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Plan best viewed in Adobe Acrobat in two page view mode.
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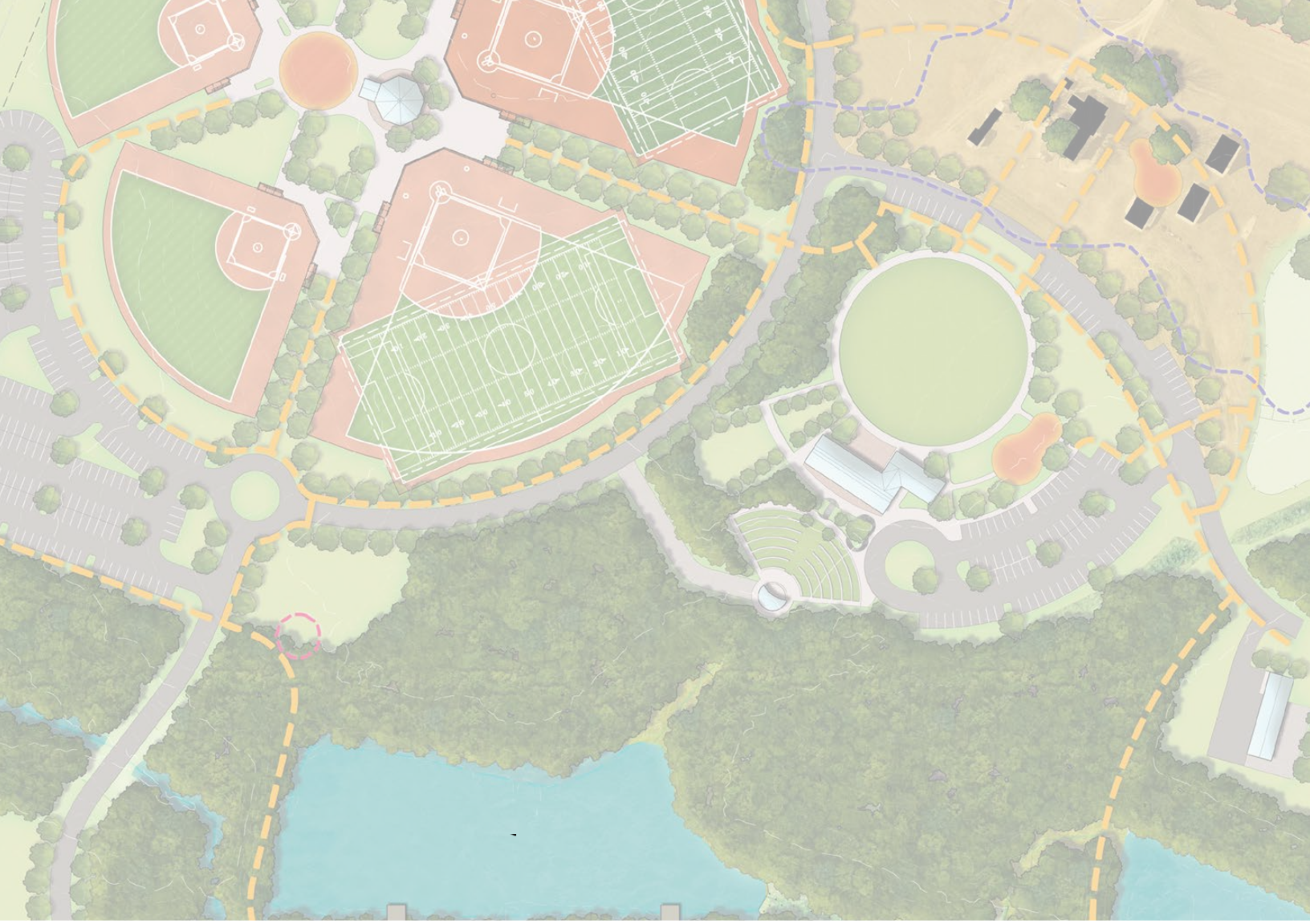

Rolesville
Genuine Community • Capital Connection
Est. 1837

FRAZIER FARM PARK

Master Plan

FINAL | August 2020

ACKNOWLEDGMENTS

Department of Parks and Recreation

JG Ferguson - *Parks and Recreation Director*
Garrit Soney – *Athletic Coordinator*
Kristen Strafford – *Program Coordinator*
Tracy Padgett – *Special Events Coordinator*

Recreation Advisory Committee

Terry Ratliff - *Chairperson*
Kevin Mazur - *Vice-Chair*
Rhiannon Gschwend- *Secretary*
Mary Ka Powers - *Member*
Derek Versteegen - *Member*
Abby Armistead - *Member*
Nathan Babcock - *Member*

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Rachel Cotter, RLA - *Project Manager*
Garrett Jenkins - *Designer + Graphics Specialist*

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Paul McEachen, MA, RPA - *Director*
Ellen Turco - *Principal Senior Historian*

Clark Irrigation Design & Consulting, *Irrigation*
Michael Clark, ASIC, LEEP AP - *President*

Mitchell Environmental, PA, *Septic Design*
Scott Mitchell, PE, LSS- *President*

McAdams

Integrated Design
architecture | planning | interiors

RGA

Clark Irrigation Design & Consulting, Inc.
Developing water conservative landscape irrigation systems

TABLE OF CONTENTS

1 project background

CHAPTER 1 > PROJECT BACKGROUND

SITE LOCATION

AREA (ACRES):

- ±116.56 AC

ADDRESS

- 11624 Louisburg Road, Wake Forest, North Carolina 27587

ZONING

- R-40 (assuming annexation by Rolesville)

PIN AND PARCEL

- 1779076610

NEARBY DESTINATIONS

- Louisburg Road (U.S. 401)
- Rolesville Town Hall (3 miles)
- Rolesville's Main Street Park (2.25 miles)
- Fantasy Lake Scuba Park (2 miles)
- Mitchell Mill State Natural Area (2.5 miles)

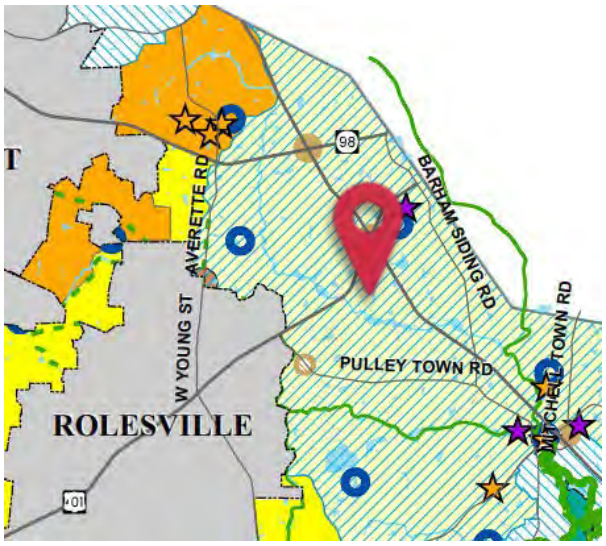
2 site inventory + analysis

CHAPTER 2 > SITE INVENTORY + ANALYSIS

As part of the master plan process, the future park's site is examined to determine any opportunities or constraints that would impact the programming and overall design of the park.

SITE INFORMATION + SITE CONDITIONS SUMMARY

- Located in and under the jurisdiction of Wake County, the subject site, currently owned by the Town of Rolesville will need to be annexed into the Town of Rolesville's jurisdiction.
- Per FEMA FIRM map numbers 3720176900J & 3720177900K there are FEMA regulated floodplains located within and adjacent the subject property. Floodplains are located along the southern property border and are associated with Perry Creek. FEMA flood maps can be found in the appendix.
- The subject property is located within the Little River water supply watershed (WS-II NSW) non-critical area.
- The property is currently (per the Wake County Zoning Ordinance) zoned R-40W, Residential Watershed District. The Residential Watershed District category is applied to properties located within appointed watershed districts where low-density residential uses are appropriate as well as suitable within the surrounding context.
- According to the Wake County Land Use Plan (see Figure 2) the subject property falls within the Watershed Non-Urban Area/Water Supply Watershed (NUA/WSW). This area allows for low-density residential (one dwelling unit per acre). As a result of falling within the Water Supply Watershed, the proposed development will likely require Wake County and City of Raleigh review. The Land Use Plan also suggests future development of a Park or Recreation Facility in an area to the north of the subject property (indicated with the blue circle on Figure 2).
- The property is maintained and farmed to reduce maintenance burden on the Town.
- Per the Preliminary Waters and Riparian Buffers Report (see the Appendix for the full report), a preliminary jurisdictional waters delineation determined there are two jurisdictional ponds, five streams and eight total wetlands within the project area.
- Existing dams for the jurisdictional ponds are functioning improperly and long-term stability is of concern.
- There is one existing ingress/egress point along US-401. US-401 is a superhighway allowing right turn only to and from the site.
- There is one known easement transecting the property. A 100' power easement owned and maintained by Wake Electric. There are no other known easements located within property limits.



Watershed Non-critical Area:

Residential use - cluster and other subdivisions-up to one dwelling per acre.
(minimum lot size of about 40,000 sq. ft. for a conventional subdivision).

Indicates project site

Figure 1 – Northeast Wake Area Land Use Plan: Land Use Classifications Map (dated April 20, 2009).

DEVELOPMENT REVIEW PROCEDURES

ANNEXATION AND ZONING MAP CHANGE

To gain jurisdictional control of the subject site, the Town of Rolesville would need to seek annexation into the Town's ETJ from Wake County prior to development. As this site is located within the NUA/WSW, annexation will require coordination between the Town of Rolesville, Wake County and the City of Raleigh. Once the annexation process has been completed, the subject property should be rezoned in order to allow recreation uses per Town of Rolesville standards.

Based upon the surrounding land uses and preliminary discussions with the Town of Rolesville Planning Director, this report recommends the subject parcel be zoned to R-40W. Within R-40W, public recreational parks and centers are permitted by right. The R-40W zoning district is applicable when the subject site is located within the Little River Reservoir Watershed District (WS-II). This district is established to provide water quality protection in the non-critical areas of the drainage basin of the future Little River Reservoir while also allowing recreational facilities. The proposed zoning designation is consistent with both the desired future use and the density of surrounding land uses.

