris		o.	1	1.5
18. Organic debris lines or piles Wrack lines)		0.5	1	1.5
19. Hydric soils (redoximorphic features) present?	No = o		Yes 1.5	

C. Biolo Subtotal = 5				
20 . Fibrous roots in channel	3	(2)	1	
21 . Rooted plants in channel	3			
22. Crayfish		0.5	(1)	1.5
23. Bivalves			2	3
24. Fish		0.5	1	1.5
25. Amphibians			1	1.5
26. Macrobenthos (note diversity and abundance		(0.5)		1.5
27. Filamentous algae; pedph on		1	2	3
28. Iron oxidizing bacteria/fun us.	(0)	0.5	1	1.5
29 . Wetland plants in streambed	FAC = O.5; FACW= O.75; OBL .5 SAV=ZO; Other-O			

Items 20 and 21 focus on the presence of upland plants, Item 29 focuses on the presence of aquatic or wetland plants.

Sketch:

Notes.' (use back side of t)is form for additional notes.)

v c c zed c /tamul hawy

Q q ho p very limited

North Carolina Division of Water Quality — Stream Identification Form; Version 3.1

Date: 6 '2 % I (	Project: (ò)v- Sternate	Laütude:	
Evaluator: O	Site:	Longitude:	
Total Points: Stream is at least intemittent (2 5 if2 19 or perennial 30	County: 5ehOlk	Other e.g. Quad Name:	

A. Geomor holo Subtotal = 5	Absent	Weak	Moderate	Strong
e. Continuous bed and bank			2	3
2. Sinuosity			2	3
3. In-channel structure: riffle-pool sequence			2	3
4. Soil texture or stream substrate sorting	0	1	2	3
5. Active/relic floodplain		1	2	3
6. Depositional bars or benches			2	3
7. Braided channel		1	2	3
8. Recent alluvial deposits		1	2	3
9 [a] Natural levees			2	3
10. Headcuts		1	2	3
11. Grade controls				1.5
12. Natural valley or drainageway		0.5		1.5
13. Second or greater order channel on existing USGS or NRCS map or other documented evidence.	NO		Yes = 3	

Man-made ditches are not rated; see discussions in manual

B.Hydrology

	14. Groundwater flow/discharge		1	2	3
	15. Water in channel and > 48 hrs since rain. or Water in channel —dry or growing season		1	2	3
	16. Leaflitter	1.5		(0.5)	0
	17. Sediment on plants or debris		o.	1	1.5
	18. Organic debris lines or piles (Wrack lines)		0.5	1	1.5
	19. Hydric soils (redoximorphic features) present?	No-O		1.	

C. Biology (Subtotal = 5

	2 . Fibrous roots in channel	3	2	1	
	21 . Rooted plants in channel	3	2		
	22. Crayfish		o.	1	1.5
	23. Bivalves		1	2	3
	24. Fish		0.5	1	1.5
	25. Amphibians		0.5	1	1.5

US Army of Engineers and Plain Region Version

	26. Macrobenthos (note diversity and abundance)		0.5	1	1.5
	27. Filamentous algae; periphyton		1	2	3
	28. Iron oxidizing ba&riaffungus.		0.5	1	1.5
	29 . Wetland plants in streambed	FAC= O.5; FACW=O.75; OBL		1.5 SAV-2.0; Other-O	

Items 20 and 21 focus on the presence of upland plants. Item 29 focuses on the presence of aquatic or wetland plants.

Sketch:

Notes: (use back side of this form for additional notes.)

Heavy rain within 24 hours, no flow

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Flojo-Stemate Property City/County: Suffolk Sampling Date: June 23. 2021

Applicant/Owner: Coastal Virginia Developers State: VA Sampling Point: 1

Section, Township, Range: _____

Islope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-2%

Investigator: Brian Owen of MSA. P.C.

Landform (hillslope, terrace, etc.):

Subregion (LRR or MLRA): LRR-T Lat: Long: Datum: NAVD 88

Soil Map Unit Name: NWI Classification:

Are climatic I hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

Are vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present Yes X No

Are vegetation _____, Soil or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X		
Hydric Soil Present?	Yes		No	Is the Sampled Area Within a Wetland?
Wetland Hydrology Present?	Yes	X	No	
		X	No	Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of ____ one is required: check ____ all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- ___ Inundation visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) (LRR U)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (BIO)
- Moss Trim Lines (B16)
- Dry Season Water Table (C2)
- X Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (05)
- Sphagnum moss (D8) (LRR T, U)

Field Observations	Yes ____ No X Depth	____
Surface Water Present?	(Inches): Yes ____ x No	18"
Water Table Present?	____ Depth (Inches): Yes	12"
Saturation Present?	____ No ____	
(includes capillary fringe)	Depth (Inches):	

Wetland Hydrology Present? Yes ____ x No

____

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Coms AllnnLie GuJCC0flitdl - 2.0

US Army of Engineers and Plain Region Version

VEGETATION - Use scientific names of plants

Sampling Point: 1

Tree Stratum (Plot Size: 30' Radius)	% Cover	Species?	Status	Absolute % Cover	Dominant Species?	Indicator Status
1. Liriodendron tulipifera	40	Y	FACU	40		FACU
2. Liquidambar styraciflua	20	Y	FAC	20	FAC	20FAC
3. Acer rubrum	20	Y	FAC	10		FAC
4.						
5.						
7.				90	= Total Cover	
8.						

50% of total cover: 45 20% of total cover: 18

Sapling/Shrub Stratum (Plot Size: 30' Radius)						
1. Liqustrum sinensesinense	20	Y	FA	20		FAC
2.			Maanntia vi	3		FACW
3.				2		FAC
4. Liriodendron tulioifera				2		FACU
5.				3		FAC
6.						
7.						
8.				30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot Size: 30' Radius						
1. Microsteaium vimineum				60		FAC
2. Boehmeria cylindrica						FACW
4. Athyrium feminia-felix	10		FAC	7		OBL
5. Carex albicans	3		FAC			FAC
6. Ligustrum sinense	2		FAC			FAC
7.						FAC
8.						
10.						
11.						
12.						

90 = Total Cover

50% of total cover: 45 20% of total cover: 18

Woody Vine Stratum (Plot Size: 30' Radius)						
1. Berghemia scandens						
2.						
3.						
4.						
5.						

5 Total Cover

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5

Total Number of Dominant Species Across All Strata: 5

Percent of Dominant Species That Are OBL, FACW, or FAC: 8

Prevalence Index Worksheet:

Total % Cover of:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column Totals: (A)

Prevalence Index = BIA =

Hydrophytic Vegetation Indicato

X Dominance Test is >50%

Prevalence Index is 3.0 [1]

Problematic Hydrophytic V

[1] Indicators of Hydric soil and we must be present unless disturbed

Definitions of Vegetation Strata:

Tree - Woody plants, excluding w in. (7.6 cm) or more in diameter a (DBH) regardless of height

Sapling/Shrub - Woody plants, e vines, less than 3 in. DBH and gr m) tall.

Herb - All herbaceous (non-woo of size. and woody plants less t height.

Woody Vine - All woody vines g height.

