



amec
foster
wheeler

September 7, 2016

U.S. Army Corps of Engineers
Charleston District
69A Hagood Ave.
Charleston, SC 29403

**Subject: Request for Jurisdictional Determination
Bass Drive Parcel
Orangeburg County, South Carolina
Amec Foster Wheeler Project No. 6250-15-0096.05**

To Whom It May Concern:

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), on behalf of our client Berkeley County, respectfully requests a jurisdictional determination by the U.S. Army Corps of Engineers (USACE) Charleston District of the Waters of the U.S./Wetlands for their proposed project, Bass Drive Site, located off of US Highway 15 near Holly Hill in Orangeburg County, South Carolina (Figure 1).

The Bass Drive Site is a proposed addendum to the Project Soter – Landscape Mitigation Plan (hereinafter “Mitigation Project”) and includes the protection of the Bass Drive Tract and its inclusion into the Francis Beidler Forest. Currently, the Bass Drive Tract is a privately held in-holding to the Francis Beidler Forest. The site consists of bald cypress-tupelo gum swamp, isolated ponds, and pine flatwoods wetlands along the main run of Four Hole Swamp.

METHODOLOGY

Jurisdictional waters of the U.S., including wetlands, are defined by 33 CFR Part 328.3(b) and are protected by Section 404 of the CWA (33 United States Code [USC] 1344), which is administered and enforced in South Carolina by the USACE (United States Army Corps of Engineers), Charleston District. The landward limits of waters of the U.S. regulatory jurisdiction at the Bass Drive Site were delineated by Amec Foster Wheeler. Amec Foster Wheeler personnel conducted a wetland/waters of the US delineation on August 31, 2016.

Wetlands are defined by the presence of three criteria: hydrophytic vegetation, hydric soils, and evidence of wetland hydrology. Jurisdictional areas were delineated using the three parameter approach in accordance with the *Corps of Engineers Wetland Delineation Manual*¹ and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain (Version 2.0)*². Jurisdictional areas were delineated with sequentially numbered flagging tape and mapped using a Trimble

¹ USACE. 1987. *Corps of Engineers Wetlands Delineation Manual*. Environmental Laboratory, Vicksburg, MS.

² USACE. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*. Environmental Laboratory, Vicksburg, MS.

Geo XT sub-meter GPS Unit. Paired upland and wetland *Atlantic and Gulf Coastal Plain Region Wetland Determination Data Forms (Version 2.0)* were completed at several locations (Figure 7) along the jurisdictional boundary to illustrate the distinction between wetland and upland.

RESULTS

Jurisdictional Waters of the U.S./Wetlands

Amec Foster Wheeler personnel identified four jurisdictional waters of the U.S. within the proposed project corridor: two jurisdictional wetlands & two jurisdictional ponds. The following table lists each water of the U.S./wetland feature within the project corridor and their corresponding size. See Figure 6 for waters of the U.S. locations.

Table 1

Area	Feature Type	Acreage
Wetland A	Wetland A	62.82 acres
Wetland B	Wetland B	2.37 acres
Pond A	Pond A	0.17 acres
Pond B	Pond B	1.51 acres
Wetland Acreage	N/A	66.87 acres
Uplands	N/A	20.75 acres
Total Site Acreage	N/A	87.62 acres

Wetland Descriptions

The project site is located on the edge of the main run of Four Hole Swamp. The western portion of the property is dominated by bald cypress-tupelo gum swamp forest and the eastern portion of the site is a mosaic of wetlands and uplands within a pine flatwoods community.

The Bald Cypress-Tupelo Gum Swamp community is located within the western half of the Bass Drive Parcel, and is associated with Four Hole Swamp. The community is dominated by an overstory of bald cypress (*Taxodium distichum*) and water tupelo (*Nyssa aquatica*), with scattered swamp chestnut oak (*Quercus michauxii*), sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), swamp cottonwood (*Populus heterophylla*), and diamond leaf oak (*Quercus laurifolia*). The understory of this community is sparsely occupied by dwarf palmetto (*Sabal minor*) and saplings of overstory trees. An herbaceous layer is not present.

The terrace above Four Hole Swamp is dominated by a Pine flatwoods community that has a significant hardwood presence due to the lack of fire management. This community is a mosaic of wetlands and uplands with a greater pine presence in uplands, and more hardwood species in the wetlands. Dominant species observed within the overstory of this community include loblolly pine (*Pinus taeda*), sweetgum (*Liquidambar styraciflua*), diamond leaf oak (*Quercus laurifolia*), swamp chestnut oak (*Q. michauxii*), water oak (*Quercus nigra*), red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), black gum (*Nyssa sylvatica*). The understory includes young overstory trees, sweetbay magnolia (*Magnolia virginiana*), red bay (*Persea borbonia*), wax myrtle

(*Morella cerifera*), American beautyberry (*Callicarpa americana*), buckeye (*Aesculus pavia*), spruce pine (*Pinus glabra*), ironwood (*Carpinus caroliniana*), American elm (*Ulmus americana*), winged elm (*Ulmus alleta*), American holly (*Ilex opaca*), and fetterbush *Lyonia lucida*). Herbaceous species include sedges (*Carex* sp.), lizard's tail (*Saururus cernuus*), false nettle (*Boehmeria cylindrica*), netted chain-fern (*Woodwardia areolata*), sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmunda cinnamomea*), and various hydrophytic grasses

Two borrow pits/ponds were identified during field activities. These borrow pits were likely excavated to provide fill material for the forestry road bisecting the property.

Two blueline streams are shown on the Bass Drive Site, however, no stream channels were identified during field activities. The main run of Four Hole Swamp is located within the western portion of the property.

Connection to Waters of the US

Wetlands on the Bass Drive parcel drain directly into Four Hole Swamp. Four Hole Swamp becomes a Traditionally Navigable Water according to the South Carolina Department of Health and Environmental Control (Figure 8) once it crosses Interstate I-26 near Ridgeville.

SUMMARY

Amec Foster Wheeler has conducted a wetland delineation within the approximate 87.62-acre Bass Drive Site. Wetlands located within the project area are represented on the attached Figure 6. It is our request that the USACE Charleston District verify these jurisdictional waters of the U.S./wetland boundaries as they are represented on the attached figures.

CLOSING

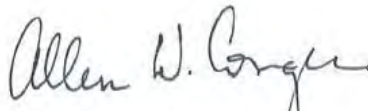
If you have any questions concerning this document, please contact Mr. Brendon Kelly at (803) 798-1200.

Sincerely,

AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUTURE, INC.



Brendon P. Kelly
Staff Environmental Scientist



Allen W. Conger, PWS
Senior Principal Scientist

Attachments: Jurisdictional Determination Request Form
 Photograph Appendix
 Wetland Determination Data Forms (Atlantic and Gulf Coastal Plain – Version 2.0)
 Figures
 Figure 1- Site Location Map
 Figure 2 – USGS Topographic Map
 Figure 3– Soils Map
 Figure 4 – National Wetlands Inventory Map
 Figure 5 – Aerial Map

Figure 6 – Aquatic Resources Map
Figure 7 – Photograph and Data Point Location Map
Figure 8 – Connection to Navigable Waters Map

U.S. Army Corps of Engineers – Charleston District - Regulatory Division
JURISDICTIONAL DETERMINATION REQUEST

For Identifying Waters of the U.S., Including Wetlands and Tributaries, and Jurisdictional Status

This form is intended for use by anyone requesting a jurisdictional determination from the U.S Army Corps of Engineers, Charleston District (Corps). Please supply the following information and supporting documents described below. This document can be completed electronically and then printed. **This document must be signed by the current property owner(s) to be considered a formal request.** We require original signatures; faxes and emails with scanned copies are not acceptable. Per the required property owner's signature below, please be advised that submitting this request authorizes the Corps to conduct on-site investigations, if necessary, to inform the jurisdictional determination process. Please contact us if you need any assistance with filling out this form, as well as for jurisdictional determination requests associated with corridor projects involving multiple property owners. You may attach extra pages/authorizations if needed. The printed form and supporting documents should be mailed to the appropriate office (refer to the enclosed service area map):

Charleston Office:
US Army Corps of Engineers
Regulatory Division
69A Hagood Avenue
Charleston, SC 29403
(ph) 843-329-8044

Columbia Office:
US Army Corps of Engineers
Regulatory Office
1835 Assembly Street, Room 865 B-1
Columbia, SC 29201
(ph) 803-253-3444

Conway Office:
US Army Corps of Engineers
Regulatory Office
1949 Industrial Park Road, Room 140
Conway, SC 29526
(ph) 843-365-4239

Directions: Sections I-V must be completed upon submittal. Failure to do so may result in additional delays.