It should be noted that two additional documents influence the annexation and development of the subject site. First, the Merger Agreement merging the water and sewer utility systems of Rolesville, North Carolina and Raleigh, North Carolina, dated July 31, 2001. This document transfers ownership of water and sanitary sewer systems to the City of Raleigh. Thus, the City of Raleigh is the owner of all public water and sanitary sewer infrastructure within the Town of Rolesville. The second, the Interlocal Agreement Little River Reservoir Water Supply Watershed Protection dated November 25, 2018. This agreement, while not signed by the Town of Rolesville, outlines additional zoning, density, stormwater, stream buffer, floodplain and water / sewer access restrictions to protect the Little River Reservoir. The primary limitation of this document is the City's position to refrain from extending water and sanitary sewer services to any properties within the NUA/WSW. Thus, any development of the subject site by the Town of Rolesville would necessitate provisions for well water and a septic system for wastewater.

Preliminary discussions with representatives from the City of Raleigh Public Works Department suggest the City's greatest concerns are 1) protection of the watershed for use as a future drinking water reservoir; 2) no regression of the impervious limits beyond what the County and State allow in a water supply watershed district; and 3) there is a legal resolution associated with the annexation that prohibits the Town or any other future land owners from expecting extension of City owned and operated water and sewer systems. Currently, according to article 3.74 of the Wake County Unified Development Ordinance, impervious surfaces within a water supply watershed overlay district are limited to 12%. This report recommends the Town receive legal council when moving through the annexation process.

Preliminary discussions with the County Planning Department reveal the County has no formal mechanism to prevent Rolesville from annexing the property. County representatives did express concern that annexing the property into Rolesville may set a precedent and could lead developers to expect annexation and utility extension within the Little River Watershed which the City of Raleigh and Wake County have expressed is not plausible. County representatives also suggested they have no legal mechanism to prevent the Town from implementing a text change to the Unified Development Ordinance that would allow a high-density development option to the WSII Watershed (i.e., 30 percent impervious), but did recommend a requirement for enhanced stormwater controls if a high-density option were to be permitted.

DEVELOPMENT STANDARDS

Development standards govern and guide new development for properties under the jurisdiction of the Town. The following outlines the development standards that govern the subject site's development. These standards have been taken from the Town of Rolesville's UDO, Article 6.1.6 dated October 4, 2004. These standards assume that the Town will annex the property and rezone the property to R-40W, as suggested, therefore all development will have to adhere to Town of Rolesville's design and development standards.

R-40W Dimensional Requirements:

- Setbacks
  - Front Yard: 50 feet
  - Side Yards: 20 feet*
  - Rear Yard: 30 feet
  - *Sideyard setbacks fronting a public street will be extended with an additional 10 feet
- Minimum lot area: 40,000 square feet
- Minimum lot width: 110 feet
- Minimum lot depth: 150 feet
- Maximum building height: 35 feet
- Maximum lot coverage for single-family residential: 36%

Landscaping + Buffering

As a general development requirement, Rolesville requires the following landscape and buffer provisions per Article 14 of the Rolesville UDO:

- Site is considered Class 1 (park, greenways and similar uses)
- Surrounding parcels are classified as single family residential with lots 6,000+ SF (Class 2)
- A 10-foot, Type "B" landscape buffer is required per the specifications below:
- Semi-Opaque Type B- This buffer serves as a semi-opaque screen from the ground up to a height of at least three feet. Canopy trees shall reach a height of at least 20 feet at maturity and have no unobstructed openings greater than 20 feet between canopies. This buffer may include a wall, an earthen berm, an opaque or semi- opaque fence existing or planted vegetation, or any appropriate combination of these elements to achieve the desired opacity. At least 50 percent of the required shrubs must be of the evergreen species. Shrubbery is to be planted sufficiently close together to form an opaque screen within three years after planting.

Louisburg Road Streetscape Buffer

- At least 30 feet unless topography, existing vegetation and rock formations are present – In which case the width can be reduced to as little as 10 feet.
- Vehicular use areas (VUA) must be screened from adjacent properties and public rights-of-way by use of:
  - No portion of VUA shall be further than 60 feet from trunk of required large tree
  - Two ornamental trees can substitute one large tree if canopy tree will not fit
  - 3-foot tall evergreen hedge within three years of installation (24" at time of planting)

Site Access

The site's location along Highway 401 and proximity to Raleigh and it's suburbs such as Wake Forest and Knightdale offer a strategic location for a regional park to serve northeast Wake County. The subject site has one existing access point (60-foot access easement) directly off northbound Highway 401, a superhighway controlled by the North Carolina Department of Transportation (NCDOT), allowing only a single access point with right-turn ingress and egress.

Depending on the park's ultimate use, the Town may want to explore a secondary access point to accommodate peak traffic flows. When planning for the future of the subject site, secondary site access could become necessary to prevent traffic congestion and promote improved safety and circulation. Preliminary conversations with NCDOT indicate they will not allow a second access point along the property frontage off of US-401, thus the Town should consider a second access point either off US-401 through the existing driveway on the adjacent property, or through an adjacent parcel off Zebulon Road. Either of these options would require an access easement through private property negotiated with the property owners.

A traffic study will likely be required by NCDOT before site development may take place. This study could include a trip per day analysis exploring how much future traffic the proposed site design would bring to the surrounding community daily. This report would also determine the potential need for any additional off-site road improvements required by NCDOT such as turn/ merge lanes to and from the property along either US-401 or Zebulon Rd.

Pedestrian Access

Being that the site is located between these highway corridors, pedestrian access is not provided adjacent the site. Along the W Main Street corridor, which connects to Rolesville proper, a pedestrian multi-use path exists yet it does not extend past Waterstone Lane (2.5 miles from the existing site entry). During the construction of US-401, a culvert was installed parallel to Perry Creek at the southwest corner of the property. This culvert acts also as an opportunity to provide greenway trails along Perry Creek (as shown on the Wake County Greenway Master Plan). Sidewalks do not exist within the neighboring parcels therefore providing no pedestrian connectivity near or to the site.

Figure 2: Extraction from the Wake County Greenway Master Plan showing location of the park on a proposed greenway route.

NATURAL + CULTURAL RESOURCES

The design team conducted a preliminary natural and cultural resources review of the subject property. A site visit and review of all applicable documentation produced a preliminary report documenting surface waters, wetlands, buffers, threatened and endangered species and historic documents.

PRELIMINARY WATERS AND RIPARIAN BUFFERS

A preliminary delineation identified the presence of jurisdictional ponds, streams and wetlands located on the subject site. It is recommended that a detailed delineation and verification of the surface water and wetlands be done as well as consultation regarding possible permit impacts to the jurisdictional and isolated waters present on the site. Additionally, preliminary inspection of the existing ponds indicates the dams are in poor condition and in need of repair prior to allowing public access. This could be cost prohibitive. This report recommends further exploration of the cost and process required for either repairs to both pond dams or preparation of a dam breach plan to drain the ponds due to the age and poor condition of the existing structures. A more detailed summary of dam management recommendations can be found in the Preliminary Waters and Riperian Buffers Report located in the appendix.

CULTURAL RESOURCE ENVIRONMENTAL REVIEW + PROTECTED SPECIES ASSESSMENT

A cultural resource literature review of the North Carolina State Historic Preservation Office (SHPO) National Registry records was conducted to determine if there are any recorded historic structures, cemeteries, or historic properties within the project area and/or within 0.25 miles of the project boundary. Findings did not reveal any significant structures on site, however, two were identified within the 0.25 mile search radius:

- Dunn-Scarborough-Frazier Farm – c. 1826; c. 1935 Farm Complex
- S.H. Scarborough Farm Tenant House – Gone

The State Historic Preservation Office concluded that because the site lays in a well-drained location at the confluence of Perry Creek and Little River, there is an increase possibility that pre-colonial American Indians once occupied the site. Additionally, a 1914 soil map depictes a structure on the site which indicated a possible historic contributing structure. These discoveries by SHPO prompted a Phase 1 archeological exploration of the site. The letter from SHPO explaining the need for the archaeological of the site can be found in the appendix.

Refer to the Appendix for the full Cultural Resource Environmental Review.

Figure 3: The Dunn-Scarborough-Frazier Farmhouse

Figure 4: Lush vegetative community in a riparian zone

ARCHAEOLOGICAL STUDY

The need for a Phase 1 archaeological study stems from the possibility of occupation by pre-colonial American Indians and early European settlers to the area. Richard Grubb & Associates, a consulting firm specializing in historic and cultural resources conducted the study. The full Phase 1 Archaeological Report can be found in the appendix. The key results of the study are listed below.

The area in which the future park site is located was once home to pre-colonial American Indians. After the arrival of Europeans to the area, the land that would become the future park site was passed through several families who used to land for agrarian purposes.

The Phase 1 archaeogical study revealed three archaeological sites within the park boundary. Two of these sites were pre-contact in character and the other site is a historic scatter associated with the Dunn-Scarborough-Fraiser Homestead.

As a result of the findings, Richard Grubb & Associates recommends no further archaeological survey would be needed in advance of project implementation. A finding of no effect on historic properties is recommended.

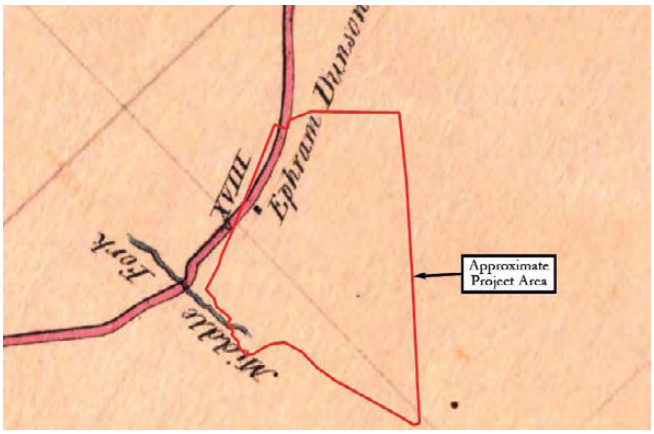


Figure 5: Historic maps were used to uncover the history of the site

Figure 6: Archaeological fragments discovered on the park site

PROTECTED SPECIES

Consultation with the U.S. Fish and Wildlife Service furnished a list of threatened and endangered species that may occur within the proposed project area. There are 6 threatened, endangered or candidate species that could be found or effected by this project.

- Red-cockaded Woodpecker (endangered)
- Atlantic Pigtoe (threatened)
- Dwarf Wedgemussel (endangered)
- Tar River Spinymussel (endangered)
- Yellow Lance (threatened)
- Michaux's Sumax (endangered)

Further consultation is needed prior to development to determine the potential adverse impacts the project could have on the species listed above. The Species Conclusion Table can be found in the appendix.