Hydrophytic Vegetation Present? Yes x N

50% of total cover:_____ _____ 2 20% of total cover: 1

Remarks: (If Observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

(Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
Color (moist)	Color (moist)							
5-12	2.5Y 6/2	80	2.5Y 5/6	20	C	M	Loamy sand	
12-15	2.5Y 4/1	80	2.5Y 4/6	20	C	M	Loamy sand	
15-18	2.5Y 2/2	100					Organic	Buried O layer
18-24	2.5Y 5/2	100					Sand	
0-5	2.5Y 5/3	90	1 OYR 6/6	10	c	M	Loam	
	2.5Y 6/2							
	2.5Y 2/2							
18-24	2.5Y 5/2	100						

[1] Type: C=Concretion, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soils Indicators:

Indicators for Problematic Hydric Soils[3]:

Primary (minimum Of one is check all that that apply)

- Histosol (Al)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- Polyvalue Below Surface (S8) (S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F 1) (LRR O)
- Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __1 cm Muck (A9) (I-RR 0)
- 2 cm Muck (AIO) (LRR S)
- Reduced Vertic (FIB) (outside MLRA 153A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (Ml-RA 153B)
- __Red Parent Material (TF2)

5 cm Mucky Mineral (A7) (LRR P, T, U) __ Depleted Dark Surface (F7) __Very Shallow Dark Surface (T Fl 2) Muck Presence (AB) (LRR U) __ Redox Depressions (F8) __ Other (Explain in Remarks)

1 cm Muck (A9) (LRR P, T)

Depleted Below Dark Surface (Al 1)

Thick Dark Surface (A22)

(A16) (MLRA 150A)

Delta Ochric (F17) (MLRA 151)

Stripped Matrix (S6)

Marl (FIO) (LRR U)

Depleted Ochric (Fl 1) (MLRA 151)

Iron-Magnanese Masses (F12) (LRR O, P, T)

__ Umbric Surface (F13) (LRR U)

sandy Redox (S5)

Piedmont Floodplain Soils (F19) (MLRA 149A)

Anomalous Bight Loamy Soils (F20) (Ml-RA 149A, 153C, 153D)

[3] Indicators of Hydrophytic Vegetation and Coast Prairie Redox wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (Sl) (LRR O, S) __ Sandy Gleyed Matrix (S4) Reduced Vertic (FIB) (MLRA 150A, 150B)

Dark Surface (S7) (LRR P, S, T, U)

Restrictive layer (if observed):
Type:_____
Depth (inches):_____

Hydric Soil Present? Yes _____x No _____

Remarks:

Amy Coms Guit – VersionSOIL Sampling Point: 1

Gulf 2.0

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Floio-Sternate Property City/County: Sampling Date: June 29t 2021

Applicant/Owner: Coastal Virqinia Developers State: VA Sampling Point: 2

_____ State: ____ Sampling Point: ____

_____ Brian Owen of MSA. P.C. Section, Township, Range: _____

llslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-2%

Investigator: Brian Owen of MSA. P.C.

US Corps of Engineers Atlantic and Coastal Plain Region Version

Landform (hillslope, terrace, etc.):

Subregion (LRR or MLRA): LRR-T Lat: Long: Datum: NAVD 88

Soil Map Unit Name: NW' Classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X____ No ____(If no, explain in Remarks)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present Yes X___No

Are ____. ____ vegetation , Soil , or Hydrology naturally problematic?

(If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area Within a Wetland?	Yes No X
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (minimum of two required)

Primary Indicators (minimum of ____one is required: check ____ all that apply)

____ Surface Soil Cracks (B6)

Surface Water (Al)
High Water Table (A2)
Saturation (A3)
Water Marks (Bl)
Sediment Deposits (B2)
Drift Deposits (B3)
—
Algal Mat or Crust (B4)
Iron Deposits (B5)
Inundation visible on Aerial Imagery (B7)
Water-Stained Leaves (B9)

Aquatic Fauna (B13)
Marl Deposits (815) (LRR U)
Hydrogen Sulfide Odor (Cl)
Oxidized Rhizospheres on Living Roots (C3)
Presence of Reduced Iron (C4)
Recent Iron Reduction in Tilled Soils (C6)
Thin Muck Surface (C7)
Other (Explain in Remarks)

Sparsely Vegetated Concave Surface (B8)
X Drainage Patterns (BIO)
Moss Trim Lines (B16)
Dry Season Water Table (C2)
Crayfish Burrows (C8)
Saturation Visible on Aerial Imagery (C9)
Geomorphic Position (D2)
Shallow Aquitard (D3)
FAC-Neutral Test (05)
Sphagnum moss (DB) (LRR T, U)

Field Observations Yes

Surface Water Present? ____ No X____Depth (Inches):____

Water Table Present? Yes No X____Depth (Inches):____

Saturation Present? ____ No ____X Depth (Inches):

(includes capillary fringe) Yes ____> 30"

____

Wetland Hydrology Present? Yes ____ No x

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Anny

Gulf 2.0

Absolute Dominant Indicator

Tree Stratum (Plot Size: 30' Radius — % Cover Species? Status

Liriodendron tulioifera	15	FACU	
3. Acer rubrum	50	Y	FAC
4. Pinus taeda	20	Y	FAC
Liouidambar stvraciflua	15		
5.			
6.			
7.			
8.			

= Total Cover

50% of total cover: 50 20% of total cover: 20

Sapling/Shrub Stratum (Plot Size: 30' Radius)

. Ligustrum sinense	15	Y	FAC
?. Acer rubrum	5	Y	FAC
Liaustrum sinense			FAC
3. Ulmus rubra 2	FAC		
4. Liriodendron tutioifera 3	FACU		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC.• 6(A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

	Cover of:	Multiply by:
Total % Cover of:		x 1 =
		x 2 =
		x 3 =
OBL species		x 4 =
FACW species		x 5 =
FAC species		
FACU species		
UPL species		
Column Totals:	(A)	(B)

Prevalence Index = BIA =

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is 3.0 [1]

Problematic Hydrophytic Vegetation [1] (Explain)

Indicators of Hydric soil and wetland hydrology must be present unless disturbed or problematic.

5.
6.
7.
8.

= Total Cover

50% of total cover: 12
20% of total cover: 5

Herb Stratum (Plot Size: 30' Radius

. Microsteoium vimineum		FAC
Juncus effusus	3	OBL
Unknown	7	
Chasmanthium laxum	4	FACW
Carex alboiutescens	1	FACW
Lioustrum sinense	7	FAC
Denaria acrostichoides	2	FAC
Unknown crass	3	
Parthinocissus quinquefolia	2	FACU
. Smilax rotundifolia	1	FAC
Boehmeria cylindrica	10	FACW

3.
4.
5.
6.
7.
8.
9.
10.
1
12.

= Total Cover

50% of total cover: 45
20% of total cover: 18 Woody Vine Stratum (Plot Size: 30' Radius)

1. Vitis

Vitis rotundifolia 15 Y FAC
rotundifolia

2.
Smilax rotundifolia1 FAC

3.
4.
5.

= Total Cover

50% of total cover: 8
20% of total cover: 3

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH) regardless of height

Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants regardless of size. and woody plants less that 3.28 ft (1 m) in height.

Woody Vine -All woody vines greater than 3.25 ft in height.

Hydrophytic Vegetation Present? Yes x No

Remarks: (If Observed, list morphological adaptations below).

VEGETATION - Use scientific names of plants

Sampling Point: 2

-- 2.0

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
5-21	2.5Y 5/3	90	2.5Y 5/2	5	D	M	Loam	2.5Y 5/4 at 5%
21-24	2.5Y 5/2	95	2.5Y 5/6	5	C	M	Loam	
24-30	2.5Y 5/3	100					Loam	
0-5	2.5Y 6/3	100					Loam	
24-30		100					Loam	

[1] Type: C=Concretion, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining, M=Matrix

Hydric Soils Indicators:

Indicators for Problematic Hydric Soils[3]:

Primar,/ Indicators (minimum Of one is renuired: check a" that aonlv)

- Histosol (Al)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (Al 1)
- Thick Dark Surface (A22) (LRR O, P, T)
- (A16) (MLRA 150A)
- Delta Ochric (F17) (MLRA 151)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)
- Polyvalue Below Surface (S8) (S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (Fl) (LRR 0)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (FIO) (LRR U)
- Depleted Ochric (Fl 1) (MLRA 151)
- Iron-Magnanese Masses (F 12) (LRR O, P, T)
- Umbric Surface (F13) (I-RR U)
- Piedmont Floodplain Soils (Fl 9) (Ml-RA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)
- 2 cm Muck (AIO) (I-RR S)
- Reduced Vertic (FIB) (outside MLRA 153A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (T F 12)
- Muck Presence
- Other (Explain in Remarks)

[3]1ndicators of Hydrophytic Vegetation and Coast Prairie Redox wetland hydrology must be present, sandy Mucky Mineral (SO (LRR O, S) unless disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B)

Restrictive layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes No x

Remarks:

Army o? Consigl 2.0

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Floio-Sternate Property City/County: Suffolk Sampling Date: June 23 2021

Applicant/Owner: Coastal Virqinia _____ State: ___ Sampling Point: ___

_____ Seetion,Township,Range: _____

Ilslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-2%

Developer> State: VA Sampling Point: 3 Investigator: Brian Owen of MSA P.C.

