

WETLANDS EVALUATION – 315-ACRES +/-BATTLESHIP ROAD SITE CAMDEN, SOUTH CAROLINA EAS PROJECT NO.: 23-5142

> Prepared for: Carlyle Development, LLC 11 Summit Lane Greenville, DE 19807

Prepared By: EAS PROFESSIONALS, INC. 9 Pilgrim Road Greenville, South Carolina 29607

Phone: (864) 354-9423

Report Prepared By: Mr. Trey C. Trickett Inspection Date: July 19th – 21st, 2023 Report Date: August 2nd, 2023



August 2nd, 2023

Carlyle Development, LLC 11 Summit Lane Greenville, DE 19807

- Attention: Mr. Stuart Grant sgratesq@gmail.com Cell: (302) 528-1200
- Reference: Wetland Delineation Report 315-acres +/-, Battleship Road Site Camden, Kershaw County, South Carolina TMS #'s 270-00-00-014 (251-acres +/-), a portion of C270-00-00-013 (Approximately 60 of 90-acres +/- total), and C270-15-00-003 (4-acres) EAS Project No.: EAS 23-5142

Mr. Grant:

EAS Professionals, Inc. (EAS) has performed a field evaluation for potential jurisdictional features under sections 401 and 404 of the federal Clean Water Act (CWA) on an approximately 315-acres (+/-) site consisting of two entire and one partial Kershaw County tax parcels referenced above situated between the city limits of Camden, South Carolina (Appendix A; Figures 1 and 2). The goal of this evaluation was to identify potentially jurisdictional features within the project boundaries so that development plans can minimize and/or avoid impacts to these features.

The subject site was walked and evaluated for potential jurisdictional features also referred to as "waters of the United States". Waters of the United States (WOTUS) include linear features such as perennial streams and rivers as well as adjoining wetlands and open water features. Our investigation identified what we believe to be one (1) perennial stream (2,182 linear feet), three (3) intermittent streams (1,432 linear feet total), five (5) wetland areas (39.9-acres total), and one (1) open water feature (0.37-acre) located within the approximate site boundary.



Note, although we have identified on-site features as likely or potentially jurisdictional, only the US Army Corps of Engineers (USACE) has the authority to officially rule on the jurisdictional status of a feature. EAS recommends coordination with the USACE if any features identified in this report are to be impacted, including the excavated ditches observed on site.

It is important to note that at the time of this report, the USACE has suspended review of jurisdictional determinations that involve possible isolated or adjacent wetlands without direct surface water connections to other jurisdictional waters, such as those fed by precipitation runoff only, until they receive guidance on how to address the recent rulings by the Supreme Court on Sackett vs. Environmental Protection Agency (EPA). Based on desktop review of the wetland areas that continue off site without an onsite connection to a tributary (Wetland 5), and field observations, EAS believes all wetlands within the project area will be considered jurisdictional WOTUS, since evidence suggests Wetland 5 is connected to an unnamed tributary of Bolton Branch south of the site. The excavated ditches on site do not connect two WOTUS and appear to have been created entirely in upland areas. Based on the current guidance, EAS believes these features will be considered non-jurisdictional and we do not anticipate that ruling to change with the future guidance.

Sincerely,

EAS PROFESSIONALS, INC.

Report Prepared By:

C. Trickett

Environmental Project Manager

Report Reviewed By: Ashlev Brown, PE enior Engineer/Biologist



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1 Site Description

The subject Site is located at 34.257913° N, 80.621750° W in Kershaw County, South Carolina. It is approximately 315 acres in size comprised of three Kershaw County tax parcels [TMS #'s 270-00-00-014 (251-acres +/-), a portion of C270-00-00-013 (Approximately 60 of 90-acres +/- total), and C270-15-00-003 (4-acres)]. Access to the Site is via Battleship Road (Appendix A; Figures 1 and 2).

The Site is depicted on the Rabon Crossroads (2020), and Camden North (2020) U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Appendix A; Figure 1). The Site is in the Atlantic & Gulf Coastal Plain physiographic region and is located within the Wateree subbasin (Hydrologic Unit Code or HUC: 03050104).

The project area consists mainly of equine facilities and their attendant features (Appendix B; Photographs 1 - 3). Both the bottomland and upland wooded areas are mainly mixed, uneven-aged, forested areas (Appendix B; Photographs 4 - 5). The southern boundary and other areas of the project site contain thick bamboo forests (*Phyllostachys* spp.). Species composition in the mixed forested areas consists mostly of overstory species such as various pine species (*Pinus* spp.), oak species (*Quercus* spp.), red maple (*Acer rubrum*) and southern magnolia (*Magnolia grandifolia*). Midstory species in the forested area consisted primarily of red maple, Chinese privet (*Ligustrum sinense*), redbay (*Persea borbonia*), switch cane (*Arundinaria tecta*).

The topography of the Survey Area ranges from 0 to 10 percent slopes and elevations range from approximately 185 to 260 feet above mean sea level (AMSL). Surface water on the Site flows generally southward or northwestward towards Camp Creek and Bolton Branch or their unnamed tributaries (Appendix A; Figure 1).

Soils in the Survey area consist of loams, sandy loams, loamy sands, or sands with slopes ranging from 0 to 10 percent. Figure 3 shows the soil mapping units that were identified using the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) county soil survey (Appendix A; Figure 3). These soils are described as follows: Alpin sand (ApB and ApC), Norfolk loamy sand (NoB), and Wagram sand (WaB) are considered excessively well drained to moderately well drained and non-hydric. Goldsboro loamy sand (GoA) is considered moderately well drained and predominantly non-hydric with minor hydric components. Rains sandy loam (Ra) and Pantego loam (Pe) are considered somewhat poorly drained to very poorly drained and predominantly hydric (Appendix A; Figure 3).

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) indicates that there are approximately 0.23-acre of riverine wetland area, and 35.97-acres of forested wetland (PFO) area located within the approximate site boundary (Appendix A; Figure 4). The National Hydrography Dataset (NHD) indicates that there are approximately 1,382 linear feet of stream/river features within the approximate site boundary (Appendix A; Figure 4). The National Hydrography Dataset (NHD) indicates that there are approximately 1,382 linear feet of stream/river features within the approximate site boundary (Appendix A; Figure 4). The NWI and NHD use several sources of data to estimate the extent of these potential streams and wetland areas, but they have not been field verified so these estimates are not conclusive. The USACE relies on field verified data such as that presented in this report to establish limits of jurisdictional features.



According to the latest Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map 45045C effective May 4, 2021, there are approximately 6.89-acres of designated FEMA floodplain areas within the Site boundaries (Appendix A; Figure 5).

2 Methodology

Waters of the U.S., including wetlands, are federally protected under Section 404 of the Clean Water Act (CWA). The definition of a wetland is "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (40 Code of Federal Regulations §120.2).

EAS identified and delineated wetlands and waters of the U.S. at the Site on July 17th and July 18th, 2023. Delineations were performed in accordance with the three-parameter methodology outlined in the 1987 United States Army Corps of Engineers (USACE) Wetlands Delineation Manual (Manual), the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic & Gulf Coastal Plain (Version 2.0), and per the most recent guidance issued jointly by the U.S. Environmental Protection Agency and the USACE that resulted from the Rapanos vs. U.S. and Carabell vs. U.S. Supreme Court decisions. These cases resulted in assigning jurisdictional status to relatively permanent waters (RPWs), wetlands, and waters with "significant nexus" to RPWs (adjacent wetlands). This guidance has since been overturned in a recent Supreme Court decision on Sackett vs. EPA regarding the connectivity between isolated and adjacent wetlands to nearby RPWs; however, updated federal guidance on how to address the ruling has yet to be issued.

The three parameters required for identifying a jurisdictional wetland are as follows:

■ The presence of hydrophytic vegetation - Hydrophytic vegetation is determined by the dominant species present at any given data point, where each species is assigned a plant indicator status as to its preference/tolerance for wetland conditions. Data points having dominant species that are greater than 50 percent facultative or wetter are considered to meet the hydrophytic vegetation criterion.

• The presence of hydrology - Each data point is evaluated for evidence of wetland hydrology or persistent saturation or inundation of soils. The Manual identifies both primary and secondary hydrologic indicators, and one primary indicator or two secondary indicators must be observed in order for the sample point to meet the hydrology criterion. Indicators include saturated soils in the upper 12 inches, inundation, water marks, drift lines, sediment deposits, drainage patterns, oxidized root channels in the upper 12 inches, water-stained leaves, local soil survey data, and others.

■ The presence of hydric soils - Soil in each sample plot is sampled with a sharpshooter shovel and/or soil auger to a depth of at least 20 inches, or to the B horizon, whichever appears first. The delineator obtains a profile description and identifies hydric soil indicators based on soil texture(s) and soil color(s). Soil textures are determined by manual tactile sampling. Soil colors (in a moist condition) are compared to Munsell Soil-Color charts (2009 Edition, 2015 production year, Munsell Color, Grand Rapids, MI, USA) to determine hue, value, and chroma to determine if hydric characteristics are present.



An area is classified as a wetland only in instances where all three parameters exist under normal circumstances. If one or more criteria are absent, the area is deemed upland. Completed data forms are presented in Appendix C.

Stream flow regimes (Perennial, intermittent, and ephemeral) were determined using the North Carolina Division of Water Quality (NC DWQ) Stream Identification Form Version 4.11, which is considered an industry standard for stream identification in the Southeastern United States (South Carolina does not have a published comparable standard). Completed NC DWQ Stream Identification Forms are presented in Appendix D.

To identify wetlands and waters within the Site, the area was traversed on foot or with the use of a vehicle. Data points were taken within the Site to verify or refute the presence of wetland soils, vegetation, and hydrology. Where wetland areas were confirmed through the three-parameter process, limits of these assumed wetland areas were established by spot checking soils to the perimeter of the wetland to determine where they changed from hydric to non-hydric.

EAS utilized a Trimble TDC600 and Trimble DA2 Global Positioning System (GPS) to obtain coordinates for the wetland data points, wetland boundaries, and waterbody boundaries. This unit is capable of submeter accuracy and allows the digital data to be incorporated into drawings for mapping/design purposes.

3 Results

The field-based delineation identified one (1) perennial stream (2,182 linear feet), three (3) intermittent streams (1,432 linear feet total), five (5) wetland areas (39.9-acres total), and one (1) open water feature (0.37-acre) within the approximate site boundary (Appendix A; Figure 6). Findings are presented in Tables 3-1 and 3-2 and are described in the sections below. A photographic log is presented in Appendix B, completed Wetland Determination Data Sheets are presented in Appendix C and completed Stream Identification Forms are presented in Appendix D.

3.1 Wetlands

During the survey, EAS personnel identified what we believe to be five (5) wetland areas (39.9-acres total) within the approximate site boundary (Appendix B; Photographs 6 - 10, Appendix C). Characteristics and descriptions for the wetland area can be found below in Table 3.1.



Table 3.1: Wetlands Identified on Site

Feature	Cowardin Class	Area (Acres)	Hydrologic Indicators	Dominant Vegetation	Soil Indicator	Notes
Wetland 1	PFO1B	9.02	Saturation, water-stained leaves, oxidized rhizospheres on living roots, presence of reduced iron, drainage patterns, moss trim lines, crayfish burrows, geomorphic position, FAC- neutral test	Swamp tupelo (Nyssa biflora), sugarberry (Celtis laevigata), southern magnolia, netted chain fern (Woodwardia areolata), cinnamon fern (Osmundastrum cinnamomeum), and false nettle (Boehmeria cylindrica)	Depleted Matrix, Redox Depression	Bottomland hardwood wetland area bound by topography that encompasses Non-Wetland Waters A and B. An existing trail (previously placed fill material) bisects the wetland area from north to south near its eastern extent
Wetland 2	PFO1B	1.81	Saturation, drift deposits, sparsely vegetated concave surface, drainage patterns, geomorphic position	Tuliptree (<i>Liriodendron</i> <i>tulipifera</i>), sweetgum (<i>Liquidambar</i> <i>styraciflua</i>), Chinese privet, redbay, Japanese stiltgrass (<i>Microstegium</i> <i>vimineum</i>), false nettle, and Chinese wisteria (<i>Wisteria sinensis</i>)	Stratified layers, 5 cm Mucky mineral, Umbric surface	Bottomland hardwood wetland area encompassing Non- Wetland Water A bound by topography to the south and the property boundary to the north.
Wetland 3	PFO1B	1.31	Saturation, water-stained leaves, drainage patterns, crayfish burrows, geomorphic position, FAC- Neutral test	Water oak (Quercus nigra), sweetgum, tuliptree, red maple, southern magnolia, longleaf pine (Pinus palustris), redbay, slender woodoats (Chasmanthium laxum), netted chain fern, common rush (Juncus effusus), woodvamp (Decumaria barbara), muscadine (Vitis rotundifolia)	Umbric surface	Forested wetland area encompassing and drained by Non-Wetland Water C.