Figure 7: Various flora and fauna communities exist on the park site

ARCHITECTURAL ASSESSMENT

Existing structures on the subject site include a +/-2,000 square foot residence, five out-buildings and a covered well. The core of the residence appears to be approximately 150 years old indicated by a faint date inscribed in a rock near the foundation. The residence has undergone multiple renovations over the years and has retained few of the original fixtures or finishes of the original structure. In order to determine any historic significance, this report recommends the structures be evaluated by the State Historic Preservation Office or similar entity. If the structures are retained for a future use, it should be noted that significant renovations may be required to meet current building and accessibility codes. If not retained for a future use, there is additional potential for aspects of the structures including the existing mature trees, covered well structure and the foundation rock, to be preserved as a focal point for the park entrance. A more detailed architectural assessment can be found in the appendix.

UTILITIES

The initial investigation, via site survey and site observation, gathered that there is a 100-foot power easement (owned and managed by Wake Electric) paralleling the south property. Also, water, sewer and electric are provided at the site through well, septic and local electrical service providers. Further investigation will be required to determine capacity of the existing well and septic system for future uses.

SEPTIC

Septic system capacity is determined using state rules for applicable facility type and usage. It is not possible to determine capacity requirements without a fully developed site plan that will be provided later in the design process. However, the site appears to have the capacity to accommodate tens of thousands of gallons of wastewater per day, with appropriate site planning and septic system design. This report anticipates the site would provide multiple independent septic systems located throughout the property, and each system offer it's own design flow, treatment system, and drainfield(s).

Available subsurface septic system drainfield types may include 1) conventional, 2) LPP (Low-Pressure Pipe), and 3) subsurface drip. Selected system type(s) will be determined by usable soil depth and cost comparisons. While conventional septic systems are by far the cheapest option available for small systems (e.g., 4-5 bedroom house), with good soils large systems are sometimes cheaper to install using subsurface drip due to reduced earthwork requirements. Wastewater pretreatment systems may also be justified on this site, depending on usable soils depths, septic drainfield type, proximity to sensitive surface waters, etc.

Any septic system with a design flow greater than 3,000 gpd (gallons per day), must be reviewed by the state. State review can be unnecessarily arduous in comparison to County review. This report recommends keeping the design flow under 3,000 gpd for each independent system to simplify the design and review process.

Additionally, any LPP or subsurface drip system will require a certified operator for inspection, maintenance, and reporting. Several triggers may require a certified operator for a conventional drainfield system, including drainfield flowrate (>1,500 gpd / drainfield), multiple pumps, or the inclusion of pretreatment systems. Inspection, maintenance, and reporting frequency varies with system type and design flowrate, and ranges from 2 per year to 5 per week. Separating septic systems as suggested above will help reduce required inspection, maintenance, and reporting frequency.

The full Preliminary Septic Map can be found in the Appendix.

WELL WATER

All potable and non-potable water must be provided by an on-site water well. Construction of a water well is governed by the Wake County Department of Environmental Services regulations. Additionally, if the supply is deemed a public or community water system as defined in 15ANCAC 18C.0102 (Rules Governing Public Water Supplies), the system must comply with state statutes and permitted through the Division of Water Resources. A public water system is defined by section 130A-313 of the NC State Statutes as a system for the provision to the public of water for human consumption through pipes or other constructed conveyances if the system services 15 or more service connections or which regularly serve 25 or more individuals. Public water systems are further defined as either a community water system or noncommunity water system based on the number of service connections used by year-round residents.

Similar to defining the details and capacity of the future septic system, a site plan must be developed prior to fully defining the type, capacity and regulatory requirements for a water supply water well system. Further discussions with the Environmental Services Division are required to fully understand the permitting, operations, maintenance and inspection requirements for the future system.

Preliminary discussion with City of Raleigh Public Works Department suggested the Town should be aware the park is located in an area that has experienced radium, radon and gross alpha contamination. All can be removed with on-site water treatment systems.

STORMWATER MANAGEMENT

Proposed improvements will be considered new development and as such, the following requirements will apply. Due to the location of the site within the Little River Watershed (WS-II), development will be required to meet the minimum regulations set forth by the State of North Carolina.

The project site is located within the Neuse River Basin. Surface waters in the Neuse River Basin require maintenance of 50-foot wide riparian buffers directly adjacent to these features. Only those surface waters shown on the most recent version of the soil survey map provided by the Natural Resource Conservation Service or 7.5-minute quadrangle topographic maps supplied by the USGS are subject to the Neuse River Basin: Nutrient Sensitive Waters Management Strategy: Protection and Maintenance of Riparian Areas with Existing Forest Vegetation (15A NCAC 2B.0233). The DWR may exempt surface waters depicted on these maps from the riparian buffer rules if an on-site determination shows that the features are one of the following:

- Ditches and manmade conveyances other than modified natural streams,
- Manmade ponds and lakes that are located outside natural drainage ways or
- Ephemeral (stormwater) streams.

In addition to buffers and Built Upon Area (BUA) restrictions, stormwater runoff from the development shall be transported by vegetated conveyances to the maximum extent practicable. Should the proposed facility improvements for Frazier Park exceed the threshold for a low-density development (12% or less built upon area), then a high density 30% maximum limit for BUA can be utilized for the site. The high-density option requires 100-foot buffers on all perennial waters and engineered stormwater controls shall be used to control runoff from the first inch of rainfall. [It should be noted that currently the Town of Rolesville has not adopted the model ordinance described above for the high-density option. This model ordinance or similar would need to be adopted by the Town prior to developing more than the low-density limit.]

Based on the Town of Rolesville requirements, though superseded by the previously mentioned state regulation, low density development is BUA less than 24% while high density is greater. Low Density development within the Town limits is required to detain post development flows to pre-development conditions using a combination of structural and non-structural practices for the 1-yr 24-hr storm. Developers must manage runoff so that after Development the site will not exceed

the Target Curve Numbers seen below. Additional credits toward curve number may be used and can be found in the Town of Rolesville UDO.

Treating the runoff associated with the 1-inch event and 85% TSS removal is required to remain in compliance with the treatment requirements of high-density development. Low Impact Development (LID) Projects are encouraged and have a special definition unique to the Town of Rolesville within the Ordinance, if that type of development or label is desired for this project. Engineered stormwater controls are those within the latest version of the North Carolina Stormwater Best Management Practices Manual, now updated and captured in the Stormwater Minimum Design Criteria (MDC).

Though an SCM is not required for treatment purposes, a 10% analysis is required to determine if post development flows are greater at the 10% point downstream. If the flows do increase revising site layout and onsite detention may be required unless a flow easement from downstream property owners to the 10% point is attained. Rolesville UDO does not require compliance with numerical limits on Nitrogen associated with the Neuse River so it is assumed this is not a consideration.

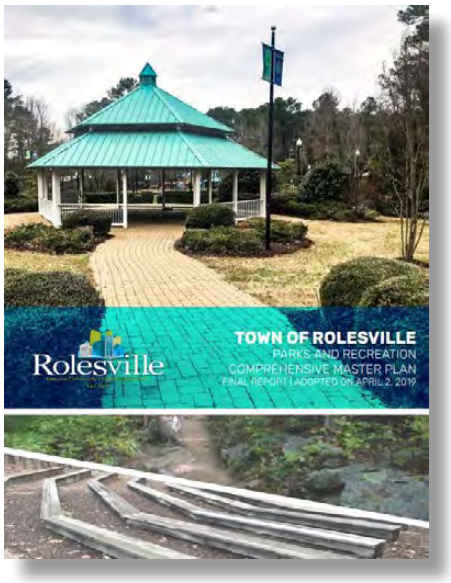
It is anticipated that no above ground SCM will be most needed for the proposed development, because a low density (12%) option is desired.

Figure 8: Typical vegetated swale conveyance system
Source: https://salix-6aa7.kxcdn.com/wp-content/uploads/2014/09/7-VMax-P550-Vegetated-Swale-1024x768.jpg.webp

RELEVANT PLANNING DOCUMENTS

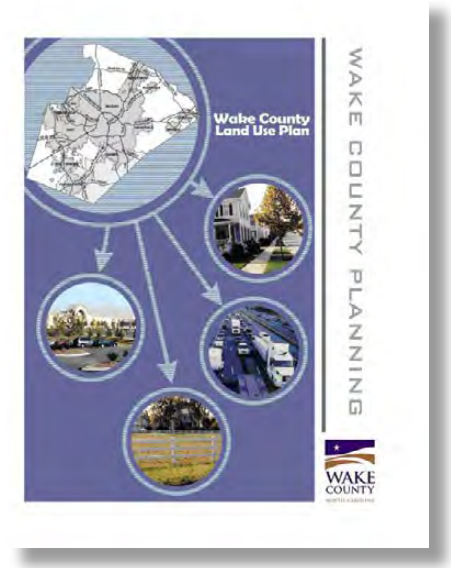
2019 Town of Rolesville Parks and Recreation Comprehensive Master Plan

The 2019 Parks and Recreation Comprehensive Master Plan recommends the Town prepare a park master plan for the subject site. Additionally, the plan suggests that the Town should secure additional parkland to meet future demand, create new multipurpose fields consistent with athletic programming expansion and ensure parks equitably serve diverse ability levels. These recommendations can be achieved through the development and implementation of a park master plan for Frazier Farm Park.



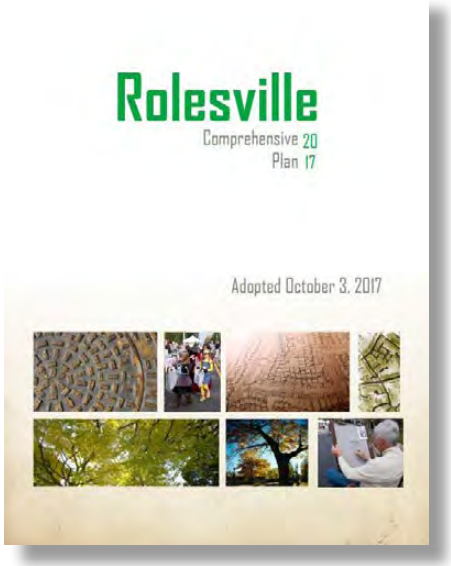
Wake County Land Use Plan

The Wake County Land Use Plan explores the future development opportunities within the Northeast corner where the proposed parkland is located Within this area, the Land Use Plan outlines the need for public recreation, "neighborhood activity centers," as well as greenway corridors within this area. Additionally, zoning districts provided by Wake County allow for development of open space and public recreation.