Landfomn (hillslope, terrace, etc.): Slope

Subregion (LRR or MLRA): LRR-T Lat: Long: Datum: NAVD 88

_____ _____ Long: _____ Datum: NAVD 88

Soil Map Unit Name: NWI Classification:

_____ NWI Classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

_____ _____

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present Yes X No

Are vegetation_____. Soil_____, or Hydrology naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes _____X Yes _____ Yes	No _____ No x No x
Is the Sampled Area Within a Wetland?	Yes	No X

Remarks:

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HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (minimum of two required)

Primary Indicators (minimum of ____one is required: check all that apply)

Surface Water (Al)	Aquatic Fauna (B13)	Surface Soil Cracks (86)
High Water Table (A2)	_ Marl Deposits (B15) (I-RR U)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Hydrogen Sulfide Odor (Cl)	X Drainage Patterns (BIO)
Water Marks (Bl)	Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Dry Season Water Table (C2)
Drift Deposits (83)	Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)
___Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	Other (Explain in Remarks)	Geomorphic Position (D2)
___ Inundation visible on Aerial Imagery (B7)		Shallow Aquitard (D3)
___Water-Stained Leaves (B9)		FAC-Neutral Test (D5)
		Sphagnum moss (D8) (LRR T, U)

Field Observations

Surface Water Present? Yes_____ No X Depth (Inches): _____

Water Table Present? Yes_____ No X____ Depth (Inches): _____

Saturation Present? (includes capillary fringe) Yes_____ No _____X Depth (Inches): _____ > 30"

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Gull' 2.0

VEGETATION - Use scientific names of plants

Sampling Point: 3

Tree Stratum (Plot Size: 30' R?dius	Absolute % Cover	Dominant Species?	Indicator Status
1 Acer rubrum	50	Y	FAC
Acer rubrum			
2. Liauidambar stvraciflua	10		FAC
3.			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

4. _____ _____ _____ _____
5. _____ _____ _____ _____
6. _____ _____ _____ _____
7. _____ _____ _____ _____
8. _____ _____ _____ _____

60 = Total Cover

50% of total cover: 30 20% of total cover: 14

Spolina/Shrub Stratum (Plot Size: 30' Radius)

1 Liaustrum sinense

Ulmus rubra 5 FAC

Liouidambar stvraciflua 5 FAC

2. Nvssa svlvatica 2 FAC
3.
4.
5. _____ _____ _____ _____
6. _____ _____ _____ _____
7. _____ _____ _____ _____
8. _____ _____ _____ _____

42 = Total Cover

50% of total cover: 21 20% of total cover: 8

Herb Stratum (Plot Size: 30' Radius

1 Microsteaium vimineum FAC

2. _____ _____ _____ _____
Boehmeria cvlindrica 4 FACW

3. Thelvoteris
_____ _____ _____ _____
novaboracensis 7 FAC

4. _____ _____ _____ _____
Liaustrum sinense 7 FAC

Carex albolutescens 2 FACW

Persea borbonea 1 FACW

Liquidambar stvraciflua 1 FAC

5. Asolenium platvneuron 3 FACU
6.
7.
8. 9.
_____ _____ _____ _____
10.
_____ _____ _____ _____
11. _____ _____ _____ _____
12. _____ _____ _____ _____

45 = Total Cover

50% of total cover: 22 20% of total cover: 9

Prevalence Index Worksheet:

_____ _____

species	_____	x 1 = _____
N species	_____	x 2 = _____
species	_____	x 3 = _____
J species	_____	x 4 = _____
species	_____	x 5 = _____
Total % Cover of:		Multiolv bv:
OBL species		
FACW species		
FAC species		
FACU species		
UPL species		

Column Totals: _____ (A) _____ (B)

Prevalence Index = BIA = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

Prevalence Index is 3.0 [1]

____ Problematic Hydrophytic Vegetation [1] (Explain)

[1] Indicators of Hydric soil and wetland hydrology must be present unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH) regardless of height

Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - Alf herbaceous (non-woody) plants regardless of size. and woody plants less that 3.28 ft (1 m) in height.

Woody Vine - All woody vines greater than 3.25 ft in height.

Hydrophytic Vegetation

Present? Yes _____x No _____

Woody Vine Stratum (Plot Size: 20' Radius)			
1. Vitis rotundifolia	20	Y	FAC
2. Smilax rotundifolia	15	Y	FAC
3.			
4.			
5.			
	35	= Total Cover	

50% of total cover: 17 20% of total cover: 7

Remarks: (If Observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
10-17	2.5Y 6/4		100				Fine SL	
17-30	2.5Y 6/6		100				Fine SL	
0-10	2.5Y 5/2	100					Fine SL	

[1] Type: C=Concretion, D=DepIetion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soils Indicators:

Indicators for Problematic Hydric Soils [3]:

Primarv Indicators (minimum of one is required: check all that apply)

- Histosol (Al)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- (A8) (LRR U) Redox Depressions (F8)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (Al 1)
- Thick Dark Surface (A22)
- Prairie Redox (A16) (MLRA 150A)
- Mineral (Sl) (I-RR O, S) Delta Ochric (F17) (MLRA 151)
- Vertic (F18) (MLRA 150At 150B)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)
- Polyvalue Below Surface (S8) (S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (Fl) (LRR 0)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Other (Explain in Remarks)
- Marl (FIO) (I-RR U)
- Depleted Ochric (Fl 1) (MLRA 151)
- Iron-Magnanese Masses (F12) (LRR O, P, T)
- Umbric Surface (F 13) (LRR U)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)
- 2 cm Muck (AIO) (LRR S)
- Reduced Vertic (FIB) (outside MLRA 153A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- very Shallow Dark Surface (TFI 2) Muck Presence

[3]Indicators of Hydrophytic Vegetation and Coast wetland hydrology must be present, sandy Mucky unless disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced

Restrictive layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes_____ No _____x

Remarks:

Coms Gulf 2.0

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Flojo-Stemate Property City/County: Suffolk Sampling Date: June 24. 2021

Applicant/Owner: Coastal Viroinia Develoners State: VA Sampling Point: 4

Investigator: Brian Owen of MSA. P.C. Section, Township, Range:

Landfomn (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 0-2%

Subregion (LRR or MLRA): LRR-T Lat: Long: Datum: NAVD 88

Soil Map Unit Name: NWI Classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present Yes X No

Are vegetation , Soil , or Hydrology naturally problematic? (if needed, explain any answers in Remarks)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

	Yes X	No	
Hydrophytic Vegetation Present?	Yes	X	Is the Sampled Area Within a Wetland? Yes X No
Hydric Soil Present?		No	
Wetland Hydrology Present?	Yes X	No	

Remarks: Hydrology observations on April 12, 2021 indicated very wet conditions. Horse pasture heavily affected by grazing, natural valley is minim ut evident

US Amy of Engineers Allanlic and Plain Region Version

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is reauired: check that annlv)

