CHATHAM COUNTY
NORTH CAROLINA

WATERSHED PROTECTION DEPARTMENT

P.O. Box 548
Pittsboro, NC 27312
PHONE: (919) 545-8394

Fax: (919) 542-2698 ● E-mail: drew.blake@chathamcountync.gov ● Website: www.chathamcountync.gov

January 23, 2023

Kim Hamlin
Sage Ecological Services, Inc.
3707 Swift Drive
Raleigh, NC 27606

Project Name:	Parcel # 11433
Location:	1092 Jordan Dam Road, Chatham County
Subject Features:	Two (2) ephemeral streams, four (4) intermittent streams, and fifteen (15) potential wetlands
Date of Determination:	December 16, 2022
Chatham County Record Number:	WP-22-643

Explanation:
The site visit was completed on December 16, 2022, by Drew Blake and Phillip Cox with Chatham County Watershed Protection and Kim Hamlin of Sage Ecological Services on Parcel # 11433 that is located outside of the Jordan Lake watershed. Sage personnel completed a previous site visit which resulted in the identification of three (3) potential ephemeral segments, three (3) potential intermittent segments, and fifteen (15) potential wetlands on the property. Sage submitted a request for Chatham County to complete a formal review to determine if the features would be subject to riparian buffers according to Section 304 of the Chatham County Watershed Protection Ordinance.

All points of origin, stream type transitions, and wetland boundaries were reviewed and agreed to in the field by all parties in attendance. One (1) ephemeral stream segment that was identified by Sage was removed as it did not have a well-defined channel or did not meet the 10-point requirement for an ephemeral stream. This segment was located between WA-3 and SFSA2. Sage previously identified stream feature SB as ephemeral throughout the property. During the site visit an intermittent stream transition point was added at SB100 along SB.

Required Riparian Buffers:
All ephemeral stream segments will require a 30-ft buffer from the top of bank landward on both sides. All intermittent stream segments will require a 50-ft buffer from the top of bank landward on both sides.

The potential wetlands identified by Sage have not been confirmed by the US Army Corps of Engineers. Once the USACE confirmation is received the 50-ft riparian buffers will be required from the flagged wetland boundaries as confirmed by the USACE.

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Impacts to Riparian Buffers:

Impacts to the riparian buffers may require a Riparian Buffer Authorization depending on the size and scope of the impacts. Please refer to Section 304(F) of the Chatham County Watershed Protection Ordinance to determine if your impacts will require a Riparian Buffer Authorization. If you determine that a Riparian Buffer Authorization is required, please contact Drew Blake to receive the required application and submittal instructions.

This on-site determination shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by Chatham County, on parcels outside of the Jordan Lake watershed, may submit a request for appeal in writing to the Watershed Review Board. A request for a determination by the Watershed Review Board shall be made in accordance with Section 304 of the Chatham County Watershed Protection Ordinance. Landowners or affected parties that dispute a determination made by Chatham County, on parcels inside the Jordan Lake watershed, shall submit a request for appeal in writing to NC DWR, 401 & Buffer Permitting Unit, 1650 Mail Service Center, Raleigh, NC 27669-1650 attention of the Director of the NC Division of Water Quality.

Should this project result in any direct impacts to surface water features (i.e., crossing and/or filling streams or wetlands) additional reviews may be necessary. Additionally, a Section 404/401 Permit may be required. Any inquiries regarding Section 404/401 permitting should be directed to the Division of Water Resources (Central Office) at (919)-807-6364 and the US Army Corp of Engineers (Raleigh Regulatory Field Office) at (919)-554-4884.

Respectfully,

Drew Blake

Drew Blake
Assistant Director, CESSWI

Enclosures:

- Exhibit 3: Revised PJD Sketch Map – Completed by Sage
- Surface Water & Riparian Buffer Spreadsheet
- NC DWQ Stream Identification Form -Version 4.11 – Completed by Sage
- Wetland Determination Data Forms – Completed by Sage
- Major Subdivision Riparian Buffer Application
- Authorized Agent Form
- Authorization to Enter Property Form

cc: Rachael Thorn, Director, Chatham County Watershed Protection Department
Justin Hasenfus, Senior Watershed Specialist, Chatham County Watershed Protection Dept.
Kimberly Tyson, Planner II/Subdivision Administrator, Chatham County Planning Department
Hunter Glenn, Planner I, Chatham County Planning Department
Angela Plummer, Planner II/Zoning Administrator, Chatham County Planning Department
Jason Sullivan, Director, Chatham County Planning Department

A Chatham County Buffer determination was conducted on Dec. 16, 2022, with Drew Blake of Chatham County and Kim Hamlin of Sage Ecological Services, Inc.

Potential Wetland WOTUS - WC-6 +/-0.027 ac. / 1156 SF

Potential Wetland WOTUS - WB-4 +/-0.031 ac. / 1367 SF

Ephemeral Stream SC +/- 100 LF

DPWC1

SFSC1

SFSC2 (UPPER)

DPWC2

SFSD2

Potential Wetland WOTUS - WD +/-0.017 ac. / 739 SF

East River Rd

SFSD1

WD DP2

WD DP1

Potential Wetland WOTUS - WC-5 +/-0.003 ac. / 113 SF

Potential Non-wetland WOTUS - SC +/-1465 LF/5862 SF

Potential Non-wetland WOTUS - SD +/-827 LF/3309 SF

Potential Wetland WOTUS - WC-4 +/-0.01 ac. / 448 SF

Potential Wetland WOTUS - WC-3 +/-0.002 ac. / 88 SF

SB01

SFSB1

Jordan Dam Rd

WB DP2

Ephemeral Stream SB +/- 599 LF

Potential Wetland WOTUS - WC-1 +/-0.077 ac. / 3343 SF

SFSC1 (LOWER)

Forest Lake Estates

WB DP1

Potential Wetland WOTUS - WA-3 +/-0.056 ac. / 2436 SF

Potential Wetland WOTUS - WB-2 +/-0.268 ac. / 11684 SF

Potential Wetland WOTUS - WB-3 +/-0.061 ac. / 2667 SF

Potential Wetland WOTUS - WC-2 +/-0.005 ac. / 198 SF

Potential Wetland WOTUS - WE +/-0.001 ac. / 31 SF

SFSA2

SB100

Potential Non-wetland WOTUS - SB +/- 877 LF / 1753 SF

SFSA1

SFSA3

SFSB3

SA05

DPWA1

DPWA2

SFSB2

Potential Wetland WOTUS - WB-1 +/-0.42 ac. / 18314 SF

Potential Wetland WOTUS - WA-2 +/-0.277 ac. / 12072 SF

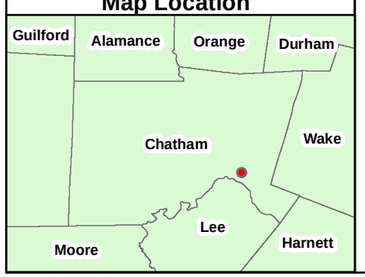
SFSA5

Potential Non-wetland WOTUS - SA +/-803 LF/2409 SF

Potential Wetland WOTUS - WA-1 +/-0.1 ac. / 4340 SF

NC OneMap Orthoimagery, 2021

Map Location



Legend

- Project Study Area
- Flag
- Stream Form
- Data Point
- Culvert
- Intermittent Stream
- Ephemeral Stream
- Wetland
- Riparian Buffer
- 1' Contours

