

December 18, 2020

Mr. JG Ferguson
Parks & Recreation Director
Town of Rolesville
514 Southtown Circle
Rolesville, North Carolina 27571

RE: Jurisdictional & Isolated Waters & Riparian Buffers Report
Frazier Farm Park Master Plan
Rolesville, Wake County, North Carolina

Dear Mr. Ferguson,

McAdams conducted a determination and delineation of federally jurisdictional and potentially isolated wetlands, streams, open water features (i.e. ponds) on the subject property on November 24 and November 25, 2020. McAdams previously completed a buffer determination on the site, which was confirmed by a Division of Water Resources buffer determination letter dated September 12, 2019. The 116-acre project area is located at 11624 Louisburg Rd in Rolesville, Wake County, North Carolina. **Figure 1** depicts the location of the property on the US Geological Survey (USGS) Rolesville, NC 7.5-minute quadrangle topographic map. **Figures 2A and 2B** show the location of the site on the Web Soil Survey and Wake County Soil Survey (1970) maps, respectively. The project area consists of one parcel owned by the Town of Rolesville (Wake County PIN 1779076610). Approximately sixty percent of the site is agricultural land that is currently under wheat production. The rest of the site consists of two farm ponds, forested land surrounding Perry Creek and its tributaries, a house and several small barns. **Figure 3** depicts the subject property on an aerial photograph of the area.

Waters of the US, commonly referred to as jurisdictional waters, include intermittent and perennial streams, ponds, lakes, rivers and wetlands that are adjacent to or eventually connect to navigable waters. They are under the jurisdiction of the US Army Corps of Engineers (USACE), which regulates the discharge of fill material and mechanized land clearing within the jurisdictional boundaries. If these features are not connected downstream then they are considered isolated and are not jurisdictional. Isolated basin and bog wetland types are regulated by the State of North Carolina through the NC Division of Water Resources (DWR) under Title 15A N.C. Administrative Code 02H .1300 as amended by Session Law 2015-286. DWR, in certain river basins and watersheds, and some local governments also regulate activities within riparian buffers established around surface waters to protect water quality. Vegetative buffers also apply to wetlands in some local government jurisdictions. Proposed development and road and utility construction require jurisdictional and isolated waters and their associated riparian buffers to be identified and delineated to avoid impacts where practicable and obtain the proper permits when impacts cannot be avoided.

SCOPE OF WORK:

Previously mentioned maps along with US Fish and Wildlife Service National Wetland Inventory (NWI) Maps, NC Flood Insurance Rate Maps and DWR maps of Surface Water Classifications and Hydrologic Unit Codes were reviewed prior to visiting the site. The project area lies within the Neuse River Basin in the Headwaters Little River subwatershed (12-digit HUC 030202011501). Stream features within the study area are Perry Creek and its tributaries (DWR Stream Index Number 27-57-(1)) and have a stream classification of Water Supply II (WS-II) and Nutrient Sensitive Waters (NSW). There is a FEMA floodplain mapped along Perry Creek on the southern boundary of the project area (FIRM Map Numbers 3720177900K and 3720176900J, effective 5/2/2006).

The delineation of jurisdictional and isolated waters consisted of a field reconnaissance of the property to identify surface waters and areas that meet the criteria for jurisdictional wetlands described below. Surface waters (intermittent and perennial streams, ponds, lakes and rivers) are identified by an ordinary high water mark which is usually indicated by a clear line impressed in the bank, shelving along the water's edge, changes in the character of the soil, destruction of terrestrial vegetation or presence of litter or debris.

