



2401 Brentwood Rd, Suite 107
Raleigh, NC 27604
P (919) 873-2211
Terracon.com

September 16, 2024

Mr. Shawn Pearce
7710 NC 39 Highway
Zebulon, NC 27856

Attn: Mr. Shawn Pearce
P: (919) 818-9184
E: spearce191@gmail.com

RE: 555 Corbett Road
Wetlands & Waters Delineation
Nash County, NC
Terracon Project No: 70247481

Dear Mr. Pearce:

Terracon Consultants, Inc. (Terracon), has completed the requested wetlands and waters delineation for the 72-acre 555 Corbett Road Property located in Nash County, NC (Exhibit 1). Terracon staff was tasked with identifying features that may be considered subject to jurisdiction and permitting requirements under Sections 404 and 401 of the Clean Water Act (CWA). The results presented herein are based on Terracon's best professional judgment and on the current regulations guidance regarding identifying jurisdictional wetlands and waters. The results are subject to review and concurrence by U.S. Army Corps of Engineers (USACE).

Background Research

Prior to the initiation of field efforts, several available resources were reviewed, including the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle of Spring Hope, NC, the Natural Resources Conservation Service (NRCS) published Soil Survey of Nash County, NC, aerial photography, and other publicly available mapping resources. Field work was conducted by technical staff on September 3, 2024.

Topography

Topography in the project study area is characterized by gentle slopes and drainages. Elevations range from a high of approximately 205 feet above mean sea level (MSL) down to approximately 188 feet above MSL (Exhibit 1) based on a review of USGS mapping and other online resources.

Soils

Exhibit 2 depicts three (3) soil mapping units potentially occurring in the project study area: Goldsboro fine sandy loam, 0-2% slopes; Norfolk loamy sand, 2-6% slopes; and Rains fine sandy loam. The soil mapping unit, Rains fine sandy loam, potentially occurring in the study area, is considered a hydric (wetland) soil by NRCS.

Delineation Methodology

Terracon initially reviews readily available published resources to preliminarily identify features indicative of potential waters of the United States (WOTUS), including wetlands, on the site or in the immediate vicinity of the site. A field investigation is then performed to identify and delineate potential WOTUS and wetland areas utilizing the Routine On-site Determination Method described in the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (USACE Manual) and the USACE November 2010 Atlantic and Gulf Coastal Plain Region Supplement 2.0 (AGCP). Potential wetland areas are located and investigated based on the three wetland parameters of hydrophytic vegetation, hydrology, and hydric soil indicators.

Hydrophytic vegetation is assessed by identifying plant species and their assigned wetland indicator rating of obligate (occur in wetlands >99% of the time), facultative wet (occur in wetlands 67-99% of the time), facultative (occur in wetlands 34-66% of the time), facultative upland (occur in wetland 1-33% of the time), and upland (occur in wetlands

Explore with us

<1% of the time). The USACE manual defines hydrophytic vegetation as present when at least 50% of the dominant plant species are rated obligate, facultative wet, or facultative. Hydrology is determined based on several primary indicators (surface water, water marks, drift deposits, reduced iron presence, oxidized rhizospheres, etc.) and secondary indicators (soil surface cracks, drainage patterns, crawfish burrows, shallow aquitard, etc.). The USACE manual defines hydrology as present when at least one primary indicator and two secondary indicators are identified. Hydric soil is determined by investigating soil features such as color matrix, hue, and evidence of redox features including indicators such as saturation, stratified layers, gleyed matrix, mucky surface, organic/peat layers, hydrogen sulfide odor, and evidence of mottling indicating reduced conditions.

Areas possessing all three parameters, as described above, are located, and delineated as wetlands by designating their approximate boundaries with flagging tape. A data point is collected for each wetland area on the site detailing conditions as related to hydrophytic vegetation, hydrology, and hydric soil. The location of the data point is selected at a specific flag number indicative of conditions throughout the entire wetland area and adjacent upland area. Only one data point is typically collected for each wetland area on the site. Additional data points may be collected for atypical situations such as larger wetland areas that may exhibit differing ecological conditions in certain areas.

Additional potential WOTUS including stream channels, drainageways, and ditches are located, marked with flagging tape, and investigated to determine a preliminary stream classification, overall drainage patterns, and potential hydrologic connections to other WOTUS and wetland areas. If applicable, Terracon utilizes a sub-meter global positioning system (GPS) unit to locate field flagging. Otherwise, field flagging is located by an outside contracted surveyor.