- Surface Water (Al)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (Bl)
- Sediment Deposits (B2)
- Drift Deposits (83)
- Aquatic Fauna (B13)
- Marl Deposits (B15) (LRR U)
- Hydrogen Sulfide Odor (Cl)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Algal Mat or Crust (B4)
- Thin Muck Surface (C7)
- Geomorphic Position (02)
- Iron Deposits (85)
- Other (Explain in Remarks)
- Shallow Aquitard (D3)
- inundation visible on Aerial Imagery (B7)
- x FAC-Neutrai Test (D5)
- & Water-Stained Leaves (B9)
- Sphagnum moss (D8) (LRR T, U)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (88)
- Drainage Patterns (Bl 0)
- Moss Trim Lines (B16)
- Dry Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)

Field Observations

Surface Water Present? Yes____ No X____ Depth (Inches):____

Water Table Present? Yes____ No X____ Depth (Inches):____

Saturation Present? (includes capillary fringe) Yes____ No X Depth (Inches): > 24"

Wetland Hydrology Present? Yes____X No____

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Atlantic and Gulf Coastal Plain Region – Version 2.0

VEGETATION - Use scientific names of plants

Sampling Point: 4

Tree Stratum (Plot Size: 30' Radius				Absolute Dominant Indicator
				% Cover Species? Status
2. Liquidambar styraciflua	30	Y	FAC	10 FAC 30 FAC
3. Acer rubrum	40	Y	FAC	40 FAC
4. Quercus alba				
5.				

Dominance Test Worksheet:
Number of Dominant Species T
OBL, FACWI or FAC:

Total Number of Dominant Specie
All Strata:

Percent of Dominant Species
That Are OBL, FACW, or FAC:

6.					5	FACU
7.						
8.						

50% of total cover: 42 — 85 = Total Cover

Saplinc/Shrub Stratum (Plot Size: 30' Radius)

1. Quercus phellos	20	Y	FACW	20% of total cover: 17	
2. Juniperus				20	FACW
3.				2	FACU
4. Nvssa svlvatica				5	FAC
5.				3	FAC
6.					
7.				30= Total Cover	
8.				20% of total cover: 6	

50% of total cover: 15 — 8 FAC

Herb Stratum (Plot Size: 30' Radius

Microstegium vimineum	8	Y	FAC			
2 Boehmeria cylindrica	5	Y	FACW	5		FACW
3 Smilax rotundifolia	5	Y	FAC	5		FAC
4.				8	Y	FACW
Polvao_num sp.				1		OBL
5. Carex lurida				1		OBL
6. Juncus effusus				3		FACW
7. Juncus coriaceus	3		FACW	5		FAC
8. Melothria pendule	5	Y	FAC	2		FAC
9. Liquidambar styraciflua	2		FAC	1		FAC
10. Nyssa sylvatica	1		FAC	6		
11. Various other 1-3%	6					
12.	40	= Total Cover		= Total Cover		

50% of total cover: 20 — 20% of total cover: 8

Woody Vine Stratum (Plot Size: 30' Radius)

1. Toxicodendron radicans				5	FAC
2.					
3.					
4.				5	Total Cover
5.				20% of total cover: 1	

50% of total cover: 2

Prevalence Index Worksheet:

species x 1 =
N species x 2 =
species x 3 =
J species x 4 =
species x 5 =

Total % Cover of:
OBL species
FACW species
FAC species
FACU species UPL species
Column Totals:

Prevalence Index = BIA =

Hydrophytic Vegetation Indicator

X Dominance Test is >50%
Prevalence Index is 3.0 [1]
Problematic Hydrophytic V

[1] Indicators of Hydric soil and we present unless disturbed or proble

Definitions of Vegetation Strata:

Tree - Woody plants, excluding w cm) or more in diameter at b regardless of height

Sapling/Shrub - Woody plants, e than 3 in. DBH and greater than 3.

Herb - All herbaceous (non-woody and woody plants less that 3.28 ft

Woody Vine - All woody vines gr

Hydrophytic Vegetation Present? Yes x

Remarks: (If Observed, list morphological adaptations below).

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5Y 4/2	100					Loam	

Depth (Inches)	Matrix		Redox Features					
0-8		100					Loam	
8-18	95	2.5Y 4/6	5	c	M		Loamy sand	2.5Y 4/2
18-24	Loamy sand		2.5Y 4/2					100

[1] Type: C=Concretion, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining, M=Matrix

Hydric Soils Indicators:

Primary Indicators (minimum Of is reauired• check all that annlv)

- Histosol (Al)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- _ Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- _ 1 cm Muck (A9) (I-RR P, T)
- Depleted Below Dark Surface (Al 1)
- Thick Dark Surface (A22)
- _ Coast Prairie Redox (A16) (MLRA 150A)
- Mucky Mineral (Sl) (I-RR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)
- Polyvatue Below Surface (S8) (S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- _ Loamy Mucky Mineral (Fl) (LRR 0)
- Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- __Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- Redox Depressions (F8)
- _ Marl (FIO) (LRR U)
- Depleted Ochric (Fl 1) (MLRA 151)
- __ Iron-Magnanese Masses (F 12) (LRR O, P, T)
- Umbric Surface (F13) (LRR U)
- Delta Ochric (F17) (Ml-RA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 1530)

Indicators for Problematic Hydric Soils [3]:

- _ 1 cm Muck (A9) (LRR 0)
- _ 2 cm Muck (AIO) (LRR S)
- Reduced Vertic (FIB) (outside MLRA 153A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- __Red Parent Material (TF2)
- very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of Hydrophytic Vegetation and wetland hydrology must be present, sandy unless disturbed or problematic.

Restrictive layer (if observed):

Type: _____

Depth (inches):_____

Hydric Soil Present? Yes ____x No _____

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Floio-Stemate Propertv City/County: Suffolk Sampling Date: June 24. 2021

Applicant/Owner: Coastal Virqinia Developers State: VA Sampling Point: 5

Investigator: Brian Owen of MSA. P.C Section, Township, Range:

Landform (hiltslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 0-2%

Subregion (LRR or MLRA): LRR-T Lat: Long: Datum: NAVD 88

Soil Map unit Name: NWI Classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

Are vegetation , Soil , or Hydrology significantly disturbed? Are 'Normal Circumstances" present Yes X No

Are vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No	X	Is the Sampled Area Within a Wetland? Yes No X
Hydric Soil Present?	Yes	No	X	
Wetland Hydrology Present?	Yes	No	X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (minimum of two required)

Primary 'ndicators (minimum of one is required: check _____ all that apply)

Surface Water (Al)	Aquatic Fauna (B13)	Surface Soil Cracks (B6)
High Water Table (A2)	Marl Deposits (815) (LRR U)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Hydrogen Sulfide Odor (Cl)	X Drainage Patterns (BIO)
Water Marks (Bl)	Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Dry Season Water Table (C2)
—		Crayfish Burrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
—		
Algal Mat or Crust (B4)	Thin Muck Surface	Geomorphic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)

Field Observations

Surface Water Present? Yes _____ No X Depth (Inches): _____

Water Table Present? Yes _____ No X Depth (Inches): _____

Saturation Present? (includes capillary fringe) Yes No X Depth (Inches): > 30" _____

Wetland Hydrology Present? Yes No x

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Gulf Coastal 2.0

VEGETATION - Use scientific names of plants

Sampling Point: 5 _____

Tree Stratum (Plot Size: 30' Radius		Absolute % Cover	Dominant Species?	Indicator Status
1.	Acer rubrum	15		FAC
2.	LiquidamVar styraqiflua	10		FAC
3.	Quercus alba			FACU

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

4. Ilex opaca 15 FAC

5. Quercus niara 5 FAC

6. Faqus grandifolia FACU

7.

8.

100 = Total Cover

50% of total cover: 50 20% of total cover: 20

Sapling/Shrub Stratum (Plot Size: 30' Radius)

'atica 4 Y FAC

4 Y FAC

1. Oxydendron prborium 6 Y FACU
2. Nvssa sylvatica FAC
3. Ilex opaca 4 FAC
4. Maanolia virqiniana 2 FACW
5. Prunus serotina 2 FACU
6. Liquidambar styraciflua 2 FAC
7.
8.