Areas that exhibit hydrophytic vegetation, hydric soils and wetland hydrology are wetlands according to the *1987 Corps of Engineers Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)*. Hydrophytic vegetation is present when more than 50 percent of the dominant species are obligate wetland, facultative wetland or facultative plants listed on the *National Wetland Plant List*. Hydric soils are identified based on field indicators of hydric soils contained within the appropriate regional supplement to the *Corps of Engineers Wetland Delineation Manual*. Field indicators for hydric soils rely on the presence of gray or black colored surface and subsurface soils. Areas exhibiting wetland hydrology are permanently inundated to irregularly inundated or saturated with water. Since inundation and saturation may not be present during an individual field visit to conduct a wetland delineation, field indicators of wetland hydrology were established to confirm the presence of this parameter. These field indicators include, but are not limited to, direct observation of saturation or inundation, watermarks on woody vegetation, drift lines, sediment deposits, drainage patterns within wetlands and the presence of oxidized root channels in the soil. Areas that meet all three criteria for wetlands may be either jurisdictional or isolated depending on whether they are adjacent or connect to navigable waters.

Wetland boundaries were identified in the field with pink, sequentially numbered flagging. For each surface water or wetland identified, we evaluated the downstream connection to distinguish isolated from jurisdictional waters. It is important to note that sequentially numbered flags were hung around all wetland areas, but the water's edge of ponds and centerline of obvious stream channels were not flagged. These features are approximated on the map to ensure that they are also surveyed along with the wetland boundary flags. Additionally, the water's edge of the jurisdictional ponds and open water need to be surveyed regardless of wetland boundaries to accurately locate and calculate areas for these features.

RESULTS:

McAdams observed several jurisdictional ponds, streams, and wetlands, and one isolated wetland on the site. The Jurisdictional and Isolated Waters Delineation Map provided as **Figure 4** shows the approximate location of these features on the site and the riparian buffers that were previously determined. Wetland feature W2 may be isolated.

The limits of stream channels and wetland boundaries provided are based on our best professional judgment and require verification from the USACE. A field meeting to confirm jurisdictional features located on the subject property has not been scheduled with the USACE.

In general, property owners may also choose to submit a jurisdictional and isolated waters survey to the USACE for their signature, which is referred to as an Approved Jurisdictional Determination (AJD) and establishes the jurisdictional and isolated waters boundaries until the map expires five years from the date it is signed. A USACE signed survey is not required for permitting but is offered to provide property owners with the assurance that the boundaries of jurisdictional and isolated waters on the property would not change for five years. A Preliminary Jurisdictional Determination (PJD) requires less documentation, may or may not include a survey of waters and wetlands and is sufficient to proceed with project permitting.

JURISDICTIONAL WATERS AND RIPARIAN BUFFER PERMITTING:

There are several layers of regulations that apply independently to jurisdictional waters and riparian buffers. However, the USACE and DWR have developed a joint application with concurrent review for permits to impact jurisdictional and isolated waters including wetlands, which is referred to as a Pre-Construction Notification Application.

Jurisdictional Waters:

The USACE has issued activity specific Nationwide Permits to streamline the permitting process for unavoidable impacts to less than 300 linear feet of jurisdictional stream channel that exhibits important aquatic function and/or perennial stream channels and/or 0.5 acre of jurisdictional wetlands and other surface waters. Pre-construction notification and approval from the USACE is required for any amount of stream or wetland impacts for residential, commercial and institutional projects. Nationwide Permits have a maximum 45-day processing period upon the USACE's receipt of a complete application. Compensatory mitigation may be required to offset the loss of jurisdictional stream channels and wetlands when an approval from the USACE is required. Cumulative impacts for residential and commercial projects over the NWP thresholds will require an Individual Permit (IP). Individual Permits require an analysis to determine that the proposed impact to waters of the U.S. is the least environmentally damaging practical alternative, typically require compensatory mitigation, notification to adjacent property owners, a public notice and may require a public hearing.