Jurisdictional Wetlands and Waters

Section 404 of the Clean Water Act (CWA) requires regulation of discharges into WOTUS, including wetlands. Although the principal administrative agency of the CWA is the U.S. Environmental Protection Agency (EPA), the USACE has major responsibility for implementation, permitting, and enforcement of provisions of the CWA. Water bodies such as rivers, lakes, and streams are subject to jurisdictional consideration under the Section 404 program. However, by regulation, certain wetlands are also considered WOTUS. Our delineation methodology generally follows the guidance outlined in the Regional Supplement to the USACE Wetland Delineation Manual for the Atlantic and Gulf Coastal Plain region, which states that areas must exhibit three distinct characteristics to be considered jurisdictional wetlands: 1) prevalence of hydrophytic (water tolerant) plants; 2) presence of hydric soils; and 3) sufficient wetland hydrology indicators within 12 inches of the ground surface. The study area was also reviewed for the presence of tributaries (stream channels) using criteria provided by the USACE and the N.C. Division of Water Resources (NCDWR). When present, intermittent, and perennial tributaries, and certain other surface waters, are also considered typically jurisdictional by the USACE and/or NCDWR.

The following wetlands and waters will be under federal jurisdiction pursuant to the CWA:

- Traditional navigable waters (TNWs),
- Wetlands adjacent to TNWs,
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (3 months). This includes perennial streams and most intermittent streams
- Wetlands that are adjacent to such waters and tributaries, and
- Relatively permanent, standing or continuously flowing bodies of water "forming geographic features" that are described in ordinary parlance as "streams, oceans, rivers, and lakes". These are Relatively Permanent Waters (RPWs).

The U.S. Supreme Court issued its decision in *Sackett v. Environmental Protection Agency (EPA)* on May 25, 2023. Based on the ruling, waters of the U.S. (WOTUS) are limited to streams, rivers, lakes, oceans, relatively permanent water bodies that are connected to navigable waters that are navigable in fact, and wetlands that have a continuous surface connection (i.e. adjacent) with navigable waters; provided the relatively permanent water bodies and wetlands constitute WOTUS and are "indistinguishable from" those waters. As of August 29, 2023, the new WOTUS Rule defines adjacent to mean "having a continuous surface connection".

Based on the May 25, 2023, court ruling, the significant nexus test is no longer relevant, and some previously Section 404 wetlands may no longer be jurisdictional under Section 404 if they do not have a continuous surface connection to receiving waters. This ruling is significant because unlike previous court decisions, the *Sackett* case gives a majority ruling that will reshape the Section 404 regulatory framework in a more concise manner. It also has changed the way the State of North Carolina views those wetlands that are determined to be isolated/non-404 wetlands.



Previously under state law, North Carolina had an “isolated/non-404 wetland” permitting program, which generally required a state permit even if the wetland is not subject to Section 404 jurisdiction of the Corps. However, the need for a state permit has changed. On June 27, 2023, the NC legislature changed the state law definition for “wetlands” to be consistent with the federal rule. On September 20, 2023, North Carolina provided a public notice that stated, “Isolated wetlands and non-jurisdictional wetland permits will not be necessary for properties that have received Approved Jurisdictional Determinations (AJDs) confirming the wetlands on the property are not under the WOTUS rule”. Now that the USACE and EPA have restricted wetlands to only those water features with a continuous connection to a water course, it appears that the NCDEQ will not require isolated/non-404 wetland permits.

The following waters will still likely be considered non jurisdictional under the CWA:

- Swales or Erosional features (gullies, small washes characterized by low volume, infrequent or short duration flows)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

Preliminary Delineation Results

Our review of the 555 Corbett Road Property identified four (4) potential wetlands, one (1) potential tributary (stream), one (1) potential surface water pond (Exhibit 3). The potential wetlands were flagged with pink-and-black and blue flagging and the potential tributary and surface water pond were flagged with blue and orange flagging.

These delineation results are considered preliminary and are subject to review and approval by the USACE, should you request, and USACE chooses to review the delineation. Exhibit 3 depicts the approximate location and extent of the potential features and was prepared using non-survey grade, sub-meter GPS data. Exhibit 3 is not a replacement for a traditional survey. It is suitable for preliminary planning purposes only and for use by a surveyor to aid in locating flags.

The following tables contain the specific information for the potential wetlands, tributary, and surface water pond that were identified and delineated inside the property boundary. The potential wetlands were classified according to the North Carolina Wetland Assessment Method (NCWAM). Although portions of the wetlands have been timbered, NCWAM classifies wetlands based on what they would be under normal conditions. All wetlands onsite were classified as Headwater Forest wetlands. Headwater Forest wetlands are found throughout the state in geomorphic floodplains of first-order or smaller streams and in topographic crenulations without a stream.