Revised PJD Sketch Map

1092 Jordan Dam Road
Sage Project #2021.053

Prepared by: K. Hamlin

December 28, 2022

1 inch = 200 feet

0 200 400 Feet

N

Figure 3

Sage Ecological Services, Inc.
Office: 919-335-6757
Cell: 919-559-1537

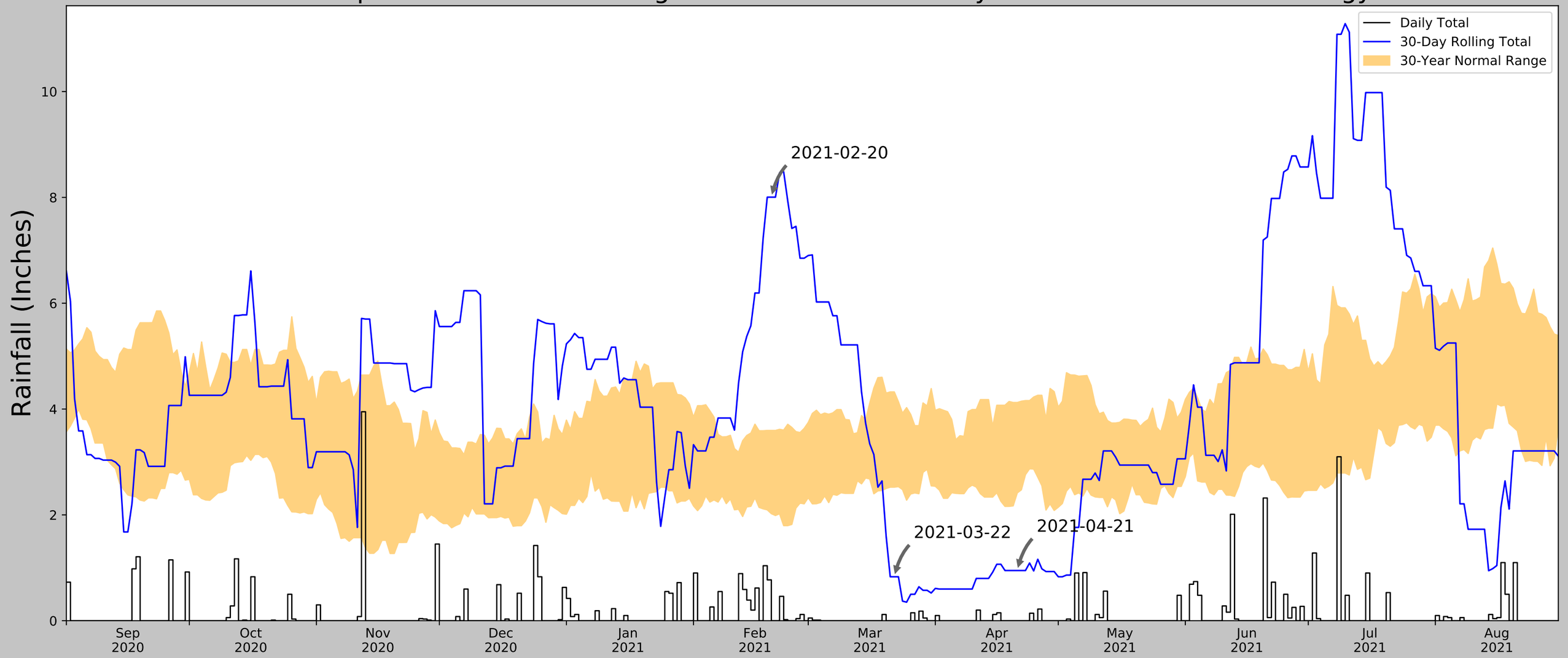
1092 Jordan Dam Road Property

Surface Water & Riparian Buffer Spreadsheet

Completed By: K. Hamlin, 12/29/2022

Feature ID	Feature Type	Stream/Wetland Data Form ID	Stream Length or Wetland Acres	Latitude	Longitude	Buffer Required	Buffer Jurisdiction (Jordan, County + Jordan)
Stream SA	Intermittent	SFSA1/SFSA2/SFSA3/SFSA5	348	35.6405	-79.0804	50' (Intermittent)	County
Stream SB	Ephemeral	SFSB1/SFSB2	599	35.6420	-79.0790	30' (Ephemeral)	County
Stream SB	Intermittent	SFSB3	877	35.6407	-79.0777	50' (Intermittent)	County
Stream SC	Ephemeral	SFSC1	100	35.6426	-79.0783	30' (Ephemeral)	County
Stream SC	Intermittent	SFSC2 (UPPER)/(LOWER)	1465	35.6425	-79.0780	50' (Intermittent)	County
Stream SD	Intermittent	SFSD1	827	35.6425	-79.0752	50' (Intermittent)	County
WA-1	Jurisdictional Wetland	DPWA1/DPWA2	0.1	35.6398	-79.0786	50' Jurisdictional Wetland	County
WA-2	Jurisdictional Wetland	DPWA1/DPWA2	0.277	35.6402	-79.0799	50' Jurisdictional Wetland	County
WA-3	Jurisdictional Wetland	DPWA1/DPWA2	0.056	35.6407	-79.0807	50' Jurisdictional Wetland	County
WB-1	Jurisdictional Wetland	WBDP1/WB DP2	0.42	35.6402	-79.0760	50' Jurisdictional Wetland	County
WB-2	Jurisdictional Wetland	WBDP1/WB DP2	0.268	35.6408	-79.0777	50' Jurisdictional Wetland	County
WB-3	Jurisdictional Wetland	WBDP1/WB DP2	0.061	35.6414	-79.0785	50' Jurisdictional Wetland	County
WB-4	Jurisdictional Wetland	WBDP1/WB DP2	0.031	35.6421	-79.0791	50' Jurisdictional Wetland	County
WC-1	Jurisdictional Wetland	DPWC1/DPWC2	0.077	35.6412	-79.0750	50' Jurisdictional Wetland	County
WC-2	Jurisdictional Wetland	DPWC1/DPWC2	0.005	35.6411	-79.0759	50' Jurisdictional Wetland	County
WC-3	Jurisdictional Wetland	DPWC1/DPWC2	0.002	35.6414	-79.0764	50' Jurisdictional Wetland	County
WC-4	Jurisdictional Wetland	DPWC1/DPWC2	0.01	35.6422	-79.0776	50' Jurisdictional Wetland	County
WC-5	Jurisdictional Wetland	DPWC1/DPWC2	0.003	35.6424	-79.0778	50' Jurisdictional Wetland	County
WC-6	Jurisdictional Wetland	DPWC1/DPWC2	0.027	35.6426	-79.0781	50' Jurisdictional Wetland	County
WD	Jurisdictional Wetland	WDDP1/WDDP2	0.017	35.6424	-79.0752	50' Jurisdictional Wetland	County
WE	Jurisdictional Wetland	WBDP1/WB DP2	0.001	35.6411	-79.0733	50' Jurisdictional Wetland	County

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.6424, -79.0751
Observation Date	2021-04-21
Elevation (ft)	230.23
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-04-21	2.415354	4.123622	0.948819	Dry	1	3	3
2021-03-22	2.523622	4.324016	0.830709	Dry	1	2	2
2021-02-20	2.022835	3.595669	8.003937	Wet	3	1	3
Result							Drier than Normal - 8

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SANFORD 8 NE	35.5356, -79.0475	262.139	7.54	31.909	3.634	11291	90
B EVERETT JORDAN DAM	35.6542, -79.0706	310.039	8.297	47.9	4.131	12	0
SANFORD 6.0 N	35.5631, -79.195	319.882	8.507	57.743	4.319	1	0
SANFORD 7.1 SE	35.4025, -79.0948	351.05	9.574	88.911	5.16	2	0
SWANN	35.3953, -79.09	350.066	9.984	87.927	5.371	1	0
CHATHAM WTP	35.7336, -79.0033	308.071	13.904	45.932	6.895	2	0
LILLINGTON	35.4069, -78.8203	149.934	15.573	112.205	8.755	5	0
CARY	35.72, -78.7878	390.092	19.366	127.953	11.193	32	0
APEX	35.7425, -78.8369	450.131	18.553	187.992	11.837	4	0
RALEIGH 4 SW	35.7294, -78.6839	419.948	24.418	157.809	14.841	3	0