Rolesville: Comprehensive Plan 2017

This plan informs the use of the subject site through future greenway planning and park expansion within the Parks, Recreation and Open Space chapter of the document. According to this plan, the town should consider a new recreation facility upon new parkland that serves the current and future need for athletic fields. This plan also presents the intention to expand the existing greenway network by the inclusion of a corridor along the southern border of the subject site.



SUMMARY OF SITE OPPORTUNITIES + SITE CONSTRAINTS

SITE OPPORTUNITIES

- Opportunity for agritourism given agrarian history and current land use
- Site is clear of vegetation, with natural buffers along hydrologic features
- Easily accessible to Raleigh, Franklin County, and other surrounding communities via US-401
- Gentle rolling topography ideal for minimal grading and aesthetic sight lines
- Located along proposed future greenway corridor
- Acreage provides opportunity for revenue generating recreation activities
- Within a proximity to Town core

SITE CONSTRAINTS

- Water Supply Watershed development restrictions
- Pedestrian access is minimal
- Site is bisected by buffered stream
- Site is not served by city water and sewer
- Required annexation into Town's ETJ
- Additional vehicular access points will require NCDOT approval or an access easement from adjacent property owners

3 design alternatives

CHAPTER 3 > **DESIGN ALTERNATIVES**

The overall approach for the development of the program elements listed below leveraged the results of the Parks + Recreation Comprehensive Plan, observed site conditions and information gathered from Town staff specific to Frazier Farm Park. We have provided two possible program descriptions below. Each of the programs will be used to develop site concept sketches. The first program (Concept A), uses the desired and recommended program elements resulting strictly from the Comprehensive Plan. The second program (Concept B), provides additional program elements allowing for a potential public-private partnership and additional amenities desired by Town staff.

CONCEPT A

Frazier Farm Park has an opportunity to provide diverse amenities attracting regional visitors. Developing park facilities to provide on-trend and high-quality amenities would create regional excitement and help position the Town as a prominent recreational provider.

PROGRAMMING

- Multi-purpose Athletic Fields
- Youth Sports Fields (soccer, baseball, etc)
- Multi-use Paths + Greenways
- Splashpad
- Festival + Event Space
- Community + Sensory Gardens
- Outdoor Amphitheater
- All-Inclusive Playground
- Dog Park

CONCEPT B

Frazier Farm Park mirror's the history of Rolesville through Agriculture. With the park's natural rolling vistas and historic farm buildings, developing the park to maximize the existing features while educating the public through Agri-tourism presents a great advantage unique to the greater Triangle region.

PROGRAMMING

- Results of the Comprehensive Master Plan
- Multi-Purpose Athletic Fields
- Youth Sports Fields
- Multi-Use Paths + Greenways
- Outdoor Adventure Courses
- Additional Unique Amenity Opportunities
- All-Inclusive Playgrounds
- Agritourism: Building/Event Center with unique themed recreation amenity
- Partnerships with Local/National Program Provider
- Environmental Education Center with Boardwalks, Education Trails and Meadow Walks
- Food Truck Rodeo Space
- Art Installations (Art Trail, Art + Play, Etc)

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4 the master plan

CHAPTER 4 > **THE MASTER PLAN**

CONCEPT THEMING: CULTIVATING AN ACTIVE LIFESTYLE

As part of the overall design process, the project team developed multiple concept alternatives for park theming, programming and site configurations. The final concept selected for Rolesville's Frazier Farm Park is based on the site's history and reflective of the community's need for athletic opportunities. The site's and Rolesville's history will be preserved and celebrated by retaining the historic farmstead's residence, barns and auxiliary structures to give contemporary visitors a glimpse into the lifestyle of Roleville's agrarian settlers. Agricultural memorabilia and scheduled agricultural and cultural demonstrations would contribute to the park's agritourism. To reach a wide variety of user groups, an interpretive farm-themed play area is nestled amongst the barns and fields where the demonstrations would occur.

Combined with agriculture and archaeology, the park would promote an active lifestyle for all generations. Creating a park with aesthetically pleasing and safe features is crucial for inticing people to get outdoors. Baseball, softball, and soccer fields would cater to those who enjoy athletics and high-intensity recreation, while the generous trail system and assortment of playgrounds provide more passive recreation opportunities

See next page for overall master plan rendering


CONCEPT
LEGEND
VEHICULAR CIRCULATION
PEDESTRIAN CIRCULATION
SPORT FACILITY
PARKING
STRUCTURE
NATURALIZED AREA
EXISTING POND
PROPERTY LINE
HISTORIC MATERIAL AREA
PRE-CONTACT MATERIAL AREA
N
1 INCH
SCALE: 1" = 100'
TOTAL PARKING : ±449 SPACES
TOTAL IMPERVIOUS AREA: 13.25 ACRES
IMPERVIOUS AREA ALLOWED: 13.96 (12% TOTAL SITE AREA)
NOTES:
1. This concept plan is preliminary in nature and subject to change.
2. All base data has been provided by Wake County, the Town of Rolesville and should be confirmed with a topographic and boundary survey prior to development of construction drawings.
3. This concept diagram does not consider subsurface conditions such as utilities, unsuitable soils, rock or other elements that may influence the park configuration or location of amenities. A preliminary soils, Geotech or similar investigations should inform the final concept design.
4. All stormwater shall be managed through vegetative conveyance.
5. All well and septic systems will be located and designed as a part of design development. This plan provides adequate septic soil areas.
6. This subject site is located in the Little River Water Supply Watershed and is subject to all applicable codes and regulations. Impervious development is restricted to 12% of the total site area (13.96 acres).
POSSIBLE CONNECTION TO FUTURE GREENWAY
RESTORE NATIVE LANDSCAPE
FIELD 3 (225')
FIELD 4 (225')
LARGE PLAYGROUND (6,600 SF)
CONCESSIONS, SHELTER + RR
FIELD 5 (225')
FIELD 2 (300' MULTI-USE, TURF)
PARKING ±230 SPACES
TREED OUTDOOR EVENT SPACE (1,000 CAPACITY)
EVENT CENTER (5,000 SF)
GRAVEL ACCESS DRIVE
AMPHITHEATER (900 SEAT)
PERRY CREEK
TRAIL
EXISTING POND (2.13 AC)
PIER
PARKING ±100 SPACES
WAKE ELECTRIC POWER EASEMENT
MULTI-USE FIELD
MULTI-USE FIELD
MULTI-USE FIELD


LOUISBURG ROAD (HWY 401)
60' FRONT YARD SETBACK
HISTORIC PRESERVATION / AGRITOURISM AREA
SMALL INTERPRETIVE PLAYGROUND
PARKING ±10 SPACES
PROPOSED TREE GROVE
EVENT LAWN (8,000 CAPACITY)
PARKING ±10 SPACES
SMALL + LARGE DOG PARK
SMALL PLAYGROUND (4,000 SF)
PARKING ±90 SPACES
TRAIL
FLEX SPACE FOR FUTURE TBD
MAINTENANCE BUILDING (2,500 SF STRUCTURE, 4,000 SF YARD)
PIER
EXISTING POND (0.97 AC)
RESTORE NATIVE LANDSCAPE
AGRITOURISM AREA

PROGRAMMING

An athletic area with five ballfields is proposed to the south of the old farmstead. This "wagon-wheel" design also contains a centralized area consisting of a concession and restroom structure, a playground, and two warm-up areas. Three soccer fields with associated parking are provided across the creek to the east of the ballfields. A portion of the site to the north would be available for possible future athletics.

The area geographically centered in the proposed park would be the park core, where a generously sized event lawn capable of hosting community events flanks an event center housing indoor event space, restrooms and concessions. The site would be capable of drawing in crowds for events such as concerts, holiday festivities (egg hunts, firework shows, etc.), food truck rodeos, arts and crafts festivals, weddings or a weekend farmer's market. An inclusive playground off of the event lawn allows children to play while caregivers can utilize the paved walkway encompassing the event lawn. A smaller, intimate event lawn adjacent to the amphitheater and event center for ceremonies would be surrounded by trees to create a "room" where small events such as weddings and family reunions could occur.

Downhill from the event center abutting a stream, a 900-person amphitheater provides the Town a permanent location to host concerts, performances and assemblies. Should the turnout of an event exceed the capacity of the amphitheater, the event lawn has the capacity to hold 1,000 patrons . The alignment of the amphitheater on axis with the event lawn and event center creates a visual and functional connection in the event a single, large event would occupy the three spaces in a manner that encourages unity and pedestrian flow throughout.

Figure 1: Precedent imagery for the athletic area of the park
Source: https://d7vikings.blogix.co/wp-content/uploads/2016/09/tyger-river-sports-complex-2.jpg

Figure 2: Precedent of event lawn adjacet to event center
Source: https://cdn0.weddingwire.com/emp/fotos/2/7/7/3/0/1/gpirst-omni-grove-park-inn-pavilion-outside-2-meetings_51_103772-1568397518.jpg

Figure 3: Farm-themed play equipment
Source: https://www.fodors.com/wp-content/uploads/2018/10/3_UniquePlaygrounds_WatkinsRegionalParkWizard0f0z_Barn_Tractor_1.jpg

Figure 4: Intimate event lawn amongst the trees
Source: https://winecountrygreens.com/wp-content/uploads/sites/37/2013/11/Lawn-with-Woods.jpg

AGROTOURISM + ARCHAEOLOGITOURISM

Agritourism is the practice of showcasing the inherient agricultural quantities for the attraction of visitors to the park. By providing active agricultural practices such as the growing / harvesting of crops on-site and processing these crops into goods and selling the products, agritourism has the potential to directly and indirectly enhance Roleville's economy.

Direct economic impacts include the purchase of agricultural good from a Town-owned Co-op entity like one possible at the park. Indirect economic impacts come in the form of increase traffic to the site utilizing other businesses in Rolesville. The contrast between an agricultural, rural setting like Rolesville compared to the bustling, urban feel of downtown Raleigh provides the opportunity for those who seek to escape the densities of city life, as well as fresh produce.

Archaeologitourism, a term created to encompass the opportunities available to entice visitors to the site for archaeological purposes, has the same general goals as agritourism. With the site being rich in history, site users would be able to learn about the history of the site through past discoveries while having the opportunity to unearth hidden history still on site. Programs could be created that guide visitors through the process an archaeologist would endure on the search for the history of a site.