20 = Total Cover

50% of total cover: 10 20% of total cover: 4

Herb Stratum (Plot Size: 30' Radius

I. Chasmanthium laxurn 15 Y FACW

2. Maqnolia virqiQiana 3 FACW

3. Persea borbonia 1 FACW

4. Michella repens 4 Y FACU

5. Liquidambar stvraciflua 2 FAC

Vacpinium formosum 3 FAC

Unknown 2

6. Carex albicans 2 FAC
7.
8. 9.
10.
11.
12.

Prevalence Index Worksheet:

species	x 1 =	
W species	x 2 =	
species	x 3 =	
Total % Cover of:	Multiplv bv:	
OBL species		
FACW species		
FAC species		
FACU species	x 42	
UPL species	x 5 =	
Column Totals: (A)	(B)	

Prevalence Index = BIA =

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is 3.0 [1]

Problematic Hydrophytic Vegetation [1] (Explain)

[1] tndicators of Hydric soil and wetland hydrology must be present unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH) regardless of height

Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants regardless of size. and woody plants less that 3.28 ft (1 m) in height-

Woody Vine - All woody vines greater than 3.25 ft in height.

Hydrophytic Vegetation Present? Yes No x

32 = Total Cover

50% of total cover: 16 20% of total cover: 6

Woody Vine Stratum (Plot Size: 30' Radius) 1

.

2.

3.

.

4.

5,

0 = Total Cover 50% of total cover: o 20% of total cover:

Remarks: (If Observed, list morphological adaptations below).

or OMIT 2.0

SOIL Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
	Color (moist)		Texture		0-2	2.5Y 3/2		
100	Orqanic							
	2-4				2.5Y 412	100		Fine SL
	4-182.5Y 6/4					100		Fine SL

[1] Type: C=Concretion, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining, M=Matrix

Hydric Soils Indicators:

Indicators for Problematic Hydric Soils [3].

Primarv Indicators (minimum of one is reauired: check all that aooiv)

Histosol (Al)
Histic Epipedon (A2)
Black Histic (A3)
Hydrogen Sulfide (A4)
Stratified Layers (A5)
Organic Bodies (A6) (LRR P, T, U)
5 cm Mucky Mineral (A7) (LRR P, T, U)
(A8) (I-RR U) Redox Depressions (F8)
1 cm Muck (A9) (LRR P, T)
Depleted Below Dark Surface (Al 1)
Thick Dark Surface (A22)
(A16) (MLRA 150A)
Sandy Gleyed Matrix (S4)
Sandy Redox (S5)
Stripped Matrix (S6)
Dark Surface (S7) (LRR P, S, T, U)

Polyvalue Below Surface (S8) (S, T, U)
Thin Dark Surface (S9) (LRR S, T, U)
Loamy Mucky Mineral (Fl) (LRR 0)
Loamy Gleyed Matrix (F2)
Depleted Matrix (F3)
Redox Dark Surface (F6)
Depleted Dark Surface (F7)
Other (Explain in Remarks)
Marl (FIO) (LRR U)
Depleted Ochric (Fl 1) (MLRA 151)
Iron-Magnanese Masses (F12) (LRR O, P, T)
Umbric Surface (F13) (LRR U)
Ochric (F17) (MLRA 151)
Reduced Vertic (F18) (MLRA 150A, 150B)
Piedmont Floodplain Soils (F19) (MLRA 149A)
Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

1 cm Muck (A9) (LRR 0)
2 cm Muck (AIO) (LRR S)
Reduced Vertic (F18) (outside MLRA 153A, B)
Piedmont Floodplain Soils (F19) (LRR P, S, T)
Anomalous Bright Loamy Soils (F20)
(MLRA 153B)
Red Parent Material (TF2)
Very Shallow Dark Surface (TFI 2)
Muck Presence

[3] Indicators of Hydrophytic Vegetation and Coast Prairie Redox wetland hydrology must be present, unless disturbed or problematic.

Sandy Mucky Mineral (Sl) (LRR O, S)
Delta

Restrictive layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes_____ No

_____x

Remarks:

OuffCoostal

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Floio-Stemate Property City/County: Suffolk Sampling Date: June 24. 2021

Applicant]Owner: Coastal Virqinia Developers State: VA Sampling Point: 6

Investigator: Brian Owen of MSA. P.C. Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (^{0}/0): 0-2%

Subregion (LRR or MLRA): _LRR:T_ Lat: Long: Datum: NAVD 88

Soil Map Unit Name: NWI Classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

Are vegetation Soil_____, or Hydrology significantly disturbed? Are "Normal Circumstances" present Yes X___No

Are vegetation , Soil _____, or Hydrology naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		____	Is the Sampled Area Within a Wetland?
Wetland Hydrology Present?	Yes	X	No X	Yes No X
			No	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (minimum of two required)

Priman(Indicators (minimum _____of one is required: _____check all that apply)

Surface Water (Al)	Aquatic Fauna (B13)	Surface Soil Cracks (B6)
High Water Table (A2)	Mart Deposits (B15) (LRR U)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Hydrogen Sulfide Odor (Cl)	Drainage Patterns (BIO)
Water Marks (Bl)	Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)
__ Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Dry Season Water Table (C2)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Other (Explain in Remarks)	Geomorphic Position (D2)
__ Inundation visible on Aerial Imagery (B7)		Shallow Aquitard (D3)
_X Water-Stained Leaves (B9)		X FAC-Neutral Test (D5)
		Sphagnum moss (D8) (LRR T, U)

Field Observations				
Surface Water Present?	Yes	____	No X	Depth (Inches): _____
Water Table Present?	Yes		No X	Depth (Inches): _____
Saturation Present? (includes capillary fringe)	Yes	____	No X	Depth (Inches): _____ > 30"
		____		Wetland Hydrology Present? Yes x_____No ____

Descrjbe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: WSL indicators likely from heavy rains earlier in the year, and field runoff

VEGETATION - Use scientific names of plants

Sampling Point: 6

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot Size: 30' Radius			
Acer rubrum	50	Y	FAC
2. Liquidambar styraciflua	30	Y	FAC
1 Acer rubrum			
3.			
4.			
5.			
6.			
7.			
8.			
	80	= Total Cover	
	50% of total cover: 40	20% of total cover: 16	
Sapling/Shrub Stratum (Plot Size: 30' Radiui)			
2.			
1. Quercus nigra	3	Y	FAC
Ilex opaca	5	Y	FAC
3. Liquidambar styraciflua	6	Y	FAC
4.			
5.			
6.			
7.			
8.			
	14	= Total Cover	

Dominance Test Worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across Atl Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC.• 100 (A/B)

Prevalence Index Worksheet:

OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	
Total % Cover of:		Multiply by:	

(B)

Prevalence Index = BIA =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
Prevalence Index is s 3.0 [1]
Problematic Hydrophytic Vegetation [1] (Explain)

[1] Indicators of Hydric soil and wetland hydrology must be present unless disturbed or problematic.

50% of total cover: ____ ____

7 20% of total cover: 3

Chasmanthium laxum	40	Y	FACW
Smilax rotundifolia	5		FAC
3. Nyssa sylvatica	3		FAC
4. Aralia spinosa	1		FAC
5. Carex albicans	3		FAC

Herb Stratum (Plot Size: 30' Radius

1. Chasmanthium laxum
2. Smilax rotundifofia

6. ____

7. ____

8. ____

9. ____

10. ____

11. ____

12. ____

52 = Total Cover

50% of total cover: 26 20% of total cover: 10

Woody Vine Stratum (Plot Size: 30' Radius)

1. Vitis rotundifolia	10	Y	FAC
2. Smilax rotundifolia	4	Y	FAC

3. ____

4. ____

5. ____

14 = Total Cover

50% of total cover: ____ ____

7 20% of total cover: 3

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH) regardless of height

Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants regardless of size. and woody plants less that 3.28 ft (1 m) in height.