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1092 Jordan Dam Rd City/County: Chatham Sampling Date: 4/21/2021

Applicant/Owner: Oak Crest Commercial, LLC State: NC Sampling Point: WD DP1

Investigator(s): D. Gainey Section, Township, Range:

Landform (hillside, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 0.5

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.6424 Long: -79.0751 Datum: NAD83

Soil Map Unit Name: MgD - Mayodan gravelly sandy loam, 10 to 15 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (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:
Drier than Normal Conditions per Antecedent Precipitation Tool

HYDROLOGY

Wetland Hydrology Indicators:

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

- ____ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ____ True Aquatic Plants (B14)
- ____ 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)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 3
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 3

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: WD DP1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	30	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	30 =Total Cover		
50% of total cover: 15	20% of total cover: 6		
Sapling/Shrub Stratum (Plot size: 30')			
1. *Alnus serrulata*	5	Yes	OBL
2. *Ligustrum sinense*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	10 =Total Cover		
50% of total cover: 5	20% of total cover: 2		
Herb Stratum (Plot size: 5')			
1. *Saururus cernuus*	40	Yes	OBL
2. *Juncus effusus*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 =Total Cover		
50% of total cover: 25	20% of total cover: 10		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	90 (A)		115 (B)

Prevalence Index = B/A = 1.28

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: WD DP1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/6	100					Loamy/Clayey	
8-16	10YR 4/1	90	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1092 Jordan Dam Rd City/County: Chatham Sampling Date: 4/21/2021

Applicant/Owner: Oak Crest Commercial, LLC State: NC Sampling Point: WD DP2

Investigator(s): D. Gainey Section, Township, Range:

Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 0.5

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.6423 Long: -79.0750 Datum: NAD83

Soil Map Unit Name: MgD - Mayodan gravelly sandy loam, 10 to 15 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (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:
Drier than Normal Conditions per Antecedent Precipitation Tool

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

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): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WD DP2

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	15 =Total Cover		
50% of total cover: 8	20% of total cover: 3		
Sapling/Shrub Stratum (Plot size: 30')			
1. *Pinus taeda*	10	Yes	FAC
2. *Ligustrum sinense*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	20 =Total Cover		
50% of total cover: 10	20% of total cover: 4		
Herb Stratum (Plot size: 5')			
1. *Lonicera japonica*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5 =Total Cover		
50% of total cover: 3	20% of total cover: 1		
Woody Vine Stratum (Plot size: 15')			
1. *Vitis rotundifolia*	5	Yes	FAC
2. *Smilax rotundifolia*	5	Yes	FAC
3.			
4.			
5.			
	10 =Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	50 (A)		165 (B)

Prevalence Index = B/A = 3.30

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: WD DP2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/6	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

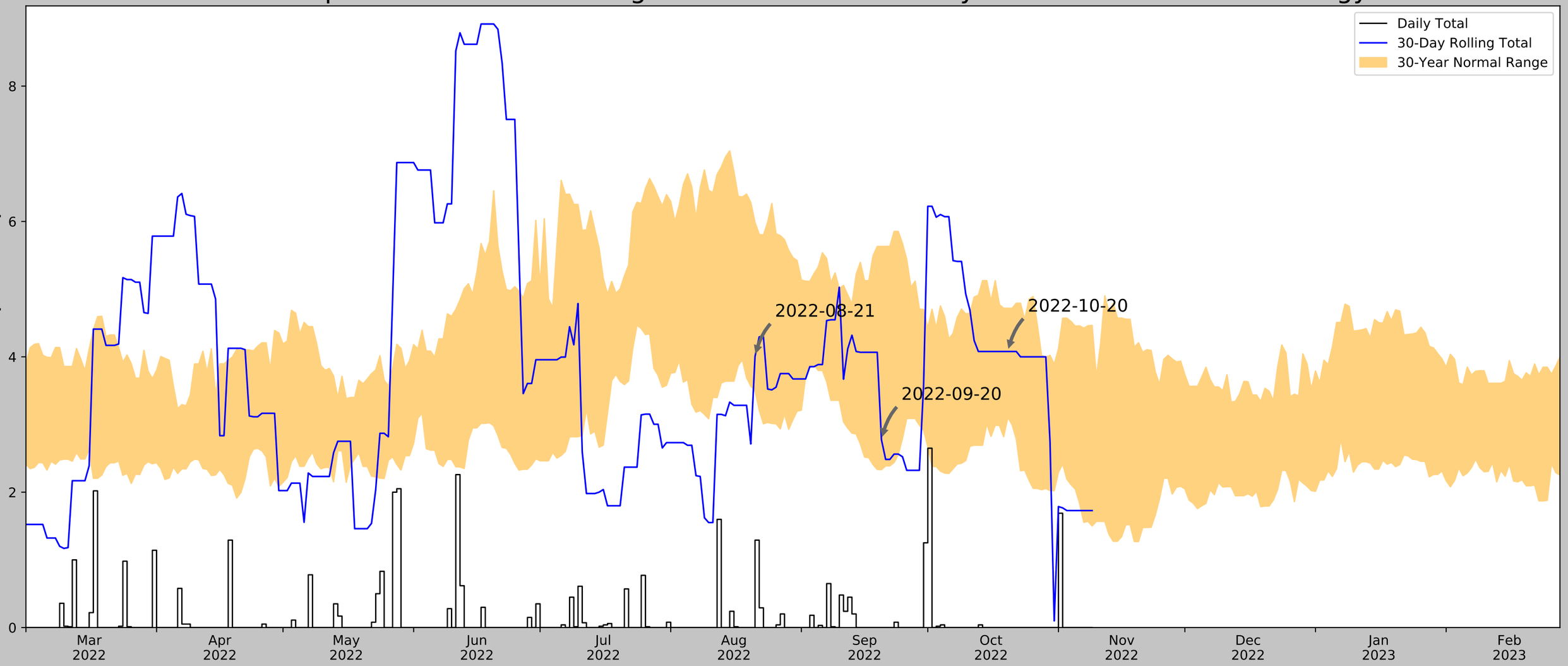
Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.6413, -79.0784
Observation Date	2022-10-20
Elevation (ft)	253.05
Drought Index (PDSI)	Moderate drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-10-20	3.104725	4.717717	4.07874	Normal	2	3	6
2022-09-20	2.332284	5.631103	2.775591	Normal	2	2	4
2022-08-21	3.501181	5.985827	4.003937	Normal	2	1	2
Result							Normal Conditions - 12

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SANFORD 8 NE	35.5356, -79.0475	262.139	7.507	9.089	3.446	11291	70
B EVERETT JORDAN DAM	35.6542, -79.0706	310.039	8.297	47.9	4.131	12	19
SANFORD 6.0 N	35.5631, -79.195	319.882	8.507	57.743	4.319	1	0
SANFORD 7.1 SE	35.4025, -79.0948	351.05	9.574	88.911	5.16	2	0
SWANN	35.3953, -79.09	350.066	9.984	87.927	5.371	1	0
SANFORD 10.0 N	35.6206, -79.2016	330.053	10.463	67.914	5.419	0	1
CHATHAM WTP	35.7336, -79.0033	308.071	13.904	45.932	6.895	2	0
LILLINGTON	35.4069, -78.8203	149.934	15.573	112.205	8.755	5	0
CARY	35.72, -78.7878	390.092	19.366	127.953	11.193	32	0
APEX	35.7425, -78.8369	450.131	18.553	187.992	11.837	4	0
RALEIGH 4 SW	35.7294, -78.6839	419.948	24.418	157.809	14.841	3	0

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1092 Jordan Dam Rd City/County: Chatham Sampling Date: 10/20/2022

