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January 19, 2023

Gettle Engineering and Design, PLLC
3616 Waxwing Court
Wake Forest, NC 27587

Attn: Keith Gettle, PE
P: (919) 210-3934
E: kpgettle@gmail.com

RE: Proctor Street Site
Wetlands and Waters Delineation
Zebulon, NC
Project No: 70227766

Dear Mr. Gettle:

Terracon Consultants, Inc. (Terracon), has completed the requested Wetlands and Waters Delineation for the approximately 6.5-acre Proctor Street Site in Wake County, NC (Exhibit 1). Terracon staff was tasked with evaluating features that may be considered subject to jurisdiction and permitting requirements under Sections 404 and 401 of the Clean Water Act (CWA) and under the North Carolina Isolated and Other Non-404 Jurisdictional Wetlands and Waters program.

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 Zebulon, NC, the Natural Resources Conservation Service (NRCS) Soil Survey of Wake County, NC, aerial photography, and other publicly available mapping resources. Field work was conducted by technical staff on January 10, 2022.

Topography

Topography in the study area is characterized by a general slope from the northwest to the southeast of the property. Elevations range from a high of approximately 326 feet above mean sea level (MSL) down to approximately 310 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 study area: Appling sandy loam, 2-6% slopes, eroded; Durham loamy sand, 2- 6% slopes; and Wedhakee and Bibb soils. The soil mapping units Wehadkee and Bibb soils, potentially occurring in the study area, are considered hydric (wetland) soils by NRCS.

Explore with us

Wetlands and Waters

Section 404 of the Clean Water Act (CWA) requires regulation of discharges into waters of the U.S. (WOTUS). Although the principal administrative agency of the CWA is the U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (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.

Currently WOTUS are assessed by the CWA's pre-2015 definition of WOTUS. This definition of WOTUS includes the implementation of rulemaking as decided in the Supreme Court's decision of the consolidated cases *Rapanos v. United States* and *Carabell v. United States*.

Specifically, the following 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)
- Wetlands that directly abut such tributaries
- 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 following waters will be considered jurisdictional if a significant nexus (contributes to the physical, chemical, or biological integrity of downstream TNWs) exists between these features and traditional navigable waters:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

The following waters will 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.

However, wetlands and other waterbodies that do not fall under federal regulation per the CWA may be subject to jurisdiction by the N.C Division of Water Resources (NCDWR) under the state's Isolated and Other Non-404 Jurisdictional Wetlands and Waters program.

Our delineation methodology generally follows the guidance outlined in the Regional Supplement to the USACE Wetland Delineation Manual for the Eastern Mountains and Piedmont 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 NCDWR. When present, intermittent, and perennial tributaries, and certain other surface waters, are also considered jurisdictional by the USACE and/or NCDWR.

Preliminary Delineation Results

Our review of the Proctor Street Site identified one potential tributary. This potential tributary was 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 they choose to review the delineation. Exhibit 3 depicts the approximate location and extent of the tributary 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 table contains the specific information for the potential tributary that was identified and delineated inside the property boundary.

Table 1. Potential Tributary Identified for the Proctor Street Site

Potential Tributary ID	Flow Regime ¹	NCDWR Stream Score	Approximate Amount in Study Area (LF)	Likely Subject to Riparian Buffer
T1	Intermittent	20	360	Yes
Total:			360 LF	

¹ Based on NCDWR score

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 and/or the State's Isolated and Other Non-404 Jurisdictional Wetlands and Waters program. Activities so authorized are subject to additional requirements to comply with water quality and storm water management. The Nationwide Permit (NWP) program, administered by USACE, provides permitting of impacts which do not exceed pre-determined thresholds. T1 will likely be subject to Section 404 jurisdiction. If determined necessary, Terracon can prepare and submit a Preliminary Jurisdictional Determination (PJD) request to USACE to request written concurrence through a site visit or desktop review.

Riparian Buffers/Setbacks

The study area is within the Neuse River Basin in Wake County. In this river basin, a 50-ft. riparian buffer may apply to perennial and intermittent streams and ponds that are mapped on either the most current version of the 1:24,000 scale (7.5 minute) USGS quadrangle topographic maps (Exhibit 1) and/or the published Soil Survey prepared by the NRCS (Exhibit 2). There is one potential tributary (T1) located on the Proctor Street Site that is depicted on both the USGS and the NRCS mapping. T1 is likely subject to a 50-ft. buffer. There is also a pond located just outside the northwest corner of the property. This pond is within 50 ft. of

the project study area boundary; a portion of the 50-ft. buffer associated with the pond will likely extend into the project study area, as shown in Exhibit 3. If impacts to Neuse River riparian buffers are proposed as part of the site development, a riparian buffer authorization from NCDWR will be required.