I. PROPERTY AND AGENT INFORMATION

A. Project Details/Location:

Project Name: _____ Date: _____
County: _____ Latitude/Longitude: _____
Tax Map Sequence (TMS) #(s): _____
Property Address(es): _____
Acreage(s): _____

B. Property Owner(s): (if there are multiple property owners, please attach additional pages)

Name: _____
(*Current Legal Property Owner Name and Contact Information are required.)
Company Name (if applicable): _____
Address: _____
Phone: _____ Email: _____

C. Requestor Of Jurisdictional Determination (check here ☐ if same as Property Owner):

Name: _____
Company Name (if applicable): _____
Address: _____
Phone: _____ Email: _____

Select one:

- ☐ I am the current property owner
☐ I am an interested buyer or am under contract to purchase the property
☐ Other, please explain.

D. Consultant/Agent (if applicable):

Consultant/Agent Name: _____
Company Name (if applicable): _____
Address: _____
Phone: _____ Email: _____

II. PROPERTY ACCESS AUTHORIZATION

I, the undersigned, a duly authorized owner of record of the below parcel number(s), do hereby authorize representatives of the U.S. Army Corps of Engineers, Charleston District, to enter upon the below parcel number(s) for the purposes of conducting on-site investigations (e.g., digging and refilling shallow holes) and issuing a jurisdictional determination associated with Waters of the U.S. subject to Federal Jurisdiction under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899.

I acknowledge that under South Carolina common law, a person who authorizes, advises, encourages, procures, or incites another to commit a trespass, is liable along with the actual perpetrator.

I further acknowledge that 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Mailing Address of Property Owner

Property Address

TMS #(s)

Property Owner Name (please print)

Signature of Property Owner:

Date:

III. AGENT/CONSULTANT AUTHORIZATION ☐ Not applicable

I, the undersigned, do authorize the agent/consultant listed above (on page 1) to act in my behalf in the processing of this request and to furnish supplemental information in support of this request.

I acknowledge that 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Property Owner Name (or Requestor Name) (please print)

Signature of Property Owner (or Requestor): **Date:**

The Consultant/Agent is acting on behalf of the *(check all that apply)*:

☐ Property Owner

☐ Requestor

☐ Other, please explain: _____

IV. Type of Submittal (Select one)

A. I am an environmental/wetland consultant representing a JD requestor who is submitting a wetland delineation for review and verification by the Corps. Please refer to pages **4-8** for the "Information Required for Wetland Delineations and Jurisdictional Determination Submittals."

B. I am a JD requestor without an environmental/wetland consultant requesting that the Corps investigate the above property for the presence or absence of wetlands, tributaries, or other Waters of the U.S., and establish the geographic extent of these areas. *Please note that while the Corps offers wetland delineation services, time frames to fulfill requests are dependent on site size, property conditions, workload priorities, and staffing levels. To expedite the wetland delineation process, property owners and/or requestors are encouraged to hire an environmental consultant. A courtesy list of environmental consultants can be found on our website at www.sac.usace.army.mil/Missions/Regulatory/PermittingProcess.aspx.*

For requestors with no environmental/wetland consultant for box IV. B. above, the first three items listed below MUST accompany your request. Complete only this page and disregard the following pages.

1. Accurate location maps (from County Map, USGS Quad Sheet, etc.), street address and directions to site from a nearby major intersection.
2. Copy of Survey Property Plat, Tax Map of Property, or depiction showing project review area/property boundary with GPS coordinates.
3. Statement that the project review area/property boundaries are marked and a description of how the project review area/property boundaries are marked onsite. See below note* for more information.
4. Additional information, such as soil survey information, aerial photographs, etc.

*Note: The project review area/property boundaries must be accurately marked onsite PRIOR to the Corps site visit. The property owner may need to hire a registered land surveyor to locate and mark the property corners and/or boundaries. Small sites and/or sparsely vegetated sites may only require the property corners be marked. However, sites that are large, oddly shaped, and/or have thick vegetative cover may require additional marking efforts, such as cut sight lines, the use of a series of flags, etc., in order for Corps staff to identify and locate the boundaries while onsite.

V. Type of Jurisdictional Determination Requested (select one):

A. Accurate-Approved B. Approximate-Approved C. Accurate-Preliminary * D. Approximate-Preliminary

Description of the Types of Jurisdictional Determinations:

Preliminary – Preliminary determinations will identify whether wetlands or other waters are present on the site and will presume that they are jurisdictional. Preliminary jurisdictional determinations may be completed more quickly than Approved jurisdictional determinations and do not expire.

Approved – Approved jurisdictional determinations will identify whether wetlands or other waters are present on the site and will include a determination of their jurisdictional status. Approved jurisdictional determinations expire in 5 years.

Description of the Types of Delineations:

Accurate: Location and extent (boundaries) of all Waters of the U.S. are identified and surveyed by a registered land surveyor. Project review area/property boundary must be surveyed or represented by a tax map (or by GPS points if no Waters of the U.S. are present).

Approximate: Location and extent (boundaries) of all Waters of the U.S. are identified and depicted approximately on a sketch. Project review area/property boundary must be surveyed or represented by a tax map or GPS coordinates.

***Note: For Accurate-Preliminary Jurisdictional Determinations, although the jurisdictional determination will not expire, the surveyed location and extent (boundaries) of wetlands and/or waters will expire after 5 years.**

Information Required for Delineation and Jurisdictional Determination Submittals

- Pages 4-8 provide a detailed list of all information that is **REQUIRED** for delineations and jurisdictional determinations submitted to the Corps for approval.
- Items listed in #1- #3 are required for **ALL** submittals.
- Items listed in #4 are required for “**Approximate**” depictions of aquatic resources.
- Items listed in #5 are required for “**Accurate**” depictions of aquatic resources.
- Items listed in #6 are required for “**Approved**” jurisdictional determinations depicting **uplands only**.

Note: Prior to site verification by the Corps, all aquatic resource boundaries, data point locations, and property corners must be marked for field inspection. Incomplete submittals may cause a delay in the verification process. Additional information not required below may be included with the submittal.

1. Jurisdictional Determination (JD) Request Form – (Current version from Charleston District website)

- The form must be completed fully and the person signing the form must be the legal and current property owner or have the specific authority of the property owner to authorize Corps of Engineers employees or their agents to inspect the property.
- **The legal and current property owner contact information must be listed on the form.**
- Indicate the type of JD requested.

2. Wetland Determination Data Forms – (Current version from appropriate Regional Supplement available on Corps website)

- Appropriate data forms must be used and completed fully.
- A minimum of one data point (one completed data form) is required for properties containing no wetlands. Additional data points should be taken on larger sites and in any upland areas that appear to be wetlands based on aerial photos, NWI maps, etc.
- Data points must be located such that there is a pair of points at multiple locations for each wetland type, on both sides of the wetland line in positions that illustrate the distinction between wetland and non-wetland.
- Sufficient number/location of data points should be taken to represent the wetland/upland status of the entire investigation area.