Applicant/Owner: Oak Crest Commercial, LLC State: NC Sampling Point: WB DP1

Investigator(s): K. Hamlin, C. Darnell Section, Township, Range:

Landform (hillside, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 0.5

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.6413 Long: -79.0784 Datum: NAD83

Soil Map Unit Name: MgD - Mayodan gravelly sandy loam, 10 to 15 percent slopes NWI classification: PFO

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** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Normal Conditions per Antecedent Precipitation Tool

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)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ True Aquatic Plants (B14)
- ____ 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 (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

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): ____

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: WB DP1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	50	Yes	FAC
2. *Quercus alba*	10	No	FACU
3.			
4.			
5.			
6.			
7.			
	60	=Total Cover	
50% of total cover: 30		20% of total cover:	12
Sapling/Shrub Stratum (Plot size: 30')			
1. *Carpinus caroliniana*	30	Yes	FAC
2. *Quercus alba*	15	Yes	FACU
3. *Ulmus rubra*	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
	55	=Total Cover	
50% of total cover: 28		20% of total cover:	11
Herb Stratum (Plot size: 5')			
1. *Ilex opaca*	5	Yes	FACU
2. *Liquidambar styraciflua*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	=Total Cover	
50% of total cover: 5		20% of total cover:	2
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	95	x 3 =	285
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	125 (A)		405 (B)

Prevalence Index = B/A = 3.24

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: WB DP1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/1	90	7.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1092 Jordan Dam Rd City/County: Chatham Sampling Date: 10/20/2022

Applicant/Owner: Oak Crest Commercial, LLC State: NC Sampling Point: WB DP2

Investigator(s): K. Hamlin, C. Darnell Section, Township, Range:

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 1

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.6414 Long: -79.0784 Datum: NAD83

Soil Map Unit Name: MgD - Mayodan gravelly sandy loam, 10 to 15 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ 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:
Normal Conditions per Antecedent Precipitation Tool

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

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): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: WB DP2

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2. *Carya tomentosa*	20	Yes	UPL
3. *Quercus alba*	20	Yes	FACU
4. *Pinus taeda*	5	No	FAC
5.			
6.			
7.			
	65	=Total Cover	
50% of total cover: 33		20% of total cover:	13
Sapling/Shrub Stratum (Plot size: 30')			
1. *Acer rubrum*	15	Yes	FAC
2. *Carya tomentosa*	15	Yes	UPL
3. *Quercus alba*	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
	40	=Total Cover	
50% of total cover: 20		20% of total cover:	8
Herb Stratum (Plot size: 5')			
1. *Smilax rotundifolia*	2	No	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	2	=Total Cover	
50% of total cover: 1		20% of total cover:	1
Woody Vine Stratum (Plot size: 15')			
1. *Vitis rotundifolia*	5	Yes	FAC
2.			
3.			
4.			
5.			
	5	=Total Cover	
50% of total cover: 3		20% of total cover:	1

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 42.9% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	47	x 3 =	141
FACU species	30	x 4 =	120
UPL species	35	x 5 =	175
Column Totals:	112 (A)		436 (B)

Prevalence Index = B/A = 3.89

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: WB DP2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

NC DWQ Stream Identification Form Version 4.11

SFSA1

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.6407
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.0806
Total Points: 5 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Ephemeral	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 3)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	1
2. Sinuosity of channel along thalweg	0	1	2	3	1
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	0
4. Particle size of stream substrate	0	1	2	3	0
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	0
7. Recent alluvial deposits	0	1	2	3	0
8. Headcuts	0	1	2	3	1
9. Grade controls	0	0.5	1	1.5	0
10. Natural valley	0	0.5	1	1.5	0
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 0)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	0
15. Sediment on plants or debris	0	0.5	1	1.5	0
16. Organic debris lines or piles	0	0.5	1	1.5	0
17. Soil-based evidence of high water table?	No = 0		Yes = 3		0

C. Biology (Subtotal = 2)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	1
19. Rooted upland plants in streambed	3	2	1	0	1
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

NC DWQ Stream Identification Form Version 4.11

SFSA2

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.6405
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.0804
Total Points: 14 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Ephemeral	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 6)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	2
2. Sinuosity of channel along thalweg	0	1	2	3	1
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	0
4. Particle size of stream substrate	0	1	2	3	0
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	0
7. Recent alluvial deposits	0	1	2	3	1
8. Headcuts	0	1	2	3	1
9. Grade controls	0	0.5	1	1.5	0
10. Natural valley	0	0.5	1	1.5	1
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 5)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	1
15. Sediment on plants or debris	0	0.5	1	1.5	0.5
16. Organic debris lines or piles	0	0.5	1	1.5	0.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3		3

C. Biology (Subtotal = 3)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	1
19. Rooted upland plants in streambed	3	2	1	0	2
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

NC DWQ Stream Identification Form Version 4.11

SFSA3

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.6404
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.0803
Total Points: 23.5 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Intermittent	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 13.5)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	2
2. Sinuosity of channel along thalweg	0	1	2	3	2
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	1
4. Particle size of stream substrate	0	1	2	3	2
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	1
7. Recent alluvial deposits	0	1	2	3	2
8. Headcuts	0	1	2	3	2
9. Grade controls	0	0.5	1	1.5	0.5
10. Natural valley	0	0.5	1	1.5	1
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 6)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	1
15. Sediment on plants or debris	0	0.5	1	1.5	1
16. Organic debris lines or piles	0	0.5	1	1.5	1
17. Soil-based evidence of high water table?	No = 0		Yes = 3		3

C. Biology (Subtotal = 4)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	1
19. Rooted upland plants in streambed	3	2	1	0	3
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

NC DWQ Stream Identification Form Version 4.11

SFSA4

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.64
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.0793
Total Points: 11.5 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Ephemeral	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 6.5)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	1
2. Sinuosity of channel along thalweg	0	1	2	3	0
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	0
4. Particle size of stream substrate	0	1	2	3	2
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	0
7. Recent alluvial deposits	0	1	2	3	1
8. Headcuts	0	1	2	3	1
9. Grade controls	0	0.5	1	1.5	0
10. Natural valley	0	0.5	1	1.5	1.5
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 1)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	0
15. Sediment on plants or debris	0	0.5	1	1.5	0.5
16. Organic debris lines or piles	0	0.5	1	1.5	0.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3		0

C. Biology (Subtotal = 4)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	1
19. Rooted upland plants in streambed	3	2	1	0	3
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

NC DWQ Stream Identification Form Version 4.11

SFSA5

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.64
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.0791
Total Points: 26.5 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Intermittent	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 17)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	3
2. Sinuosity of channel along thalweg	0	1	2	3	3
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	2
4. Particle size of stream substrate	0	1	2	3	3
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	2
7. Recent alluvial deposits	0	1	2	3	1
8. Headcuts	0	1	2	3	1
9. Grade controls	0	0.5	1	1.5	1
10. Natural valley	0	0.5	1	1.5	1
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	1.5
15. Sediment on plants or debris	0	0.5	1	1.5	0
16. Organic debris lines or piles	0	0.5	1	1.5	0
17. Soil-based evidence of high water table?	No = 0		Yes = 3		3

C. Biology (Subtotal = 5)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	2
19. Rooted upland plants in streambed	3	2	1	0	3
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

NC DWQ Stream Identification Form Version 4.11

SFSB1

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.6419
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.0789
Total Points: 12.5 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Ephemeral	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 8.5)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	3
2. Sinuosity of channel along thalweg	0	1	2	3	2
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	1
4. Particle size of stream substrate	0	1	2	3	0
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	0
7. Recent alluvial deposits	0	1	2	3	0
8. Headcuts	0	1	2	3	1
9. Grade controls	0	0.5	1	1.5	0
10. Natural valley	0	0.5	1	1.5	1.5
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 3)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	0
15. Sediment on plants or debris	0	0.5	1	1.5	0
16. Organic debris lines or piles	0	0.5	1	1.5	0
17. Soil-based evidence of high water table?	No = 0		Yes = 3		3