Figure 5: Harvesting and selecting produce is a direct form of agritourism
Source: https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.rliland.com%2Fagriwhat-emerging-trend-agritourism-can-help-business%2F&psig=AOvVaw3j2RilMP4l3vGmnfN2D-oL&ust=1587156692579000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCKDU-M3p7egCFQAAAAAdAAAAABAp

Figure 6: Guided tours educate visitors about agricultural practices
Source: https://news.maryland.gov/mda/press-release/2019/10/11/fall-agritourism-activities-happening-on-farms-around-the-state/

Figure 7: Agritourism area of the master plan centered around the historic farmstead

ARCHITECTURE

THE EVENT CENTER

The Event Center is a building of approximately 5,000 square feet of Type VB construction. The building is broken into two connected sections with a barn-like aesthetic. The shifting of the building creates a gathering area towards the event lawn on one side while the other becomes an entry off the nearby parking and drop-off loop. The main structure is an open assembly area for events. The long axis of the building opens to a gathering area perpendicular to the edge of the event lawn. The space features generous windows both on the ground level and in a clearstory roof feature. Connected to the assembly area, but in the second roof volume, is a kitchen to serve both the space and concession windows facing the event lawn. The second volume under the second roof is for toilets. The toilets are accessed by a covered area, but exterior to the building, in order to facilitate use by either the Event Center, the event lawn and nearby playground, or the amphitheater. At approximately 3,600 square feet, the main event area can support 240 people with tables and chairs, and 514 people without tables and chairs. With a modular configuration, an additional bay would accommodate 38 more patrons with tables and chairs.

The building has a concrete slab foundation. The structure features built-up columns and trusses of 2x dimensions. The walls are 2x6 wood studs with plywood sheathing, air barrier, 2" rigid insulation, and horizontal fiber cement siding (Z-furring strips through the rigid insulation) on the exterior side. The walls have open-cell spray foam insulation and 5/8" gypsum wall board on the interior side. The clear story and end walls have a similar construction, but with a stained vertical wood siding. Windows are aluminum storefront with Low-E glass. The roof is a standing seam metal roof on a structure that includes the 2x built-up member trusses and purloins with a tongue-in-groove deck. Floor finishes include epoxy floors in the restrooms and kitchen, LVT in the assembly area.

Due to its size and occupancy, the building may be required to have a fire sprinkler system.

Figure 8: Rendering of event center facing the event lawn

Figure 9: Rendering of event center facing parking area

Figure 10: Elevated rendering of event center courtyard

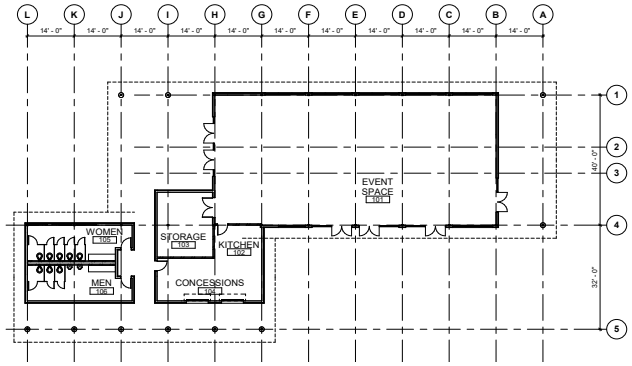

Figure 11: Floor plan of event center and restrooms

THE OCTAGON

The Octagon Building serves Fields 1 through 5. The building is Type VB construction. The first floor contains restrooms and concessions, while the second floor overlooks the fields as a press box.

The building has a concrete slab foundation. On the first floor, the load-bearing walls are 8" CMU with an air barrier, 2" rigid insulation, and horizontal fiber cement siding (Z-furring strips through the rigid insulation) on the exterior side. The second floor is 2x6 wood studs with plywood sheathing, air barrier, 2" rigid insulation, and stained vertical wood siding (Z-furring strips through the rigid insulation) on the exterior side. The walls have open-cell spray foam insulation and 5/8" gypsum wall board on the interior side. The roof is a standing seam metal roof on a structure that includes the 2x built-up member trusses and a plywood deck. Floor finishes include epoxy floors in the restrooms and concessions, VCT on the upper floor.

Figure 12: Rendering of the octagon

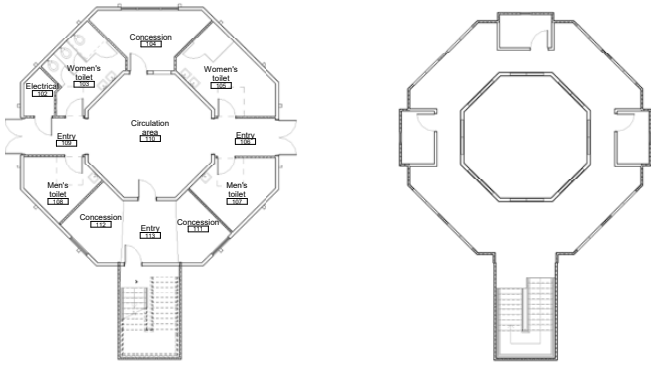

Figure 13: Floor plan of the octagon

MAINTENANCE BUILDING

The Maintenance Building is Type VB construction of approximately 2,500 square feet. The building contains a large working area, plus office, break room, and electrical room for nearby field lighting. The building was sized based on comparable maintenance buildings in parks requiring similar operations.

The building has a concrete slab foundation. The load-bearing walls are 8" CMU with an air barrier, 2" rigid insulation, and stained vertical wood siding (Z-furring strips through the rigid insulation) on the exterior side. The roof is a standing seam metal roof on wood trusses and a plywood deck. Floor finishes include VCT in the office and break room.

Figure 14: Rendering of the maintenance building

AMPHITHEATER

The Amphitheater is an outdoor assembly area seating approximately 900 visitors. The seating is wood-formed poured in place concrete in the graded sloped hill side. The stage is a raised concrete platform with a wood structure and a standing seam metal roof. The structure can be stick-built like the other buildings or can be a premanufactured structure with a focus wall added in the back.

Figure 15: Rendering of the amphitheater stage

ACCESS + CIRCULATION

Currently, there is only one existing entrance to the future park site. This graveled entry was previously used for agricultural equipment and access to the residence. Dirt and gravel roads exist throughout the property, serving farming equipment. The proposed park includes a new entry driveway on US-401 / Louisburg Road south of the existing gravel driveway. At peak times, a single point of access may not be adequate. The Town should consider securing an access easement or real property acquisition of the adjacent parcel to provide a second access point for improved vehicular circulation.

A pedestrian circulation network allows a reduction in vehicular and pedestrian conflicts by providing paved paths both adjacent and off roads. There are two opportunities for visitors to the park to enjoy a paved measured loop trail: a 1-mile trail the encompasses the athletic and agro tourism area and a half-mile loop around the park core and agritourism area. A connection to a future greenway along Perry Creek is possible from the park's internal pedestrian circulation network.

Experiential opportunities exist along the trails. Via the trail network, archeological sites are reachable where vehicular access would disturb these sensitive areas. These trails, referred to as interpretive trails, would have signage and kiosk that would allow users to study and experience the site's rich historic and natural qualities. A meadow trail on the western side of the site allows users to experience the site unaltered from it's use as an agricultural site. From here, pond access is provided to allow users to observe the hydrological vistas and fish.

Figure 16: Precedent of paved trail through a park

INFRASTRUCTURE

SEPTIC SERVICE

Proposed Frazier Farm Athletic Complex requires septic systems to collect, treat, and dispose of wastewater generated onsite. Based on the conceptual master plan, this report proposes five separate and independent septic systems to meet the programmatic needs of the park, while also accommodating phased construction as the park expands over time.

Septic systems with design sewage flows of 3,000 gallons per day (gpd) or less can be reviewed and approved by Wake County. Septic systems with flows greater than 3,000 gpd require review and approval of the NC On-Site Water Protection (OSWP) Branch. Facilities 1-3 and 5 are anticipated to have design flows of 3,000 gpd or less, while facility 4 is anticipated to have design flows greater than 3,000 gpd. Sewage flow rates are determined using 15A NCAC 18A .1949 and/or 15A NCAC 02T .0114, as applicable, in combination with the number of seats at each facility and occupancy loading rates per facility.

All septic systems will require field staking of proposed nitrification trenches, including repair nitrification fields, sufficient for full replacement of the initial field in the event the initial field fails. Once nitrification trenches are field staked, these will be accurately located using GPS equipment for use in detailed design calculations and drawings. Detailed design calculations, drawings, and component specifications will be compiled into a single submittal document for each individual septic system on the site. This document will be submitted directly to Wake County for review, accompanied by Wake County's required building permit application(s), completed independently for each facility served by individual septic systems. Systems with design flows greater than 3,000 gpd will also be concurrently submitted to the State's OSWP Branch for review. Upon Wake County's acceptance of building permit

applications, and required fees paid, their staff will begin a review of soils and nitrification trench staking for each septic system. Any issues or concerns discovered by Wake County's New Construction Staff must be addressed prior to system design review. Common issues addressed at this stage include assignment of soil hydraulic loading rates, determination of usable soil depth, determination of acceptable nitrification trench types (conventional, LPP, subsurface drip, etc.), determination of wastewater pretreatment level (septic tank only, NSF-40, TS-I, or TS-II), determination of additional soil hydraulic conductivity testing, lateral flow analyses, or mounding analyses, etc. Once soils and staking are approved by New Construction Staff, the full design proceeds to Wake County's Design Review / Technical Assistance Staff. At this point, all septic system design calculations and components will be reviewed for conformance with applicable North Carolina and Wake County septic system regulations. For any systems with design flows greater than 3,000 gpd, OSWP Brach staff will assist with review of soils and system design. All septic systems with design flows greater than 3,000 gpd, that utilize nitrification fields designed to accommodate more than 1,500 gpd, require detailed hydraulic assessment prior to system approval. After all of these reviews are completed to the satisfaction of Wake County, and the OSWP Branch where applicable, required permits (IP-Improvement Permit and CA-Construction Authorization) will be issued, allowing building construction to begin. After each septic system is installed, inspected, and approved, Wake County will issue an OP-Operation Permit that allows the use of the newly installed septic system(s).