Woody Vine - All woody vines greater than 3.25 ft in height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (If Observed, list morphological adaptations below).

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
3	2.5Y 3/3	100					Sandy loam	0-
3-14	2.5Y 6/3-6/4	100					Sandy loam	
14-19	2.5Y 6/3	80	2.5Y 5/6	20	C	M	Loam	
3-14							Sandy loam	
			2.5Y 5/6					
19-24	2.5Y 6/2	50	2.5Y 5/6	50			Loam	

[1] Type: C=Concretion, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining, M=Matrix

Hydric Soils Indicators:

Indicators for Problematic Hydric Soils[3]:

Primary Indicators (minimum of one is required: check all that apply)

- Histosoi (Al)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- _ Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (AB) (LRR U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (Al 1)
- Thick Dark Surface (A22)
- Redox (A16) (MLRA 150A)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)
- Polyvalue Below Surface (S8) (S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (Fl) (LRR 0)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (FIO) (I-RR U)
- Depleted Ochric (Fl 1) (MLRA 151)
- __ Iron-Magnanese Masses (F12) (LRR O, P, T)
- __ Umbric Surface (F 13) (LRR U)
- Delta Ochric (F17) (MLRA 151)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy soils (F20) (MLRA 149A, 153C, 153D)
- __ 1 cm Muck (A9) (LRR 0)
- 2 cm Muck (AIO) (LRR S)
- Reduced Vertic (FIB) (outside MLRA 153A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of Hydrophytic Vegetation and Coast Prairie wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Delta Ochric (F17) (MLRA 151) sandy Mucky Mineral (Sl) (LRR O, S)

Restrictive layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ _____

No x

Remarks:

Cull* 2.0

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Floio-Sternate Properly. City/County: Suffolk Sampling Date: June 24 2021

Applicant/Owner: Coastal Virqinia Developers State: VA Sampling Point: 7

Investigator: Brian Owen of MSA. P.C. Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (^{0}/0): 0-2%

Subregion (LRR or MLRA)•. LRR-T Lat: Long: Datum: NAVD 88

LRR-T Datum: NAVD 88

Soil Map Unit Name: NWI Classification.

Are climatic / hydrologic conditions on the site typical for this time of year? YesX No (If no, explain in Remarks)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present Yes X No

Are vegetation . Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	Is the Sampled Area Within a Wetland? Yes x No
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (minimum of two required)

Primary Indicators (minimum of one is required: check all that apply)

		Surface Soil Cracks (B6)
Surface Water (Al)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (88)
High Water Table (A2)	Marl Deposits (815) (LRR U)	Drainage Patterns (BIO)
Saturation (A3)	Hydrogen Sulfide Odor (Cl)	Moss Trim Lines (B16)
Water Marks (Bl)	Oxidized Rhizospheres on Living Roots (C3)	Dry Season Water Table (C2)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
—		
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Iron Deposits (B5)	X Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation visible on Aerial Imagery (B7)		X FAC-Neutral Test (05)
X Water-Stained Leaves (89)		X Sphagnum moss (D8) (LRR T, U)

Field Observations	Yes		
Surface Water Present?	—	No X	Depth (Inches): —
Water Table Present?	Yes	No	Depth (Inches): —
Saturation Present? (includes capillary fringe)	—	X No X	Depth (Inches): — > 18"
	Yes		
	—		

Wetland Hydrology Present? Yes x No

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface roots

Gull* 2,()

VEGETATION - Use scientific names of plants

Sampling Point: 7

Tree Stratum (Plot Size: 30' Radius	% Cover	Species?	Status	Absolute Dominant Indicator
		Y	FAC	
Linuidambar stvraciflua	30	Y	FAC	
Pinus taeda	20	Y	FAC	
		1 Acer rubrum		50
2.				
3.				
4.				
5.				
6.				
7.				
8.				
	100	= Total Cover		

50% of total cover: 20% of total cover: 20

50

Sapling/Shrub Stratum (Plot Size: Radius)

1. Acer !llbrum 10 FAC

Dominance Test Worksheet:
Number of Dominant Species That Are OBL, FACWI or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC:
100 (A/B)

Prevalence Index Worksheet:

species		x 1 =	
N species		x 2 =	
species		x 3 =	
J species		x 4 =	
species		x 5 =	
Total % Cover of;		Multiplv by;	
OBL species			
FACW species			
FAC species			
FACU species			
UPL species			
Column Totals:			(A)
	(B)		

Prevalence Index = BIA =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
Prevalence Index is 3.01
Problematic Hydrophytic Vegetation [1] (Explain)

[1] Indicators of Hydric soil and wetland hydrology must be present unless disturbed or problematic.

Nvssa svlvatica	2	Y	FAC
Lim Iidambar stvrar.iflua	3	2.	FAC
		3.	FAC
		4.	
		5.	
		6.	
7.			
8.			

15 = Total Cover

50% of total cover: 7

20% of total cover: 3

Herb Stratum (Plot Size: 30' Radius

1. Chasmanthium laxum	10	Y	FACW
2. Smilax rotundifolia	3	Y	FAC
3. Juncus effusus	1		OBL
4. Liquidambar styraciflua	1		FAC

1 Chasmanthium laxum

2. Smilax rotundifofia

5.

6.

7.

8.

9.

10.

11.

12.

15 = Total Cover

50% of total cover: 7

20% of total cover: 3

Woody Vine Stratum (Plot Size: 30' Radius)

1. Smilax rotundtfotia

2.

3.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH) regardless of height

Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants regardless of size. and woody plants less that 3.28 ft (1 m) in height.

Woody Vine - All woody vines greater than 3.25 ft in height.

Hydrophytic Vegetation Present? Yes x No

4. _____ _____

5. _____ _____

5 = Total Cover

50% of total cover: _____ 2

20% of total cover: 1

Remarks: (If Observed, list morphological adaptations below).

GuJi>Constßl PJoin 2.0

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
~~0-2~~	~~2.5Y 4/2~~	~~100~~					~~Sandy loam~~	
2-4	2.5Y 4/1	100					Sandy loam	
4-15	2.5Y 6/1	85	2.5Y 5/6	15	C	M	Sandy loam	
15-18	2.5Y 6/1	80	2.5Y 5/6	20	C	M	SCL	

0-2 100

[1] Type: C=Concretion, D—Depletion, RM-Reduced Matrix. CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining, M=Matrix

Hydric Soils Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Histosol (Al)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (I-RR P, T, U)
- (AB) (LRR U) Redox Depressions (F8)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (All)
- Thick Dark Surface (A22)
- Redox (A16) (Ml-RA 150A)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (I-RR P, S, T, U)
- Polyvalue Below Surface (S8) (S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F 1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (FIO) (LRR U)
- Depleted Ochric (Fl 1) (MLRA 151)
- Iron-Magnanese Masses (F 12) (LRR O, P, T)
- Umbric Surface (F13) (LRR U)
- Delta Ochric (F17) (MLRA 151)
- Piedmont Floodplain Soils (F 19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) (LRR 0)
- 2 cm Muck (AIO) (LRR S)
- Reduced Vertic (F18) (outside MLRA 153A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (Ml-RA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (T Fl 2)
- Muck Presence
- Other (Explain in Remarks)

[3] Indicators of Hydrophytic Vegetation and Coast Prairie wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (Sl) (LRR O, S) Sandy Gieyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B)

Restrictive layer (if observed): Type: _____ Depth (inches):_____	Hydric Soil Present? Yes X No _____
Remarks:	

Cotißtål 2.0

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Flojo-Sternate Property City/County: Suffolk Sampling Date: June 24 2021