C. Biology (Subtotal = 1)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	0
19. Rooted upland plants in streambed	3	2	1	0	1
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

NC DWQ Stream Identification Form Version 4.11

SFSB2

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.6419
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.0789
Total Points: 13.75 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Ephemeral	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	1
2. Sinuosity of channel along thalweg	0	1	2	3	2
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	0
4. Particle size of stream substrate	0	1	2	3	0
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	0
7. Recent alluvial deposits	0	1	2	3	1
8. Headcuts	0	1	2	3	0
9. Grade controls	0	0.5	1	1.5	0.5
10. Natural valley	0	0.5	1	1.5	0.5
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 4)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	0.5
15. Sediment on plants or debris	0	0.5	1	1.5	0
16. Organic debris lines or piles	0	0.5	1	1.5	0.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3		3

C. Biology (Subtotal = 4.75)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	1
19. Rooted upland plants in streambed	3	2	1	0	3
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0.75

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

NC DWQ Stream Identification Form Version 4.11

SFSC1 LOWER

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.6412
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.0741
Total Points: 29 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Intermittent	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 20)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	3
2. Sinuosity of channel along thalweg	0	1	2	3	3
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	3
4. Particle size of stream substrate	0	1	2	3	3
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	3
7. Recent alluvial deposits	0	1	2	3	3
8. Headcuts	0	1	2	3	1
9. Grade controls	0	0.5	1	1.5	0.5
10. Natural valley	0	0.5	1	1.5	0.5
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 4)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	0
15. Sediment on plants or debris	0	0.5	1	1.5	0
16. Organic debris lines or piles	0	0.5	1	1.5	1
17. Soil-based evidence of high water table?	No = 0		Yes = 3		3

C. Biology (Subtotal = 5)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	2
19. Rooted upland plants in streambed	3	2	1	0	3
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

NC DWQ Stream Identification Form Version 4.11

SFSC1 UPPER

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.6426
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.0781
Total Points: 18.5 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Ephemeral	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 8)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	2
2. Sinuosity of channel along thalweg	0	1	2	3	2
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	1
4. Particle size of stream substrate	0	1	2	3	1
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	0
7. Recent alluvial deposits	0	1	2	3	1
8. Headcuts	0	1	2	3	1
9. Grade controls	0	0.5	1	1.5	0
10. Natural valley	0	0.5	1	1.5	0
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	1
15. Sediment on plants or debris	0	0.5	1	1.5	0
16. Organic debris lines or piles	0	0.5	1	1.5	0.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3		3

C. Biology (Subtotal = 6)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	3
19. Rooted upland plants in streambed	3	2	1	0	3
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

NC DWQ Stream Identification Form Version 4.11

SFSC2

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.6426
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.078
Total Points: 27.5 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Intermittent	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 19)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	3
2. Sinuosity of channel along thalweg	0	1	2	3	3
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	2
4. Particle size of stream substrate	0	1	2	3	3
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	2
7. Recent alluvial deposits	0	1	2	3	2
8. Headcuts	0	1	2	3	2
9. Grade controls	0	0.5	1	1.5	0
10. Natural valley	0	0.5	1	1.5	2
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	0.5
15. Sediment on plants or debris	0	0.5	1	1.5	0.5
16. Organic debris lines or piles	0	0.5	1	1.5	0.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3		3

C. Biology (Subtotal = 4)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	1
19. Rooted upland plants in streambed	3	2	1	0	3
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

NC DWQ Stream Identification Form Version 4.11

SFSD1

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.6424
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.0752
Total Points: 19.5 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Intermittent	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 12)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	1
2. Sinuosity of channel along thalweg	0	1	2	3	2
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	2
4. Particle size of stream substrate	0	1	2	3	2
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	1
7. Recent alluvial deposits	0	1	2	3	2
8. Headcuts	0	1	2	3	1
9. Grade controls	0	0.5	1	1.5	0
10. Natural valley	0	0.5	1	1.5	1
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	1
15. Sediment on plants or debris	0	0.5	1	1.5	0
16. Organic debris lines or piles	0	0.5	1	1.5	0.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3		3

C. Biology (Subtotal = 3)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	0
19. Rooted upland plants in streambed	3	2	1	0	3
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

NC DWQ Stream Identification Form Version 4.11

SFSD2

Date: 10-20-2022	**Project/Site:** 1092 Jordan Dam Rd	**Latitude:** 35.6426
Evaluator: K. Hamlin, C. Darnell	**County:** Chatham	**Longitude:** -79.0752
Total Points: 11.5 Stream is at least intermittent if ≥19 or perennial if ≥30	**Stream Determination:** Ephemeral	**Other:** Merry Oaks, NC *e.g. Quad Name*:

A. Geomorphology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	1
2. Sinuosity of channel along thalweg	0	1	2	3	2
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	1
4. Particle size of stream substrate	0	1	2	3	0
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	0
7. Recent alluvial deposits	0	1	2	3	0
8. Headcuts	0	1	2	3	0
9. Grade controls	0	0.5	1	1.5	0
10. Natural valley	0	0.5	1	1.5	0.5
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology (Subtotal = 3)	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	0
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	0
15. Sediment on plants or debris	0	0.5	1	1.5	0
16. Organic debris lines or piles	0	0.5	1	1.5	0
17. Soil-based evidence of high water table?	No = 0		Yes = 3		3

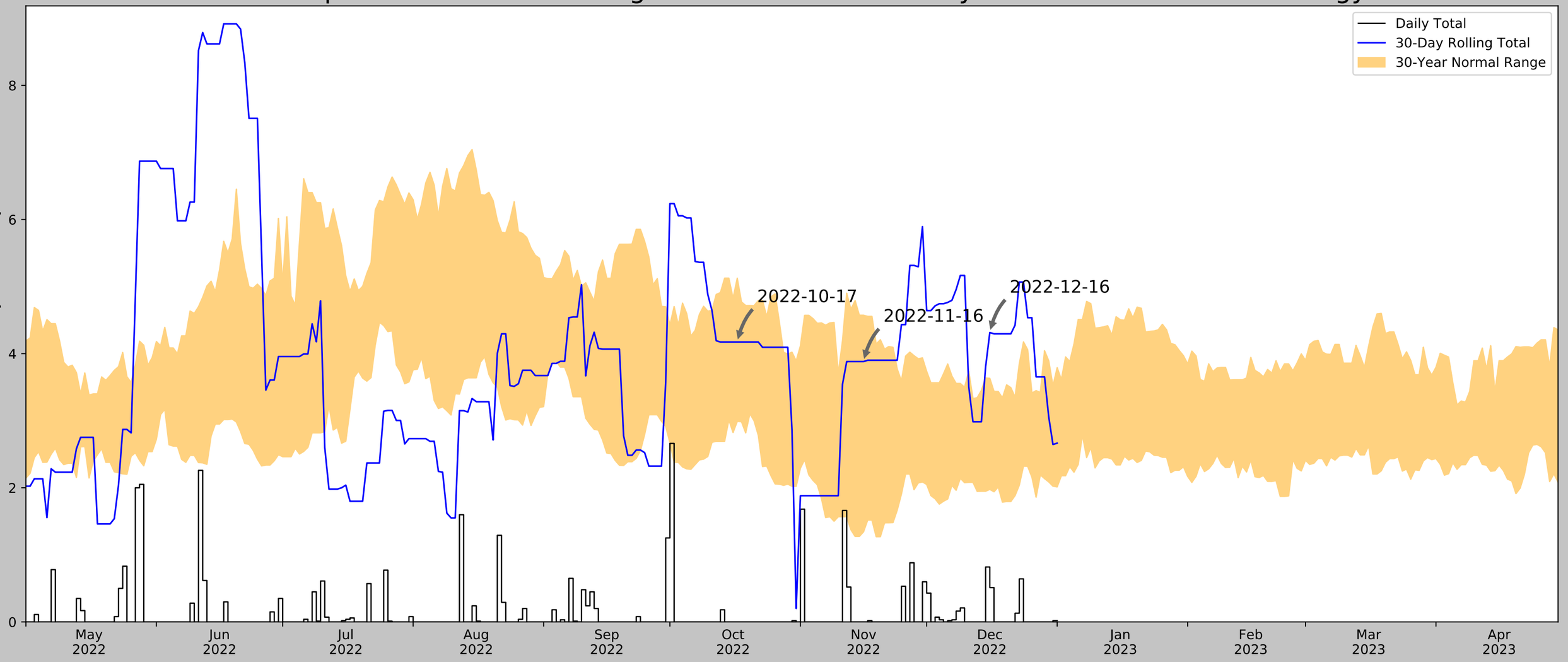
C. Biology (Subtotal = 4)	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	1
19. Rooted upland plants in streambed	3	2	1	0	3
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:		
	Bank Height (feet)	
	Bankfull Width (feet)	
	Water Depth (inches)	
	Channel Substrate	
	Velocity:	
	Clarity:	