Feature	Cowardin Class	Area (Acres)	Hydrologic Indicators	Dominant Vegetation	Soil Indicator	Notes
Wetland 4	PFO1B	1.83	Saturation, water-stained leaves, drainage patterns, crayfish burrows, geomorphic position, FAC- Neutral test	Water oak, sweetgum, tuliptree, red maple (Acer rubrum), southern magnolia, longleaf pine (Pinus palustris), redbay, slender woodoats (Chasmanthium laxum), netted chain fern, common rush (Juncus effusus), woodvamp (Decumaria barbara), muscadine (Vitis rotundifolia)	Umbric surface	Forested wetland area encompassing and drained by Non-Wetland Water E.
Wetland 5	PFO1B	25.42	Saturation, crayfish burrows, geomorphic position, FAC- neutral test	Tuliptree, redmaple, southern magnolia, redbay, cinnamon fern, netted chain fern, yellow jessamine (Gelsemium sempervirens)	Sandy redox	Forested wetland area encompassing majority of the southwestern quadrant of the site. Surface waters flow southward towards a culvert underneath the southern-adjacent railway.
Total	-	39.39	-	-	-	-

Based on their ecological settings, all wetland areas listed in Table 3.1 above will likely be considered jurisdictional (Appendix A; Figure 6). Wetland 1 and Wetland 5 have previously installed trails/roads through their boundaries. Impacts to these areas will likely not be included in impact assessments during any future permitting activities.

3.2 Non-Wetland Waterbodies

During the survey, EAS identified one (1) perennial stream (2,182 linear feet), three (3) intermittent streams (1,432 linear feet total), and one (1) open water feature (0.37-acre) within the approximate site boundary (Appendix A; Figures 6a and 6b, Appendix B; Photographs 11 - 15, Appendix D). Characteristics and descriptions of the stream on Site can be found in Table 3.2 below.



Table 3.2: Non-Wetland Waterbodies Identified on Site

Feature	Cowardin Class	Area (Acres)	Length (Linear Feet)	Average Ordinary High Water (OHW) Mark Width (Feet)	Notes
Non-Wetland Water A	R5UB	0.247	2,182	5	An unnamed perennial tributary that enters the project area near the northwestern corner of the project site from the outfall of an off-site pond to the west. Flows underneath Carter Street and parallels the northern boundary
Non-Wetland Water B	R4SB4	0.045	448	5	An unnamed intermittent tributary that originates at a headcut within Wetland 1 and flows southeastward towards its confluence with Non-Wetland Water A
Non-Wetland Water C	R4SB4	0.047	418	5	An unnamed intermittent tributary that enters the project area from a culvert underneath Chestnut Street flowing southward before discharging into Non-Wetland Water D.
Non-Wetland Water D	PUBHx	0.37	-	_	An excavated freshwater pond (Open Water Feature) in-line with Non-Wetland Waters C and E and Wetlands 3 and 4.
Non-Wetland Water E	R4SB4	0.064	566	5	An unnamed intermittent tributary that originates at the outfall of Non-Wetland Water D flowing southward towards a culvert underneath the adjacent railway
Totals	-	Streams: 0.403 Open Water: 0.37	Streams: 3,614	-	-

Based on their ecological setting, the waterbodies listed in Table 3.2 will be considered jurisdictional (Appendix A; Figure 6).

3.3 Potentially Non-Jurisdictional Features

EAS identified three features that appear to have been excavated to drain surface waters into Wetland 5. We believe that these ditches have been excavated wholly in and drain only dry land and do not carry relatively permanent flow of water. Based on this description, these features would be considered excluded features (not WOTUS) under the most recent WOTUS definition revision, dated December 30th, 2022.



The features are roughly four feet in width and between two and four feet in depth. Soils at the bottom of the channel do exhibit hydric characteristics and there does appear to be hydrophytic vegetation within the channels (Appendix B; Photographs 16 – 18).

4 Conclusion

EAS identified what we believe to be one (1) perennial stream (2,182 linear feet), three (3) intermittent streams (1,432 linear feet total), five (5) wetland areas (39.9-acres total), and one (1) open water feature (0.37-acre) located within the approximate site boundary. These features are depicted on Figures 6, 6a, and 6b. All streams, wetlands, and open water features identified in this report will likely be considered jurisdictional under the CWA and regulated by the USACE. Further, the jurisdictional status of the excavated ditches on site should also be verified by the USACE if impacts to these features are proposed.

Although these findings were based upon a field survey utilizing USACE-approved protocols, the USACE (Charleston District) must make the official determinations on the presence or absence of jurisdictional wetlands on the Site through the jurisdictional determination process. At the time of this report, the USACE has suspended review of jurisdictional determinations that involve possible isolated, or non-jurisdictional waters until they receive guidance on how to address the recent rulings by the Supreme Court on Sackett vs. EPA; however, since we did not identify isolated or adjacent wetlands without direct surface water connections, we do not anticipate this hold to affect this project.



APPENDIX A:

FIGURE 1: USGS TOPOGRAPHIC MAP FIGURE 2: SITE AERIAL MAP FIGURE 3: USDA SOILS MAP FIGURE 4: NWI AND NHD MAP FIGURE 5: FEMA FLOODPLAIN MAP FIGURE 6: DELINEATION RESULTS INDEX MAP FIGURE 6A AND 6B: DELINEATION RESULTS MAP FIGURE 7: PHOTOGRAPHS AND DATA POINTS MAP



Service Layer Credits: Copyright: 2013 National Geographic Society, i-cubed; NAD 1983 StatePlane South Carolina FIPS 3900 Feet

Date Created: 07/13/2023



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Date Created: 07/14/2023



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Date Created: 07/14/2023 Soils Data Source: USDA WebSoil Survey



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Date Created: 07/14/2023



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Date Created: 07/14/2023 GPS Data Collected: 7/19/2023 - 7/21/2023 EAS Professionals, Inc.



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Date Created: 07/20/2023 GPS Data Collected: 7/17/2023 - 7/18/2023 EAS Professionals, Inc.



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Date Created: 07/20/2023 GPS Data Collected: 7/17/2023 - 7/18/2023 EAS Professionals, Inc.



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Date Created: 07/24/2023 GPS Data Collected: 7/19/2023 - 7/21/2023 EAS Professionals, Inc.



APPENDIX B:

PHOTOGRAPHIC LOG





Photograph 1: A northeastern facing photograph of the equine facilities in the northwest parcel.



Photograph 2: An eastern facing photograph of the equine facilities in the southern portion of the site.





Photograph 3: A northwestern facing photograph of the equine facilities in the middle portion of the site.



Photograph 4: A representative photograph of the mixed unevenaged upland forested areas facing south.





Photograph 5: A representative photograph of the bottomland hardwood forested area facing north.



Photograph 6: A representative photograph of Wetland 1 facing north.





Photograph 7: A representative photograph Wetland 2 on either side of Non-Wetland Water A facing west.



Photograph 8: A representative photograph of Wetland 3 facing west.





Photograph 9: A representative photograph of Wetland 4 facing northwest.



Photograph 10: A representative photograph of Wetland 5 facing east.





Photograph 11: A representative photograph of Non-Wetland Water A facing northeast.



Photograph 12: A representative photograph of Non-Wetland Water B facing northeast.





Photograph 13: A representative photograph of Non-Wetland Water C facing north.



Photograph 14: A representative photograph of Non-Wetland Water D facing north.





Photograph 15: A representative photograph of Non-Wetland Water E facing northwest.



Photograph 16: A representative photograph an excavated ditch facing northeast.





Photograph 17: A representative photograph an excavated ditch outside of Wetland 5 facing east.



Photograph 18: A representative photograph of an excavated ditch outside of Wetland 5 facing northeast.



APPENDIX C:

WETLAND DETERMINATION DATA FORMS

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gu See ERDC/EL TR-07-24; the proponent agency is	OMB Control #: 0710-0024, Exp: 11/30/2024IIf Coastal Plain RegionCECW-CO-RCECW-CO-R
Project/Site: Battleship Road Site	City/County: Kershaw County Sampling Date: 7/17/2023
Applicant/Owner: Carlyle Development, LLC	State: SC Sampling Point: Wet 1 - Up
Investigator(s): EAS Professionals, Inc TCT Se	ction, Township, Range:
Landform (hillside, terrace, etc.): hillside Local	relief (concave, convex, none): convex Slope (%): 2-6
Subregion (LRR or MLRA): LRR P, MLRA 137 Lat: 34.266518	Long: -80.617889 Datum: NAD 83
Soil Map Unit Name: Pe - Pantego Ioam	NWI classification: PEO1B
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 dist	rbed? Are "Normal Circumstances" present? Ves X No
Are Vegetation Sail or Hydrology naturally problem	production of the residual of
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X	Is the Sampled Area within a Wetland? Yes <u>No X</u>
HYDROLOGY	
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aquatic Fauna (B13) High Water Table (A2) Marl Deposits (B15) (Li Saturation (A3) Hydrogen Sulfide Odor Water Marks (B1) Oxidized Rhizospheres Sediment Deposits (B2) Presence of Reduced I Drift Deposits (B3) Recent Iron Reduction Algal Mat or Crust (B4) Thin Muck Surface (C7 Iron Deposits (B5) Other (Explain in Remained Leaves (B9)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) (C1) Moss Trim Lines (B16) on Living Roots (C3) Dry-Season Water Table (C2) ron (C4) Crayfish Burrows (C8) in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) or Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No X Depth (inches) Water Table Present? Yes No X Depth (inches) Saturation Present? Yes No X Depth (inches) (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, particular for the stream gauge for the stre	Wetland Hydrology Present? Yes No _X Derevious inspections), if available:
Remarks:	

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

Sampling Point: Wet 1 - Up

	Absolute	Dominant	Indicator		
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:	
1. Pinus taeda	60	Yes	FAC	Number of Dominant Species	
2. Magnolia grandiflora	60	Yes	FAC	That Are OBL, FACW, or FAC:	7 (A)
3. Liquidambar styraciflua	40	Yes	FAC	Total Number of Dominant	
4				Species Across All Strata	7 (B)
5					
5				Percent of Dominant Species	
6				That Are OBL, FACW, or FAC:	100.0% (A/B)
7				Prevalence Index worksheet:	
8				Total % Cover of:	Multiply by:
	160 =	=Total Cover		OBL species x 2	l =
50% of total cover: 8	0 20%	of total cover:	32	FACW species x2	2 =
Sapling/Shrub Stratum (Plot size: 30)	1			FAC species x3	3 =
1 Persea borbonia	10	Yes	FACW	FACU species	1 =
	10	 	EAC		·
			FAC) =(D)
3. Quercus nigra	5	Yes	FAC		(B)
4.				Prevalence Index = B/A =	
5				Hydrophytic Vegetation Indicate	ors:
6.				1 - Rapid Test for Hydrophytic	c Vegetation
7.				X 2 - Dominance Test is >50%	-
8				$3 - $ Prevalence Index is $< 3.0^{1}$	
o:					ototion ¹ (Evaloin)
			_		etation (Explain)
50% of total cover: <u>1</u>	3 20%	of total cover:	5		
Herb Stratum (Plot size: 30)					
1				¹ Indicators of hydric soil and wetla	and hydrology must
2.				be present, unless disturbed or pr	oblematic.
3.				Definitions of Four Vegetation	Strata:
4					inco 2 in (7.6 cm) or
				more in diameter at breast height	(DBH) recordless of
5.				height.	(DDII), regardless of
б					
7		. <u> </u>		Sapling/Shrub – Woody plants	excluding vines less
8				than 3 in. DBH and greater than 3	5.28 ft (1 m) tall.
9				Ğ	
10.					
11.				Herb – All herbaceous (non-wood	ly) plants, regardless
12				of size, and woody plants less that	in 3.28 ft tall.
12.		Tatal Oscar			a starthan 2 00 ft in
		= I otal Cover		beight	ealer than 3.20 it in
50% of total cover:	20%	of total cover:			
Woody Vine Stratum (Plot size: 30)					
1. Vitis rotundifolia	20	Yes	FAC		
2.					
3					
4					
5				Hydrophytic	
	= 20=	=Total Cover		Vegetation	
50% of total cover: 1	0 20%	of total cover:	4	Present? Yes X	No
Remarks: (If observed, list morphological adaptation	ns below.)				