3. Maps, Wetland/Upland Sketches and Photos

- Location Maps: large-scale and small-scale maps, including streets, intersections, cities and an accurate depiction of the project boundary.
- Overlay project boundary on
 - Aerial photo
 - USGS topographic map
 - Soil Survey map
 - National Wetlands Inventory map
- Landscape photos of representative upland areas and aquatic resources. Display photo location and direction on wetland/upland sketch.
- Sketch of all aquatic resources and pertinent features that are present (Wetlands, Tributaries, Lakes, Borrow Pits, Ponds, Rivers, Drainage Features, Ditches) preferably on an aerial photo using no-fill polygons.
 - Data point locations with labels

4. Required Elements for “Approximate” Depictions of Aquatic Resources (Non-Surveyed Depiction)

- Title Block with project name, applicant, county, state, date
- Solid bold line depicting project area boundary with label. The project area boundary must be accurate and may be represented by survey, tax map, or GPS coordinates with coordinates provided. Tax maps may only be used if the project area includes the entire parcel. Refer to #6 Option 2 for required information for depictions using tax maps. Refer to #6 Option 3 for required information for depictions using GPS coordinates.
- North arrow
- Clearly marked boundaries of all aquatic resources and other pertinent features that are present (Wetlands, Tributaries, Lakes, Borrow Pits, Ponds, Rivers, Drainage Features, Ditches). Non-jurisdictional linear features or ditches are not required to be included on the approximate depiction but must be shown on a supplemental sketch.
- Label all aquatic resources.
 - Refer to the Jurisdictional Status Label Tables on page 5 for the standardized labels that should be used for Approved and Preliminary jurisdictional determinations.
 - Include size (acres) and length (linear feet) of each aquatic resource on the approximate depiction.
 - A table displaying the above information may be provided on the approximate depiction

5. Required Elements of an Accurate Depiction of Aquatic Resources (Survey Plat)

- Title Block with project name, applicant, county and state
- Vicinity map
- Labeled names of significant adjacent and/or internal roads, water bodies or other unique reference features
- North arrow / compass rose
- Distance scale
- Plat preparation date, revision date(s), surveyor seal, surveyor signature, and date of surveyor signature. All plats must be prepared by a SC-Registered Land Surveyor
- SCDHEC-OCRM signature approving critical line boundaries and acreage (if applicable).**
- Solid bold surveyed line depicting project area boundary and clearly labeled
- Surveyed boundaries of all Jurisdictional Wetlands and Non-Jurisdictional Wetlands
- Non-Jurisdictional Borrow Pits/Ponds do not have to be surveyed but must be shown on the survey plat. (The survey plat can include a note that these features are depicted “Not to Scale”)
- Non-jurisdictional linear features or ditches are not required to be included on the survey plat but must be shown on a supplemental sketch.
- Tributaries should be delineated and displayed on the survey plat.
 - In circumstances when a portion of a tributary is located within wetlands and is no longer distinct from the wetland, then that portion of the tributary need not be surveyed but the approximate location should be displayed on the survey plat.
- “Floating” polygons must be tied to a referenced survey point
- Survey data table, listing prominent labeled polygon point locations, expressed in *Metes & Bounds* or *State-Plane coordinates*
- Label all aquatic resources.
 - Refer to the Jurisdictional Status Label Tables on page 5 for the standardized labels that should be used for Approved and Preliminary jurisdictional determinations.
 - Include size (acres) and length (linear feet) of each aquatic resource on the survey plat.
 - A table displaying the above information may be provided on the survey plat.

**** Applicants are encouraged to follow the *Recommended SCDHEC-OCRM/Corps Plat Procedure*. Refer to page 6.**

6. Required Elements for Upland Depictions (No Wetlands or Waters Present)- 3 Options Available

Option 1: Survey Plat- Survey Plats may be provided for any Upland Depictions

- Title Block with project name, applicant, county and state
- Vicinity map
- Labeled names of significant adjacent and/or internal roads, water bodies or other unique reference features
- North arrow / compass rose
- Distance scale
- Plat preparation date, revision date(s), surveyor seal, surveyor signature, and date of surveyor signature. All plats must be prepared by a SC-Registered Land Surveyor
- Solid bold surveyed line depicting project area boundary clearly labeled
- Uplands label, including acreage
- Survey data table, listing prominent labeled polygon point locations, expressed in *Metes & Bounds* or *State-Plane coordinates*
- Non-Jurisdictional Borrow Pits/Ponds do not have to be surveyed but must be shown on the survey plat and properly labeled. (The survey plat can include a note that these features are depicted “Not to Scale”) Refer to the Jurisdictional Status Label Table 1. for APPROVED jurisdictional determinations on page 5 the standardized labels that should be used.
- Non-Jurisdictional Linear Features or Ditches are not required to be included on the survey plat but must be shown on a supplement sketch.

Option 2: Tax Maps- Valid Tax Maps from County websites may be provided for Upland Depictions if the project area includes the entire parcel

- Title Block with project name, applicant, county, state, source of tax map, date of preparation (print date)
- Tax Map Parcel Numbers, Property Identification Numbers, etc., must be shown on the Tax Map
- Acreage of the parcel must be included
- Non-Jurisdictional Borrow Pits/Ponds must be shown on the Tax Map and properly labeled. Refer to the Jurisdictional Status Label Table 1. for APPROVED jurisdictional determinations on page 5 for the standardized labels that should be used.
- Non-Jurisdictional Linear Features or Ditches are not required to be included on the Tax Map but must be shown on a supplemental sketch.

Option 3: GPS Coordinates- GPS coordinates of project area boundary may be provided for Upland Depictions when the review is for a portion of a parcel

- Title Block with project name, applicant, county, state, date of preparation
- Solid bold line depicting the project area boundary with the points (corners) marked on depiction
- GPS coordinates of the points (corners) of the project area boundary provided on the sketch (at corner points or listed in a table).
- Acreage of project area
- Solid bold line (different color or line type) depicting the boundaries of the larger parcel.
- Non-Jurisdictional Borrow Pits/Ponds must be shown and labeled. Refer to the Jurisdictional Status Label Table 1. for APPROVED jurisdictional determinations on page 5 for the standardized labels that should be used.
- Non-Jurisdictional Linear Features or Ditches are not required to be included on the GPS Upland Depiction, but must be shown on a supplemental sketch.

Table 1:
Jurisdictional Status Label Table for APPROVED Jurisdictional Determinations

Label ¹	Description
Jurisdictional Features	
TNW x ²	Traditionally Navigable Water and/or OCRM Critical Area Wetland
TNW Tidal Ditch x	Tidally-influenced ditches (below MHW line)
Jurisdictional pRPW Tributary x	Jurisdictional perennial Relatively Permanent Water
Jurisdictional sRPW Tributary x	Jurisdictional seasonal Relatively Permanent Water
Jurisdictional non-RPW Tributary x	Jurisdictional non-Relatively Permanent Water
Jurisdictional Ditch x ³	Jurisdictional Ditch ³
Jurisdictional Wetland x	Meeting 3-parameters per 1987 Delineation Manual
Jurisdictional Lake x	
Jurisdictional Impoundment of WOUS x	Jurisdictional Impoundment of waters of the U.S.
Jurisdictional Pond x	
Non-jurisdictional Features	
Non-jurisdictional non-RPW Tributary x	Non-jurisdictional non-Relatively Permanent Water
Non-jurisdictional wetland x	
Non-jurisdictional isolated wetland x	
Non-jurisdictional ditch x	
Non-jurisdictional linear conveyance x	
Non-jurisdictional Borrow Pit x	
Non-jurisdictional manmade Lake x	
Non-jurisdictional upland excavated Pond x	
Non-jurisdictional Impoundment x	
Upland	Uplands should be labeled when wetlands or other waters, regardless of jurisdictional status, are present. When no wetlands or other waters are present, the "Upland" label is not necessary.

1 = Labels required for jurisdictional and non-jurisdictional features on depictions that support jurisdictional determinations. Note that for some features more than one label may be acceptable (i.e., a tidal marsh wetland might be labeled "Jurisdictional Wetland x" or "TNW x"). The intent is to have labels that are consistent with current guidance and thus minimize the need to edit plat labels later in the process. Ultimately, determination of the jurisdictional status of aquatic resources is the responsibility of the Corps of Engineers and a plat should not be considered final until the Corps of Engineers has approved all labels regarding jurisdictional status. Additional labels may be added to this list in subsequent revisions of this form.

2 = Each feature label must include a unique alpha-numeric label so that multiple features of a given type can be distinguished (i.e., Jurisdictional Wetland 1, Jurisdictional Wetland 2, etc.). Exception: Upland areas should be labeled "Upland" with no additional label data.

3 = Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water are generally not waters of the United States because they are not tributaries or they do not have a significant nexus to downstream traditional navigable waters. Consistent with current Rapanos Guidance, the category "jurisdictional ditch" should be reserved for those non-tributary linear conveyance features which are manmade and that do carry a relatively permanent flow of water. The most common examples include ditches excavated between and connecting two or more wetlands or waters of the United States that display no tributary characteristics. The Corps of Engineers will evaluate these features on a case-by-case basis.