Sketch:

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.6398, -79.0785
Observation Date	2022-12-16
Elevation (ft)	236.38
Drought Index (PDSI)	Mild drought (2022-11)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-12-16	1.975984	3.632284	4.314961	Wet	3	3	9
2022-11-16	1.343307	4.572441	3.88189	Normal	2	2	4
2022-10-17	2.98937	5.125984	4.173228	Normal	2	1	2
Result							Wetter than Normal - 15

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SANFORD 8 NE	35.5356, -79.0475	262.139	7.407	25.759	3.524	11291	74
B EVERETT JORDAN DAM	35.6547, -79.0708	310.039	8.332	47.9	4.149	12	14
SANFORD 6.0 N	35.5631, -79.195	319.882	8.507	57.743	4.319	1	0
SANFORD 2.2 NW	35.4989, -79.2105	319.882	9.511	57.743	4.829	0	1
SANFORD 7.1 SE	35.4025, -79.0948	351.05	9.574	88.911	5.16	2	0
SWANN	35.3953, -79.09	350.066	9.984	87.927	5.371	1	0
SANFORD 10.0 N	35.6206, -79.2016	330.053	10.463	67.914	5.419	0	1
CHATHAM WTP	35.7336, -79.0033	308.071	13.904	45.932	6.895	2	0
LILLINGTON	35.4069, -78.8203	149.934	15.573	112.205	8.755	5	0
CARY	35.72, -78.7878	390.092	19.366	127.953	11.193	32	0
APEX	35.7425, -78.8369	450.131	18.553	187.992	11.837	4	0
RALEIGH 4 SW	35.7294, -78.6839	419.948	24.418	157.809	14.841	3	0

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1092 Jordan Dam Road Property – SAW-2021-01467 City/County: Chatham Sampling Date: 12/16/22

Applicant/Owner: Oak Crest Commercial, LLC. State: NC Sampling Point: DPWA1

Investigator(s): Kim Hamlin Section, Township, Range: Moncure

Landform (hillside, terrace, etc.): Drainage Local relief (concave, convex, none): none Slope (%): none

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.6398 Long: -79.0786 Datum: NAD83

Soil Map Unit Name: Mayodan gravelly sandy loam (MgD) NWI classification: R4SBC

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** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

Wetter than Normal Conditions per APT

HYDROLOGY

Wetland Hydrology Indicators:

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

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X 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)
- ____ True Aquatic Plants (B14)
- ____ 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)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 2

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DPWA1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	30	Yes	FAC
2. *Liquidambar styraciflua*	10	Yes	FAC
3. *Betula nigra*	10	Yes	FACW
4. *Acer rubrum*	10	Yes	FAC
5.			
6.			
7.			
	60	=Total Cover	
50% of total cover: 30		20% of total cover:	12
Sapling/Shrub Stratum (Plot size: 15)			
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Ilex opaca*	10	Yes	FACU
3. *Vaccinium corymbosum*	10	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover:	6
Herb Stratum (Plot size: 5)			
1. *Ilex opaca*	5	Yes	FACU
2. *Smilax rotundifolia*	5	Yes	FAC
3. *Vaccinium corymbosum*	5	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	=Total Cover	
50% of total cover: 8		20% of total cover:	3
Woody Vine Stratum (Plot size: 15)			
1. *Gelsemium sempervirens*	10	Yes	FAC
2. *Smilax rotundifolia*	15	Yes	FAC
3.			
4.			
5.			
	25	=Total Cover	
50% of total cover: 13		20% of total cover:	5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 12 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	90	x 3 =	270
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	130 (A)		380 (B)

Prevalence Index = B/A = 2.92

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DPWA1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/3	100					Loamy/Clayey	
2-12	2.5YR 5/1	90	7.5YR 6/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1092 Jordan Dam Road Property – SAW-2021-01467 City/County: Chatham County Sampling Date: 12/16/22

Applicant/Owner: Oak Crest Commercial, LLC State: NC Sampling Point: DPWA2

Investigator(s): Kim Hamlin Section, Township, Range: Moncure

Landform (hillside, terrace, etc.): Drainage Local relief (concave, convex, none): none Slope (%): none

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.6398 Long: -79.0785 Datum: NAD83

Soil Map Unit Name: Mayodan gravelly sandy loam (MgD) NWI classification: none

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:
Wetter than Normal Conditions per APT

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

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): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DPWA2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	50	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	50	=Total Cover	
50% of total cover: 25		20% of total cover: 10	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Pinus taeda*	10	Yes	FAC
3. *Acer rubrum*	10	Yes	FAC
4. *Juniperus virginiana*	5	No	FACU
5. *Quercus nigra*	5	No	FAC
6.			
7.			
8.			
9.			
	40	=Total Cover	
50% of total cover: 20		20% of total cover: 8	
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Woody Vine Stratum (Plot size: 15)			
1. *Smilax rotundifolia*	15	Yes	FAC
2.			
3.			
4.			
5.			
	15	=Total Cover	
50% of total cover: 8		20% of total cover: 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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	105 (A)		320 (B)

Prevalence Index = B/A = 3.05

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DPWA2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5Y 5/3	100					Loamy/Clayey	
8-14	2.5Y 7/3	95	7.5YR 6/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1092 Jordan Dam Road Property – SAW-2021-01467 City/County: Chatham County Sampling Date: 12/16/22

Applicant/Owner: Oak Crest Commercial, LLC State: NC Sampling Point: DPWC1

Investigator(s): Kim Hamlin Section, Township, Range: Moncure

Landform (hillside, terrace, etc.): Drainage Local relief (concave, convex, none): none Slope (%): none

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 36.6425 Long: -79.0780 Datum: NAD83

Soil Map Unit Name: Mayodan Brickhaven complex (MhE) NWI classification: none

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** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Wetter than Normal Conditions per APT

HYDROLOGY

Wetland Hydrology Indicators:

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

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X 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)
- ____ True Aquatic Plants (B14)
- ____ 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)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DPWC1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	5	Yes	FAC
2. *Liquidambar styraciflua*	5	Yes	FAC
3. *Acer rubrum*	5	Yes	FAC
4.			
5.			
6.			
7.			
	15	=Total Cover	
50% of total cover: 8		20% of total cover: 3	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Ilex opaca*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	10	=Total Cover	
50% of total cover: 5		20% of total cover: 2	
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	25 (A)		85 (B)

Prevalence Index = B/A = 3.40

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DPWC1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

U.S. Army Corps of Engineers

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 1092 Jordan Dam Road Property – SAW-2021-01467 City/County: Chatham Sampling Date: 12/16/22