SOIL

Profile Desc	cription: (Describe	to the depth	needed to doc	ument t	he indic	ator or co	onfirm the absence	of indicators.)		
(inches)	Color (moist)	%	Color (moist)	% N Calu	Type ¹	loc^2	Texture	Rem	arks	
0-3	10YR 3/3	100		70	туре		Sandy			
3-20	10YR 5/4	100					Sandy			
	1011(3)4						Candy			
<u> </u>		·								
<u> </u>										
$\frac{1}{1}$ Type: C=C	oncentration D-Den	letion RM-R	educed Matrix	/S-Mas	ked San	d Grains	² l ocation: I	PI - Pore Lining M-I	Matrix	
Hydric Soil	Indicators: (Applica	ble to all I F	Rs unless othe	erwise r	noted)			for Problematic Hv	dric Soils ³	
Histosol	(A1)		Thin Dark S	urface (S	69) (LRR	S, T, U)	1 cm M	uck (A9) (LRR O)		
Histic Ep	pipedon (A2)	-	Barrier Islan	ds 1 cm	Muck (S	12)	2 cm M	uck (A10) (LRR S)		
Black Hi	istic (A3)	-	(MLRA 15	3B, 153	D)		Coast F	Prairie Redox (A16)		
Hydroge	en Sulfide (A4)		Loamy Muck	ky Miner	al (F1) (L	.RR O)	(outs	ide MLRA 150A)		
	d Layers (A5) Bodies (A6) (I BB P	т IN -	Loamy Gley	ed Matri	x (F2)		Reduce	ide MI RA 150A 15	0B)	
5 cm Mu	ucky Mineral (A7) (LF	R P, T, U)	Redox Dark	Surface	(F6)		Piedmo	ont Floodplain Soils (F19) (LRR P, T)	
Muck Pr	esence (A8) (LRR U)	Depleted Da	rk Surfa	ce (F7)		Anomalous Bright Floodplain Soils (F20)			
1 cm Mu	uck (A9) (LRR P, T)	-	Redox Depr	essions	(F8)		(MLR	A 153B)		
Depleted	d Below Dark Surface	e (A11)	Marl (F10) (LRR U)				Red Parent Material (F21)			
Thick Da	ark Surface (A12)		Depleted Ochric (F11) (MLRA 151)				Very Shallow Dark Surface (F22)			
Coast P	rairie Redox (A16) (N		Iron-Manganese Masses (F12) (LRR U,				J, P, T) (Outside MLRA 136, 132A III FL, 134) Barrier Islands Low Chroma Matrix (TS7)			
Sandy iv	Aucky Mineral (ST) (L Sleved Matrix (SA)	.KK 0, 5)	Umbric Surface (F13) (LRR P, I, U) Barrier Islands Low Chroma Matrix					i Matrix (157)		
Sandy R	Redox (S5)	•	Reduced Vertic (F18) (MLRA 150A. 150B) Other (Explain in Remarks)							
Stripped	Matrix (S6)	-	Piedmont Floodplain Soils (F19) (MLRA 149A)							
Dark Su	rface (S7) (LRR P, S	, T, U)	Anomalous Bright Floodplain Soils (F20)							
Polyvalu	e Below Surface (S8	3)	(MLRA 149A, 153C, 153D))	³ Indicators of hydrophytic vegetation and			
(LRR	S, T, U)		Very Shallow Dark Surface (F22)			-22)	wetland hydrology must be present,			
			(MLRA 13	8, 152A	in FL, 1	54)	unless disturbed or problematic.			
Restrictive	Layer (if observed):									
Depth (ii	nches):						Hydric Soil Prese	ent? Yes	No X	
Remarks:										

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)		
Project/Site: Battleship Road Site City/County: Kershaw Coun	ty Sampling Date: 7/17/2023		
Applicant/Owner: Carlyle Development, LLC	State: SC Sampling Point: Wet 1 - Wet		
Investigator(s): EAS Professionals, Inc TCT Section, Township, Range:			
Landform (hillside, terrace, etc.): Floodplain Local relief (concave, convex, none	e): None Slope (%): 0-2		
Subregion (LRR or MLRA): LRR P, MLRA 137 Lat: 34.265869 Long: -80.61	7519 Datum: NAD 83		
Soil Map Unit Name: Pe - Pantego Loam	NWI classification: R4SBC		
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X N	lo (If no, explain in Remarks.)		
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circun	nstances" present? Yes X No		
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain	any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site man showing sampling point locations	transects important features etc.		
SolumART OF The Dives - Attach site map showing sampling point locations	, transects, important reatures, etc.		
Hydrophytic Vegetation Present? Yes X No Is the Sampled Area			
Hydric Soil Present? Yes X No within a Wetland?	Yes_X_ No		
Wetland Hydrology Present? Yes X No			
HYDROLOGY			
Primary Indicators: Sec Primary Indicators (minimum of one is required; check all that apply)	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) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum Moss (D8) (LRR T, U)		
Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Water Table Present? Yes X No X Depth (inches): Yes Water Table Present? Yes X No Depth (inches): Yes Yes <td>ology Present? Yes X No</td>	ology Present? Yes X No		
(includes capillary fringe)			
Remarks:	ble:		

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

Sampling Point: Wet 1 - Wet

	Absolute	Dominant	Indicator	
<u>Iree Stratum</u> (Plot size: <u>30</u>)	% Cover	Species?	Status	Dominance Test worksheet:
1. Nyssa biflora	30	Yes	OBL	Number of Dominant Species
2. Celtis laevigata	30	Yes	FACW	That Are OBL, FACW, or FAC: 7 (A)
3. Magnolia grandiflora	30	Yes	FAC	Total Number of Dominant
4. Liriodendron tulipifera	25	No	FACU	Species Across All Strata: 8 (B)
5. Acer negundo	25	No	FAC	Demonst of Deminent Creation
6				That Are OBL_EACW/ or EAC: 87.5% (A/B)
7				Brovalonce Index worksheet:
·				Tetal % Cover of: Multiply by:
o	4.40	Tatal Osum		
	140	= I otal Cover		
50% of total cover: 70	20%	of total cover:	28	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 30)				FAC species x 3 =
1. Ligustrum sinense	60	Yes	FAC	FACU species x 4 =
2. Prunus caroliniana	20	Yes	FACU	UPL species x 5 =
3. Elaeagnus pungens	10	No	UPL	Column Totals: (A) (B)
4.				Prevalence Index = B/A =
5.				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				\times 2. Dominance Test is \times 50%
7		<u> </u>		
8.				$3 - Prevalence index is \leq 3.0$
	90	= I otal Cover		Problematic Hydrophytic Vegetation' (Explain)
50% of total cover: 45	20%	of total cover:	18	
Herb Stratum (Plot size: 30)				
1. Woodwardia areolata	30	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must
2. Osmundastrum cinnamomeum	15	Yes	FACW	be present, unless disturbed or problematic.
3. Boehmeria cylindrica	15	Yes	FACW	Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in, (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6				height.
0.				
7				
7.				Sapling/Shrub – Woody plants, excluding vines, less
7.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7. 8. 9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7. 8. 9. 10.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless
7. 8. 9. 10. 11.				 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
7. 8. 9. 10. 11. 12.				 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
7. 8. 9. 10. 11. 12.	60	=Total Cover		 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in
7	60 20%	=Total Cover of total cover:		 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
7	<u>60</u> 20%	=Total Cover of total cover:	12	 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
7.	<u>60</u> 20%	=Total Cover of total cover:		 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
7	<u>60</u> 20%	=Total Cover of total cover:		 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
7	<u>60</u> 20%	=Total Cover of total cover:		 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
7.	60	=Total Cover of total cover:	12	 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
7.		=Total Cover of total cover:		 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
7.		=Total Cover of total cover:		 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic
7.		=Total Cover of total cover:		 Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
7.		=Total Cover of total cover: =Total Cover of total cover:		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No
7.	60 20%	=Total Cover of total cover: =Total Cover of total cover:		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No
7.	60 20%	=Total Cover of total cover: =Total Cover of total cover:		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No
7.	60 20%	=Total Cover of total cover: =Total Cover of total cover:		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No
7.	60 20%	=Total Cover of total cover: 		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No
7.	60 20%	=Total Cover of total cover: 		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No
7.	60 20%	=Total Cover of total cover: 		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes X No

SOIL

Depth Matrix Redox Features											
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks			
0-6	10YR 4/1	95	7.5YR 5/8	5	C	PL	Loamy/Clayey	Prominent redox concentrations			
6-20	10YR 5/1	95	5Y 3/1	5	С	М	Loamy/Clayey	Prominent redox concentrations			
		_			_						
¹ Type: C=Co	ncentration, D=Depl	etion, RM	=Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.	² Location:	PL=Pore Lining, M=Matrix.			
Hydric Soil I	ndicators: (Applica	ble to all	LRRs, unless othe	erwise n	oted.)		Indicators	s for Problematic Hydric Soils ³ :			
Histosol ((A1)		Thin Dark Surface (S9) (LRR S, T, U)				1 cm M	Muck (A9) (LRR O)			
Histic Epi	ipedon (A2)		Barrier Islan	ds 1 cm	Muck (S	12)	2 cm Muck (A10) (LRR S)				
Black His	stic (A3)		(MLRA 153B, 153D)								
Hydroger	Sulfide (A4)		Loamy Much	Learny Mucky Mineral (F1) (LRR O)				(Outside MLRA 150A)			
Stratified	Layers (A5)		Loamy Gleyed Matrix (F2)								
	Bodies (A6) (LRR P,	T, U)	X Depleted Matrix (F3)				(out	(Outside MLRA 150A, 150B)			
5 cm Muo	cky Mineral (A7) (LR	R P, T, U	Redox Dark Surface (F6)				Piedmont Floodplain Soils (F19) (LRR P, I				
Muck Pre	esence (A8) (LRR U)		Depleted Dark Surface (F7)				Anomalous Bright Floodplain Soils (F20)				
1 cm Muo	ck (A9) (LRR P, T)		X Redox Depressions (F8)				(MLRA 153B)				
Depleted	Below Dark Surface	e (A11)	Marl (F10) (LRR U)				Red Parent Material (F21)				
Thick Da	rk Surface (A12)		Depleted Ochric (F11) (MLRA 151)				Very S	Very Shallow Dark Surface (F22)			
Coast Pra	airie Redox (A16) (M	ILRA 150	Iron-Manganese Masses (F12) (LRR O,				(, P, T) (outside MLRA 138, 152A in FL, 154)				
Sandy M	ucky Mineral (S1) (L	RR 0, S)	Umbric Surface (F13) (LRR P, T, U)				Barrie	r Islands Low Chroma Matrix (TS7)			
Sandy GI	eyed Matrix (S4)		Delta Ochric (F17) (MLRA 151)				(MLRA 153B, 153D)				
Sandy Re	edox (S5)		Reduced Ve	rtic (F18	3) (MLRA	150A, 15	50B) Other	(Explain in Remarks)			
Stripped	Matrix (S6)		Piedmont Fl	oodplain	Soils (F	19) (MLR	A 149A)				
Dark Sur	face (S7) (LRR P, S ,	, T, U)	Anomalous	Anomalous Bright Floodplain Soils (F20)							
Polyvalue	e Below Surface (S8)	(MLRA 149A, 153C, 153D)				³ Indicators of hydrophytic vegetation and					
(LRR S	5, T, U)		Very Shallov (MLRA 13	Very Shallow Dark Surface (F22) (MLRA 138, 152A in FL, 154)				wetland hydrology must be present, unless disturbed or problematic.			
Restrictive L	ayer (if observed):										
Туре:											
Depth (in	ches):						Hydric Soil Pres	ent? Yes <u>X</u> No			
Remarks:							ļ				

The presence of a reduced matrix within 12" of the soil surface indicates that this soil is hydric based on the hydric soil definition: "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part".