Table 1. Potential Wetlands Identified for the 555 Corbett Road Property

Potential Wetland ID	NCWAM Classification	Approximate size (AC)	Hydrophytic Vegetation ¹	Hydric Soil (Munsell color)	Indicators of Hydrology ¹
W1	Headwater Forest	14.28 AC	Velvet panicum, wool grass, common rush	10YR 2/1 with redox	Surface water, saturation, water-stained leaves
W2	Headwater Forest	5.64 AC	Velvet panicum, wool grass, common rush	10YR 2/1 with redox	Surface water, saturation, water-stained leaves
W3	Headwater Forest	1.87 AC	Black gum, velvet panicum, common rush	10YR 2/1 with redox	Saturation, water-stained leaves, drainage patterns
W4	Headwater Forest	1.05 AC	Black gum, velvet panicum, common rush	10YR 2/1 with redox	Saturation, drainage patterns, water-stained leaves



Total:	22.84 AC
---------------	-----------------

¹ Does not include all hydrophytic vegetation or hydrology indicators

All wetlands appear to meet the criteria to be considered jurisdictional under Section 404 of the CWA. The wetland limits closely follow the area that is mapped as Rains fine sandy loam, which is a hydric (wetland) soil.

Two tributaries (streams) were delineated onsite and are described in Table 2. Exhibit 2 depicts two additional streams in the eastern half of the site. Terracon did not observe these features while onsite.

Table 2. Potential Tributaries Identified for the 555 Corbett Road Property

Potential Tributary ID	Flow Regime ¹	NCDWR Stream Score	Approximate Amount in Study Area (LF)
T1	Perennial	31	2,428 LF
T2	Intermittent	21	18 LF
Total:			2,446 LF

¹ Based on NCDWR score at the time of the site investigation.

Tributaries T1 and T2 meet the criteria to be considered jurisdictional streams under Section 404 of the CWA.

One (1) potential surface water pond (SW1) totaling 0.46 ac was also identified and delineated within the project study area. This potential surface water pond will likely be subject to Section 404 jurisdiction as it appears to have a continuous connection with wetland W1. Concurrence with USACE may be needed to confirm if this feature is subject to Section 404 permitting should it be needed for site planning.

Clean Water Act Permitting

Most impacts to wetlands and WOTUS, which are deemed under the jurisdiction of either the federal or state regulatory authority (USACE or NCDWR, respectively) must first be permitted pursuant to Section 404 and Section 401 of the CWA. Activities so authorized are subject to additional requirements to comply with water quality and storm water management regulations. The Nationwide Permit (NWP) program, administered by USACE, provides permitting of impacts which do not exceed a total of 0.5 acre of impact to wetlands and WOTUS. Under the NWP program, no more than 0.05 acre of stream/tributary can be impacted. If potential impacts exceed the NWP thresholds, then an Individual Permit from the USACE would be required.

It is Terracon’s professional opinion that all features delineated on the site will likely be subject to Section 404 jurisdiction based on the 2023 WOTUS Rule. Terracon proposes to prepare and submit a Preliminary Jurisdictional Determination (PJD) request to USACE to seek concurrence through a site visit or desktop review. A PJD is not a prerequisite for future USACE Section 404 permitting but can serve to alleviate uncertainty regarding the potential jurisdictional status of some features and Terracon recommends that a PJD package be prepared and submitted to formally document your due diligence.

Riparian Buffers/Setbacks

The study area is within the Tar-Pamlico River Basin. Per the Tar-Pamlico River Basin Riparian Buffer Rules, a 50-foot buffer may apply to streams that are mapped on either the most current version of the 1:24,000 scale (7.5 minute) quadrangle topographic map (Exhibit 1) and/or the published Soil Survey prepared by the Natural Resources Conservation Service of the United States Department of Agriculture (Exhibit 2).

The tributary identified on the site along the western boundary (T1) and the surface water pond (SW1) are depicted on the published Soil Survey and/or the USGS topographic map and both will likely be subject to a 50-foot riparian buffer. Additionally, the published Soil Survey (Exhibit 2) depicts two additional tributaries that were not identified in the field. Concurrence with NCDWR will be needed to confirm the absence of these features and to determine the full extent of riparian buffers for this site.