Table 2:
Label Table for PRELIMINARY¹ Jurisdictional Determinations

Label	Description
Tidal Wetland X	Tidal wetland, OCRM Critical Area Wetland
Freshwater Wetland X	Freshwater wetland (differentiate when tidal wetlands are also present)
Wetland X	When only freshwater wetlands are present
Tributary X	Tributaries, linear non-wetland waters, with unknown flow regime
Tributary-Perennial X	Tributaries, linear non-wetland waters, with perennial flow
Tributary- Seasonal X	Tributaries, linear non-wetland waters, with seasonal flow
Tributary- Intermittent X	Tributaries, linear non-wetland waters, with less than seasonal flow
Pond X	Pond
Water X	Non-linear non-wetland water features, including open water borrow pits and other open water excavated areas.
Non-aquatic feature X	A feature that is determined by the Corps not be an aquatic feature and therefore not potentially jurisdictional. Non-aquatic features do not need to be shown and labeled on plats but must be shown and labeled on supplemental sketches.

1= For Preliminary Jurisdictional Determinations, Aquatic Resources present on a project site are Potentially Jurisdictional and therefore presumed to be jurisdictional. Features that are determined to be non-aquatic resources are not considered Potentially Jurisdictional.

Recommended SCDHEC-OCRM/Corps Plat Procedure

This is a recommended procedure for conducting wetland delineations and obtaining jurisdictional determinations that include **tidal** waters and/or wetlands that are regulated by both SCDHEC-OCRM and the Corps. This procedure was developed by both OCRM and the Corps to help reduce the delays that may occur during the jurisdictional determination process relating to plat revisions.

Step 1: Applicant should delineate and flag wetlands on-site.

Step 2: Applicant should prepare and submit Jurisdictional Determination Request to USACE and Critical Area Line determination request to DHEC OCRM.

Step 3: USACE field review/ DHEC OCRM field reviews (separate reviews).

Step 4: Applicant should survey agency-reviewed wetland boundaries.

Step 5: Applicant should coordinate with USACE to determine appropriate jurisdictional status labels prior to plat submittal.

Step 6: Applicant should provide appropriate jurisdictional status labels and submittal requirements to surveyor.

Step 7: Surveyor produces plat.

Step 8: Applicant must review plat to ensure appropriate labeling/submittal requirements are met prior to submittal.

Step 9: Submit plat to DHEC OCRM for approval of critical area and signing of plat.

Step 10: Submit DHEC OCRM signed plat to USACE for finalizing Jurisdictional Determination.

U. S. Army Corps Of Engineers Charleston District Regulatory Service Areas

Conway Office:

U.S. Army Corps Of Engineers
Conway Regulatory Office
Conway Agricultural Center
1949 Industrial Park Road, Rm 140
Conway, SC 29526

Phone: 843-365-4239
Fax: 843-365-4318

Columbia Office Service Area

Columbia Office:

U.S. Army Corps of Engineers
Strom Thurmond Federal Bldg.
1835 Assembly Street, Rm. 865 B-1
Columbia, SC 29201

Phone: 803-253-3444
Fax: 803-253-3446

Conway Office Service Area

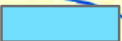
Charleston Office Service Area


Charleston Office:

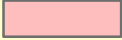
U.S. Army Corps of Engineers
Charleston Regulatory Office
69 A Hagood Ave.
Charleston, SC 29403

Toll Free: 866-329-8187
Phone: 843-329-8044
Fax: 843-329-2332

If your project is within:



 Then all correspondence should be sent to the Charleston Office.

 Then all correspondence should be sent to the Conway Office.

 Then all correspondence should be sent to the Columbia Office.

*Note: If you are not sure which Service area your project is located within please send to the Charleston Office.

Bass Drive Tract Baseline Documentation Report
Orangeburg County, South Carolina
 Photographic Log

	PHOTOLOG SHEET
	Client: Berkeley County
	Site name: Bass Drive Tract
	Project: 6250150096.05
	Date: 9/2/2016
	Photo #: 1
	Photographer: Brett Sexton
	Description: Taken adjacent to borrow pit (Pond B). Taken from southeastern corner, facing west.
	Client: Berkeley County
	Site name: Bass Drive Tract
	Project: 6250150096.05
	Date: 9/2/2016
	Photo #: 2
	Photographer: Brett Sexton
	Description: Facing west near the forestry road running through the center of the site.

Bass Drive Tract Baseline Documentation Report
Orangeburg County, South Carolina
 Photographic Log

	PHOTOLOG SHEET	
	Client: Berkeley County	
	Site name: Bass Drive Tract	
	Project: 6250150096.05	
	Date: 9/2/2016	
	Photo #: 3	
	Photographer: Brett Sexton	
	Description: Bald cypress-tupelo gum swamp located in the western portion of the tract. Taken facing southeast.	
	Client: Berkeley County	
	Site name: Bass Drive Tract	
	Project: 6250150096.05	
	Date: 9/2/2016	
	Photo #: 4	
	Photographer: Brett Sexton	
	Description: Gum depression located in the eastern portion of the site. Taken from the edge of the depression, facing northwest.	

Bass Drive Tract Baseline Documentation Report
Orangeburg County, South Carolina
 Photographic Log

	PHOTOLOG SHEET
	Client: Berkeley County
	Site name: Bass Drive Tract
	Project: 6250150096.05
	Date: 9/2/2016
	Photo #: 5
	Photographer: Brett Sexton
Description: Photo taken from Data Point #1, facing northeast into the uplands.	

	Client: Berkeley County
	Site name: Bass Drive Tract
	Project: 6250150096.05
	Date: 9/2/2016
	Photo #: 6
	Photographer: Brett Sexton
	Description: Photo taken from Data Point #1, facing southwest into the wetlands.

Bass Drive Tract Baseline Documentation Report
Orangeburg County, South Carolina
 Photographic Log

	PHOTOLOG SHEET
	Client: Berkeley County
	Site name: Bass Drive Tract
	Project: 6250150096.05
	Date: 9/2/2016
	Photo #: 7
	Photographer: Brett Sexton
	Description: Facing southeast at pine flatwood uplands near the eastern portion of the site.
	Client: Berkeley County
	Site name: Bass Drive Tract
	Project: 6250150096.05
	Date: 9/2/2016
	Photo #: 8
	Photographer: Brett Sexton
	Description: Facing southeast at pine flatwood uplands near the eastern portion of the site.

Bass Drive Tract Baseline Documentation Report
Orangeburg County, South Carolina
 Photographic Log

	PHOTOLOG SHEET
	Client: Berkeley County
	Site name: Bass Drive Tract
	Project: 6250150096.05
	Date: 9/2/2016
	Photo #: 9
	Photographer: Brett Sexton
	Description: Photo taken from Data Point #2, facing east towards the uplands.
	Client: Berkeley County
	Site name: Bass Drive Tract
	Project: 6250150096.05
	Date: 9/2/2016
	Photo #: 10
	Photographer: Brett Sexton
	Description: Photo taken from Data Point #2, facing west, into the wetlands.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	Bass Drive Site	City/County:	Holly Hill/Orangeburg County	Sampling Date:	8/31/2016		
Applicant/Owner:	Berkeley County	State:	SC	Sampling Point:	Data Point 1 (Wet)		
Investigator(s):	Brendon Kelly, Brett Sexton	Section, Township, Range:	NA				
Landform: (hillslope, terrace, etc.)	bottom	Local Relief (concave, convex, none):	none	Slope (%):	0		
Subregion (LRR or MLRA)	LRR T	Lat:	33.308578	Long:	-80.48334	Datum:	NA
Soil Map Unit Name:	Mouzon fine sandy loam	NWI Classification:	PSS1/2C				
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If no, explain in Remarks.)							
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? Are "Normal Circumstances" present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If needed, explain any answers in Remarks.)							

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: Bottom within the Four Hole Swamp drainage			
All three wetland indicators are present, area is a wetland.			

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply):			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input checked="" type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphagnum moss (D8) (LRR T,U)	
Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____		
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____		
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): surface		
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Primary and multiple secondary wetland hydrology indicators present.			