Recommendations

One potential tributary has been delineated on the Proctor Street Site. Tributary T1 and an off-site pond will likely be subject to a 50-ft. Neuse River riparian buffer. If impacts to these features are proposed for site development, Section 404/401 permitting and/or a riparian buffer authorization from NCDWR would be required. It is important to note that applying for a Section 404 permit from USACE also triggers the need for compliance with the Endangered Species Act and the Historic Preservation Act. Terracon is experienced with ensuring compliance with the above regulatory requirements as well as offering full service permitting assistance.

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

Sincerely,
Terracon Consultants, Inc.

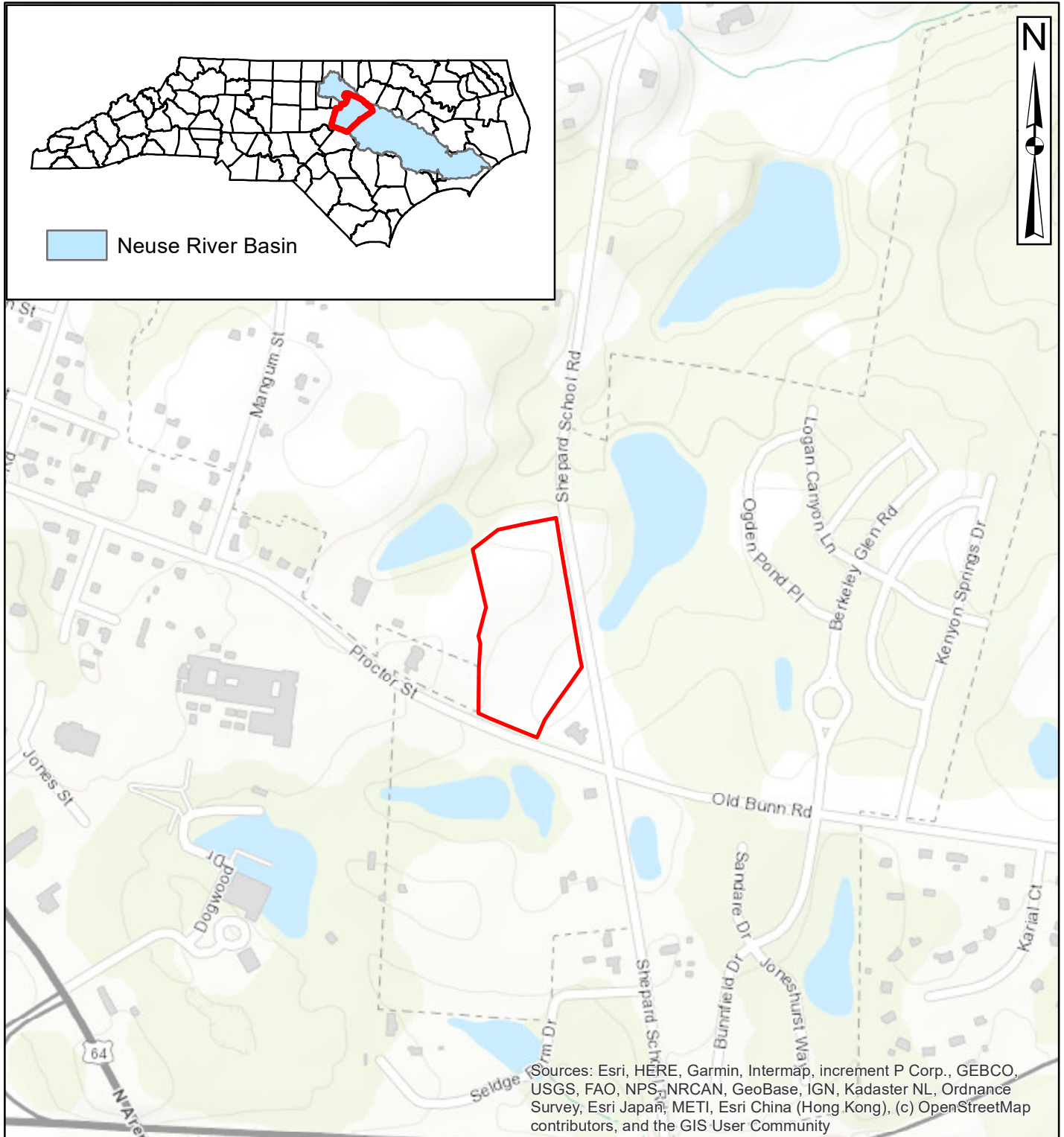
Dylan Warren

Dylan Warren
Field Scientist

Robert J. Turnbull

Robert Turnbull
Department Manager


Attachments: Exhibits, Photos



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community


Data Sources:
 Site Boundary provided by Client
 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