Summary and Recommendations

Four (4) potential wetlands, two (2) potential tributaries, and one (1) potential surface water pond were delineated on the 555 Corbett Road Property. All features delineated will likely be considered subject to Section 404 jurisdiction based on the 2023 WOTUS Rule. Terracon recommends that a PJD request be submitted to USACE to fully document your due diligence. Concurrence with NCDWR is recommended to determine the full extent of the riparian buffers that may be associated with the project study area.

Please contact our office if you have questions regarding this evaluation.

Sincerely,
Terracon Consultants, Inc.

Dylan Warren

Dylan Warren
Field Scientist

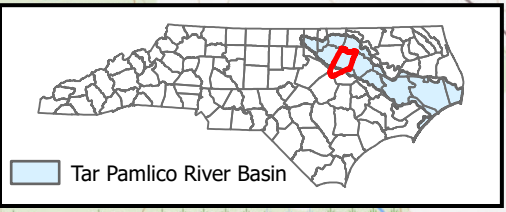
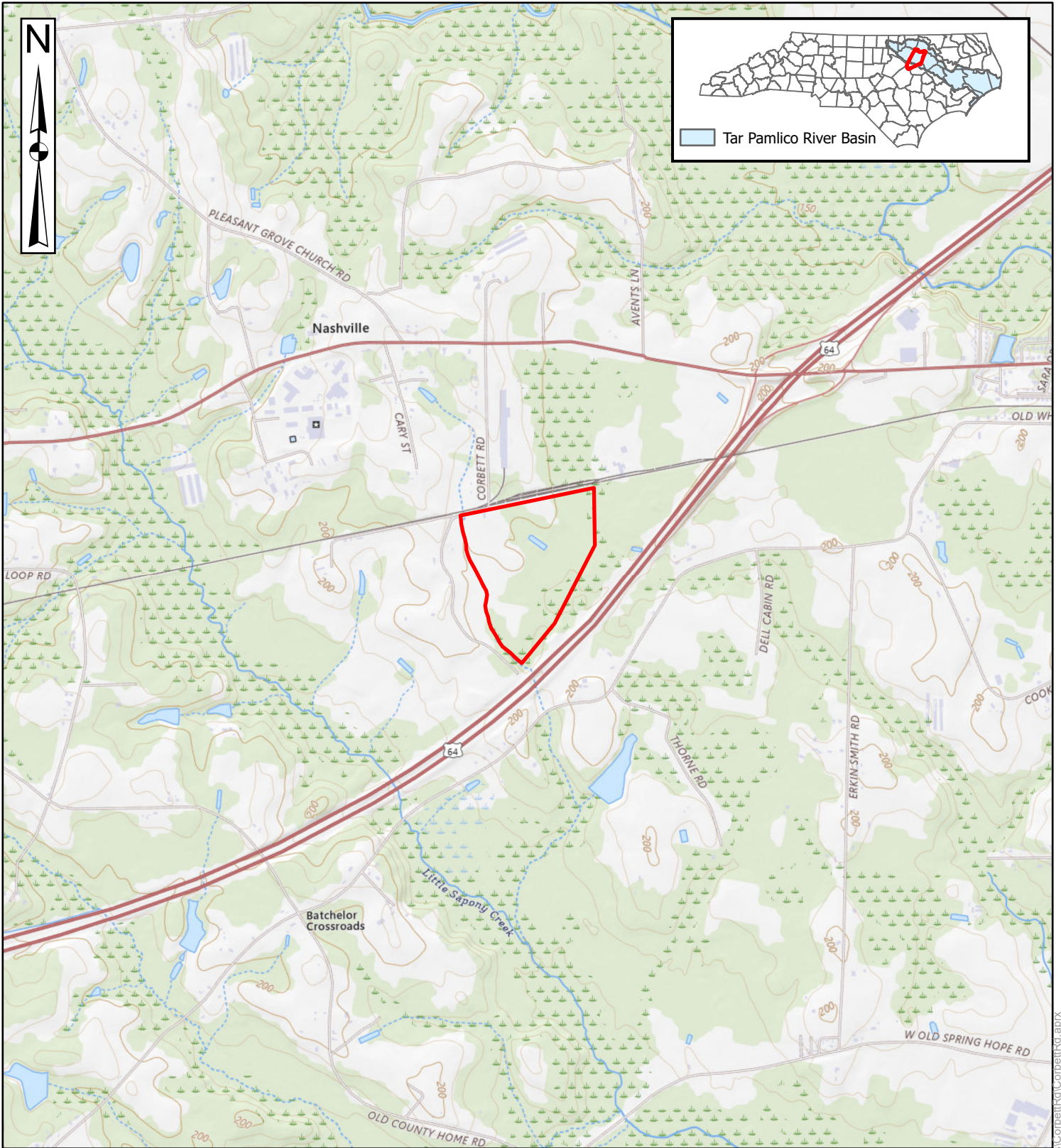
Rhiannon Graham