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

Sampling Point: Data Point 1 (Wet)

Tree Stratum (Plot size: 30 ft)			Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Nyssa biflora</i>		30	Y	OBL
2.	<i>Acer rubrum</i>		20	Y	FAC
3.	<i>Liquidambar styraciflua</i>		15		FAC
4.	<i>Quercus michauxii</i>		10		FACW
5.	<i>Taxodium distichum</i>		5		OBL
6.					
			80	= Total Cover	
50% of total cover:			40	20% of total cover:	
				16	
Sapling Stratum (Plot size: 30 ft)					
1.	<i>Carpinus caroliniana</i>		10	Y	FAC
2.	<i>Quercus laurifolia</i>		5	Y	FACW
3.	<i>Liquidambar styraciflua</i>		5	Y	FAC
4.					
5.					
6.					
			20	= Total Cover	
50% of total cover:			10	20% of total cover:	
				4	
Shrub Stratum (Plot size: 30 ft)					
1.	<i>Sabal minor</i>		40	Y	FACW
2.					
3.					
4.					
5.					
6.					
			40	= Total Cover	
50% of total cover:			20	20% of total cover:	
				8	
Herb Stratum (Plot size: 30 ft)					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
				= Total Cover	
50% of total cover:				20% of total cover:	
Woody Vine Stratum (Plot size: 30 ft)					
1.					
2.					
3.					
4.					
5.					
				= Total Cover	
50% of total cover:				20% of total cover:	

Dominance Test Worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

OBL species	<u>35</u>	x 1 =	<u>35</u>
FACW species	<u>55</u>	x 2 =	<u>110</u>
FAC species	<u>50</u>	x 3 =	<u>150</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>140</u> (A)		<u>295</u> (B)

 Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

☒ Dominance Test is > 50%
☐ Prevalence Index is ≤ 3.0¹
☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes ☒
No ☐

Remarks: (If observed, list morphological adaptations below)
 ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status.
 Hydrophytic vegetation criteria met.

SOIL

Sampling Point: Data Point 1 (Wet)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators).								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	10YR 3/1						Sandy loam	
4-8	10YR 5/1	95	10YR 6/8	5	C	M	Sandy loam	
8-18+	10YR 6/1	95	10YR 6/8	5	C	M	Sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains

²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

☐ Histosol (A1)

☐ Histic Epipedon (A2)

☐ Black Histic (A3)

☐ Hydrogen Sulfide (A4)

☐ Stratified Layers (A5)

☐ Organic Bodies (A6) (LRR P,T,U)

☐ 5 cm Mucky Mineral (A7) (LRR P,T,U)

☐ Muck Presence (A8) (LRR U)

☐ 1 cm Muck (A9) (LRR P,T)

☐ Depleted Below Dark Surface (A11)

☐ Thick Dark Surface (A12)

☐ Coast Prairie Redox (A16) (MLRA 150A)

☐ Sandy Mucky Mineral (S1) (LRR O,S)

☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)

☐ Stripped Matrix (S6)

☐ Dark Surface (S7) (LRR P,S,T,U)

☐ Polyvalue Below Surface (S8) (LRR S,T,U)

☐ Thin Dark Surface (S9) (LRR S,T,U)

☐ Loamy Mucky Mineral (F1) (LRR O)

☐ Loamy Gleyed Matrix (F2)

☒ Depleted Matrix (F3)

☐ Redox Dark Surface (F6)

☐ Depleted Dark Surface (F7)

☐ Redox Depressions (F8)

☐ Marl (F10) (LRR U)

☐ Depleted Ochric (F11) (MLRA 151)

☐ Iron-Manganese Masses (F12) (LRR O,P,T)

☐ Umbric Surface (F13) (LRR P,T,U)

☐ Delta Ochric (F17) (MLRA 151)

☐ Reduced Vertic (F18) (MLRA 150A, 150B)

☐ Piedmont Floodplain Soils (F19) (MLRA 149A)

☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)

☐ 2 cm Muck (A10) (LRR S)

☐ Reduced Vertic (F18) (outside MLRA 150A,B)

☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)

☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)

☐ Red Parent Material (TF2)

☐ Very Shallow Dark Surface (TF12)

☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present?

Yes☒

No☐

Remarks:

Hydric soil criteria met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	Bass Drive Site	City/County:	Holly Hill/Orangeburg County	Sampling Date:	8/31/2016
Applicant/Owner:	Berkeley County	State:	SC	Sampling Point:	Data Point 1 (Up)
Investigator(s):	Brendon Kelly, Brett Sexton	Section, Township, Range:	NA		
Landform: (hillslope, terrace, etc.)	terrace	Local Relief (concave, convex, none):	none	Slope (%):	0
Subregion (LRR or MLRA)	LRR T	Lat:	33.308578	Long:	-80.48334
		Datum:	NA		
Soil Map Unit Name:	Mouzon fine sandy loam	NWI Classification:	PSS1/4A		
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If no, explain in Remarks.)					
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? Are "Normal Circumstances" present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If needed, explain any answers in Remarks.)					

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area	
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	within a wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Remarks: Terrace above Four Hole Swamp. Obvious topographic rise from adjacent wetland.				
Area is not a wetland				

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply):			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphagnum moss (D8) (LRR T,U)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
(includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: No hydrology indicators present			

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

Sampling Point: Data Point 1 (Up)

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Quercus michauxii</i>		15	Y	FACW	
2.	<i>Liquidambar styraciflua</i>		10	Y	FAC	
3.	<i>Quercus laurifolia</i>		10	Y	FACW	
4.	<i>Pinus taeda</i>		5		FAC	
5.	<i>Acer rubrum</i>		5		FAC	
6.	<i>Magnolia grandiflora</i>		5		FAC	
			50	= Total Cover		
50% of total cover:			25	20% of total cover:		10
Sapling Stratum (Plot size: 30 ft)						
1.	<i>Liquidambar styraciflua</i>		15	Y	FAC	
2.	<i>Persea borbonia</i>		5	Y	FACW	
3.	<i>Magnolia grandiflora</i>		5	Y	FAC	
4.						
5.						
6.						
			25	= Total Cover		
50% of total cover:			12.5	20% of total cover:		5
Shrub Stratum (Plot size: 30 ft)						
1.	<i>Rubus argutus</i>		40	Y	FAC	
2.	<i>Sabal minor</i>		20	Y	FACW	
3.	<i>Liquidambar styraciflua</i>		10		FAC	
4.	<i>Aesculus flava</i>		10		FACU	
5.						
6.						
			80	= Total Cover		
50% of total cover:			40	20% of total cover:		16
Herb Stratum (Plot size: 30 ft)						
1.	<i>Eupatorium capillifolium</i>		15	Y	FACU	
2.	<i>Cirsium horridulum</i>		5	Y	FAC	
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
			20	= Total Cover		
50% of total cover:			10	20% of total cover:		4
Woody Vine Stratum (Plot size: 30 ft)						
1.	<i>Ampelopsis arborea</i>		5	Y	FAC	
2.	<i>Vitis rotundifolia</i>		5	Y	FAC	
3.						
4.						
5.						
			10	= Total Cover		
50% of total cover:			5	20% of total cover:		2

Dominance Test Worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 11 (A)
 Total Number of Dominant Species Across All Strata: 12 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 92% (A/B)

Prevalence Index worksheet:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>50</u>	x 2 =	<u>100</u>
FAC species	<u>110</u>	x 3 =	<u>330</u>
FACU species	<u>25</u>	x 4 =	<u>100</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>185</u> (A)		<u>530</u> (B)

 Prevalence Index = B/A = 2.9

Hydrophytic Vegetation Indicators:

☒ Dominance Test is > 50%
☐ Prevalence Index is ≤ 3.0¹
☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes ☒
No ☐

Remarks: (If observed, list morphological adaptations below)
 ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status.
 Hydrophytic vegetation criteria met.