Impacts permitted by the USACE also require a Section 401 Water Quality Certification from DWR. The DWR has issued General Water Quality Certifications for impacts to jurisdictional waters approved by USACE and impacts to riparian buffers. Generally, pre-construction notification and approval from the DWR is required for greater than

150 linear feet of stream channel impact and 0.10 acre of wetland impacts for the entire project area and/or any length of stream impact within the Neuse River Basin that requires written concurrence from the DWR for compliance with the riparian buffer rules discussed below. Water Quality Certifications have a maximum 60-day processing period upon the DWR's receipt of a complete application. Compensatory mitigation may be required for impacts to 300 linear feet or more of perennial stream channel and/or one or more acre of wetlands.

Riparian Buffers:

Riparian buffers established by 15 NCAC 02B .0714 Neuse River Basin: Nutrient Sensitive Waters Management Strategy: Protection and Maintenance of Existing Riparian Buffers have two zones. Zone 1 consists of an undisturbed vegetated area beginning at the most landward limit of the top of bank or rooted herbaceous vegetation and extends a landward distance of 30 feet on all sides of the surface water. Zone 2 extends landward another 20 feet from the outer edge of Zone 1 and should consist of a stable, vegetated area. Only activities that are listed as Deemed Allowable, Allowable or Allowable with Mitigation Upon Authorization in the Table of Uses contained in the Riparian Buffer Rules are permitted within riparian buffers. Activities that are Allowable or Allowable with Mitigation Upon Authorization require written approval from DWR that there are no practical alternatives to the proposed activity. Road and utility line crossings of riparian buffers are the most common activities that are classified as Deemed Allowable, Allowable or Allowable with Mitigation Upon Authorization within the Riparian Buffer Rules depending on the amount of impact proposed.

Isolated Waters:

Isolated wetlands that are basin or bog type wetlands or open water impacts less than 0.5 acre in the Piedmont Region or isolated stream impacts less than 150 linear feet for the entire project are eligible for a General Permit and do not require application or written approval if the project complies with the conditions listed in the General Permit. Mitigation is required for isolated wetland impacts exceeding the thresholds for written approval. An Individual Water Quality Certification and compensatory mitigation are required for impacts to 300 linear feet or more of streams and/or one acre of isolated wetlands for the entire project.

Stream, Wetland and Buffer Mitigation:

The USACE can require mitigation for any stream or wetland impacts. In most cases, stream mitigation is not triggered until stream impacts approach 150 linear feet. Wetland mitigation is usually triggered when impacts exceed 0.1 acre. Stream and wetland mitigation are required at a 2:1 ratio unless the quality of resource is below its reference condition. Activities within protected riparian buffers and classified as Allowable with Mitigation require buffer mitigation. Mitigation is required at a 3:1 ratio for impacts to Zone 1 and a 1.5:1 ratio for impacts to Zone 2. The following is the current fee schedule from the NC Division of Mitigation Services (DMS) allowing for payment to offset wetland, stream and buffer impacts as of July 1, 2020:

Fee Category (Units)	Fee
Stream (per linear foot)	\$558.81
Riparian wetland (per acre)	\$106,619.36
Riparian buffer (per square foot)	\$0.94

In addition to mitigation, demonstration of avoidance and minimization of impacts to waters of the U.S. will be required as justification for requested impacts. This will be required during the permitting process.

Stormwater Control Requirements:

Should a 401 Water Quality Certification be required for a corresponding Clean Water Act Section 404 permit, high-density projects that disturb one acre or more of land require either a stormwater management plan in accordance with the Division of Energy, Mineral and Land Resources stormwater rules (15A NCAC 02H .1003) or calculations to document that the project will not cause degradation of downstream surface waters.

CONCLUSIONS/RECOMMENDATIONS:

McAdams conducted a detailed delineation of jurisdictional waters within the project area and identified the presence of jurisdictional ponds, streams, and wetlands. The Jurisdictional and Isolated Waters Delineation Map (Figure 4) depicts the approximate location of these features.

It is recommended McAdams proceed with a verification of the surface water and wetland delineation and continued coordination with our office regarding permit impacts to the jurisdictional and isolated waters present on the site.