Rhiannon Graham
Project Manager

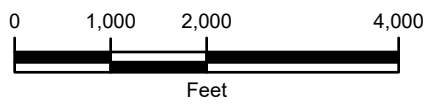
Jeff Harbour

Jeff Harbour, SPWS
Senior Scientist

Attachments: Exhibits/Photos




Project Study Area



DATA SOURCES:
USGS Topographic Basemap; 2024; Site Boundary
based on NC One Map Nash County

PM:	RG
Drawn By:	NR
Checked By:	DW
Approved By:	JH

Project No.	70247481
Scale:	1 in = 2,000 ft.
Filename:	CorbettRd
Date:	August 2024

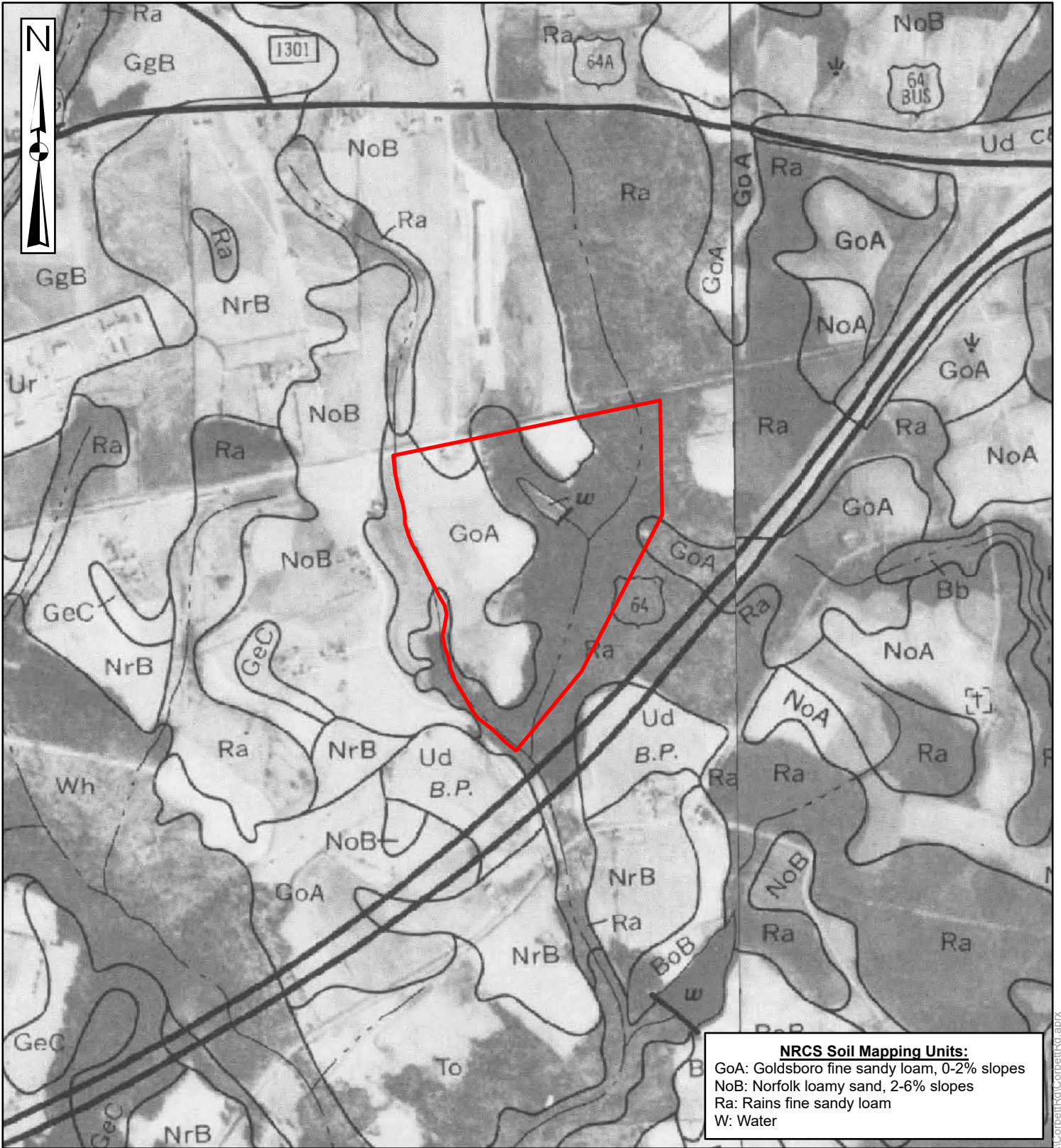


2401 Brentwood Road, Suite 107 Raleigh, NC 27604
Phone: (919) 873-2211 Fax: (919) 873-9555

USGS Topographic
555 Corbett Road Nash County, NC

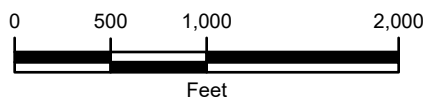
EXHIBIT NO.
1

N:\GIS\2024\70247481_555 Corbett Road\Maps\CorbettRd\CorbettRd.aprx




NRCS Soil Mapping Units:
 GoA: Goldsboro fine sandy loam, 0-2% slopes
 NoB: Norfolk loamy sand, 2-6% slopes
 Ra: Rains fine sandy loam
 W: Water

Project Study Area



DATA SOURCES:
 ESRI Aerial Imagery Basemap 2024; Site Boundary based on NC One Map Nash County; NRCS Soil Data Nash County 1989