SOIL

Sampling Point: Data Point 1 (Up)

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	10YR 3/2						Loamy fine sand	Sand grains not 70% coated
4-14	10YR 5/2						Loamy fine sand	
14-18+	10YR 6/2	95	10YR 6/6	5	C	M	Loamy fine sand	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains

²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P,T,U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P,T,U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P,T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Mucky Mineral (S1) (LRR O,S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P,S,T,U)
- ☐ Polyvalue Below Surface (S8) (LRR S,T,U)
- ☐ Thin Dark Surface (S9) (LRR S,T,U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O,P,T)
- ☐ Umbric Surface (F13) (LRR P,T,U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydric soil criteria is not met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bass Drive Site City/County: Holly Hill/Orangeburg County Sampling Date: 8/31/2016
Applicant/Owner: Berkeley County State: SC Sampling Point: Data Point 2 (Wet)
Investigator(s): Brendon Kelly, Brett Sexton Section, Township, Range: NA
Landform: (hillslope, terrace, etc.) terrace Local Relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA) LRR T Lat: 33.308965 Long: -80.48131 Datum: NA
Soil Map Unit Name: Mouzon fine sandy loam NWI Classification: PFO1/4A
Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Is the Sampled Area
Hydric Soil Present? Yes ☒ No ☐ within a wetland? Yes ☒ No ☐
Wetland Hydrology Present? Yes ☒ No ☐

Remarks: Wetland adjacent to Four Hole Swamp within a pine flatwood community

All three wetland indicators are present, area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Sphagnum moss (D8) (LRR T,U) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☒ No ☐ Depth (inches): 6
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: Primary and multiple secondary wetland hydrology indicators present.

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

Sampling Point: Data Point 2 (Wet)

Tree Stratum (Plot size: 30 ft)			Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Quercus michauxii</i>		20	Y	FACW
2.	<i>Quercus laurifolia</i>		15	Y	FACW
3.	<i>Liquidambar styraciflua</i>		15	Y	FAC
4.	<i>Acer rubrum</i>		10		FAC
5.					
6.					
			60	= Total Cover	
50% of total cover:			30	20% of total cover:	
				12	
Sapling Stratum (Plot size: 30 ft)					
1.	<i>Magnolia virginiana</i>		15	Y	FACW
2.	<i>Pinus glabra</i>		10	Y	FACW
3.					
4.					
5.					
6.					
			25	= Total Cover	
50% of total cover:			12.5	20% of total cover:	
				5	
Shrub Stratum (Plot size: 30 ft)					
1.	<i>Lyonia lucida</i>		15	Y	FACW
2.	<i>Vaccinium corymbosum</i>		15	Y	FACW
3.	<i>Morella cerifera</i>		10		FAC
4.	<i>Rubus argutus</i>		10		FAC
5.	<i>Sabal minor</i>		5		FACW
6.	<i>Ilex opaca</i>		5		FAC
			60	= Total Cover	
50% of total cover:			30	20% of total cover:	
				12	
Herb Stratum (Plot size: 30 ft)					
1.	<i>Carex glaucescens</i>		20	Y	OBL
2.	<i>Scirpus cyperinus</i>		15	Y	OBL
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
			35	= Total Cover	
50% of total cover:			17.5	20% of total cover:	
				7	
Woody Vine Stratum (Plot size: 30 ft)					
1.					
2.					
3.					
4.					
5.					
				= Total Cover	
50% of total cover:				20% of total cover:	

Dominance Test Worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)
 Total Number of Dominant Species Across All Strata: 9 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

OBL species	<u>35</u>	x 1 =	<u>35</u>
FACW species	<u>95</u>	x 2 =	<u>190</u>
FAC species	<u>50</u>	x 3 =	<u>150</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>180</u> (A)		<u>375</u> (B)

 Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

☒ Dominance Test is > 50%
☐ Prevalence Index is ≤ 3.0¹
☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes ☒
No ☐

Remarks: (If observed, list morphological adaptations below)
 ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status.
 Hydrophytic vegetation criteria met.

SOIL

Sampling Point: Data Point 2 (Wet)

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-6	10YR 3/1						Sandy loam	
6-9	10YR 4/1						Sandy loam	
9-18+	10YR 5/2	90	10YR 5/8	10	C	M	Sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains

²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P,T,U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P,T,U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P,T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Mucky Mineral (S1) (LRR O,S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P,S,T,U)
- ☐ Polyvalue Below Surface (S8) (LRR S,T,U)
- ☐ Thin Dark Surface (S9) (LRR S,T,U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O,P,T)
- ☐ Umbric Surface (F13) (LRR P,T,U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	Bass Drive Site	City/County:	Holly Hill/Orangeburg County	Sampling Date:	8/31/2016		
Applicant/Owner:	Berkeley County	State:	SC	Sampling Point:	Data Point 2 (Up)		
Investigator(s):	Brendon Kelly, Brett Sexton	Section, Township, Range:	NA				
Landform: (hillslope, terrace, etc.)	terrace	Local Relief (concave, convex, none):	none	Slope (%):	0		
Subregion (LRR or MLRA)	LRR T	Lat:	33.308964	Long:	-80.48132	Datum:	NA
Soil Map Unit Name:	Mouzon fine sandy loam	NWI Classification:	PFO1/4A				
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If no, explain in Remarks.)							
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? Are "Normal Circumstances" present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? (If needed, explain any answers in Remarks.)							

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area	
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	within a wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Remarks: Upland within a pineflat wood community. Slight topographic rise from adjacent wetland.				
Area is not a wetland				

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply):			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphagnum moss (D8) (LRR T,U)	
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
(includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: No hydrology indicators present			

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

Sampling Point: Data Point 2 (Up)

Tree Stratum (Plot size: 30 ft)			Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Pinus taeda</i>		35	Y	FAC
2.	<i>Quercus nigra</i>		20	Y	FAC
3.	<i>Liquidambar styraciflua</i>		15	Y	FAC
4.					
5.					
6.					
			70	= Total Cover	
50% of total cover:			35	20% of total cover: 14	
Sapling Stratum (Plot size: 30 ft)			Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Liquidambar styraciflua</i>		15	Y	FAC
2.	<i>Quercus michauxii</i>		5		FACW
3.	<i>Magnolia grandiflora</i>		5		FAC
4.	<i>Ilex opaca</i>		5		FAC
5.					
6.					
			30	= Total Cover	
50% of total cover:			15	20% of total cover: 6	
Shrub Stratum (Plot size: 30 ft)			Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Quercus nigra</i>		15	Y	FAC
2.	<i>Magnolia virginiana</i>		10	Y	FACW
3.	<i>Morella cerifera</i>		10	Y	FAC
4.	<i>Lyonia lucida</i>		5		FACW
5.					
6.					
			40	= Total Cover	
50% of total cover:			20	20% of total cover: 8	
Herb Stratum (Plot size: 30 ft)			Absolute % Cover	Dominant Species?	Indicator Status
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
				= Total Cover	
50% of total cover:				20% of total cover:	
Woody Vine Stratum (Plot size: 30 ft)			Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Vitis rotundifolia</i>		25	Y	FAC
2.					
3.					
4.					
5.					
			25	= Total Cover	
50% of total cover:			12.5	20% of total cover: 5	

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>20</u>	x 2 =	<u>40</u>
FAC species	<u>145</u>	x 3 =	<u>435</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>165</u> (A)		<u>475</u> (B)

Prevalence Index = B/A = 2.9

Hydrophytic Vegetation Indicators:

☒ Dominance Test is > 50%

☐ Prevalence Index is ≤ 3.0¹

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: (If observed, list morphological adaptations below)

ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status.

Hydrophytic vegetation criteria met.

SOIL

Sampling Point: Data Point 2 (Up)

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	10YR 3/1						Loamy fine sand	Sand grains not 70% coated
4-10	10YR 3/2						Loamy fine sand	
10-18+	10YR 4/2						Loamy fine sand	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains

²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P,T,U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P,T,U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P,T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Mucky Mineral (S1) (LRR O,S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P,S,T,U)
- ☐ Polyvalue Below Surface (S8) (LRR S,T,U)
- ☐ Thin Dark Surface (S9) (LRR S,T,U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O,P,T)
- ☐ Umbric Surface (F13) (LRR P,T,U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydric soil criteria is not met.