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)		
IntySampling Date:		
State: SC Sampling Point: Wet 2 - Wet		
ne): concave Slope (%): 0-2		
524080 Datum: NAD 83		
NWI classification: PFO1B		
No (If no, explain in Remarks.)		
umstances" present? Yes X No		
n any answers in Remarks)		
s transacts important factures ato		
s, transects, important reatures, etc.		
Yes X No		
Secondary indicators (minimum of two required) Surface Soil Cracks (B6) X 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) X Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum Moss (D8) (LRR T, U)		
drology Present? Yes X No		
able:		

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

Sampling Point: Wet 2 - Wet

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1. Liriodendron tulipifera	40	Yes	FACU	Number of Dominant Species
2. Liquidambar styraciflua	20	Yes	FAC	That Are OBL, FACW, or FAC: 5 (A)
3				
0				I otal Number of Dominant
4.				Species Across All Strata: 7 (B)
5.				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 71.4% (A/B)
7				Prevalence Index worksheet:
8.				Total % Cover of: Multiply by:
	60	=Total Cover	1	OBL species x 1 =
50% of total cover: 30	20%	of total cover	12	FACW species x 2 -
Copling/Chruh Strotum (Dict size)	2070		12	
			540	FAC species X 3 =
1. Ligustrum sinense	80	Yes	FAC	FACU species X 4 =
2. Persea borbonia	20	Yes	FACW	UPL species x 5 =
3.				Column Totals:(A)(B)
4.				Prevalence Index = B/A =
5.				Hydrophytic Vegetation Indicators:
6				1 Papid Test for Hydrophytic Vegetation
1				X 2 - Dominance Test is >50%
8		·		3 - Prevalence Index is ≤3.0
	100	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 50	20%	of total cover:	20	
Herb Stratum (Plot size: 30)				
1 Microstegium vimineum	40	Yes	FAC	
2 Boohmaria avlindrica	30	Vos	EACW/	horizators of hydric soil and wetland hydrology must
		165	FACW	be present, unless disturbed of problematic.
3				Definitions of Four Vegetation Strata:
3 4				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
3 4 5				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
3 4 5 6.				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.
3. 4. 5. 6. 7.				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.
3.				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
3.				 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 3.28 ft (1 m) tall.
3.				 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 3.28 ft (1 m) tall.
3.				 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 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless
3.				 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 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
3.				 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 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
3.	70			 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 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
3.		=Total Cover		 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 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.
3.		=Total Cover of total cover:		 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 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.
3.		=Total Cover of total cover:		 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 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.
3.		=Total Cover of total cover: Yes		 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 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.
3.	 	=Total Cover of total cover: Yes		 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 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.
3.		=Total Cover of total cover: Yes		 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 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.
3.	 	=Total Cover of total cover: Yes		 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 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.
3.		=Total Cover of total cover: Yes		 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 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.
3.		=Total Cover of total cover: Yes		 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 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
3.		=Total Cover of total cover: <u>Yes</u> =Total Cover		 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 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
3.	 	=Total Cover of total cover: <u>Yes</u> =Total Cover =Total Cover		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 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
3.		=Total Cover of total cover: <u>Yes</u> =Total Cover of total cover:		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 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
3.	70 70 20% 80 80 20% s below.)	=Total Cover of total cover: Yes =Total Cover of total cover:		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 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
3.	70 70 20% 80 80 20% s below.)	=Total Cover of total cover: Yes =Total Cover of total cover: of total cover:		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 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
3.	70 70 5 20% 80 80 20% s below.)	=Total Cover of total cover: Yes =Total Cover of total cover: of total cover		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 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
3.	70 70 5 20% 80 80 20% s below.)	=Total Cover of total cover: Yes =Total Cover of total cover: of total cover		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 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

SOIL

Profile Dese	cription: (Describe	to the dept	h needed to doc	ument t	he indic	ator or c	onfirm the absence of	of indicators.)
(inches)	Color (moist)	~	Color (moist)	% N	Type ¹	1 oc^2	Texture	Remarks
0-3	10YR 2/1	100		,,,			Loamy/Clavey	
3-20	10YR 2/1	100					Mucky Loam/Clay	
0.20	1011(2/1	100					Mucky Loann Olay	
			<u> </u>				·	
			<u> </u>					
¹ Type: C=C	oncentration D-Den	letion RM-	Reduced Matrix N		ked San	d Grains	² Location: F	
Hydric Soil	Indicators: (Applica	able to all L	RRs, unless othe	erwise r	noted.)		Indicators f	for Problematic Hydric Soils ³ :
Histosol	(A1)		Thin Dark S	urface (S	, S9) (LRR	S, T, U)	1 cm Mi	uck (A9) (LRR O)
Histic E	pipedon (A2)		Barrier Islan	ds 1 cm	Muck (S	12)	2 cm M	uck (A10) (LRR S)
Black H	istic (A3)		(MLRA 15	3B, 153	BD)		Coast P	Prairie Redox (A16)
Hydroge	en Sulfide (A4)		Loamy Muck	y Miner	al (F1) (L	.RR O)	(outsi	ide MLRA 150A)
X Stratifie	d Layers (A5)		Loamy Gleye	ed Matri	x (F2)		Z_Reduce	d Vertic (F18)
Organic	Bodies (A6) (LRR P,	, T, U)	Depleted Ma	trix (F3))		(outsi	ide MLRA 150A, 150B)
X 5 cm Mu	ucky Mineral (A7) (LR	RR P, T, U)	Redox Dark	Surface	e (F6)		Piedmo	nt Floodplain Soils (F19) (LRR P, T)
Muck Pr	resence (A8) (LRR U)	Depleted Da	rk Surfa	ace (F7)		Anomal	ous Bright Floodplain Soils (F20)
1 cm Mu	uck (A9) (LRR P, T)		Redox Depre	essions	(F8)		(MLR	A 153B)
Deplete	d Below Dark Surface	e (A11)	Marl (F10) (I	.RR U)			Red Par	rent Material (F21)
Thick Da	ark Surface (A12)		Depleted Oc	hric (F1	1) (MLR	A 151)	Very Sh	nallow Dark Surface (F22)
Coast P	rairie Redox (A16) (N	ILRA 150A)	Iron-Mangan	ese Ma	sses (F1	2) (LRR	O, P, T) (outsi	ide MLRA 138, 152A in FL, 154)
Sandy N	/lucky Mineral (S1) (L	.RR O, S)	X Umbric Surfa	ace (F1:	3) (LRR F	P, T, U)	Barrier I	Islands Low Chroma Matrix (TS7)
Sandy G	Eleyed Matrix (S4)		Delta Ochric	(F17) (MLRA 15	51)	(MLR	A 153B, 153D)
Sandy F	Redox (S5)		Reduced Ve	rtic (F18	B) (MLRA	150A, 1	50B) Other (E	Explain in Remarks)
Stripped	d Matrix (S6)		Piedmont Fle	oodplair	n Soils (F	19) (MLF	RA 149A)	
Dark Su	Irface (S7) (LRR P, S	, T, U)	Anomalous I	Bright F	loodplain	Soils (F	20)	
Polyvalu	ue Below Surface (S8	5)	(MLRA 14	9A, 153	C, 153D))	³ Indicate	ors of hydrophytic vegetation and
(LRR	S, T, U)		Very Shallov	v Dark S	Surface (F	=22)	wetla	ind hydrology must be present,
			(MLRA 13	8, 152A	in FL, 1	54)	unles	s disturbed or problematic.
Restrictive	Layer (if observed):							
Denth (i	nches).						Hydric Soil Prese	nt? Yes X No
Deptil (i Domarka:							Tryunc Son Trese	
Remarks:								
1								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf See ERDC/EL TR-07-24; the proponent agency is C	Coastal Plain RegionOMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
Project/Site: Battleship Road Site	City/County: Kershaw County Sampling Date: 07/18/2023
Applicant/Owner: Carlyle Development, LLC	State: SC Sampling Point: Wet 3 and 4 - Up
Investigator(s): EAS Professionals, Inc TCT Section	on, Township, Range:
Landform (hillside, terrace, etc.): Hillslope Local re	ief (concave, convex, none): Convex Slope (%): 2-6
Subregion (LRR or MLRA): LRR P, MLRA 137 Lat: 34.254594	Long: -80.616330 Datum: NAD 83
Soil Map Unit Name: Pe - Pantego Ioam	NWI classification: PFO1B
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	ed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problemat	c? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site man showing sam	nling noint locations transects important features etc.
	ping point locations, transects, important leatures, etc.
Hydrophytic Vegetation Present? Yes X No I	s the Sampled Area
Hydric Soil Present? Yes No X	vithin a Wetland? Yes No X
Wetland Hydrology Present? Yes No X	
HYDROLOGY	
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) 1) Moss Trim Lines (B16) Living Roots (C3) Dry-Season Water Table (C2) (C4) Crayfish Burrows (C8) Filled Soils (C6) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum Moss (D8) (LRR T, U)
Field Observations:	
Water Table Present? Yes No X Depth (inches):	——
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes No X
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:

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

Sampling Point: Wet 3 and 4 - Up

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1. Liquidambar styraciflua	30	Yes	FAC	Number of Dominant Species
2. Quercus nigra	30	Yes	FAC	That Are OBL, FACW, or FAC: 8 (A)
3. Magnolia grandiflora	30	Yes	FAC	Total Number of Dominant
4.				Species Across All Strata: 10 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 80.0% (A/B)
7				Prevalence Index worksheet
8				Total % Cover of: Multiply by:
	90	-Total Cover		$\frac{1}{OBL \text{ species}} \qquad x 1 = $
50% of total cover:	5 20%	of total cover	18	
Sopling/Shrub Stratum (Plot size: 30	2070		10	
<u>Saphing/Shirub Stratum</u> (Flot size. <u>50</u>)	20	Vee		
		res		
2. Magnolia grandiflora	20	Yes	FAC	
3. Callicarpa americana	20	Yes	FACU	Column Totals:(A)(B)
4. Ilex vomitoria	10	No	FAC	Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7.				X 2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
	70	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 3	5 20%	of total cover:	14	
Herb Stratum (Plot size: 30)				
1. Rubus argutus	15	Yes	FAC	¹ Indicators of hydric coil and watland hydrology must
2. Parthenocissus guinguefolia	10	Yes	FACU	be present, unless disturbed or problematic.
2. 1 annonociosas quinquorona	10	100	17.00	Definitions of Four Vagetation Strata:
3				Tree Masterlands and Vegetation Strata.
4				Iree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
5.				height.
6				
7				Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10				Herb - All berbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				,
	25	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 1	3 20%	of total cover:	5	height.
Woody Vine Stratum (Plot size: 30)				
1. Vitis rotundifolia	10	Yes	FAC	
2 Gelsemium sempervirens	10	Ves	FAC	
	10	163	170	
3.		· <u> </u>		
4.				
5				Hydrophytic
	20	=Total Cover		Vegetation
50% of total cover: 1	0 20%	of total cover:	4	Present? Yes X No
Remarks: (If observed, list morphological adaptatio	ns below.)			•