PM:	RG	Project No.	70247481
Drawn By:	NR	Scale:	1 in = 1,000 ft.
Checked By:	DW	Filename:	CorbettRd
Approved By:	JH	Date:	August 2024



2401 Brentwood Road, Suite 107 Raleigh, NC 27604
 Phone: (919) 873-2211 Fax: (919) 873-9555

NRCS Soil Survey
555 Corbett Road Nash County, NC

EXHIBIT NO.
2

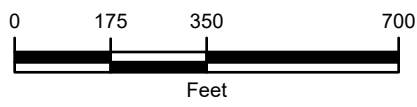
N:\GIS\2024\70247481_355 Corbett Road\Maps\CorbettRd.aprx



These preliminary delineation results are subject to regulatory review and concurrence.

This is not a replacement for a traditional survey and is suitable for preliminary planning purposes only and for use by a surveyor to aid in locating flags.

- ▭ Project Study Area
- ▨ Potential Wetlands
- ▨ Potential Surface Water Ponds
- Potential Tributaries



DATA SOURCES:
 ESRI Aerial Imagery Basemap 2024; Site Boundary based on NC One Map Nash County

PM:	RG	Project No.	70247481
Drawn By:	NR	Scale:	1 in = 350 ft.
Checked By:	DW	Filename:	CorbettRd
Approved By:	JH	Date:	September 2024