Applicant/Owner: Coastal Virainia Developers State: VA Sampling Point: 8

Investigator: Brian Qwep of MSA. P.C. Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 0-2%

Subregion (LRR or MLRA): LRR-T Lat: Long: Datum: NAVD 88

Soil Map Unit Name: NWI Classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present Yes X No

Are vegetation ____, Soil____, or Hydrology naturally problematic? (If needed. explain any answers in Remarks)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No		
Hydric Soil Present?	Yes	No	X	Is the Sampled Area Within a Wetland?
Wetland Hydrology Present?	Yes	No	X	Yes No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check al! that apply)

- Surface Water (Al)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (Bl)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (84)
- Iron Deposits (85)
- Inundation visible on Aerial Imagery (B7)
- Water-Stained Leaves (89)
- Aquatic Fauna (B13)
- Marl Deposits (815) (I-RR U)
- Hydrogen Sulfide Odor (Cl)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (BIO)
- Moss Trim Lines (B16)
- Dry Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Sphagnum moss (D8) (LRR T, U)

Field Observations

Surface Water Present? Yes ____ No X____Depth (Inches):____

Water Table Present? Yes ____ No X____Depth (Inches): ____

Saturation Present? Yes____ No ____X Depth (Inches):

(includes capillary fringe) ____> 30"

Wetland Hydrology Present? Yes No x

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Coms

md Cull*Cotlhtal Plilfn

2.0

VEGETATION - Use scientific names of plants

Sampling Point: 8

Tree Stratum (Plot Size: 30' Radius	Absolute % Cover	Dominant Species?	Indicator Status
[illegible]			
2. Quercus alba	10		FACU
1. Ar.er rubrum	5		FAC
[illegible]			
Pinus taeda	70	Y	FAC
Fagus grandifolia	5		FACU
3. Onerr.ns niara	10		FAC
4.			
5.			
6.			
7.			
8.			
	100	= Total Cover	

50% of total cover: 50 20% of total cover: 20

Saplina/Shrub Stratum (Plot Size: 30' Radius)	
Oyvdendron arboreum	8
Sassafras albidum	1
Linuidamhar stvrac:iflua	3
Svmnlnmlß tinc:taria	3
Acer rubrum	3

Dominance Test Worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5(A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index Worksheet:

	Cover of:	Multiply by:
Total % Cover of:		
	x 1 =	
	x 2 =	
	x 3 =	
OBL species	x 4 =	
FACW species	x 5 =	
FAC species	(A)	
FACU species		
UPL species		
Column Totals:(B)		

Prevalence Index = BIA =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%
Prevalence Index is s 3.0[1]
Problematic Hydrophytic Vegetation [1] (Explain)

[1] tndicators of Hydric soil and wetland hydrology must be present unless disturbed or problematic.

		Y	FAC
		Y	FACU
1 Vaminil]m formosum	8		
2.			
3. FACU			
4. ——— ———FAC			
5. ——— FAC			
6. ——— ———FAC 7. ——— ———			
8.			

26 = Total Cover

50% of total cover:___ ___

14 20% of total cover: 5

Vaccinium formosum	10	Y	FAC
Smilax rotundifolia	5	Y	FAC

Herb Stratum (Plot Size: 30' Radius

1. Vaccinium formosum
2. 3. ——— ———
4. ——— ——— ——— ———
5. ——— ——— ——— ——— ——— ———
6.
7. ——— ——— ———
8. ——— ——— ———9. ——— ——— ——— ———
10. ——— ——— ———
11. ——— ——— ———
12. ——— ——— ———

15 = Total Cover 50% of total cover: 7 20% of total cover: 3

Woodv Vine Stratum (Plot Size: 30' Radius)

1. Smilax rotundifolia
2. ——— ——— ———
3. ——— ——— ———
4. ——— ——— ———
5. ——— ——— ———

5 = Total Cover

50% of total cover:___ ___

2 20% of total cover: 1

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH) regardless of height

Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants regardless of size. and woody plants less that 3.28 ft (1 m) in height.

Woody Vine - All woody vines greater than 3.25 ft in height.

Hydrophytic Vegetation Present? Yes___ ___X No

Remarks: (If Obsented, list morphological adaptations below).

2.0

Corps

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
							0-4	2.5Y 4/1 100
4-7	2.5Y 5/3	100						
7-16	2.5Y 6/4	100					Sandy loam	
Sandy loam			Sandy loam					
~~16-30~~	~~2.5Y 6/3~~	~~80~~	~~2.5Y 5/6~~	~~20~~	~~C~~	~~M~~	~~Sandy loam~~	
			Sandy loam					

[1] Type: C=Concretion, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soils Indicators:

Primary Indicators (minimum Of i. ranuired: check all that annl\'h

- Histosol (Al)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- (A8) (I-RR U) Redox Depressions (F8)
- Polyvalue Below Surface (S8) (S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (El) (LRR 0)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Other (Explain in Remarks)

1 cm Muck (A9) (LRR P, T)

Depleted Below Dark Surface (Al 1)

Thick Dark Surface (A22)

Redox (A16) (MLRA 150A)

Stripped Matrix (S6)

Dark Surface (S7) (LRR P, S, T, U)

Marl (FIO) (LRR U)

Depleted Ochric (Fl 1) (MLRA 151)

Iron-Magnanese Masses (F 12) (LRR O, P, T)

Umbric Surface (F13) (LRR U)

Delta Ochric (El 7) (MLRA 151)

Piedmont Floodplain Soils (F19) (MLRA 149A)

Anomalous Bright Loamy Soils (F20) (Ml-RA 149A, 153C, 1530)

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) (LRR 0)
- 2 cm Muck (AIO) (LRR S)
- Reduced Vertic (FIB) (outside MLRA 153A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (Ml-RA 153B)
- Red Parent Material (TF2)
- very Shallow Dark Surface (TF12)
- Muck Presence

[3]Indjcators of Hydrophytic Vegetation and Coast Prairie wetland hydrology must be present, sandy Mucky Mineral (Sl) (LRR O, S) unless disturbed or problematic. Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) sandy Redox (S5)

Restrictive layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes_____ No _____x

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Floio-Sternate Property City/County: Suffolk Sampling Date: June 24 2021

Applicant/Owner: Coastal Virainia Devefooers State: VA Sampling Point: 8

Investigator: Brian Owen of MSA. PC Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (^{0}/0): 0-2%

Subregion (LRR or MLRA): LRR-T Lat: Long; Datum: NAVD 88

Soil Map Unit Name: NWI Classification:

NWI Classification:

Are climatic I hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)

Are vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present Yes X No

Are vegetation , Soil or Hydrology naturally problematic? (If needed, explain any answers jn Remarks)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

		No	Is the Sampled Area Within a Wetland?
Hydrophytic Vegetation Present?	Yes X	No x	Yes No X
Hydric Soil Present?	Yes	No x	
Wetland Hydrology Present?	Yes		

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that aoolv)

- Surface Water (Al)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (Bl)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (84)
- Iron Deposits (B5)
- Inundation visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) (I-RR U)
- Hydrogen Sulfide Odor (Cl)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (86)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (BIO)
- Moss Trim Lines (B16)
- Dry Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Sphagnum moss (D8) (LRR T, U)

Field Observations

Surface Water Present? Yes____ No X_____Depth (Inches):_____

Water Table Present? Yes_____ No X_____Depth (Inches):_____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (Inches): _____ > 30"

Wetland Hydrology Present? Yes ____ No x

Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: 8

Tree Stratum (Plot Size: 30' Radius		Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum		5		FAC
2. Quercus alba		10		FACU
3. Querqus nigra		10		FAC 70
4. Pinus taeda		Y	FAC	FAC
5. Faaus arandifolia		5		FACU
6.				
7.				
8.				
50% of total cover: 50				