We thank you for the opportunity to provide our services in support of this project and look forward to assisting the Town of Rolesville with obtaining the proper permits for development.

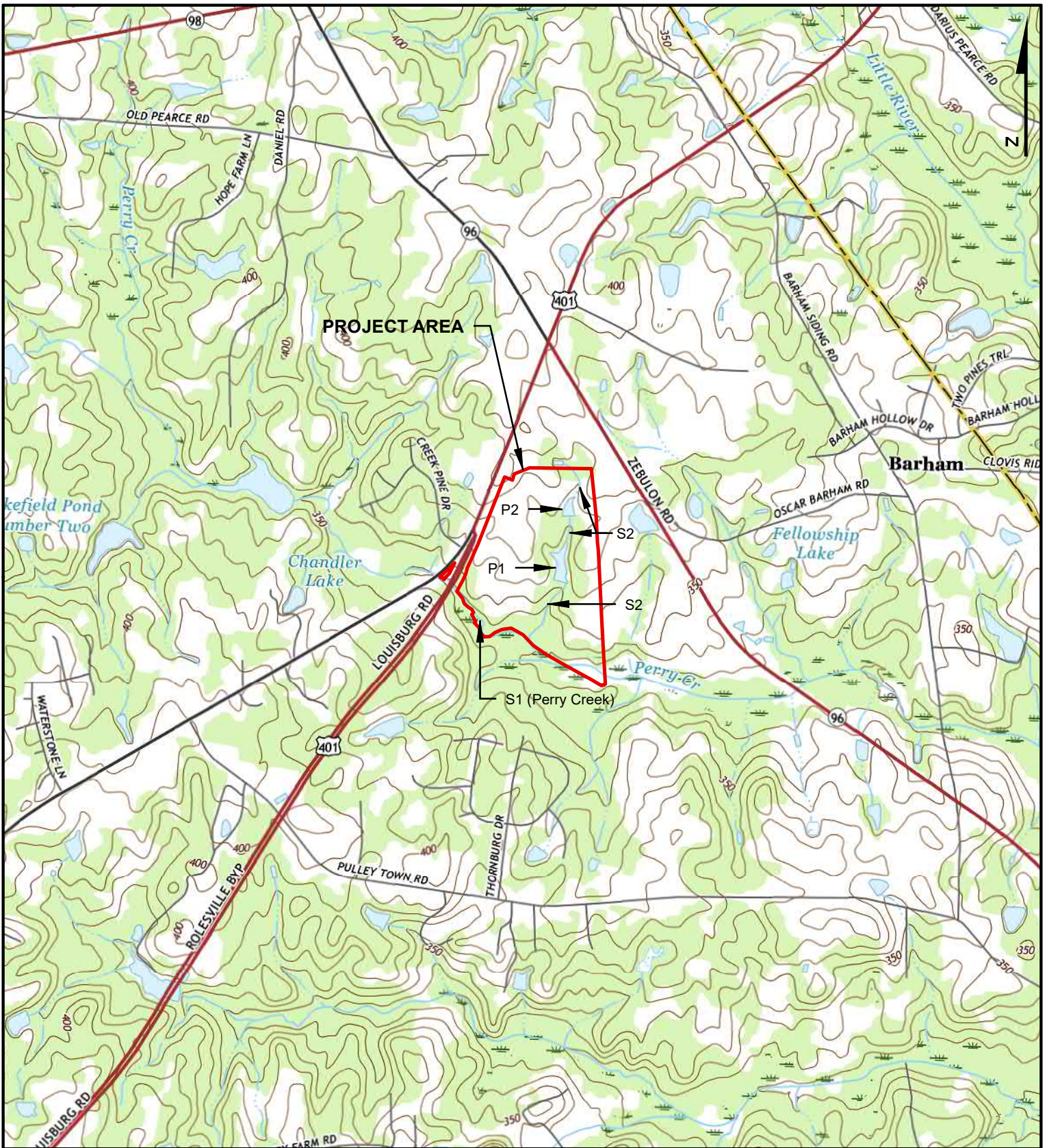
Sincerely,

MCADAMS



Alec Pierzga
Environmental Consultant I, Water Resources

Attachments