2401 Brentwood Road, Suite 107 Raleigh, NC 27604
 Phone: (919) 873-2211 Fax: (919) 873-9555

Potential Wetlands and Waters
555 Corbett Road Nash County, NC

EXHIBIT NO.
3

N:\GIS\2024\70247481_355 Corbett Road\Maps\CorbettRd\CorbettRd.aprx

North Elevation

📍 178°S (T) LAT: 35.964631 LON: -78.007175 ±13ft ▲ 223ft



03 Sep 2024, 08:13:40

Photograph 1: General site upland

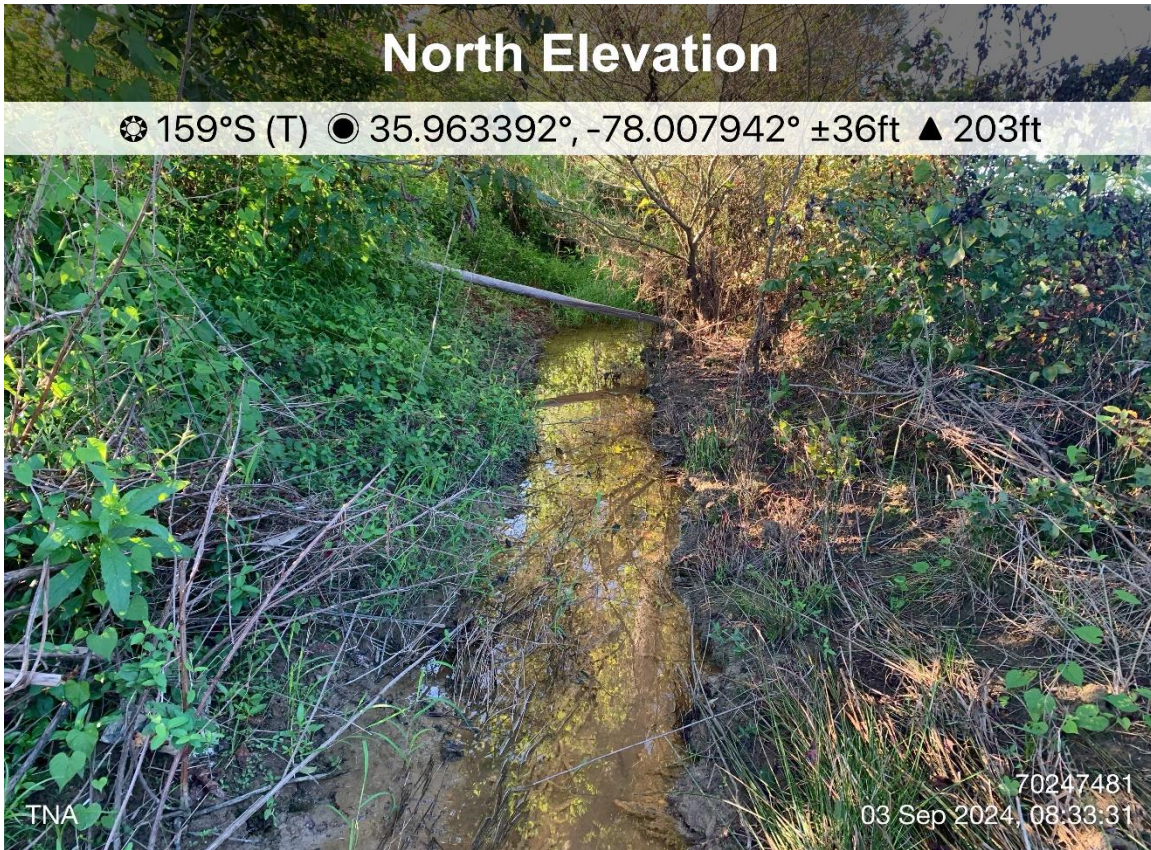
South East Elevation

📍 309°NW (T) LAT: 35.958988 LON: -78.004851 ±9ft ▲ 219ft

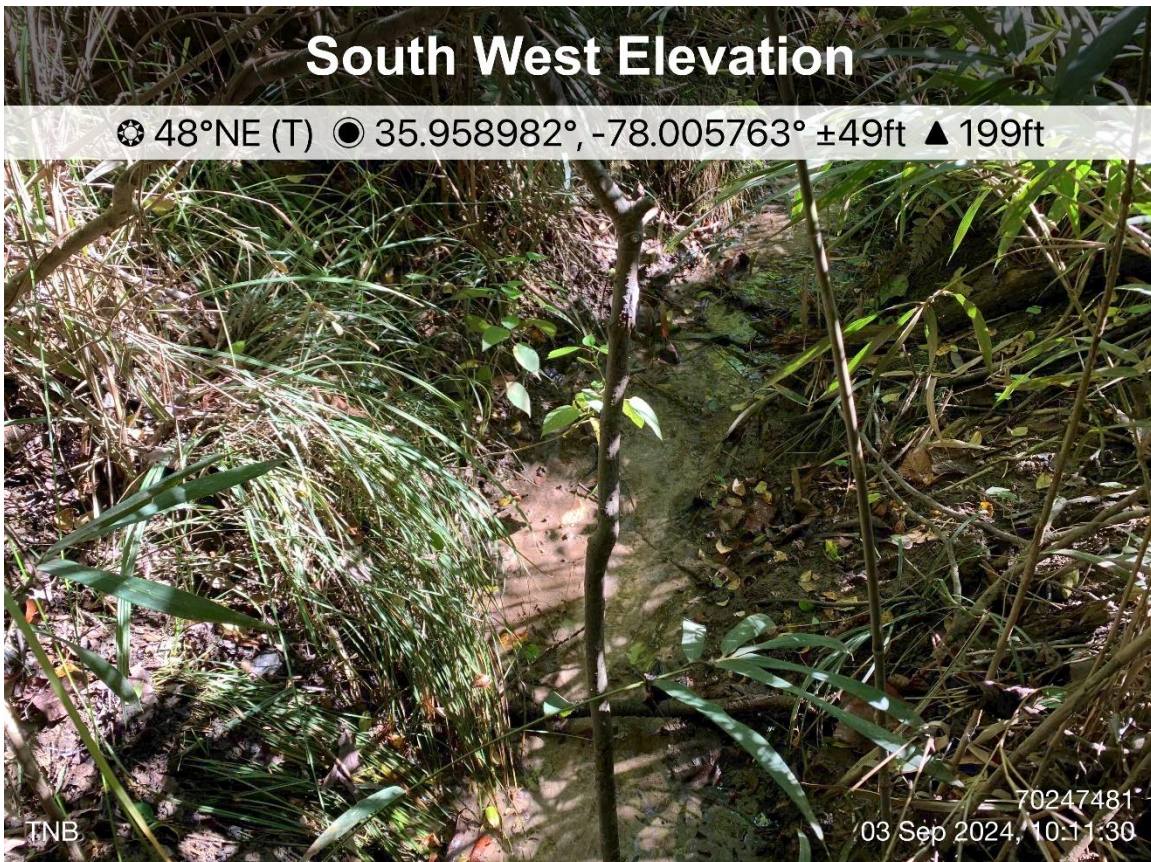