Saptina/Shrub Stratum (Plot Size: 30' Radius)				
1. Vaccinium formosum				
2. Oxydendron arboreum				
3. Sassafras albidum		100	= Total Cover	
4. Liquidambar styraciflua				
5. Symplocus tinctoria		20% of total cover: 20		
6. Acer rubrum	7.	8		FAC
8.		8		FACU
		1		FACU
50% of total cover: 14		3		FAC
		3		FAC 3

Herb Stratum (Plot Size: 30' Radii'?_____)				
1. Vaccin formosum				FAC
2. Smilax rotundifolia				
3.				
4.				
5.	6.	26	= Total Cover	
		20% of total cover: 5		
7.		10	Y	FAC
8.	9.	5	Y	FAC
10.				
11.				
12.				
50% of total cover: 7				

Woody Vine Stratum (Plot Size: 30' Radius)	
1. rotundifotia	
2. 3.	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC.•

Total Number of Dominant Species Across All Strata: 83

Percent of Dominant Species That Are OBL, FACW, or FAC:

Prevalence Index Worksheet: Mul

Total % Cover of:	Multiply by:	
species	x 1 =	
W species	x 2 =	
species	x 3 =	x 5 =
OBL species		(A)
FACW species		
FAC species		(B)
FACU species UPL species		
Column Totals:		

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

Prevalence Index is 3.0 [1]

Problematic Hydrophytic Vegetation [1] (Expl

[1] Indicators of Hydric soil and wetland hydrology present unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding Woody vines, (7.6 cm) or more in diameter at breast height (D regardless of height

Sapling/Shrub - Woody plants, excluding woody than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants regard and woody plants less that 3.28 ft (1 m) in height.

Woody Vine - All woody vines greater than 3.25

Hydrophytic Vegetation Present?

Yes X No

4. _____ _____
5. _____ _____

50% of total cover: 2

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

15 = Total Cover

20% of total cover: 3

5 Y FAC

_____ _____

_____ _____

_____ _____

_____ _____

5 = Total Cover

20% of total cover: 1

Remarks: (If Observed, list morphological adaptations below).

Cotps

SOIL

Guil'Coastal

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 4/1	100					Sandy loam	
4-7	2.5Y 5/3	100					Sandy loam	
		100						
			Sandy loam 100 Sandy loam					
7-16	2.5Y$14	---					[illegible]	
16-30	2.5Y 6/3	80	2.5Y 5/6	20	C	M	Sandy loam	
		80						

Type: C=Concretion, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soils Indicators:

Indicators for Problematic Hydric Soils[3]:

Primary Indicators (minimum Qf one ____is required: Gheck all that aoplv)

- Histosol (Al)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (Al 1)
- Thick Dark Surface (A22)
- Redox (A16) (MLRA 150A)
- Sandy Mucky Mineral (Sl) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)
- Polyvalue Below Surface (S8) (S, T, U)
- Thin Dark Surface (S9) (I-RR S, T, U)
- Loamy Mucky Mineral (Fl) (LRR 0)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (FIO) (LRR U)
- Depleted Ochric (Fl 1) (MLRA 151)
- Iron-Magnanese Masses (F12) (LRR O, P, T)
- Umbric Surface (F13) (LRR U)
- Delta Ochric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy soils (20) (Ml-RA 149A, 153C, 153D)
- 1 cm Muck (A9) (LRR 0)
- 2 cm Muck (AIO) (LRR S)
- Reduced Vertic (F 18) (outside MLRA 153A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of Hydrophytic Vegetation and Coast Prairie wetland hydrology must be present, unless disturbed or problematic.

Restrictive layer (if observed):

Type:_____

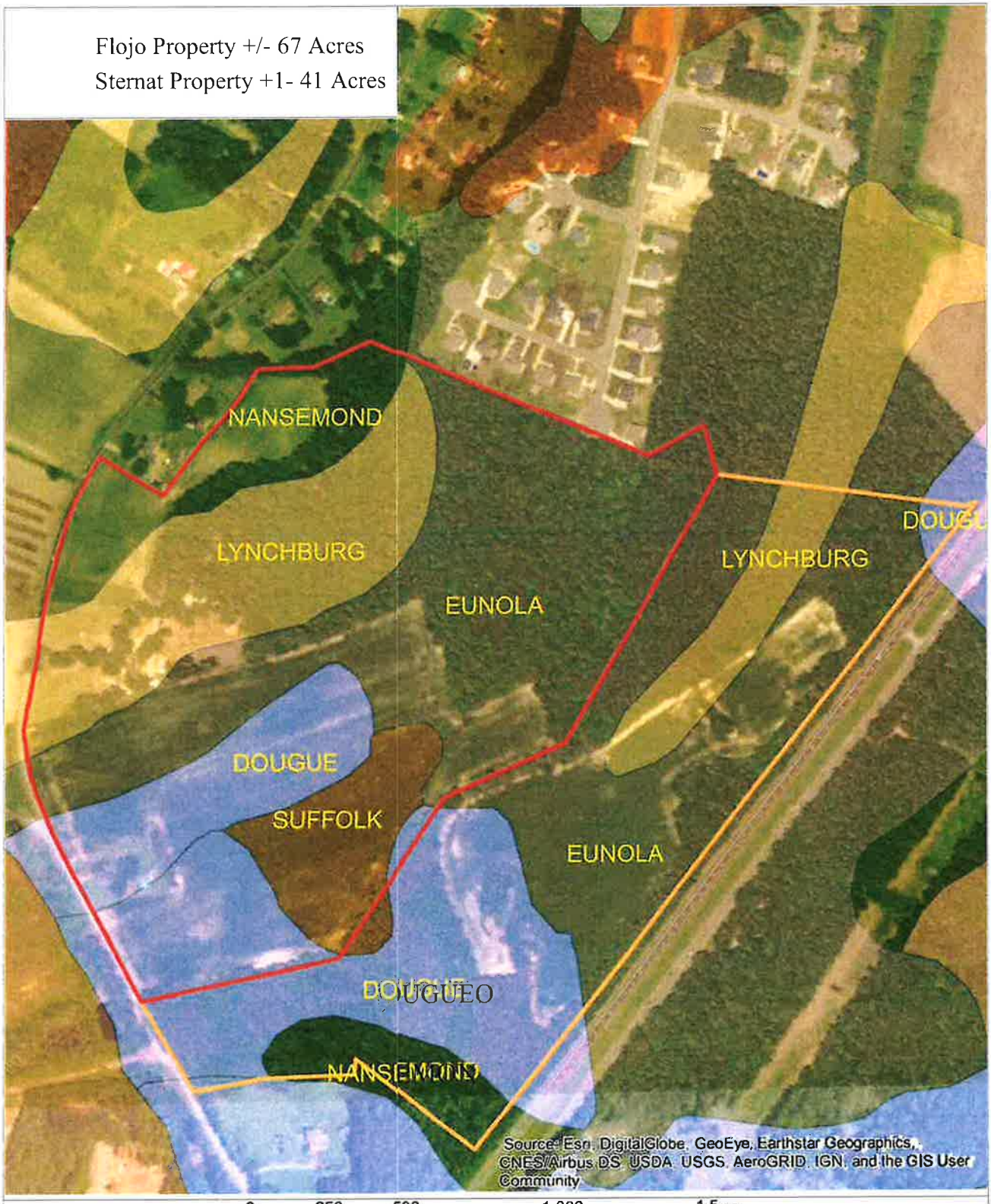
Depth (inches): _____

Hydric Soil Present? Yes No ____x

Remarks:

v)

Flojo Property +/- 67 Acres
Sternat Property +1- 41 Acres



Suffolkand Buckhorn,VA[illegible] USGS Quadrangle Topographic Maps

Mapped by BRO

USGS SOIL SURVEY EXHIBIT

JURISDICTIONAL DETERMINATION REQUEST

FLOJO-STERNAT PROPERTY

LAKE CAHOON ROAD, SUFFOLK, VIRGINIA

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