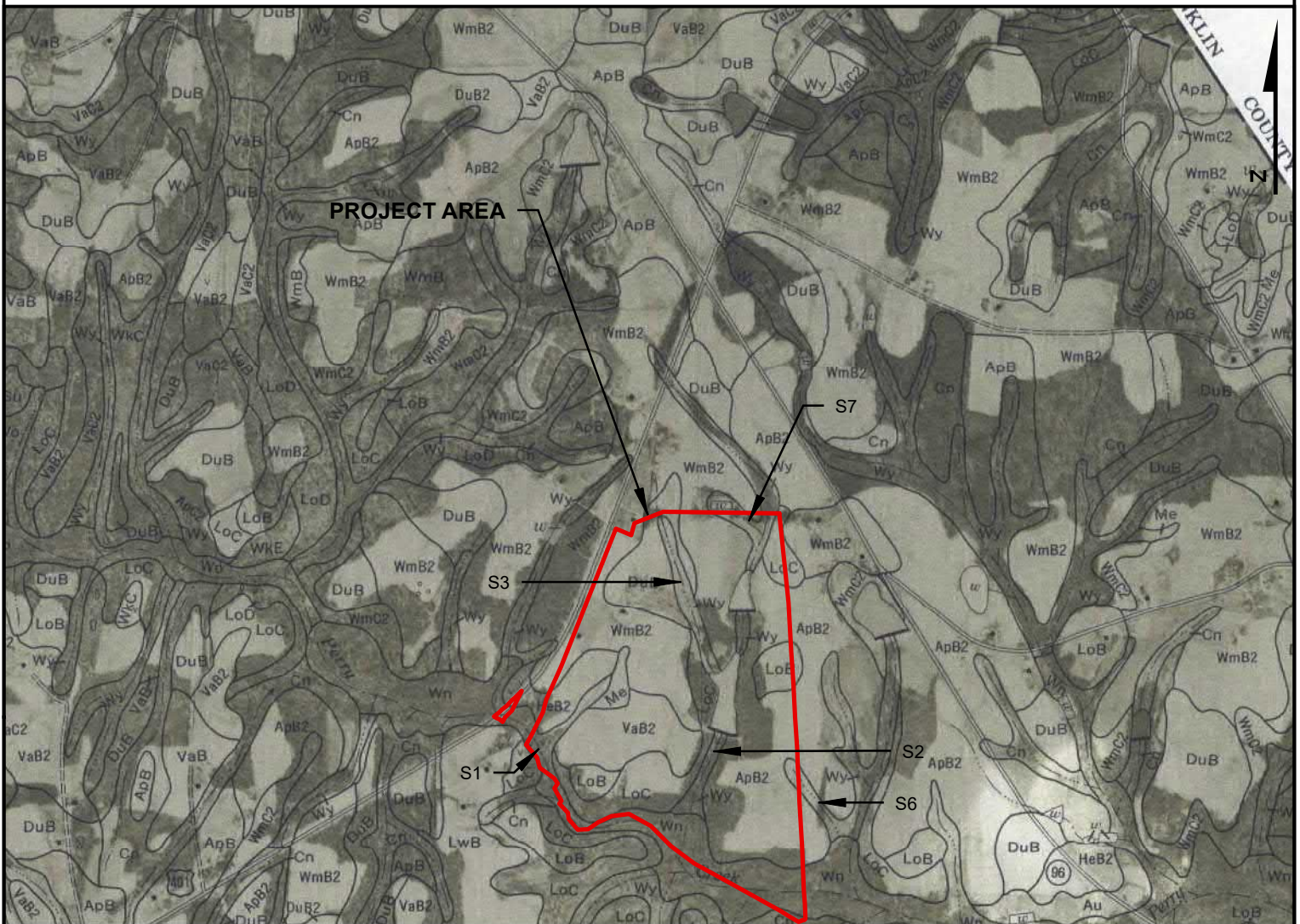


NOTES:
 1. USGS; 7.5 MINUTE, QUAD, "ROLESVILLE", NORTH CAROLINA; 2016
 2. LAT: 35.939202, LONG: -78.423248



FIGURE 1. USGS TOPOGRAPHIC VICINITY MAP
 FRAZIER FARM PARK MASTER PLAN
 ROLESVILLE, WAKE COUNTY, NC

0 1,000 2,000
 Feet
 1 inch = 2,000 feet
 VERSION: 1
 DATE: 5/23/2019
 JOB NO: ROL-19000
 DRAWN BY: pierzga