SOIL

Profile Description: (Describ	e to the depth	needed to doc	ument t	he indica	ator or co	onfirm the absence o	of indicators.)		
Depth Matrix	<u> </u>	Redo	x Featu	res					
(inches) Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rem	arks	
0-3 10YR 3/3	100					Sandy			
3-20 10YR 4/2	100					Sandy			
¹ Type: C=Concentration, D=D	epletion, RM=R	educed Matrix, N	MS=Mas	ked San	d Grains.	² Location: P	PL=Pore Lining, M=N	Aatrix.	
Hydric Soil Indicators: (Appli	cable to all LR	Rs, unless othe	erwise r	noted.)		Indicators f	or Problematic Hyd	dric Soils ³ :	
Histosol (A1)		Thin Dark S	urface (S	, 59) (LRR	S, T, U)	1 cm Mu	uck (A9) (LRR O)		
Histic Epipedon (A2)	•	Barrier Islan	ds 1 cm	Muck (S	12)	2 cm Mu	uck (A10) (LRR S)		
Black Histic (A3)	-	(MLRA 15	3B, 153	D)		Coast P	rairie Redox (A16)		
Hydrogen Sulfide (A4)		Loamy Much	ky Miner	al (F1) (L	RR O)	(outsi	de MLRA 150A)		
Stratified Layers (A5)	•	Loamy Gley	ed Matri	x (F2)	-	Reduced	d Vertic (F18)		
Organic Bodies (A6) (LRR	P, T, U)	Depleted Ma	atrix (F3))		(outsi	de MLRA 150A, 15	0B)	
5 cm Mucky Mineral (A7) (LRR P, T, U)	Redox Dark	Surface	(F6)		Piedmor	nt Floodplain Soils (F19) (LRR P, T)	
Muck Presence (A8) (LRR	U)	Depleted Da	irk Surfa	ce (F7)		Anomalo	ous Bright Floodplai	n Soils (F20)	
1 cm Muck (A9) (LRR P, T)	Redox Depr	essions	(F8)		(MLR/	A 153B)		
Depleted Below Dark Surfa	ace (A11)	Marl (F10) (I	LRR U)			Red Par	ent Material (F21)		
Thick Dark Surface (A12)	-	Depleted Oc	hric (F1	1) (MLR/	A 151)	Very Sh	allow Dark Surface	(F22)	
Coast Prairie Redox (A16)	(MLRA 150A)	Iron-Mangar	nese Ma	sses (F1	2) (LRR (D, P, T) (outsi	de MLRA 138, 152/	A in FL, 154)	
Sandy Mucky Mineral (S1)	(LRR O, S)	Umbric Surf	ace (F1:	3) (LRR F	P, T, U)	U) Barrier Islands Low Chroma Matrix (TS7)			
Sandy Gleyed Matrix (S4)		Delta Ochric	(F17) (MLRA 15	1)	(MLRA 153B, 153D)			
Sandy Redox (S5)	•	Reduced Ve	rtic (F18	B) (MLRA	150A, 1	50B) Other (E	xplain in Remarks)		
Stripped Matrix (S6)	-	Piedmont Fl	oodplair	Soils (F	19) (MLR	A 149A)			
Dark Surface (S7) (LRR P	, S, T, U)	Anomalous	Bright F	loodplain	Soils (F2	20)			
Polyvalue Below Surface (S8)	(MLRA 14	9A, 153	C, 153D)		³ Indicato	ors of hydrophytic ve	egetation and	
(LRR S, T, U)		Very Shallow	v Dark S	Surface (F	22)	wetlar	nd hydrology must b	e present,	
	•	(MLRA 13	8, 152A	in FL, 1	54)	unles	s disturbed or proble	ematic.	
Restrictive Layer (if observed	d):								
Туре:									
Depth (inches):						Hydric Soil Preser	nt? Yes	NoX	
Remarks:									
1									

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plair See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
Project/Site: Battleship Road Site City/County: Ke	rshaw CountySampling Date: 07/18/2023
Applicant/Owner: Carlyle Development, LLC	State: SC Sampling Point: Wet 3 and 4 - Wet
Investigator(s): EAS Professionals, Inc TCT Section, Township, R	Range:
Landform (hillside, terrace, etc.): Bottomland Local relief (concave, co	onvex, none): concave Slope (%):0-2
Subregion (LRR or MLRA): LRR P, MLRA 137 Lat: 34.254330	_ong: -80.616723 Datum: NAD 83
Soil Map Unit Name: Pe - Pantego loam	NWI classification: NAD 83
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 "No	prmal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If need	led, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach site man showing sampling point	locations transects important features etc.
	iocations, transects, important reatures, etc.
Hydrophytic Vegetation Present? Yes X No Is the Sampled	Area
Hydric Soil Present? Yes X No within a Wetlan	d? Yes <u>X</u> No
Wetland Hydrology Present? Yes X No	
HYDROLOGY	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) X Drainage Patterns (B10) Moss Trim Lines (B16) C3) Dry-Season Water Table (C2) X Crayfish Burrows (C8)) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes Water Table Present? Yes No X Depth (inches): Saturation Present? Yes Yes No X Depth (inches): Gincludes capillary fringe) Yes No Yes	etland Hydrology Present? Yes <u>X</u> No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection Remarks:	ns), if available:

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

Sampling Point: _Wet 3 and 4 - Wet

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1. Quercus nigra	30	Yes	FAC	Number of Dominant Species
2. Liquidambar styraciflua	30	Yes	FAC	That Are OBL, FACW, or FAC:(A)
3. Liriodendron tulipifera	30	Yes	FACU	Total Number of Dominant
4. Acer rubrum	30	Yes	FAC	Species Across All Strata: 12 (B)
5. Magnolia grandiflora	15	No	FAC	Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 91.7% (A/B)
7.				Prevalence Index worksheet:
8.				Total % Cover of: Multiply by:
	135 :	=Total Cover		OBL species x 1 =
50% of total cover: 68	20%	of total cover:	27	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 30)				FAC species x 3 =
1. Magnolia grandiflora	20	Yes	FAC	FACU species x 4 =
2. Pinus palustris	15	Yes	FAC	UPL species $x 5 =$
3. Persea borbonia	15	Yes	FACW	Column Totals: (A) (B)
4 Nyssa hiflora	5	<u></u> No	OBI	$\frac{1}{2} = \frac{1}{2} = \frac{1}$
5				
				1 Papid Tast for Hydrophytic Vegetation
0				Y 2 Deminence Test is 50%
/		·		$\frac{1}{2}$ - Dominance rest is >50%
ð	<u> </u>			5 - Prevalence index is 5.0
	55 :	= lotal Cover		
50% of total cover: 28	20%	of total cover:	11	
<u>Held Stratum</u> (Plot size. <u>30</u>)	40	Vee		
	40	Yes		Indicators of hydric soil and wetland hydrology must
2. Woodwardia areolata	15	Yes		be present, unless disturbed or problematic.
3. Juncus effusus	15	Yes	OBL	Definitions of Four Vegetation Strata:
4. Rhexia virginica	10	No	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5. <u>Microstegium vimineum</u>	10	No	FAC	height
6.				l.o.g.m
1		<u> </u>		Sapling/Shrub – Woody plants, excluding vines, less
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9		·		
10		·		Herb – All herbaceous (non-woody) plants, regardless
11		1		of size, and woody plants less than 3.28 ft tall.
12				
-	90 :	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 45	20%	of total cover:	18	neight.
Woody Vine Stratum (Plot size: 30)				
1. Decumaria barbara	10	Yes	FACW	
2. Vitis rotundifolia	10	Yes	FAC	
3				
4				
5				Hydrophytic
	20 =	=Total Cover		Vegetation
50% of total cover: 10	20%	of total cover:	4	Present? Yes X No
Remarks: (If observed, list morphological adaptations	s below)			

SOIL

Profile Dese	cription: (Describe	o the depth	needed to doc	ument t	he indica	ator or co	onfirm the absence	e of indicators.)
Depth	Matrix		Redo	x Featur	res	<u>_</u> _		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-20	10YR 2/1	100					Loamy/Clayey	
		<u> </u>	<u> </u>					
¹ Type: C=C	oncentration, D=Depl	etion. RM=R	educed Matrix.	/S=Mas	ked San	Grains	² Location:	PI =Pore Lining, M=Matrix
Hydric Soil	Indicators: (Applica	ble to all LR	Rs, unless othe	erwise r	noted.)		Indicator	s for Problematic Hydric Soils ³ :
Histosol	(A1)	_	Thin Dark S	urface (S	59) (LRR	S, T, U)	1 cm	Muck (A9) (LRR O)
Histic E	pipedon (A2)	_	Barrier Islan	ds 1 cm	Muck (S	12)	2 cm	Muck (A10) (LRR S)
Black Hi	istic (A3)	_	(MLRA 15	3B, 153	D)		Coast	t Prairie Redox (A16)
Hydroge	en Sulfide (A4)	_	Loamy Muck	ky Miner	al (F1) (L	RR O)	(ou	tside MLRA 150A)
Stratified	d Layers (A5)	-	Loamy Gley	ed Matri	x (F2)		Redu	ced Vertic (F18)
Organic	Bodies (A6) (LRR P,	T, U) _	Depleted Ma	atrix (F3))		(ou	tside MLRA 150A, 150B)
5 cm Mu	ucky Mineral (A7) (LR	R P, T, U) _	Redox Dark	Surface	(F6)		Piedn	nont Floodplain Soils (F19) (LRR P, T)
Muck Pr	resence (A8) (LRR U)	-	Depleted Da	irk Surfa	ice (F7)		Anom	alous Bright Floodplain Soils (F20)
	JCK (A9) (LKK P, I) d Bolow Dork Surface	-			(F8)		(ML Dod D	RA 153B)
Depieted	u Below Dark Sullace	(ATT) <u>-</u>	Nan (F10) (I	LKK U)	1) /MI D	(151)		Shallow Dark Surface (E22)
Coast P	rairie Redox (A16) (M	I RA 150A)	Depleted Oc	nne (Fi nese Ma	sses (F1)	2) (I RR ((out)	tside MI RA 138, 152A in FL, 154)
Sandy M	/ucky Mineral (S1) (I	RR O.S	X Umbric Surf	ace (F13	3) (I RR F	-) (ERR (P. T. U)	Barrie	er Islands I ow Chroma Matrix (TS7)
Sandy G	Gleved Matrix (S4)		Delta Ochric	: (F17) (I	MLRA 15	, , , o, 1)	(ML	RA 153B. 153D)
Sandy F	Redox (S5)	-	Reduced Ve	rtic (F18	B) (MLRA	150A. 1	50B) Other	(Explain in Remarks)
Stripped	Matrix (S6)	-	Piedmont Fl	oodplain	Soils (F	19) (MLR	A 149A)	, , , , , , , , , , , , , , , , , , ,
Dark Su	rface (S7) (LRR P, S	, T, U) -	Anomalous	Bright Fl	loodplain	Soils (F2	20)	
Polyvalu	e Below Surface (S8)	(MLRA 14	9A, 153	C, 153D)		³ Indic	ators of hydrophytic vegetation and
(LRR	S, T, U)	_	Very Shallow	v Dark S	Surface (F	22)	we	tland hydrology must be present,
			(MLRA 13	8, 152A	in FL, 1	54)	unl	ess disturbed or problematic.
Restrictive	Layer (if observed):							
Туре:								
Depth (i	nches):						Hydric Soil Pres	sent? Yes <u>X</u> No
Remarks:								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and G See ERDC/EL TR-07-24; the proponent agency i	OMB Control #: 0710-0024, Exp: 11/30/2024ulf Coastal Plain Region s CECW-CO-ROMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
Project/Site: Battleship Road Site	City/County: Kershaw County Sampling Date: 07/18/2023
Applicant/Owner: Carlyle Development, LLC	State: SC Sampling Point: Wet 5 - Up
Investigator(s): FAS Professionals, Inc TCT	ection. Township. Range:
andform (hillside terrace etc.): Hillslope	al relief (concave, convex, none); convex, Slone (%); 2-6
Subregion (LRB or MLRA): LRP D MLRA 137 Lat: 34 257200	Long: -80.626682 Datum: NAD 83
Sold Map Linit Name: CoA. Coldebra Jamu and	
Son Map Onit Name. GOA - Goldsbord loarny sand	
Are climatic / hydrologic conditions on the site typical for this time of yea	r? Yes <u>(ir no, explain in Remarks.)</u>
Are vegetation, Soil, or Hydrologysignificantly dist	urbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrologynaturally problem	matic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing s	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X	Is the Sampled Area within a Wetland? Yes No X
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required: check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (I	 Operation, regenerate contents (20)
Saturation (A3) Hydrogen Sulfide Odd	r (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosphere	s on Living Roots (C3) Dry-Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduced	Iron (C4) Crayfish Burrows (C8)
Drift Deposits (B3) Recent Iron Reduction	a In Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat of Crust (B4) Inin Muck Surface (C	() Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum Moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No X Depth (inches	3):
	s):
Water Table Present? Yes No X Depth (inches	
Water Table Present? Yes No X Depth (inchest constraints) Saturation Present? Yes No X Depth (inchest constraints)	B): Wetland Hydrology Present? Yes No _X
Water Table Present? Yes No X Depth (inchest capillary fringe) Saturation Present? Yes No X Depth (inchest capillary fringe)	i): Wetland Hydrology Present? Yes No _X
Water Table Present? Yes No X Depth (inchest Saturation Present? Yes No X Depth (inchest inchest Saturation Present?) Saturation Present? Yes No X Depth (inchest inchest	Wetland Hydrology Present? Yes No X previous inspections), if available:
Water Table Present? Yes No X Depth (inchest Saturation Present? Yes No X Depth (inchest (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos,	Wetland Hydrology Present? Yes No _X previous inspections), if available:
Water Table Present? Yes No X Depth (inchest Saturation Present? Yes No X Depth (inchest inchest Saturation Present? Depth (inchest inchest inch	S): Wetland Hydrology Present? Yes No _X previous inspections), if available:
Water Table Present? Yes No X Depth (inchest Saturation Present? Yes No X Depth (inchest inchest Saturation Present? Depth (inchest inchest inch	Wetland Hydrology Present? Yes No _X previous inspections), if available:
Water Table Present? Yes No X Depth (inchest Saturation Present? Yes No X Depth (inchest (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, Remarks:	Wetland Hydrology Present? Yes No _X previous inspections), if available:
Water Table Present? Yes No X Depth (inchest Saturation Present? Yes No X Depth (inchest (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, Remarks:	Wetland Hydrology Present? Yes No X previous inspections), if available:
Water Table Present? Yes No X Depth (inchest Saturation Present? Yes No X Depth (inchest (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, Remarks:	Wetland Hydrology Present? Yes No X previous inspections), if available:
Water Table Present? Yes No X Depth (inchest Saturation Present? Yes No X Depth (inchest (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, Remarks: Image: Comparison of the second	s): Wetland Hydrology Present? Yes No _X previous inspections), if available:
Water Table Present? Yes No X Depth (inchest Saturation Present? Yes No X Depth (inchest (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, Remarks:	s): Wetland Hydrology Present? Yes No _X previous inspections), if available:
Water Table Present? Yes No X Depth (inchest Saturation Present? Yes No X Depth (inchest (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, Remarks:	s): Wetland Hydrology Present? Yes No _X previous inspections), if available:

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

Sampling Point: Wet 5 - Up

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1. Quercus nigra	30	Yes	FAC	Number of Dominant Species
2. Liquidambar styraciflua	30	Yes	FAC	That Are OBL, FACW, or FAC: 9 (A)
3. Pinus taeda	20	Yes	FAC	Total Number of Dominant
4. Magnolia grandiflora	15	No	FAC	Species Across All Strata: 9 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	95	-Total Cover		OBL species x1 - x
50% of total cover: 4	3 20%	of total cover:	10	
Sapling/Shrub Stratum (Plot size: 20	2070			
<u>Saping/Shirub Shatum</u> (Flot size)	20	Voo	EAC	
		Yes		FACU species x 4 =
2. Magnolia grandiflora	30	Yes	FAC	
3. Quercus nigra	15	Yes	FAC	Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				X 2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0 ¹
	75	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 38	3 20%	of total cover:	15	
Herb Stratum (Plot size: 30)				
1				
2				Indicators of hydric soil and wetland hydrology must
2.	·			Definitions of Four Verstation Strate:
3.				Definitions of Four vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5	. <u> </u>			more in diameter at breast height (DBH), regardless of height
6.				noight.
7				Sanling/Shruh - Woody plants, excluding vines, less
8				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10.				
11.				Herb – All herbaceous (non-woody) plants, regardless
12.	·			or size, and woody plants less than 3.20 it tall.
		=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover	20%	of total cover		height.
Weady Vine Stratum (Dist size: 20	2070			
woody vine Stratum (Piot size: 30)		N/	540	
1. Smilax rotundifolia		Yes	FAC	
2. Gelsemium sempervirens	20	Yes	FAC	
3. <u>Vitis rotundifolia</u>	20	Yes	FAC	
4				
5				Hydrophytic
	60	=Total Cover		Vegetation
50% of total cover: 30) 20%	of total cover:	12	Present? Yes X No
Demostry (If cheer and list merchological adoptation				
Remarks. (II observed, list morphological adaptation	is below.)			

SOIL

Profile Desc	ription: (Describe	to the depth	needed to docu	ument t	he indica	tor or co	onfirm the absence of	of indicators.)	
Depth	Matrix		Redo	x Featu	res	2			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Re	marks
0-3	10YR 5/3	100					Sandy		
3-20	10YR 6/3	100					Sandy		
¹ Type: C=Co	oncentration. D=Dep	etion. RM=R	educed Matrix. N	//S=Mas	ked Sand	Grains.	² Location:	PL=Pore Lining. M=	-Matrix.
Hydric Soil	ndicators: (Applica	ble to all LR	Rs. unless othe	erwise r	noted.)		Indicators	for Problematic H	vdric Soils ³ :
Histosol	(A1)		Thin Dark Su	urface (S	59) (LRR	S, T, U)	1 cm M	uck (A9) (LRR O)	,
Histic Ep	vipedon (A2)	-	Barrier Island	ds 1 cm	Muck (S	12)	2 cm M	uck (A10) (LRR S)	
Black His	stic (A3)	-	(MLRA 15	3B, 153	D)	,	Coast F	Prairie Redox (A16)	
Hydroge	n Sulfide (A4)		Loamy Muck	y Miner	, al (F1) (L	RR O)	(outs	ide MLRA 150A)	
Stratified	Layers (A5)	-	Loamy Gleye	ed Matri	x (F2)		Reduce	d Vertic (F18)	
Organic	Bodies (A6) (LRR P,	T, U)	Depleted Ma	trix (F3)			(outs	ide MLRA 150A, 1	50B)
5 cm Mu	cky Mineral (A7) (LR	R P, T, U)	Redox Dark	Surface	(F6)		Piedmo	nt Floodplain Soils	(F19) (LRR P, T)
Muck Pre	esence (A8) (LRR U)	Depleted Da	rk Surfa	ice (F7)		Anomal	ous Bright Floodpla	ain Soils (F20)
1 cm Mu	ck (A9) (LRR P, T)	•	Redox Depre	essions	(F8)		(MLR	A 153B)	
Depleted	Below Dark Surface	e (A11)	Marl (F10) (L	.RR U)			Red Pa	rent Material (F21)	
Thick Da	irk Surface (A12)	· · ·	Depleted Oc	hric (F1	1) (MLRA	151)	Very Sh	allow Dark Surface	e (F22)
Coast Pr	airie Redox (A16) (N	ILRA 150A)	Iron-Mangan	ese Ma	sses (F12	2) (LRR (D, P, T) (outs	ide MLRA 138, 15	2A in FL, 154)
Sandy M	lucky Mineral (S1) (L	RR O, S)	Umbric Surfa	ace (F13	B) (LRR P	, T, U)	Barrier	Islands Low Chrom	a Matrix (TS7)
Sandy G	leyed Matrix (S4)		Delta Ochric	(F17) (MLRA 15	1)	(MLR	A 153B, 153D)	
Sandy R	edox (S5)	•	Reduced Ve	rtic (F18	B) (MLRA	150A, 1	50B) Other (E	Explain in Remarks)
Stripped	Matrix (S6)	-	Piedmont Flo	oodplair	Soils (F	19) (MLR	A 149A)		
Dark Sur	face (S7) (LRR P, S	, T, U) .	Anomalous I	Bright Fl	oodplain	Soils (F2	0)		
Polyvalu	e Below Surface (S8)		9A, 153	C, 153D)		³ Indicat	ors of hydrophytic	egetation and
(LRR S	S, T, U)	,	Very Shallov	v Dark S	Surface (F	22)	wetla	ind hydrology must	be present,
	,	-	(MLRA 13	8, 152A	in FL, 1	54)	unles	s disturbed or prob	lematic.
Restrictive I	_ayer (if observed):								
Type:									
Deptn (Ir	icnes):						Hydric Soll Prese	nt? Yes	<u>NO X</u>

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
Project/Site: Battleship Road Site City/County: Kershaw C Applicant/Owner: Carlyle Development, LLC City/County: City/County:	Sampling Date: 07/18/2023 State: SC Sampling Point: Wet 5 - Wet
Investigator(s): EAS Professionals, Inc TCT Section, Township, Range:	
Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, r	none): <u>convex</u> Slope (%): <u>2-6</u>
Subregion (LRR or MLRA): LRR P, MLRA 137 Lat: 34.256983 Long: -8	0.626549 Datum: NAD 83
Soil Map Unit Name: GoA - Goldsboro loamy sand	NWI classification: PFO1B
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 Hydrologysignificantly disturbed? Are "Normal Ci	rcumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally problematic? (If needed, exp	lain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point location	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Is the Sampled Area within a Wetland? Hydric Soil Present? Yes X No within a Wetland? Wetland Hydrology Present? Yes X No within a Wetland? Remarks: Is the Sampled Area within a Wetland? Is the Sampled Area within a Wetland? Is the Sampled Area within a Wetland?	Yes <u>X</u> No
L HYDROLOGY	
Primary Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aquatic Fauna (B13) High Water Table (A2) Marl Deposits (B15) (LRR U) X Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) Presence of Reduced Iron (C4) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Algal Mat or Crust (B4) Thin Muck Surface (C7) Iron Deposits (B5) Other (Explain in Remarks) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	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) X Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No X Depth (inches):	lydrology Present? Yes X No
Remarks:	

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

Sampling Point: Wet 5 - Wet

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1. Liriodendron tulipifera	60	Yes	FACU	Number of Dominant Species
2. Acer rubrum	40	Yes	FAC	That Are OBL, FACW, or FAC: 7 (A)
3. Magnolia grandiflora	40	Yes	FAC	Total Number of Dominant
4.				Species Across All Strata: 8 (B)
5				
6				That Are OBLEACIAL or EAC: 87.5% (A/B)
				Broughannes In dev werke best
7				Tatal % Organization Multiple last
8				I otal % Cover of: Multiply by:
	140 =	=Total Cover		OBL species x 1 =
50% of total cover: 70) 20%	of total cover:	28	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 30)				FAC species x 3 =
1. Acer rubrum	30	Yes	FAC	FACU species x 4 =
2. Persea borbonia	20	Yes	FACW	UPL species x 5 =
3				Column Totals:(A)(B)
4.				Prevalence Index = B/A =
5.				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				X_2 - Dominance Test is >50%
				$\frac{1}{2}$ Dravelence Index is $\leq 2.0^{1}$
8.		Tatal Osuar		$\frac{1}{2} = \frac{1}{2} $
	50 =	= I otal Cover		Problematic Hydrophytic Vegetation' (Explain)
50% of total cover: 2	<u> </u>	of total cover:	10	
Herb Stratum (Plot size: 30)				
1. Osmundastrum cinnamomeum	40	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must
2. Woodwardia areolata	20	Yes	OBL	be present, unless disturbed or problematic.
3				Definitions of Four Vegetation Strata:
4				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
7.				
8				Sapling/Shrub – Woody plants, excluding vines, less
0				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
3				
10.				
11				Herb – All herbaceous (non-woody) plants, regardless
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11. 12.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11. 12.		=Total Cover		 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 bright
11. 12. 50% of total cover:	60_=)20%	=Total Cover of total cover:	12	 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.
11. 12. 50% of total cover: 30 Woody Vine Stratum (Plot size: 30	60= 20%	=Total Cover of total cover:		 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.
11. 12. 50% of total cover: 30 Woody Vine Stratum (Plot size: 30 1. Gelsemium sempervirens	<u></u> <u></u>	=Total Cover of total cover: Yes	 	 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.
11. 12. 50% of total cover: 30 Woody Vine Stratum (Plot size: 30 1. Gelsemium sempervirens 2.	60= 20% 20	=Total Cover of total cover: Yes	12 FAC	 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.
11.	60= 20% 20	=Total Cover of total cover: Yes	12 FAC	 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.
11.	60 20% 20	=Total Cover of total cover: Yes	 	 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.
11. 12. 50% of total cover: 30 Woody Vine Stratum (Plot size: 30 1. Gelsemium sempervirens 2. 3. 4. 5		=Total Cover of total cover: Yes	12 FAC	 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.
11.		=Total Cover of total cover: Yes	12 FAC	 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
11.		=Total Cover of total cover: Yes =Total Cover	 	 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?
11.		=Total Cover of total cover: Yes =Total Cover of total cover:	 FAC 	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
11.		=Total Cover of total cover: Yes =Total Cover of total cover:	 FAC 	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
11.		=Total Cover of total cover: Yes =Total Cover of total cover:	 FAC	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
11.	<u>60</u> 20% <u>20</u> <u>20</u> <u>20</u> <u>20</u> <u>20</u> s below.)	=Total Cover of total cover: Yes =Total Cover of total cover:	 FAC	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
11.		=Total Cover of total cover: Yes =Total Cover of total cover:	 FAC 	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