Legend

 Project Study Area



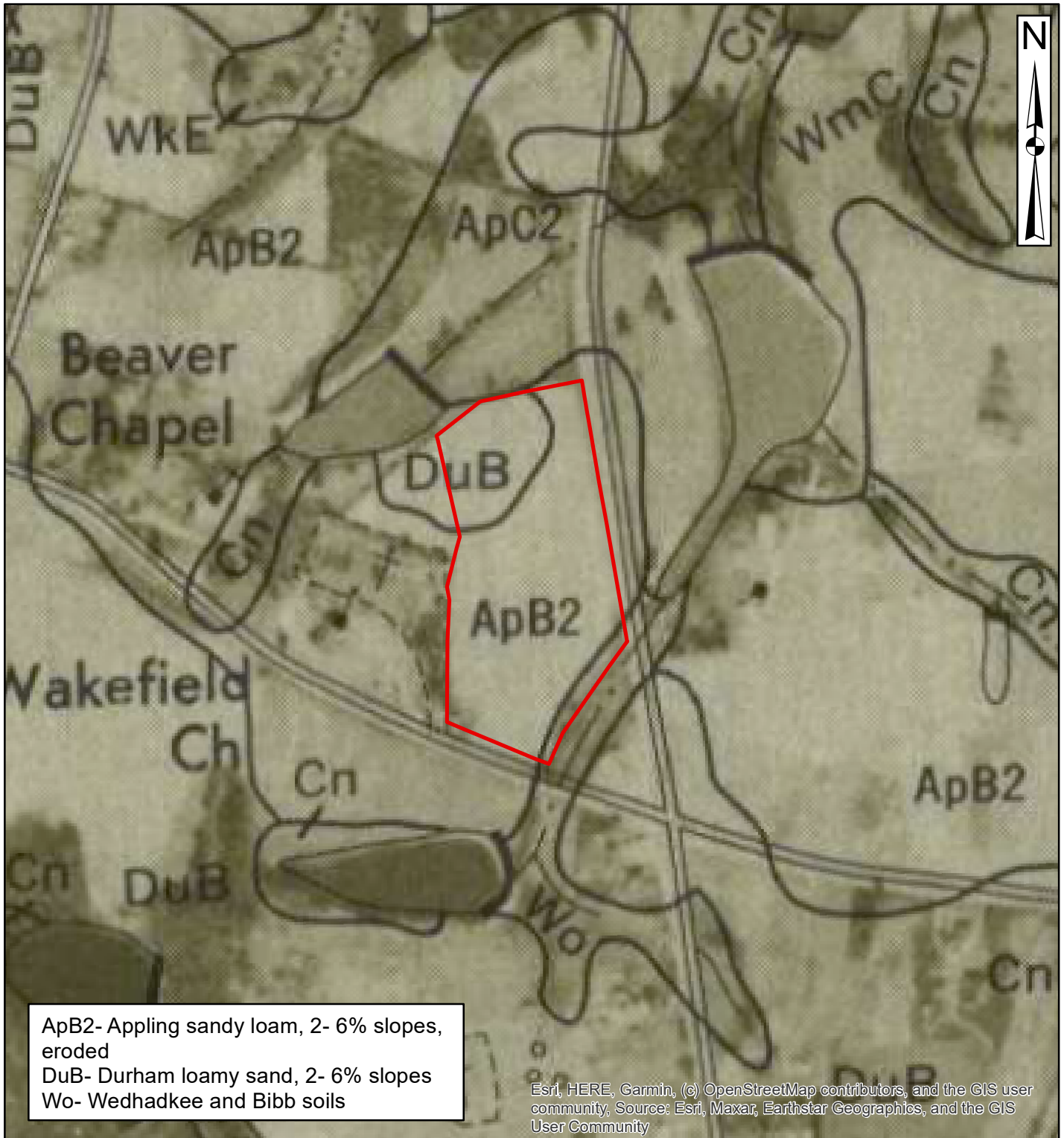
PM:	RG	Project No.	70227766
Drawn By:	DW	Scale:	1:7,000
Checked By:	RT	File Path:	ProctorSt
Approved By:	RT	Date:	1/19/2023



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Topography
Proctor Street Site Wake County, North Carolina

EXHIBIT NO.
1



ApB2- Appling sandy loam, 2- 6% slopes, eroded
 DuB- Durham loamy sand, 2- 6% slopes
 Wo- Wedhadkee and Bibb soils

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Data Sources: Site Boundary found through NC One Map parcel data.

Disclaimer: The information depicted on this figure is for informational purposes only and was not prepared for, and is not suitable for legal or engineering purposes. This information presented is not for regulatory review.