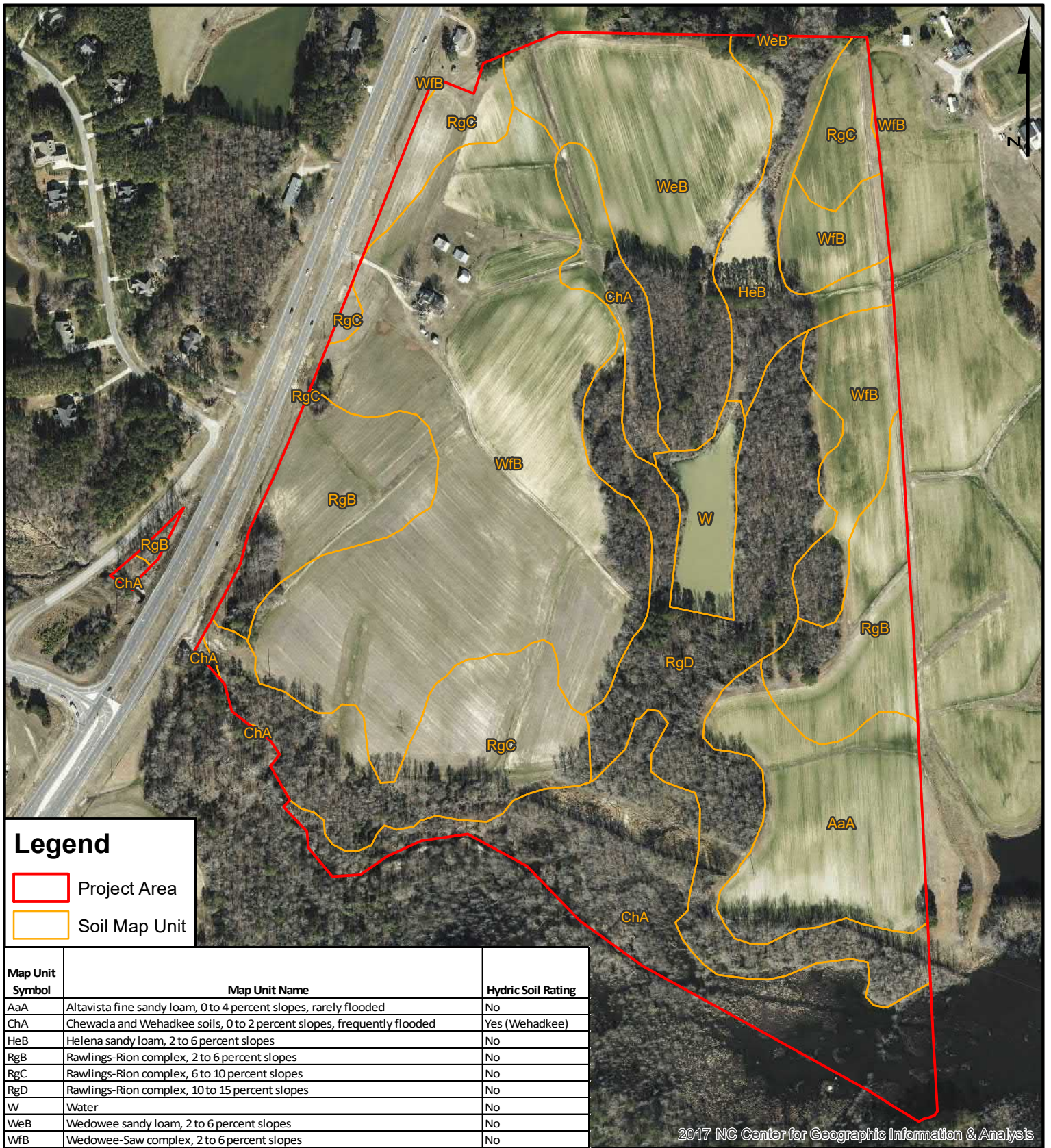


NOTES:
 1. NRCS; SOIL SURVEY SHEET 16, WAKE COUNTY, NC (1970)
 2. LAT: 35.939202, LONG: -78.423248



FIGURE 2. NRCS SOIL SURVEY
 FRAZIER FARM PARK MASTER PLAN
 ROLESVILLE, WAKE COUNTY, NC

0 660 1,320
 Feet
 1 inch = 1,320 feet
 VERSION: 1
 DATE: 8/26/2019
 JOB NO: ROL-19000
 DRAWN BY: roth



Legend

- Project Area
- Soil Map Unit

Map Unit Symbol	Map Unit Name	Hydric Soil Rating
AaA	Altavista fine sandy loam, 0 to 4 percent slopes, rarely flooded	No
ChA	Chewada and Wehadkee soils, 0 to 2 percent slopes, frequently flooded	Yes (Wehadkee)
HeB	Helena sandy loam, 2 to 6 percent slopes	No
RgB	Rawlings-Rion complex, 2 to 6 percent slopes	No
RgC	Rawlings-Rion complex, 6 to 10 percent slopes	No
RgD	Rawlings-Rion complex, 10 to 15 percent slopes	No
W	Water	No
WeB	Wedowee sandy loam, 2 to 6 percent slopes	No
WfB	Wedowee-Saw complex, 2 to 6 percent slopes	No

2017 NC Center for Geographic Information & Analysis

NOTES:
 Web Soil Survey SSURGO Spatial Data: Wake County (Version 13, May 31, 2020)




**FIGURE 2A. NRCS WEB SOIL SURVEY
 FRAZIER FARM PARK MASTER PLAN
 ROLESVILLE, WAKE COUNTY, NC**

0 200 400
 Feet
 1 inch = 400 feet
 VERSION: 1
 DATE: 12/4/2020
 JOB NO: ROL-19000
 DRAWN BY: pierzga