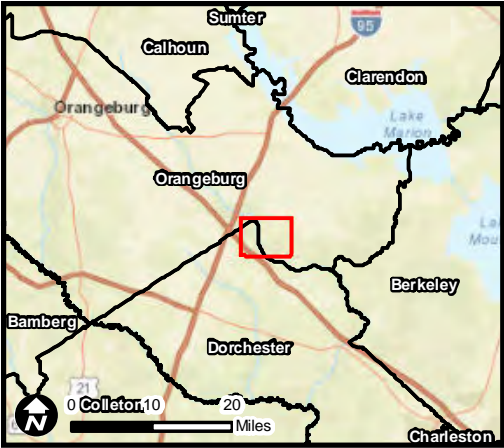




Figure 1. Site Location Map

Bass Drive Tract
Orangeburg County, South Carolina

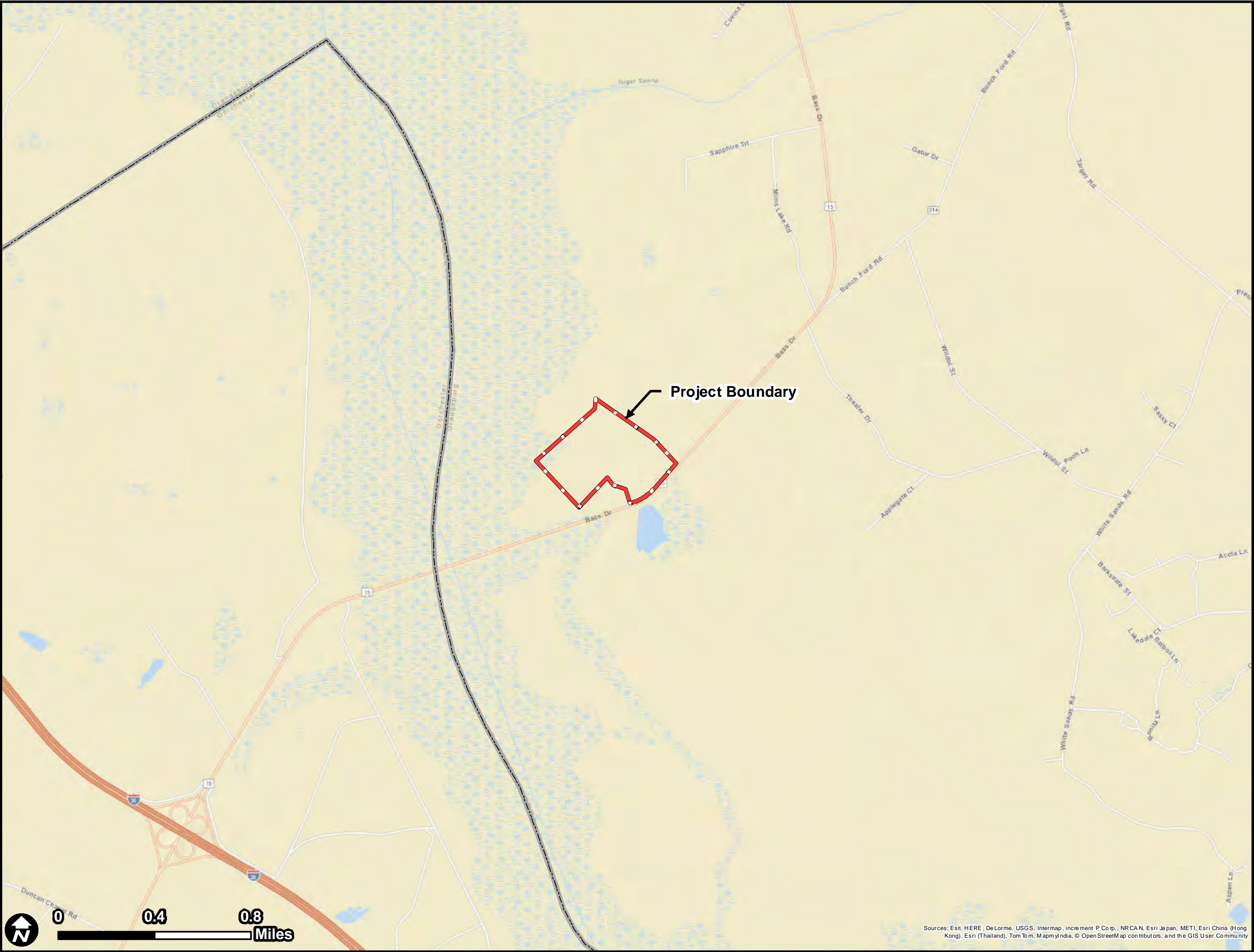
Legend

-  Bass Drive Tract
-  County Boundary



Job No. 6250-15-0096.05
Drawn By: BWS
Reviewed By: BPK
Date: 9/2/2016

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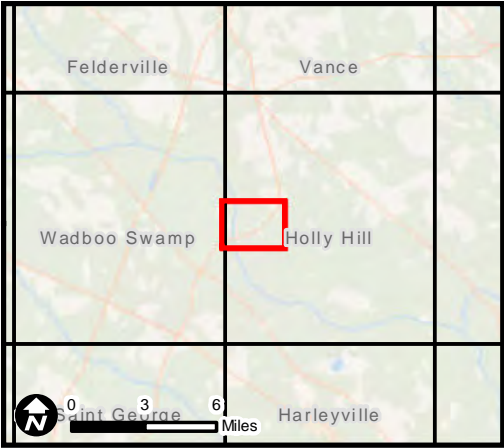


Figure 2. USGS Topographic Map

Bass Drive Tract
Orangeburg County, South Carolina

- Legend**
- Bass Drive Tract
 - County Boundary
 - USGS 24k Topo Map Boundaries

References:
USGS Topographic Map, 7.5-minute series, Holly Hill, dated 1979, photinspected 1987