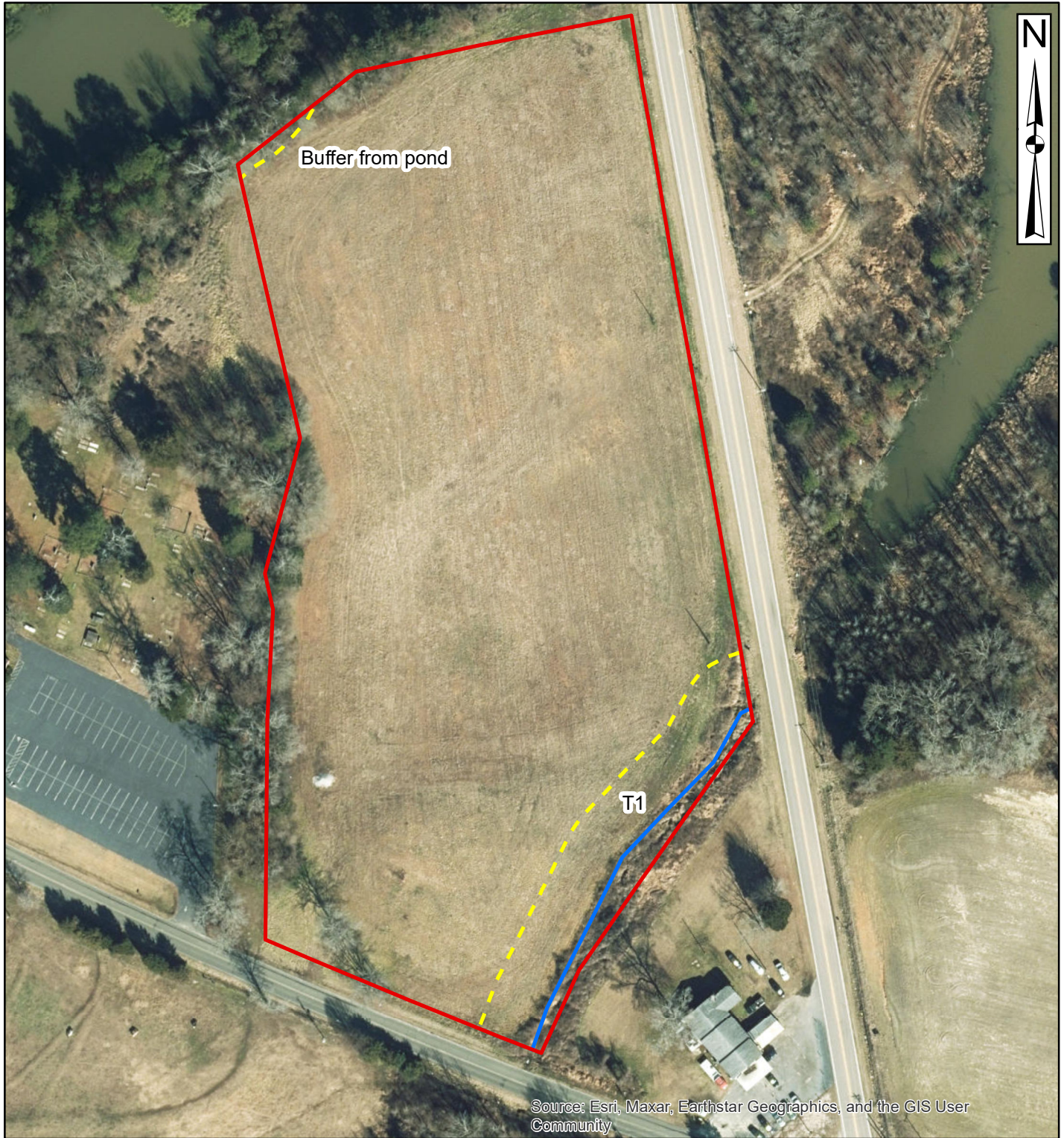
Legend

Project Study Area

PM:	RG	Project No:	70227766
Drawn By:	RC	Scale:	1:4,000
Checked By:	RT	File Path:	Site Diagram
Approved By:	TR	Date:	1/19/2023

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NRCS Soils	EXHIBIT NO.
Proctor Street Site Wake County, North Carolina	2




Legend

- Project Study Area
- Potential Tributary
- Buffer Line



Data Sources:
 Site Boundary found through NC One Map parcel data
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Potential Wetlands And Waters
Proctor Street Site Wake County, North Carolina

EXHIBIT NO.
3



Photograph 1: Site facing northeast.



Photograph 2: Site facing southeast towards T1.



Photograph 3: Tributary T1 facing upstream (southwest)



Photograph 4: Streambed of Tributary T1.