The five septic systems will independently serve the following amenities:

- Athletic Fields 1-5 and nearby concessions shelter (Peak design flow=3,000 gpd);
- Future athletics area, possible concessions shelter, and maintenance building (Peak design flow=1,000 gpd);
- Three multi-use fields in the southeast corner of the site (Peak design flow=1,250 gpd);
- Amphitheater, event center, and event lawn (Peak design flow=25,000 gpd); and
- Historic preservation / agritourism area (Peak design flow=450 gpd).

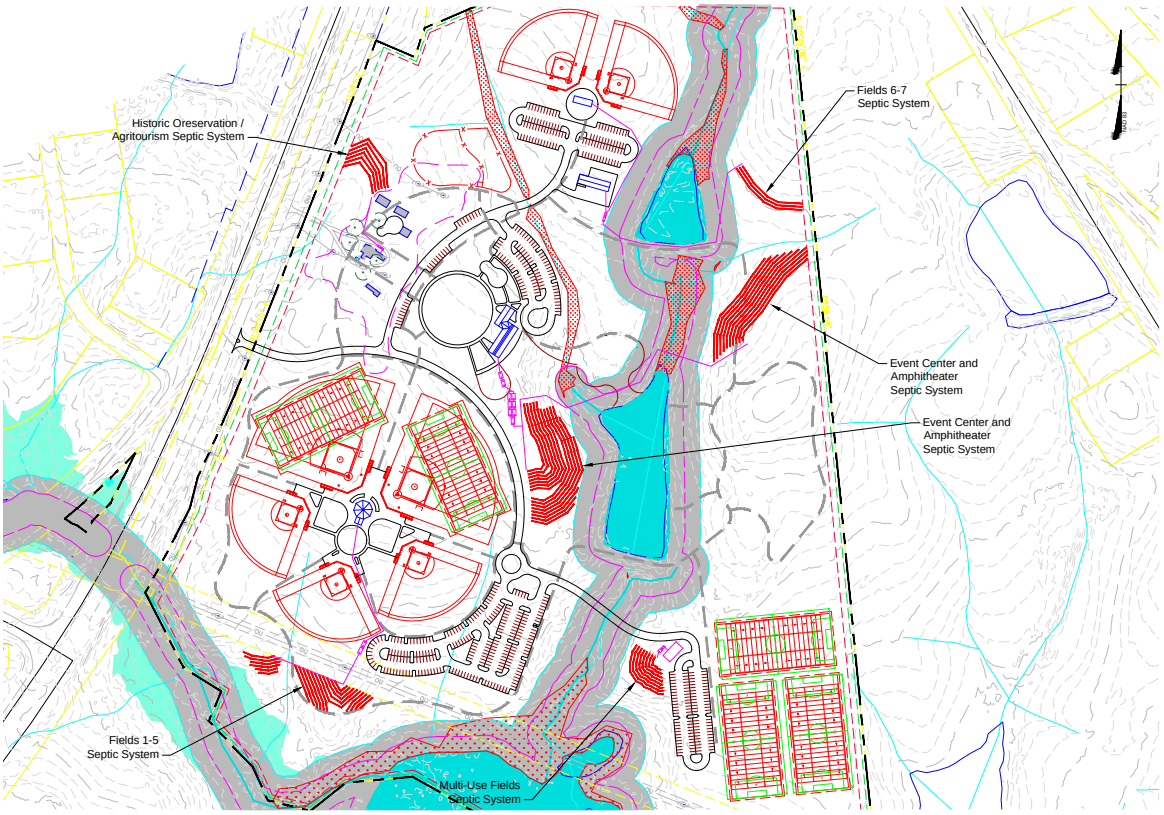

Figure 17: Preliminary septic design plan

WATER WELLS

On site water wells will supply both potable water and non-potable irrigation water for the park to support drinking water, irrigation and sprinkler systems. According to preliminary conversations with representatives from Wake County's Environmental Services Water Quality Division, the public water supply system for potable water will be considered a transient, non-community water system. This is defined as a system serving 25 or more people at least 60 days per year. The Town will be required to secure a permit through the Wake County Environmental Health Department with oversight from the state Department of Environmental Quality. In advance of construction, the Town should request water tests for known contaminants including pesticides, VOC's, bacteria, inorganics, and gross alphas / uranium / radon. Following construction, initial and regular water testing requirements will apply. These typically measure bacteria, nitrate and nitrite quantities on an annual, semi-annual or quarterly basis. Agency coordination to confirm permitting processes and testing requirements should be completed early in the construction documentation process.

The irrigation system, requiring approximately 100 gallons perminute (gpm) to irrigate the athletic fields and landscape areas, can be supplied by two types of water well scenarios. First, one of the existing on-site ponds could be used as a single collection basin to supply the irrigation distribution system. Two or three recharge wells would supply the collection basin. Alternatively, individual wells could be drilled, each directly supplying the irrigation distribution system. The number of wells needed to supply the irrigation system will depend on the output of each well drilled.

POND DAMS

The site assessment completed early in the master planning project revealed the condition of the pond dams is deteriorating and would need additional assessment prior to developing that portion of the site. Rehabilitaiton of the dams could be cost prohibitive. For the purposes of this master plan, the road accessing the rear of the property has been designed at an elevation above the elevation of the dam to avoid being considered a High Hazard Dam. Constructing the road at the recommended elevation will require a significant amount of fill dirt and a large culvert which may be cost prohibitive. Prior to development of detailed construction drawings, the Town should complete a detailed dam evaluation and consider whether or not they would like to retain and repair the dam(s) or breech them. The details surrounding breaching an earthen dam are outlined in the Natural Resources report found in the Appendix.

Figure 18: Current condition of a dam on the park property

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5 next steps + implementation

CHAPTER 6 > IMPLEMENTATION PLAN / PHASING + PROJECT COSTS

The feasibility of this master plan resides in a well thought out implementation plan that includes phasing opportunities and project costs. Similarly, the long-term success of Frazier Farm Park resides in the Town's ability to operate, manage and maintain the park in a financially sustainable way. The following chapter outlines the project recommendations for phased implementation, presents the estimated construction costs, and outlines recommendations for operations and maintenance of the park. Lastly, a six-year proforma includes estimated on-going expenses and potential revenue streams to determine the park's cost recovery after the initial capital investment.

PROJECT PHASING

Given the magnitude of the park improvements, a plan for implementation allows a framework to inform decision making, budgets, sequencing and construction schedules. For the purposes of this implementation plan, and to minimize the Town's initial financial burden, a phased approach to implementation is proposed. The initial phase is intended to meet the immediate recreation needs of the community, attract regional visitors and generate revenue to sustain the park operations.

PHASE I

Phase I project elements shall include:

- 1.5 miles asphalt trail (10' wide)
- 225' baseball fields (3 fields)
- 300' baseball / Multipurpose field (natural turf)
- 300' championship baseball / Multipurpose field (synthetic turf)
- 1 large playground, 1 small playground
- Event center, concession building, The octagon, maintenance building
- Dog park
- 370 parking spaces
- Associated infrastructure

See next page for phase 1 master plan rendering


CONCEPT
LEGEND
VEHICULAR CIRCULATION
PEDESTRIAN CIRCULATION
SPORT FACILITY
PARKING
STRUCTURE
NATURALIZED AREA
EXISTING POND
PROPERTY LINE
HISTORIC MATERIAL AREA
PRE-CONTACT MATERIAL AREA
N
1 INCH
SCALE: 1" = 100'
TOTAL PARKING : ±349 SPACES
NOTES:
1. This concept plan is preliminary in nature and subject to change.
2. All base data has been provided by Wake County, the Town of Rolesville and should be confirmed with a topographic and boundary survey prior to development of construction drawings.
3. This concept diagram does not consider subsurface conditions such as utilities, unsuitable soils, rock or other elements that may influence the park configuration or location of amenities. A preliminary soils, Geotech or similar investigations should inform the final concept design.
4. All stormwater shall be managed through vegetative conveyance.
5. All well and septic systems will be located and designed as a part of design development. This plan provides adequate septic soil areas.
6. This subject site is located in the Little River Water Supply Watershed and is subject to all applicable codes and regulations. Impervious development is restricted to 12% of the total site area (13.96 acres).
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AMPHITHEATER (900 SEAT)
PERRY CREEK
WAKE ELECTRIC POWER EASEMENT
PHASE 2


LOUISBURG ROAD (HWY 401)
60' FRONT YARD SETBACK
HISTORIC PRESERVATION / AGRITOURISM AREA
SMALL INTERPRETIVE PLAYGROUND
PARKING ±10 SPACES
PROPOSED TREE GROVE
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PARKING ±10 SPACES
SMALL + LARGE DOG PARK
SMALL PLAYGROUND (4,000 SF)
PARKING ±90 SPACES
FLEX SPACE FOR FUTURE TBD
MAINTENANCE BUILDING (2,500 SF STRUCTURE, 4,000 SF YARD)

ANNEXATION & REZONING

This plan recommends the Town annex the parcel into the Town's Limits in close coordination with their legal council, planning department, City of Raleigh Public Works Department and the Wake County Planning Department. A high degree of coordination with multiple entities will ensure a smooth annexation process given the limitations surrounding extension of sanitary sewer and city water because of the parcels location within the water supply watershed and the conditions of the Merger Agreement. Following annexation, the Town must rezone the subject property to allow recreation uses per Town of Rolesville standards.

SCHEMATIC DESIGN

Detailed construction drawings and confirmation that the proposed phase I improvements are within the Town's established budget can be achieved through the standard schematic design, design development and construction drawing design phases. These tasks can be completed concurrently with the annexation. Schematic Design, or 30% construction drawings, typically begins with validation of the master plan. Community needs and wants evolve rapidly as do agency regulations and department resources. This phase begins with validation of the master plan against any evolving factors affecting the Phase I scope or design. These may include revisions to the design or Phase I scope due to:

- The outcomes of the proforma and operations plan;
- The Phase I scope due to the results of more detailed investigations or on-going discussions with agency reviewers such as NCDOT, City of Raleigh Public Works, or Wake County;
- Adjacent property easement or real-property acquisition to provide additional vehicular access; and/or
- Additional comments from the Parks and Recreation Advisory Board, Parks and Recreation Director, Town Manager or decision makers.
- Decisions regarding the preferred irrigation source (single collection basin or multiple wells)

Following these revisions, schematic design drawings can be prepared followed by a 30% cost estimate. Cost estimates should be prepared at each construction document milestone (30%, 60%, 90%) to ensure the project remains within the Town's established budget. Any revisions to the scope, magnitude of improvements or materials of construction to meet budgetary constrains should take place prior to advancing to the next drawing milestone.