SOIL

Profile Desc Depth	ription: (Describe t Matrix	to the dept	h needed to docu Redox	iment t l c Featur	h e indic a es	ator or c	onfirm the absence	of indica	ators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	·ks	
0-1	10YR 3/3	100					Loamy/Clayey				
1-14	10YR 2/2	95	10YR 5/8	5	С	PL	Sandy	Pro	minent redox o	concentrations	
14-20	10VR 4/1	80	10VR 2/1	20	<u> </u>	M	Sandy	F	aint redox con		
	1011(4/1		1011(2/1				Sandy				
		<u> </u>									
¹ Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, N	1S=Mas	ked San	d Grains.	² Location:	PL=Pore	Lining, M=Ma	atrix.	
Hydric Soil	ndicators: (Applica	ble to all L	RRs, unless othe	rwise n	oted.)		Indicators	for Prob	elematic Hydri	ic Soils ³ :	
Histosol	(A1)		Thin Dark Su	urface (S	69) (LRR	S, T, U)	1 cm M	luck (A9)	(LRR O)		
Histic Ep	ipedon (A2)		Barrier Island	ds 1 cm	Muck (S	12)	2 cm N	luck (A10	D) (LRR S)		
Black Hi	stic (A3)		(MLRA 15	3B, 153	D)		Coast	Prairie R	edox (A16)		
Hydroge	n Sulfide (A4)		Loamy Muck	y Minera	al (F1) (L	.RR O)	(outs	side MLF	RA 150A)		
Stratified	Layers (A5)	T 10	Loamy Gleye	ed Matrix	x (F2)		Reduce	ed Vertic	(F18)		
	Bodies (A6) (LRR P,	1, U)	Depleted Ma	trix (F3)	(50)		(outs		KA 150A, 150E	3)	
	CKY Mineral (A7) (LR	R P, I, U)	Redox Dark :	Surface	(F6)				ipiain Solis (F1 iht Floodalain	$(\mathbf{L}\mathbf{R}\mathbf{R} \mathbf{P}, \mathbf{I})$	
	esence (Ao) (LRR U)		Depleted Dal				Anoma	50lis (F20)			
Depleter	I CITI IVIUCK (A9) (LKK P, I)			RR III	(10)		Red P:	arent Mat	erial (F21)		
Thick Da	ck Dark Surface (A12) Depleted Ochric (F11) (MLRA 151) Very Shallow Dark Surface (F22)						22)				
Coast Pr	Coast Prairie Redox (A16) (MLRA 150A)			Iron-Manganese Masses (F12) (LRR O. P. T					RA 138. 152A i	in FL. 154)	
Sandy M	uckv Mineral (S1) (L	RR O. S)	Umbric Surfa	Umbric Surface (F13) (LRR P, T, U) Barrier Islands L					_ow Chroma N	Aatrix (TS7)	
Sandy G	leved Matrix (S4)		Delta Ochric	(F17) (VLRA 15	51)	(MLF	RA 153B.	153D)	()	
X Sandy R	edox (S5)		Reduced Ver	rtic (F18) (MLRA	, 150A, 1	50B) Other (Explain i	n Remarks)		
Stripped	Matrix (S6)		Piedmont Flo	odplain	Soils (F	19) (MLR	A 149A)				
Dark Su	face (S7) (LRR P, S	, T, U)	Anomalous E	Bright Fl	oodplain	Soils (F2	20)				
Polyvalu	e Below Surface (S8)	(MLRA 14	9A, 153	C, 153D))	³ Indica	tors of hy	drophytic veg	etation and	
(LRR S	S, T, U)		Very Shallow	/ Dark S	urface (F	-22)	wetland hydrology must be present,				
			(MLRA 13	8, 152A	in FL, 1	54)	unle	ss disturl	ped or problem	natic.	
Restrictive I	_ayer (if observed):										
Туре:											
Depth (ir	nches):						Hydric Soil Prese	ent?	Yes <u>X</u>	No	
Remarks:											

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and G See ERDC/EL TR-07-24; the proponent agency is	Ulf Coastal Plain Region S CECW-CO-R OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
Project/Site: Battleship Road Site	City/County: Kershaw County Sampling Date: 07/18/2023
Applicant/Owner: Carlyle Development, LLC	State: SC Sampling Point: Investigation 1
Investigator(s): EAS Professionals, Inc TCT Se	ection. Township. Range:
andform (billside, terrace, etc.): bottomland bardwood loca	I relief (concave, convex, none); convex, Slope (%); 0-2
Subregion (LRR or MLRA): LRR P. MLRA 137 Lat: 34 255753	Long: -80 625671 Datum: NAD 83
Soil Man Linit Name: De - Pantego Joam	NWL classification: DECUB
Are climatic / hydrologic conditions on the site typical for this time of your	2 Vos X No (If no ovelain in Romarke.)
Are Vegetation Soil or the site typical of this time of year	res Are "Nermal Circumstances" present? Vec X No
Are Vegetation, Soil, or Hydrologysignificantly dist	
Are vegetation, Soli, or Hydrologyhaturally problem	natic? (If heeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	ampling 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 No X	
HYDROLOGY	
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aquatic Fauna (B13) High Water Table (A2) Marl Deposits (B15) (L Saturation (A3) Hydrogen Sulfide Odor Water Marks (B1) Oxidized Rhizospheres Sediment Deposits (B2) Presence of Reduced Drift Deposits (B3) Recent Iron Reduction Algal Mat or Crust (B4) Thin Muck Surface (C7 Iron Deposits (B5) Other (Explain in Remain Water-Stained Leaves (B9) Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) (C1) Moss Trim Lines (B16) s on Living Roots (C3) Iron (C4) in Tilled Soils (C6) Z) Z)
Field Observations:	
Surface Water Present? Yes No X Depth (inches Water Table Present? Yes No X Depth (inches Saturation Present? Yes No X Depth (inches (includes capillary fringe) No X Depth (inches Describe Recorded Data (stream gauge, monitoring well, aerial photos,): Wetland Hydrology Present? Yes No _X previous inspections), if available:
Remarks:	

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

Sampling Point: Investigation 1

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1. Magnolia grandiflora	40	Yes	FAC	Number of Dominant Species
2. Quercus nigra	30	Yes	FAC	That Are OBL, FACW, or FAC: 4 (A)
3. Liquidambar styraciflua	15	No	FAC	Total Number of Dominant
4. Pinus taeda	15	No	FAC	Species Across All Strata: 6 (B)
5				
6		·		Percent of Dominant Species That Are OBLEACW or EAC: 66.7% (A/B)
-		·		
/		·		Prevalence index worksneet:
8				Total % Cover of: initiality by.
	100	=Total Cover		OBL species 0 x 1 = 0
50% of total cover:	50 20%	6 of total cover:	20	FACW species 0 x 2 = 0
Sapling/Shrub Stratum (Plot size: 30)			FAC species 120 x 3 = 360
1. Callicarpa americana	15	Yes	FACU	FACU species 20 x 4 = 80
2.				UPL species 0 x 5 = 0
3.				Column Totals: 140 (A) 440 (B)
4.		·		Prevalence Index = $B/A = 3.14$
5		·		Hydrophytic Vegetation Indicators
		·		Desid Test for Hydrophytic Vegetation
б		·		
7		·		X 2 - Dominance Test is >50%
8		·		3 - Prevalence Index is ≤3.0'
	15	=Total Cover		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover:	8 20%	6 of total cover:	3	
Herb Stratum (Plot size: 30)				
1. Microstegium vimineum	10	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must
2. Asplenium platyneuron	5	Yes	FACU	be present, unless disturbed or problematic.
3		·		Definitions of Four Venetation Starts
.1				LUBURITIONS OF FOUR VEDETATION STRATA:
δ		·		Demnitions of Four Vegetation Strata:
4		·		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5 5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
3. 4. 5. 6.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
3.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sanling/Shrub – Woody plants, excluding vines, less
3.				 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 3.28 ft (1 m) tall.
3. 4. 5. 6. 7. 8. 9.				 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 3.28 ft (1 m) tall.
3. 4. 5. 6. 7. 8. 9. 10.				 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 3.28 ft (1 m) tall.
3.				 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 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of cize, and woody plants less than 3.28 ft tall
3.				 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 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
3.		-Total Cover		 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 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
3.		=Total Cover	3	 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 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.
3.	 820%	=Total Cover		 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 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.
3.	 	=Total Cover		 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 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.
3.	 820% 10	=Total Cover 6 of total cover: Yes		 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 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.
3.	 	=Total Cover 6 of total cover: Yes		 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 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.
3.	 	=Total Cover 6 of total cover: Yes		 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 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.
3.	 	=Total Cover 6 of total cover: Yes		 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 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.
3.	 	=Total Cover 6 of total cover: Yes		 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 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.
3.	 	=Total Cover Yes =Total Cover		 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 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 Vine – Market and the second second
3.	 	=Total Cover Yes =Total Cover		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 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 2 Yes X
3.	 	=Total Cover 6 of total cover: Yes =Total Cover 6 of total cover:		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 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
3.	 	=Total Cover of total cover: Yes =Total Cover of total cover: of total cover:		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 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 tall. Hydrophytic Vegetation Present? Yes X No
3.	 	=Total Cover of total cover: Yes =Total Cover of total cover: of total cover:		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 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 Yegetation Yes No
3.	 	=Total Cover 6 of total cover: Yes =Total Cover 6 of total cover: 6 of total cover:		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 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

SOIL

Profile Desc	cription: (Describe	to the depth	needed to doc	ument t	he indica	ator or co	onfirm the ab	sence of indic	ators.)		
Depth	Matrix		Redo	x Featu	es						
(inches)	Color (moist)	% (Color (moist)	%	Type ¹	Loc ²	Texture		Rem	arks	
0-3	10YR 3/3	100					Sandy				
3-20	10YR 5/6	100					Sandy				
		·									
<u> </u>											
		·									
	oncontration D-Don		duced Matrix	18-Mag	kod Sand	Grains	2	ation: PI - Por	Lining M-N	lotrix	
Hydric Soil	Indicators: (Applica		Re unless oth	rwise r	nted Sand	i Giailis.	Indic	cators for Prol	plematic Hyd	ric Soils ³	3.
Histosol	(A1)		Thin Dark S	urface (S	S9) (I RR	S. T. U)	indix	1 cm Muck (A9			•
Histic Fr	ninedon (A2)	-	Barrier Islan	ds 1 cm	Muck (S	12)	—	2 cm Muck (A1			
Black Hi	istic (A3)	—	(MI RA 15	3B. 153		12)		Coast Prairie R	edox (A16)		
Hydroge	en Sulfide (A4)			v Miner	al (F1) (I	RR O)	`	(outside MI I	RA 150A)		
Stratifier	$d Lavers (\Delta 5)$	_	Loamy Glev	ed Matri	v (F2)	KK 0)		Reduced Vertic	(F18)		
Organic	Bodies (A6) (I RR P	т IN —	Depleted Ma	atrix (F3)	~ (I Z)		'		2 Δ 150Δ 150	NB)	
5 cm Mu	ucky Mineral (A7) (I R		Bedox Dark	Surface	(F6)				Inlain Soile (I	-10) /I PP	р т\
S chi Mu		(1, 1, 0) =	Redux Dark	ounace	(F7)		'		apiain Solis (i abt Eloodolaii	n Soile (E2	20)
		· –	Bedox Depr		(F8)						-0)
Depleter	d Below Dark Surface	(A11) —	Marl (F10) (RR U)	(10)		(MILKA 133D) Red Parent Material (E21)				
Thick Da	ark Surface (A12)		Nan (1 10) (1	hric (F1	1) (MI RA	151)	;	Very Shallow D	ark Surface ((F22)	
Coast P	rairie Redox (A16) (N	ILRA 150A)	Iron-Mangar	nne (r nese Ma	sses (F12	2) (LRR (D. P. T)	outside MLI	RA 138. 152/	in FL. 15	54)
Sandy M	Aucky Mineral (S1) (I	BR 0. S)	Umbric Surf	ace (F1:	B) (I RR P	· T. U)	-, - , - ,	Barrier Islands	Low Chroma	Matrix (TS	57)
Sandy G	Heved Matrix (S4)		Delta Ochric	(F17) (MI RA 15	, ., c, 1)		(MI RA 153B	153D)	matrix (10	51)
Sandy B	Redox (S5)	_	Reduced Ve	rtic (F18		150A. 1	50B) (Other (Explain	in Remarks)		
Stripped	Matrix (S6)	-	Piedmont Fl	oodplair	Soils (F')	19) (MLR	(A 149A)				
Dark Su	rface (S7) (I RR P. S	. T. U) –	Anomalous	Bright F		Soils (F2	20)				
Polyvalu	e Below Surface (S8))	(MLRA 14	9A. 153	C. 153D)		3	Indicators of h	vdrophytic ve	detation a	nd
(LRR	S. T. U)	,	Verv Shallov	v Dark S	Surface (F	22)		wetland hvdr	ology must b	e present.	
(-, -, -,	-	(MLRA 13	8, 152A	in FL, 1	54)		unless disturbed or problematic.			
Restrictive	Layer (if observed):										
Type:											
Depth (ir	nches):						Hydric Soi	Present?	Yes	No	Х
Remarks:											