Applicant/Owner: Oak Crest Commercial, LLC. State: NC Sampling Point: DPWC2

Investigator(s): Kim Hamlin Section, Township, Range: Moncure

Landform (hillside, terrace, etc.): Drainage Local relief (concave, convex, none): none Slope (%): none

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.6424 Long: -79.0781 Datum: NAD83

Soil Map Unit Name: Mayodan-Brickhaven complex (MhE) NWI classification: none

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**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	**Yes** ____	**No** X
Wetland Hydrology Present?	Yes X	No ____			

Remarks:
Wetter than Normal Conditions per APT

HYDROLOGY

Wetland Hydrology Indicators:

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

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X 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)
- ____ True Aquatic Plants (B14)
- ____ 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)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ____

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DPWC2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	20	Yes	FAC
2. *Pinus taeda*	20	Yes	FAC
3. *Ilex opaca*	15	Yes	FACU
4.			
5.			
6.			
7.			
	55 =Total Cover		
50% of total cover: 28	20% of total cover: 11		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Ilex opaca*	15	Yes	FACU
2. *Liquidambar styraciflua*	10	Yes	FAC
3. *Acer rubrum*	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
	35 =Total Cover		
50% of total cover: 18	20% of total cover: 7		
Herb Stratum (Plot size: 5)			
1. *Hexastylis arifolia*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5 =Total Cover		
50% of total cover: 3	20% of total cover: 1		
Woody Vine Stratum (Plot size: 15)			
1. *Vitis rotundifolia*	10	Yes	FAC
2.			
3.			
4.			
5.			
	10 =Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	75	x 3 =	225
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	105 (A)		345 (B)

Prevalence Index = B/A = 3.29

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DPWC2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					Loamy/Clayey	
4-12	10YR 4/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Stream ID:	SFSB3

NC DWQ Stream Identification Form Version 4.11

Date:	12/16/22	Project/Site:	Jordan Dam Road	Latitude:	35.6408
Evaluator:	Kim Hamlin	County:	Chatham	Longitude:	-79.0778
Total Points: Stream is at least intermittent if ≥ 19 or perennial if ≥ 30	25	Stream Determination:	Intermittent	Other: *e.g. Quad Name*:	Merry Oaks, NC

A. Geomorphology Subtotal = 15.5	Absent	Weak	Moderate	Strong	SCORE
1[a]. Continuous bed and bank	0	1	2	3	3
2. Sinuosity of channel along thalweg	0	1	2	3	3
3. In-Channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	1
4. Particle size of stream substrate	0	1	2	3	1
5. Active/relic floodplain	0	1	2	3	0
6. Depositional bars or benches	0	1	2	3	1
7. Recent alluvial deposits	0	1	2	3	2
8. Headcuts	0	1	2	3	2
9. Grade controls	0	0.5	1	1.5	1
10. Natural valley	0	0.5	1	1.5	1.5
11. Second or greater order channel	No = 0		Yes = 3		0

[a] artificial ditches are not rated; see discussions in manual.

B. Hydrology Subtotal = 6.5	Absent	Weak	Moderate	Strong	SCORE
12. Presence of Baseflow	0	1	2	3	1
13. Iron oxidizing bacteria	0	1	2	3	0
14. Leaflitter	1.5	1	0.5	0	0.5
15. Sediment on plants or debris	0	0.5	1	1.5	1.5
16. Organic debris lines or piles	0	0.5	1	1.5	0.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3		3

C. Biology Subtotal = 3	Absent	Weak	Moderate	Strong	SCORE
18. Fibrous roots in streambed	3	2	1	0	0
19. Rooted upland plants in streambed	3	2	1	0	3
20. Macrobenthos (note diversity and abundance)	0	1	2	3	0
21. Aquatic Mollusks	0	1	2	3	0
22. Fish	0	0.5	1	1.5	0
23. Crayfish	0	0.5	1	1.5	0
24. Amphibians	0	0.5	1	1.5	0
25. Algae	0	0.5	1	1.5	0
26. Wetland plants in streambed	FACW=0.75; OBL=1.5 Other=0				0

*perennial stream may also be identified using other methods. See p.35 of manual.

Notes:

Bank Height (feet)	2
Bankfull Width (feet)	3
Water Depth (inches)	2
Channel Substrate	Silt, Sand, Rock
Velocity:	Slow
Clarity:	Clear

Sketch:

PHOTO LOG

Photo 1: Looking upstream at flag SA05 (start ephemeral).

Photo 2: SFSA2 location looking downstream.

Photo 3: Stream SA (start intermittent).

Photo 4: SA Ephemeral channel at SFSA4 location.

Photo 5: Looking upstream at Flag SA03 (start intermittent).

Photo 6: Looking upstream at SFSB2 location.

Photo 7: WBDP2 location looking toward Wetland WB (photo right).

Photo 8: Typical view of Stream SB (ephemeral).

Photo 9: SFSB2 location looking downstream at property line.

Photo 10: SFSC1 (Lower) location below confluence with Stream SD.

Photo 11: SFSC1 (Upper) location looking downstream.

Photo 12: Looking upstream at SC (start intermittent) from SFSC2 location.

Photo 13: Looking upstream at SC (Ephemeral) from SFSC1 (Upper) location. Water flows along logging road ditch.

Photo 14: Stream SD (Ephemeral) at SFSD1 location.

Photo 15: Looking downstream from SD100 (Start intermittent) at SFSD1 location.

Photo 16: Typical view of Stream SD (Intermittent).

Photo 17: Wetland WB-4.

Photo 18: Wetland WA-2.

Photos below were taken on 12-16-2022

Photo 19: Stream SB at SFSB3/ SB100 – Start Intermittent Stream looking downstream.

Photo 20: DPWC2 (foreground) looking toward DPWC1 and Wetland WC-6 at road crossing.

Photo 21: Wetland WE looking south toward road crossing and off-site pond.

Photo 22: DPWA2 (foreground) looking toward DPWA1 and Wetland WA-1.

Photo 23: Wetland WC-2 looking south.

Photo 24: Wetland WB-1 and Stream SB (intermittent).

County of Chatham, NC

12/16/2022

WP-22-643

On-site Riparian Buffer Review

Status: Active

Date Created: Nov 10, 2022

Applicant

Kim Hamlin
khamlin@sageecological.com
3707 Swift Drive
Raleigh, North Carolina 27606-2543
9196227888

Primary Location

1092 Jordan Dam Rd
Moncure, North Carolina 27559

Owner:

OAK CREST COMMERCIAL LLC
1024 JORDAN DAM RD MONCURE , NC 27559

Project Information

Review Type

Major Subdivision

Before continuing please complete a phone or email conversation with Paula Phillips of the Planning Department. (919) 542-8276 paula.phillips@chathamcountync.gov

If your project will result in a review of greater than 10 acres please contact a private consulting firm to complete the surface water determination. For stream determinations the consultant must have successfully completed the NCDWQ/NC State University Surface Waters Classification. For wetland delineations the consultant must demonstrate at least 2 years of experience delineating jurisdictional wetlands in accordance with the Eastern Mountains and Piedmont Regional Supplement to the 1987 US Corps of Engineers Wetland Delineation Manual. Please visit the Watershed Protection Department website for a list of consultants that regularly complete work within Chatham County.

If your project is a Major Subdivision please contact a private consulting firm to complete the surface water determination. For stream determinations the consultant must have successfully completed the NCDWQ/NC State University Surface Waters Classification. For wetland delineations the consultant must demonstrate at least 2 years of experience delineating jurisdictional wetlands in accordance with the Eastern Mountains and Piedmont Regional Supplement to the 1987 US Corps of Engineers Wetland Delineation Manual. Please visit the Watershed Protection Department website for a list of consultants that regularly complete work within Chatham County.