Once schematic design drawings are complete, they should be reviewed by local and state regulatory agencies for compliance with all regulations and to anticipate required permits. Based on the conceptual master plan, we envision engaging the following agencies:

- Rolesville Planning Department
- North Carolina Department of Environmental Quality (NCDEQ)
- North Carolina Department of Transportation (NCDOT)
- Wake County Environmental Services - Water Quality Division (WCES – WQD)

DESIGN DEVELOPMENT

Any agency comments or concerns will be addressed as part of the 60% construction drawing package (Design Development). Additionally, at this point of the process the location of all project elements will be finalized and additional geotechnical investigations can be conducted to inform the design profile of pavement, foundations and infiltration areas.

Completion of 60% construction drawings should be followed by a 60% cost estimate. Any required revisions to meet the project budget will be incorporated into the 90% construction drawings. At this time, the drawings will likely provide enough detail to begin the permit application process. The drawings should refer to individual application requirements and check-lists to ensure compliance.

CONSTRUCTION DRAWINGS

90% construction drawings will be prepared and permits secured. The consulting team can finalize the construction bid set (100% construction drawings) and begin bid phase services to include a pre-bid meeting, bid advertisement, response to requests for information (RFI), bid opening, bid tabulation and recommendation for award. The final construction time-frame will ultimately depend on the scope of work developed for the project.

Based on the conceptual master plan, this plan envisions the following permits may be required:

- Site Plan / Construction Drawings / Building Permit – Town of Rolesville
- Erosion Control Permit – NCDEQ
- Driveway / Encroachment Permit – NCDOT
- Well Permit (Transient non-community) – WCES – WQD
- Septic System Permit – WCES - WQD

While we do not anticipate a stormwater control measure will be required with the low density plan proposed, Wake County's Division of Watershed Management may require a Stormwater Impact Assessment (SIA) to confirm the project has met other portions of the Town's Stormwater Ordinance.

CONSTRUCTION COSTS

The following estimate of probable construction costs has been developed for both the full build-out of the park and the Phase I scope of work outlined in this master plan. A detailed breakdown of construction costs can be found in the Appendix.

FULL PARK BUILD-OUT

The following costs are estimated for the full build out of all proposed park elements. At this high level of planning, cost estimates typically include the following price adjustments and assumptions:

Price Adjustments & Assumptions

- Sales tax
- Labor burden
- General conditions / overhead + profit / performance bond / insurance
- Subcontractor overhead and profit
- 25% design and construction contingency

PROJECT ELEMENT	EST. COST
Asphalt Trail Network (3 miles / 10' wide)	$3,900,000
Athletic Fields (5 baseball; 1 baseball/multiuse; 3 multiuse; 1 synthetic baseball / multiuse)	$6,400,000
Playgrounds (1 large + 1 small)	$500,000
Buildings (Event Center, 2 Concessions bldgs., The Octagon, Maintenance)	$3,620,000
Dog Park (Large + small)	$160,000
Parking (Asphalt; 560 stalls + access drives)	$3.360,000
Infrastructure (storm drainage, water distribution, irrigation, clearing + grading, septic, power)	$3,420,000
TOTAL	**$21,360,000**

PHASE I CONSTRUCTION COSTS

The follow costs are estimated for Phase I construction. It is important to note Phase I costs are substantial in part because of the degree of infrastructure (access roads, parking, utilities, etc.) required to support any proposed park elements.

PROJECT ELEMENT	EST. COST
Asphalt Trail Network (1.5 miles / 10' wide)	$1,920,000
Athletic Fields (5 baseball; 1 baseball/multiuse; 1 synthetic baseball / multiuse)	$4,830,000
Playgrounds (1 large + 1 small)	$500,000
Buildings (Event Center, 1 Concessions bldg., The Octagon, Maintenance)	$3,400,000
Dog Park (Large + small)	$160,000
Parking (Asphalt; 370 stalls + access drives)	$2,220,000
Infrastructure (storm drainage, water distribution, irrigation, clearing + grading, septic, power)	$3,180,000
TOTAL	**$16,210,000**

OPERATIONS ASSESSMENT

The project team completed an operations and maintenance plan for Frazier Farm Park based on market analysis and established level of operational and maintenance needs for the new parkland. The in-depth analysis of operations and maintenance is the baseline for a pro forma to forecast the financial performance of Frazier Farm Park. The goal of this pro forma is to ensure that the park meets the economic and financial expectations of the Town and the community.

The operations and maintenance plan follows three program zones- athletic zone, event zone, and passive zone- based on the arrangement of amenities in the master plan. A detail inventory of amenities in each zone provides the basic framework for establishing the level of operations and maintenance standards. The standards include hours of operation, maintenance standards, staffing levels needed, technology requirements and customer service requirements. The plan provides an inventory of current Town standards for maintenance and provides best practice standards to increase efficiencies and reduce costs. In addition, the plan suggests adopting new standards for areas that are specific to Frazier Farm Park. The new maintenance standards have been categorized into three levels based on the frequency of maintenance tasks and the quality of outcomes.

The associated staffing plan identified a need for an additional five full-time equivalent (FTE) staff, part time and contracted positions in the Parks and Recreation Department with a certain percentage of their time dedicated to managing the park.

The operational plan concludes with recommendations for enhancing the revenue generating elements of the park. Such considerations include controlling access at the amphitheater to enable ticketed events and exclusive rentals; contracting adventure, challenge and zipline courses in the wooded areas; and hosting challenge 5K races and team building events. Other suggestions may need further assessment such as renovating one of the barns for wedding rentals adding value that will increase the rental price point. Given current

building code requirements, the Town would need to evaluate the cost versus benefit of this recommendation.

The operations and maintenance plan forms the basis for developing the operational pro forma for the park. The pro forma is demonstrated over a six-year period and forecasts all revenues and costs associated with the operation and maintenance of the Park. Based on the Cost Recovery Model, pricing and revenue strategies have been identified including user fees, events,and rentals.

The operational plan and pro forma resulted in a high level of cost recovery (59% at year one, increase to 62% by year six) and expects the Park to be an active, high-performing complex over the first six years. This cost recovery is higher than the Department's overall cost recovery (36%).

Additional details on the Operations and Maintenance Plan and the Pro Forma can be found in the Appendix.

CONCLUSION

The master planning process has revealed Frazier Farm park has the potential to be a regional destination for a diversity of users. To truly serve as a destination park, the amenities, events and programs offered at the park must bring visitors from local and adjacent communities to fall in love with the park, returning time and time again. A rich archaeological and cultural history combined with athletic offerings and iconic event space, positions Frazier Farm park as a premier destination for families, tournament players, performers and artists, history lovers, nature seekers, bone diggers and event planners!

6 appendices

This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long term approach to floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map flood hazard areas at the local level. As a part of this effort, the State of North Carolina has joined in a Cooperating Technical State agreement with FEMA to produce and maintain this digital FIRM.

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTP://FRIS.NC.GOV/FRIS

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% Annual Chance Flood with Average Depth Less Than One Foot or With Drainage Areas of Less Than One Square Mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*

OTHER AREAS
- Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Accredited or Provisionally Accredited Levee, Dike, or Floodwall
- Non-accredited Levee, Dike, or Floodwall

OTHER FEATURES
- BM5510 North Carolina Geodetic Survey bench mark
- BM5510 National Geodetic Survey bench mark
- BM5510 Contractor Est. NCFMP Survey bench mark
- 012 18.2 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. An accompanying Flood Insurance Study report, Letter of Map Revision (LOMR) or Letter of Map Amendment (LOMA) revising portions of this panel, and digital versions of this FIRM may be available. Visit the North Carolina Floodplain Mapping Program website at http://www.ncfloodmaps.com, or contact the FEMA Map Service Center.

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Limit of Moderate Wave Action (LiMWA)

COASTAL BARRIER RESOURCES SYSTEM (CBRS) NOTE

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CBRS Area

Otherwise Protected Area

SCALE

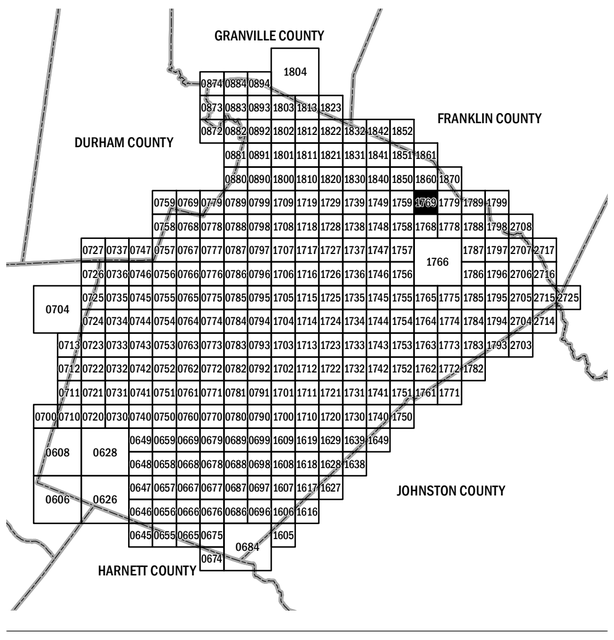
Map Projection:
North Carolina State Plane Projection Feet (Zone 3200)
Datum: NAD 1983 (Horizontal), NAVD 1988 (Vertical)

1 inch = 500 feet 1:6,000

0 250 500 1,000 Feet

0 75 150 300 Meters

PANEL LOCATOR



National Flood Insurance Program

NORTH CAROLINA FLOODPLAIN MAPPING PROGRAM
NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

NORTH CAROLINA

PANEL 1769

Panel Contains:

COMMUNITY	CID	PANEL	SUFFIX
ROLESVILLE, TOWN OF	370468	1769	J
WAKE COUNTY	370368	1769	J

MAP NUMBER
3720176900J

MAP REVISED
05/02/06

This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long term approach to floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map flood hazard areas at the local level. As a part of this effort, the State of North Carolina has joined in a Cooperating Technical State agreement with FEMA to produce and maintain this digital FIRM.