APPENDIX D:

NC DWQ STREAM IDENTIFICATION FORMS

NC DWQ Stream Identification Form Version 4.11							
Date: 7/17/2023	Project/Site: Battleship Road Site Latitude: 34.265219						
Evaluator: TCT - EAS Professionals	County: Kers	County: Kershaw County, SC Longitude:					
Total Points:Stream is at least intermittentif \geq 19 or perennial if \geq 30*	Stream Determ Pei	ination (circle one) rennial	Other e.g. Quad Name: Non-Wetland Water A				
A Geomorphology (Subtotal = 20.5)	Absent	Weak	Moderate	Strong			
1 ^a Continuity of channel bed and bank	0 0	1	2 🖸	30			
2 Sinuosity of channel along thatwee			20	30			
3. In-channel structure: ex. riffle-pool, step-pool.	÷0		- 0				
ripple-pool sequence	00		20	3 O			
4. Particle size of stream substrate	0 0	1 🔘	2 💽	3 🔿			
5. Active/relict floodplain	0 🔘	1 🔘	2 🔘	3 💽			
6. Depositional bars or benches	0 0	1 💽	² O	3 🔘			
7. Recent alluvial deposits	0 0	1 🔘	2 💽	3 🔿			
8. Headcuts	0 0	1 💽	2 🔘	з 🔘			
9. Grade control	0 🔿	0.5	1 💽	1.5 🔘			
10. Natural valley	0 🔿	0.5	1 🔘	1.5 💽			
11. Second or greater order channel	N	o = 0 🔘	Yes =	= 3 💽			
^a artificial ditches are not rated; see discussions in manual							
B. Hydrology (Subtotal = <u>8.5</u>)			<u> </u>				
12. Presence of Baseflow	0 0	10	2 🔘	3 💽			
13. Iron oxidizing bacteria	0 💽	10	2 🔘	3 🔘			
14. Leaf litter	1.5	1 💽	0.5	٥0			
15. Sediment on plants or debris	0 0	0.5 💽	1 🔘	1.5 🔿			
16. Organic debris lines or piles	0 0	0.5 🔘	1 💽	1.5 🔘			
17. Soil-based evidence of high water table?	N	o = 0 🔘	Yes =	= 3 💽			
C. Biology (Subtotal = <u>13</u>)							
18. Fibrous roots in streambed	3 🔿	2 💽	1 🔿	0 🔿			
19. Rooted upland plants in streambed	3 💽	2 🔘	1 🔿	٥ ()			
20. Macrobenthos (note diversity and abundance)	00	10	20	3 🔘			
21. Aquatic Mollusks	0 💽	10	20	3 🔘			
22. Fish	00	0.5 🔿	1 💽	1.5🔿			
23. Crayfish	00	0.5 🔿	1 💽	1.5 🔿			
24. Amphibians	00	0.5 🔘	1 💽	1.5 🔘			
25. Algae	0 🔿	0.5 🔘	1 🔿	1.5 💽			
26. Wetland plants in streambed		FACW = 0.75OOBL	. = 1.5 ⊙ Other = 0	0			
*perennial streams may also be identified using other methods	. See p. 35 of manua	al.					
Notes: Lizards Tail and broadleaf arrowhea	d in channel						

NC DWQ Stream Identification Form Version 4.11							
Date: 7/17/2023	Project/Site: Battleship Road Site Latitude: 34.265665						
Evaluator: TCT - EAS Professionals	County: Kersh	0.619274°					
Total Points:Stream is at least intermittentif \geq 19 or perennial if \geq 30*	Stream Determination (circle one)OtherIntermittente.g. Quad I			Non-Wetland Water B			
A Geomorphology (Subtotal = 11)	Absent	Weak	Moderate	Strong			
1 ^a Continuity of channel bed and bank	0 0	1 🛈	2 0	30			
2. Sinuosity of channel along thalweg	00	10	2 🛈	30			
3. In-channel structure: ex. riffle-pool, step-pool,	00	10	2 0	30			
ripple-pool sequence	00	10	20	30			
4. Particle size of stream substrate	0 Q	1 💽	2 O	<u> 3 O</u>			
5. Active/relict floodplain	0 0	1 O	2 ()	3 💽			
6. Depositional bars or benches	0 💽	10	20	30			
7. Recent alluvial deposits	0 0	1 💽	20	30			
8. Headcuts	0 0	1 O	2 💽	30			
9. Grade control	0 0	0.50	10	1.50			
10. Natural valley	0 0	0.50	1 💽	1.50			
11. Second or greater order channel	N	o = 0 💽	Yes =	Yes = 3 🔘			
artificial ditches are not rated; see discussions in manual							
B. Hydrology (Subtotal = 6.5)			•				
12. Presence of Baseflow	0 0	1 💽	2 🔘	3 🔘			
13. Iron oxidizing bacteria	0 💽	10	2 O	3 🔘			
14. Leaf litter	1.5	10	0.5	0 0			
15. Sediment on plants or debris	0 0	0.5 💽	1 O	1.5 🔘			
16. Organic debris lines or piles	0 ()	0.5 🔘	1 O	1.5 💽			
17. Soil-based evidence of high water table?	N	o = 0 🔘	Yes =	= 3 💽			
C. Biology (Subtotal =8)	1						
18. Fibrous roots in streambed	30	2 💽	10	0 0			
19. Rooted upland plants in streambed	3 💽	2 🔿	10	0 0			
20. Macrobenthos (note diversity and abundance)	00	1 💽	20	30			
21. Aquatic Mollusks	0 💽	10	20	3 🔘			
22. Fish	0 💽	0.5 🔿	10	1.5〇			
23. Crayfish	00	0.5 🔘	10	1.5 🔘			
24. Amphibians	0Q	0.5 📿	1 💽	1.5 📿			
25. Algae	0 💽	0.5 🔘	1 O	1.5 🔘			
26. Wetland plants in streambed		FACW = 0.75OOBL	. = 1.5 O Other = 0	0			
*perennial streams may also be identified using other methods	. See p. 35 of manua	al.					
Notes:							

NC DWQ Stream Identification Form Version 4.11							
Date: 7/18/2023	Project/Site: Battleship Road Site Latitude: 34.255463						
Evaluator: TCT - EAS Professionals	County: Kersh	naw County, SC	Longitude: -8	0.617272°			
Total Points:Stream is at least intermittentif \geq 19 or perennial if \geq 30*	Stream Determination (circle one) IntermittentOther e.g. Quad Name: Non-			Non-Wetland Water C			
				01			
A. Geomorphology (Subtotal = 8)	Absent	vveak	woderate	Strong			
1 ^{ac} Continuity of channel bed and bank	00	10	20	<u>30</u>			
2. Sinuosity of channel along thalweg	00	1 💽	2 O	3 O			
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0 💽	1 🔿	2 🔿	з 🔘			
4. Particle size of stream substrate	0 0	1 💽	2 🔿	3 🔘			
5. Active/relict floodplain	0 0	1 💽	2 🔘	з 🔘			
6. Depositional bars or benches	0 0	1 💽	2 O	з 🔘			
7. Recent alluvial deposits	0 💽	1 🔘	2 🔿	3 🔘			
8. Headcuts	0 0	1 💽	2 🔘	з 🔘			
9. Grade control	0 0	0.5)	1 🔘	1.5 🔘			
10. Natural valley	0 0	0.5)	1 🔘	1.5 🔘			
11. Second or greater order channel	N	o = 0 💽	Yes =	; = 3 🔘			
^a artificial ditches are not rated; see discussions in manual							
B. Hydrology (Subtotal = <u>5.5</u>)	1	1	1				
12. Presence of Baseflow	0 💽	10	2 🔘	3 🔘			
13. Iron oxidizing bacteria	0 💽	10	2 🔘	3 🔘			
14. Leaf litter	1.5	10	0.5	0 0			
15. Sediment on plants or debris	0 0	0.5 💽	1 O	1.5 🔘			
16. Organic debris lines or piles	0 🔿	0.5 🔘	1 O	1.5 💽			
17. Soil-based evidence of high water table?	N	o = 0 🔘	Yes =	= 3 💽			
C. Biology (Subtotal =8)							
18. Fibrous roots in streambed	3 🔿	2 💽	10	٥ ()			
19. Rooted upland plants in streambed	3 💽	2 🔘	10	٥0			
20. Macrobenthos (note diversity and abundance)	00	10	2 0	3 O			
21. Aquatic Mollusks	0 💽	10	20	з 🔘			
22. Fish	0 💽	0.5 🔿	10	1.5🔿			
23. Crayfish	00	0.5 🔘	1 💽	1.5 🔘			
24. Amphibians	00	0.5 🔘	1 💽	1.5 📿			
25. Algae	0 💽	0.5 🔘	1 O	1.5 🔘			
26. Wetland plants in streambed		FACW = 0.75 O OBL	_ = 1.5 O Other = 0	0			
*perennial streams may also be identified using other methods	. See p. 35 of manua	al.					
Notes:							

NC DWQ Stream Identification Form Version 4.11							
Date: 7/18/2023	Project/Site: Battleship Road Site Latitude: 34.253676						
Evaluator: TCT - EAS Professionals	County: Kersh	naw County, SC	Longitude: -8	0.616468°			
Total Points:Stream is at least intermittentif \geq 19 or perennial if \geq 30*	Stream Determination (circle one) Other Intermittent e.g. Quad Name:			Non-Wetland Water E			
	Absort	Maak	Madavata	Stuana			
A. Geomorphology (Subtotal = •)	Absent	vveak	Moderate	Strong			
Continuity of channel bed and bank		10	20	30			
2. Sinuosity of channel along thalweg	00		20	30			
ripple-pool sequence	0 💽	1 🔿	2 🔿	з 🔘			
4. Particle size of stream substrate	0 0	1 💽	2 🔘	3 🔘			
5. Active/relict floodplain	0 🔿	1 💽	2 🔿	з 🔘			
6. Depositional bars or benches	0 0	1 💽	2 🔿	3 🔘			
7. Recent alluvial deposits	0 💽	1 🔘	2 O	3 🔘			
8. Headcuts	0 🔿	1 💽	2 🔿	3 🔘			
9. Grade control	0 0	0.5	1 🔘	1.5 🔘			
10. Natural valley	0 0	0.5	1 🔘	1.5 🔘			
11. Second or greater order channel	N	o = 0 💽	Yes =	Yes = 3 🔘			
^a artificial ditches are not rated; see discussions in manual							
B. Hydrology (Subtotal = <u>5.5</u>)	1	1					
12. Presence of Baseflow	0 💽	1 🔘	2 🔿	з 🔘			
13. Iron oxidizing bacteria	0 💽	1 🔘	2 🔘	3 🔘			
14. Leaf litter	1.5	10	0.5	0 🔘			
15. Sediment on plants or debris	0 0	0.5 💽	1 🔘	1.5 🔘			
16. Organic debris lines or piles	0 🔿	0.5 🔘	1 O	1.5 💽			
17. Soil-based evidence of high water table?	N	o = 0 🔘	Yes =	= 3 💽			
C. Biology (Subtotal = <u>8</u>)							
18. Fibrous roots in streambed	30	2 💽	10	0 🔘			
19. Rooted upland plants in streambed	3 💽	2 🔘	10	0 0			
20. Macrobenthos (note diversity and abundance)	00	10	20	3 🔘			
21. Aquatic Mollusks	0 💽	10	20	3 🔘			
22. Fish	0 💽	0.5 🔿	10	1.5			
23. Crayfish	00	0.5 🔘	1 💽	1.5 🔘			
24. Amphibians	00	0.5 🔘	10	1.5			
25. Algae	0 💽	0.5 🔘	1 O	1.5 🔘			
26. Wetland plants in streambed		FACW = 0.75OOBL	. = 1.5 O Other = 0	0			
*perennial streams may also be identified using other methods	. See p. 35 of manua	al.					
Notes:							