Number of Features Found

23

Feature is defined as any surface water that is subject to Chatham County Riparian Buffers (streams, wetlands, ponds). Include each stream type transition, with corresponding forms, and individual wetland in your total. Total is total features found before USACE or County site visit.

Date Field Work Was Completed

10/20/2022

Has USACE on-site review been scheduled or completed

--

A Minor Subdivision is the creation of 5 or less new lots. If the original tract is over 10 acres and the subdivision results in the total of that tract becoming

less than 10 acres then two lots have been created by default.

Parcel Information

Parcel Number (s)
11433

Watershed District
WS-IVP

Is the property within the Jordan Lake Watershed
No

Property Owner Name
Oak Crest Commercial, LLC

Location of Tract (address if applicable)
1092 Jordan Dam Road

Driving Directions from Pittsboro
Drive south on Moncure Pittsboro Road, turn left on Jordan Dam Road, property is on the right

Subdivision Name (if applicable)
N/A

Please describe access issues (provide gate codes, or information for scheduling site visit)
gate to property can be opened if notice is given

Applicants Information

Are you the Landowner or an Agent
Agent

Full Name
Kim Hamlin

Primary Phone Number
919-622-7888

Primary Email
khamlin@sageecological.com

Mailing Address
3707 Swift Creek

City/State
Raleigh, NC

Zip Code
27606

How would you like to receive the completed review letter?

I would like to pick up the completed Riparian Buffer Review at the County Office
☐

I would like the completed Riparian Buffer Review mailed to me
☐

I would like the completed Riparian Buffer Review e-mailed to me.
☑

Statement of Understanding

I have read and understand the regulations of the Watershed Protection Ordinance. Section 304, and I agree to adhere to these associated policies and guidelines.

Name
Kimberly Hamlin

New Field
11/08/2022

Attachments

pdf Authorization To Enter Property - signed.pdf
Uploaded by Kim Hamlin on Nov 10, 2022 at 3:47 pm

pdf

Chatham Agent Authorization Form - signed.pdf
Uploaded by Kim Hamlin on Nov 10, 2022 at 3:47 pm

pdf 1092 Jordan Dam Rd Riparian Buffer Table and Photos.pdf
Uploaded by Kim Hamlin on Nov 10, 2022 at 4:45 pm

pdf Figure3_EnvSketchMap.pdf
Uploaded by Kim Hamlin on Nov 10, 2022 at 4:45 pm

pdf NCDWR Stream Data Forms.pdf
Uploaded by Kim Hamlin on Nov 8, 2022 at 1:29 pm

pdf Figure2_SoilSurveyMap.pdf
Uploaded by Kim Hamlin on Nov 8, 2022 at 10:26 am

pdf Figure1_USGSMap.pdf
Uploaded by Kim Hamlin on Nov 8, 2022 at 10:26 am

History

Date	Activity
Nov 8, 2022 at 10:05 am	Kim Hamlin started a draft of Record WP-22-643
Nov 8, 2022 at 10:06 am	Kim Hamlin altered Record WP-22-643, changed ownerEmail from "" to "nate@koscary.com"
Nov 8, 2022 at 10:06 am	Kim Hamlin altered Record WP-22-643, changed ownerPhoneNo from "" to "919-730-4920"
Nov 8, 2022 at 10:06 am	Kim Hamlin altered Record WP-22-643, changed ownerStreetNo from "" to ""
Nov 10, 2022 at 4:45 pm	Kim Hamlin submitted Record WP-22-643
Nov 10, 2022 at 4:45 pm	approval step Intake Approvalwas assigned to Phillip Cox on Record WP-22-643
Nov 15, 2022 at 10:32 am	Drew Blake unassigned approval step Intake Approval from Phillip Cox on Record WP-22-643
Nov 15, 2022 at 10:32 am	Drew Blake assigned approval step Intake Approval to Drew Blake on Record WP-22-643
Nov 22, 2022 at 10:34 am	Drew Blake approved approval step Intake Approval on Record WP-22-643
Nov 22, 2022 at 10:34 am	Drew Blake assigned approval step Field Review to Drew Blake on Record WP-22-643
Nov 28, 2022 at 10:58 am	Kim Hamlin added a guest: nate@koscary.com to Record WP-22-643
Dec 1, 2022 at 11:25 am	completed payment step Major Subdivision Riparian Buffer Review Fee on Record WP-22-643
Dec 1, 2022 at 11:25 am	changed the deadline to Dec 15, 2022 on approval step Field Review on Record WP-22-643

Timeline

Label		Status	Activated	Completed	Assignee	Due Date
✓	Intake Approval	Complete	Nov 10, 2022 at 4:45 pm	Nov 22, 2022 at 10:34 am	Drew Blake	-
$	Major Subdivision Riparian Buffer Review Fee	Paid	Nov 22, 2022 at 10:34 am	Dec 1, 2022 at 11:25 am	-	-
✓	Field Review	Active	Dec 1, 2022 at 11:25 am	-	Drew Blake	12/15/2022
📄	Major Subdivision Riparian Buffer Confirmation Report	Inactive	-	-	-	-

CHATHAM COUNTY

AUTHORIZED AGENT FOR FORM

PROPERTY LEGAL DESCRIPTION:

LOT NO. 11433 PARCEL ID (PIN) 9678 00 68 0000 PARCEL SIZE 52.13

STREET ADDRESS: 1092 Jordan Dam Road

Please print:
Property Owner: Oak Crest Commercial, LLC - Nate Byelick

Property Owner: _____

The undersigned owner(s) of the above described property, do hereby authorize

Kim Hamlin (Contractor / Agent), of Sage Environmental Services, Inc (Name of consulting firm if applicable)

to act on my/our behalf and take all actions, I/we could have taken if present, necessary for the processing, issuance and acceptance of reviews, inspections, or permits and any and all standard and special conditions attached to these approvals. The activities authorized include the following (**Check all that apply**):

☐ **Check here for all of the below options.**

☐ Building Permit
☐ Zoning Compliance Permits
☑ Floodplain Determination
☐ Soil Erosion & Sedimentation Control Permit
☐ Permits to install, repair, evaluate, or expand onsite wastewater system(s)
☐ Evaluation/inspection/permitting of a private drinking water well(s).
☑ Riparian Buffer Review pursuant to §304 of the Chatham Co. Watershed Protection Ordinance.
☐ Other: _____

Property Owner's Address (if different than property above):
PO Box 148, Moncure, NC 27559

Telephone: 919-730-4920 E-mail: nate@koscary.com

We hereby certify the above information submitted in this application is true and accurate to the best of our knowledge.

Owner Authorized Signature
Date: 11/8/22

Kim Hamlin
Agent Authorized Signature
Date: 11/8/2022

CHATHAM COUNTY
NORTH CAROLINA

Watershed Protection Department

P.O. Box 548
Pittsboro, NC 27312

Website: www.chathamnc.org

Authorization to Enter Property Form

Date: 11/8/2022

PARCEL No. (AKPAR) 11433

I, (print name) Nate Byelick (Oak Crest Commercial, LLC), as owner of the property described above, or as a representative of the owner(s) do hereby convey permission to Chatham County staff to enter the property at their convenience to conduct a surface water identification (SWID) necessary to determine whether or not water features on my property are subject to the riparian buffer regulations described in Section 304 of the Chatham County Watershed Protection Ordinance. The SWID will be public record and on file at the Planning and Watershed Protection Departments, and may be requested in the future for review by interested parties.

I understand that stream delineations for the property listed above will be made by County staff only once and that if future subdivisions are proposed within this property boundary, it will require a surface water identification by a private consultant at the property owner's expense.

Nate Byelick
(Print Owner's Name)

Nathan Byelick
Nathan Byelick (Nov 8, 2022 15:01 EST)
(Signature of Owner)
(Date)

Kim Hamlin
(Print Authorized Agent Name)

Kim Hamlin
(Signature of Authorized Agent)
(Date)