Job No. 6250-15-0096.05

Drawn By: BWS

Reviewed By: BPK

Date: 9/2/2016

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Figure 3. NRCS Soils Map

Bass Drive Tract
Orangeburg County, South Carolina

Legend

- Bass Drive Tract
- USGS Streams

Hydric Rating

- Nonhydric
- Predominantly Nonhydric
- Predominantly Hydric
- Hydric



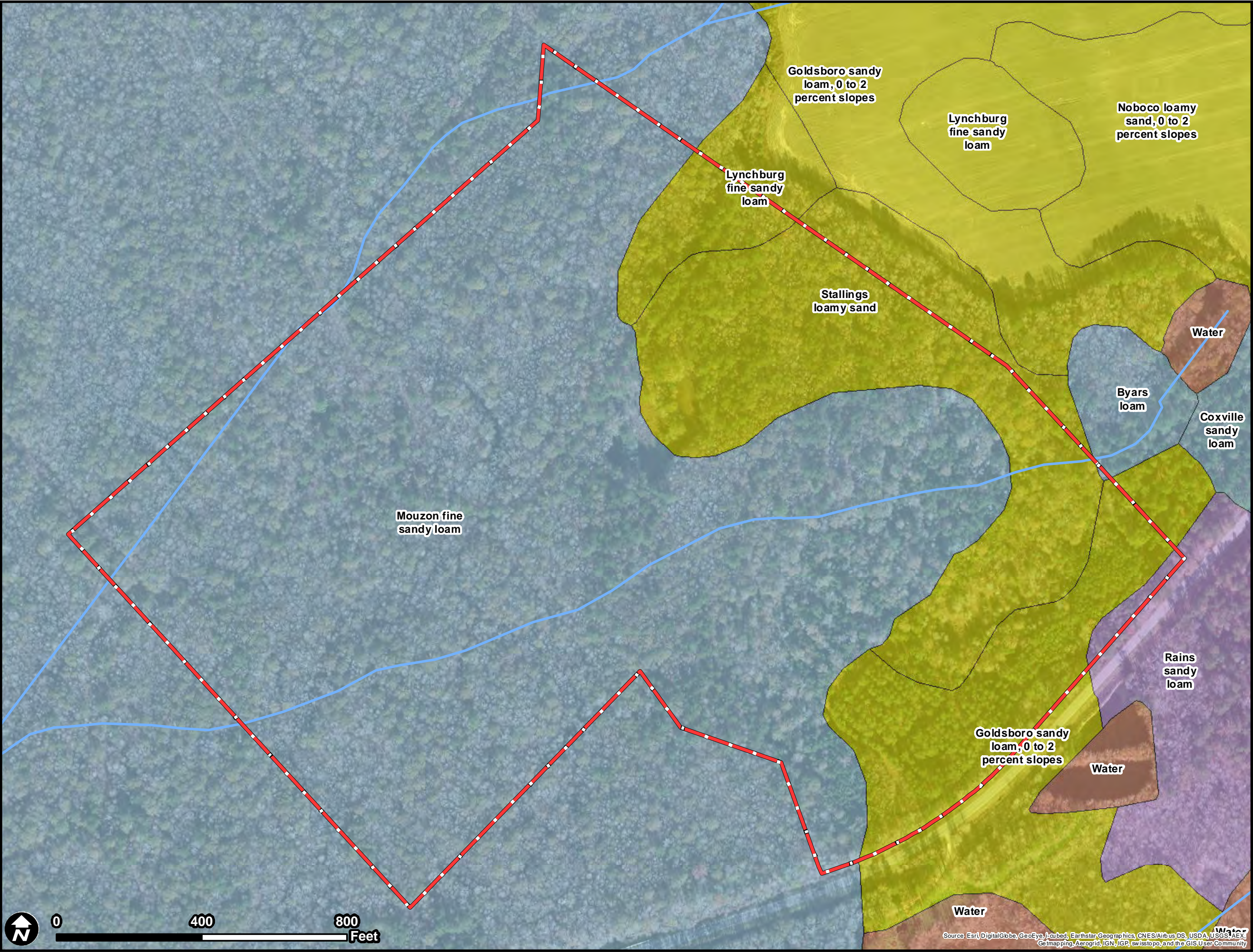
Job No. 6250-15-0096.05

Drawn By: BWS

Reviewed By: BPK

Date: 9/2/2016

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Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Figure 4. National Wetland Inventory Map

Bass Drive Tract
Orangeburg County, South Carolina

Legend

- Bass Drive Tract
- USGS Streams
- Freshwater Forested/Shrub Wetland
- Freshwater Pond



Job No. 6250-15-0096.05

Drawn By: BWS

Reviewed By: BPK

Date: 9/2/2016

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Figure 5. Aerial Map

Bass Drive Tract
Orangeburg County, South Carolina

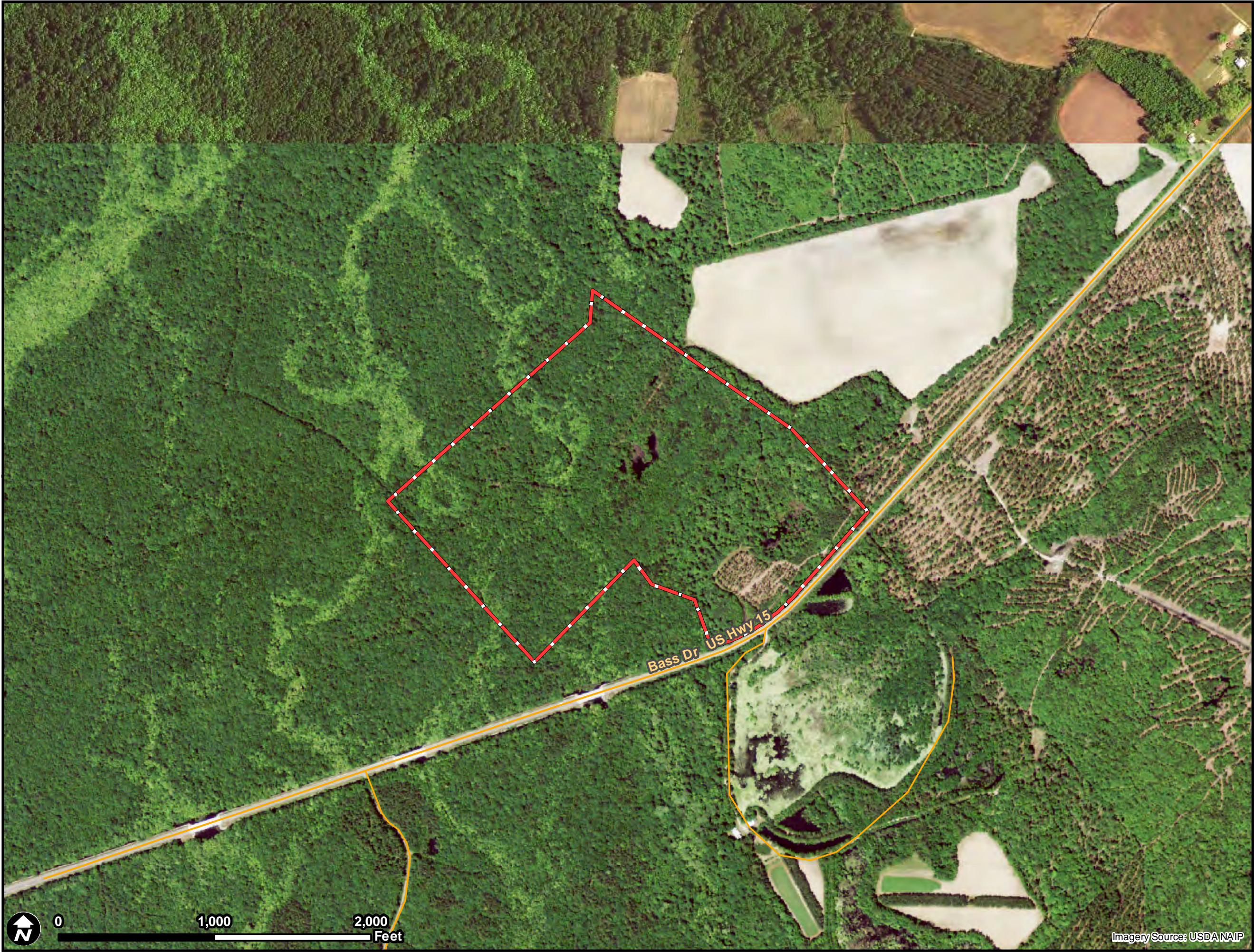
Legend

-  Bass Drive Tract
-  Roads



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Imagery Source: USDA NAIP



Figure 6. Aquatic Resources Map

Bass Drive Tract
Orangeburg County, South Carolina

Legend

- Bass Drive Tract ~ 87.6 ac
- Roads
- Forestry Road
- Borrow Pits / Ponds ~ 1.7 ac
- Wetlands ~ 65.2 ac

NOTE:
This drawing represents an approximation of jurisdictional boundaries identified on the site by Amec Foster Wheeler Environment & Infrastructure, Inc. This drawing is based on limited on-site field observations and available maps. Boundaries were collected in the field using sub-foot GPS equipment. All jurisdictional boundaries are subject to verification by the U.S. Army Corps of Engineers (USACE). This map should be used for preliminary planning purposes only.



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Figure 7. Photo Location & Data Point Map

Bass Drive Tract
Orangeburg County, South Carolina

Legend

- Bass Drive Tract
- Data Point
- Photo Direction



Job No. 6250-15-0096.05

Drawn By: BWS

Reviewed By: BPK

Date: 9/2/2016

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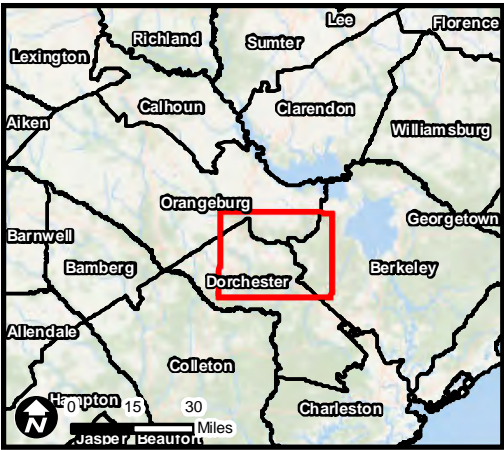


Figure 8. Path to Navigable Waters Map

Bass Drive Tract
Orangeburg County, South Carolina

Legend

- Bass Drive Tract
- Path to Navigable Waters
- USGS Major Streams
- USGS Waterbodies
- County Boundary



Job No.	6250-15-0096.05
Drawn By:	BWS
Reviewed By:	BPK
Date:	9/2/2016

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