03 Sep 2024, 09:06:26

Photograph 2: General site upland



Photograph 3: Tributary T1



Photograph 4: Tributary T2

South Elevation

☉ 355°N (T) LAT: 35.960980 LON: -78.004309 ±13ft ▲ 230ft



03 Sep 2024, 10:04:11

Photograph 5: Wetland W1

East Elevation

☉ 273°W (T) ● 35.963659°, -78.004779° ±29ft ▲ 204ft



WNA

70247481
03 Sep 2024, 11:11:29

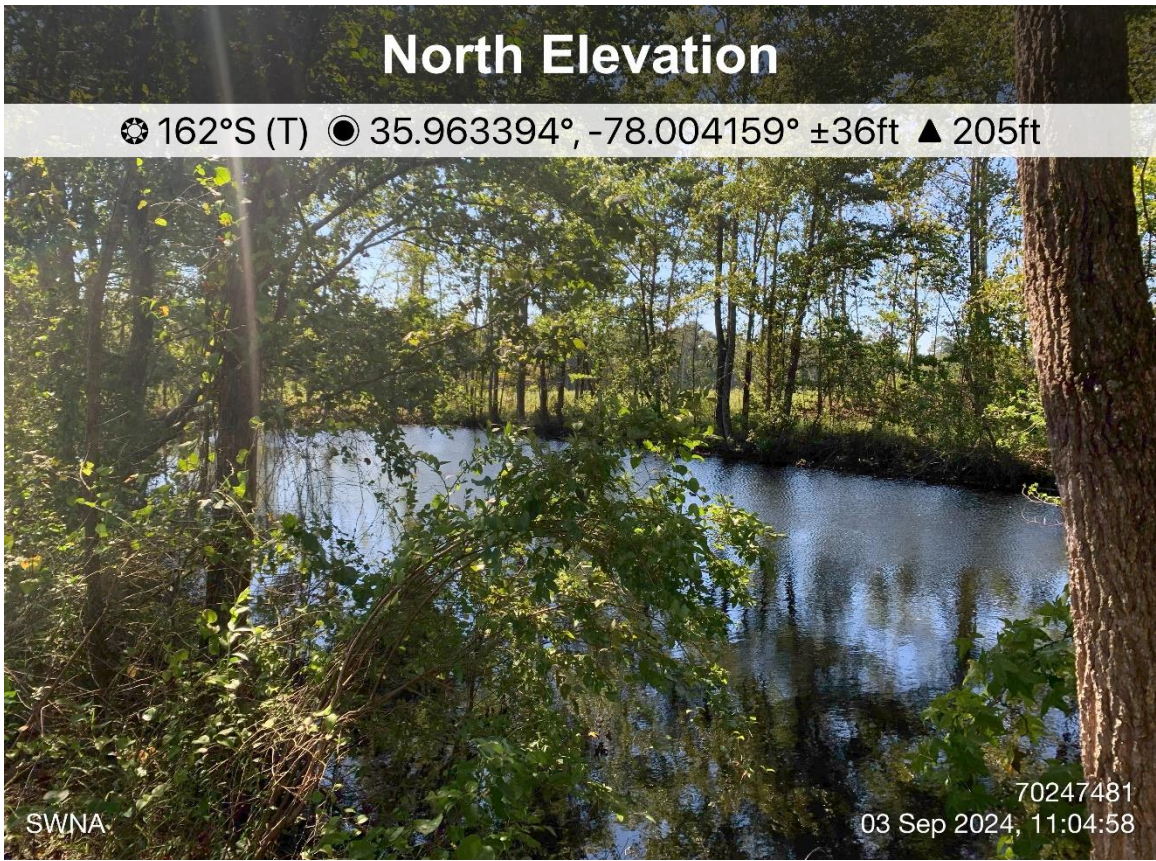
Photograph 6: Wetland W2



Photograph 7: Wetland W3



Photograph 8: Wetland W4



Photograph 7: Surface water pond SW1