LEGEND

-  Roads
-  2-ft contours
-  Project area

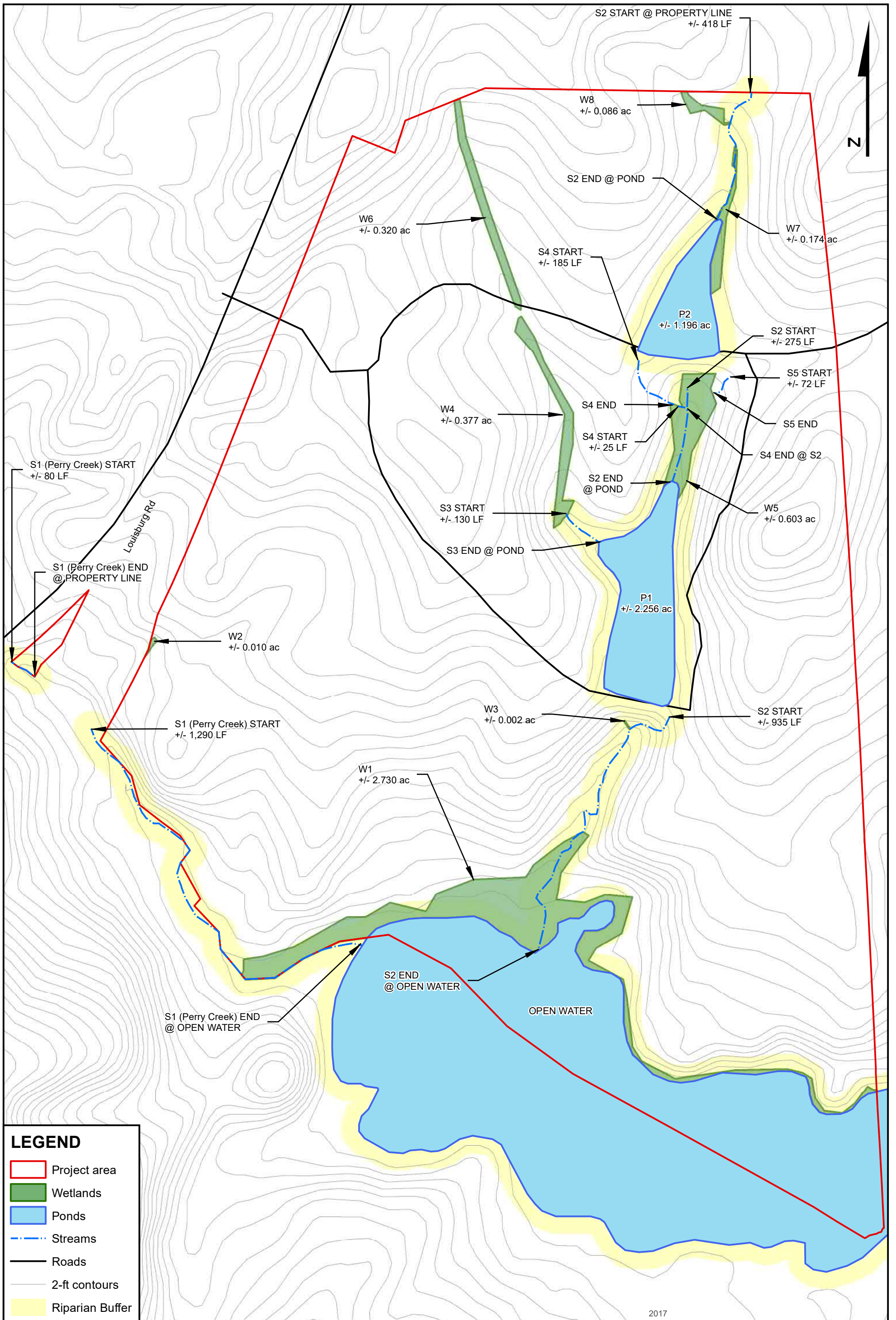
2017 NC Center for Geographic Information & Analysis



**FIGURE 3. AERIAL MAP
 FRAZIER FARM PARK MASTER PLAN
 ROLESVILLE, WAKE COUNTY, NC**

0 125 250 Feet
 1 inch = 250 feet

VERSION: 1
 DATE: 5/9/2019
 JOB NO: ROL-19000
 DRAWN BY: roth



LEGEND

- Project area
- Wetlands
- Ponds
- Streams
- Roads
- 2-ft contours
- Riparian Buffer

**FIGURE 4. JURISDICTIONAL AND ISOLATED WATERS DELINEATION MAP
 FRAZIER FARM PARK MASTER PLAN
 ROLESVILLE, WAKE COUNTY, NC**

0 125 250
 Feet
 1 inch = 250 feet

VERSION: 2
 DATE: 12/18/2020
 JOB NO: ROL-19000
 DRAWN BY: burdette