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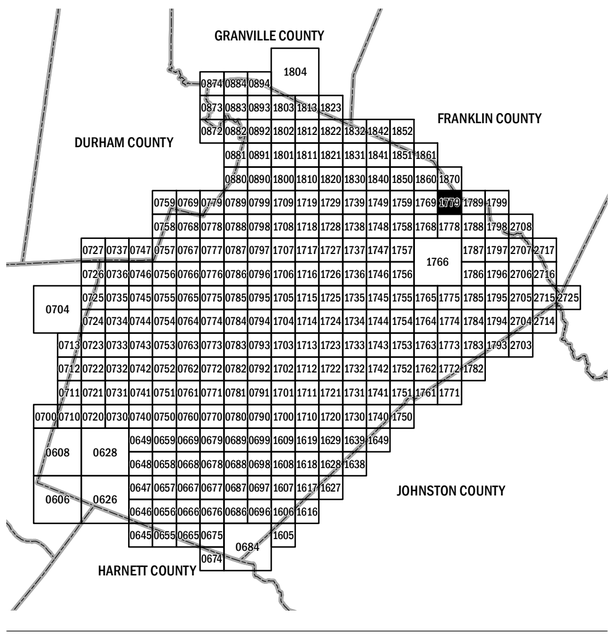


FEMA
National Flood Insurance Program

NORTH CAROLINA FLOODPLAIN MAPPING PROGRAM
NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

NORTH CAROLINA

PANEL 1779

Panel Contains:

COMMUNITY	CID	PANEL	SUFFIX
FRANKLIN COUNTY	370377	1779	K
WAKE COUNTY	370368	1779	K

MAP NUMBER
3720177900K

MAP REVISED
05/02/06

February 12, 2020

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

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

Dear Mr. Ferguson,

This revised version of the original report dated May 23, 2019 reflects a recent amendment to the Town of Rolesville's Unified Development Ordinance that removes a 100-foot Stream Protection Buffer requirement. The Riparian Buffer permitting section on page four and **Figure 4** have been updated to reflect this change.

McAdams conducted a preliminary determination and delineation of federally jurisdictional and potentially isolated wetlands, streams, open water features (i.e. ponds) and riparian buffers on the subject property on May 10 and 15, 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. **Figure 2** shows the location of the site on the Wake County Soil Survey (1970) map. 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, mechanized land clearing and excavation within the jurisdictional boundaries. If these features are not connected downstream then they are considered isolated and are regulated only 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 only apply to wetlands in certain municipalities. 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.

Surface waters in the Neuse River Basin require maintenance of 50-foot wide riparian buffers directly adjacent to these features. Only those surface waters shown on the most recent version of the soil survey map provided by the Natural Resource Conservation Service or 7.5-minute quadrangle topographic maps supplied by the USGS are subject to the Neuse River Basin: Nutrient Sensitive Waters Management Strategy: Protection and Maintenance of Riparian Areas with Existing Forest Vegetation (15A NCAC 2B.0233). The DWR may exempt surface waters depicted on these maps from the riparian buffer rules if an on-site determination shows that the features are one of the following:

1) Ditches and manmade conveyances other than modified natural streams,
2) Manmade ponds and lakes that are located outside natural drainage ways or
3) Ephemeral (stormwater) streams.

Wetland boundaries were identified in the field and located using a hand-held GPS unit. For each surface water or wetland identified, we evaluated the downstream connection to distinguish isolated from jurisdictional waters. Each surface water feature shown on the most recent version of the applicable topographic map or soil survey was also examined for possible exemption from the riparian buffer rules using DWR stream evaluation techniques.

RESULTS:

McAdams observed two jurisdictional ponds, five streams and eight wetlands on the site, as shown on the Preliminary Jurisdictional and Isolated Waters Delineation Map provided as **Figure 4**. No potentially isolated waters, including wetlands, were observed on the subject property. All streams and wetlands are contiguous to the relatively permanent waters designated as Stream Features S1 through S5.

Features S1, S2, S3, S6, S7, P1 and P2, as shown in **Figures 1** and **2**, are subject to the Neuse River Basin Riparian Buffer Rules. However, McAdams believes that Stream Features S6 and S7 may be exempt from the Riparian Buffer Rules pending an on-site determination from the DWR. The limits of stream channels and wetland boundaries provided are based on our best professional judgment and require verification from the USACE. The start points of stream channels requiring maintenance of riparian buffers must be confirmed by the DWR.

A detailed delineation, in which wetland boundaries are flagged in the field, is necessary to request verification of the delineation. 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 greater than 150 linear feet of stream channel impact and 0.10 acre of wetland impacts. 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. For recreational facilities, pre-construction notification and approval from the DWR is required for any permanent stream channel or wetland impacts. 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.233 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 Exempt, Allowable or Allowable with Mitigation in the Table of Uses contained in the Riparian Buffer Rules are permitted within riparian buffers. Activities that are Allowable or Allowable with Mitigation require written concurrence from the 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 Exempt, Allowable or Allowable with Mitigation within the Riparian Buffer Rules depending on the amount of impact proposed.

Isolated Waters:

Isolated wetland or open water impacts less than one 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, 2018:

Fee Category (Units)	Fee
Stream (per linear foot)	$507.32
Riparian wetland (per acre)	$60,187.45
Riparian buffer (per square foot)	$0.97

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.

DAM MANAGEMENT

The dams for pond features P1 and P2 are not functioning properly and their future management should be considered during the project planning process. Both ponds are no longer draining from their primary spillways. Instead, water is regularly overtopping the dams and draining from their emergency spillways. Stream channels are forming in the emergency spillways. The regular overtopping and presence of trees on the dams indicates that there may be long-term stability concerns with both dams.

In order to address these stability concerns, the Town may eventually need to either repair both dams or breach the dams and drain the ponds. Due to the high expense involved with repairing and maintaining the dams, breaching the dams may be preferable. To breach the dams, a dam breach plan that includes appropriate sizing of the breach sections, erosion control protection, spoil management and engineering specifications for breaching the existing dams and draining the ponds would need to be prepared. At least six months after the pond is drained and during the winter months (January – March), the area of the drained ponds will need to be evaluated determine whether jurisdictional wetlands or stream channels have formed in the beds of the drained ponds. Verification of the wetland, stream and buffer delineations will then need to be obtained from the US Army Corps of Engineers

(USACE), NC Division of Water Resources (DWR) and/or the appropriate local authority. This coordination will include a determination of the necessity of buffer restoration to move the buffer from the pond boundary to the newly formed channel by DWR.

CONCLUSIONS/RECOMMENDATIONS:

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

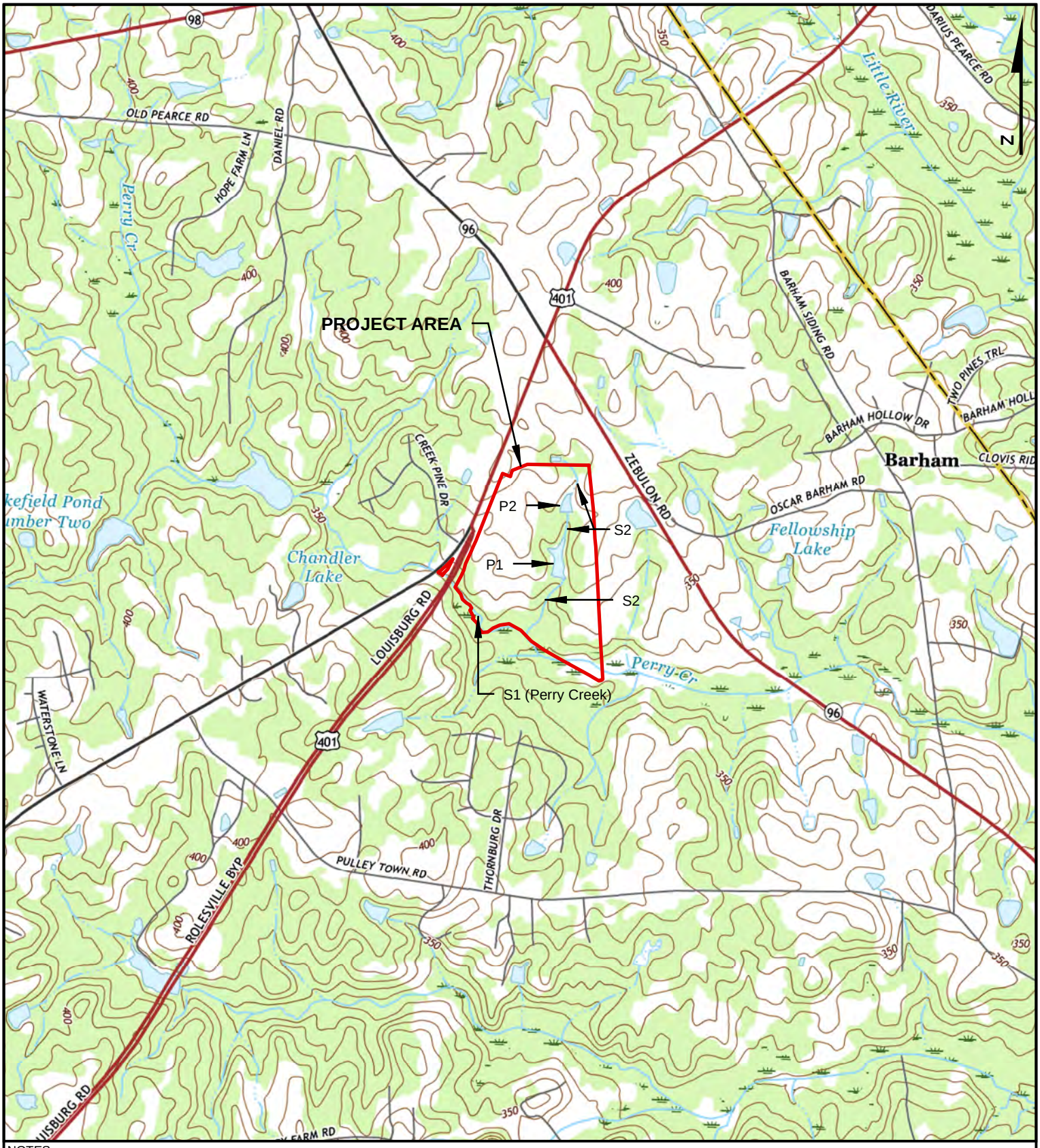
It is recommended McAdams proceed with a detailed delineation, a verification of the surface water and wetland delineation and continued coordination with our office regarding permit impacts to the jurisdictional and isolated waters present on the site, if necessary. It is further recommended that the Town plan to either repair both pond dams or prepare a dam breach plan and drain the ponds.

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

Kelly Roth
Environmental Consultant II, Water Resources

Attachments



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

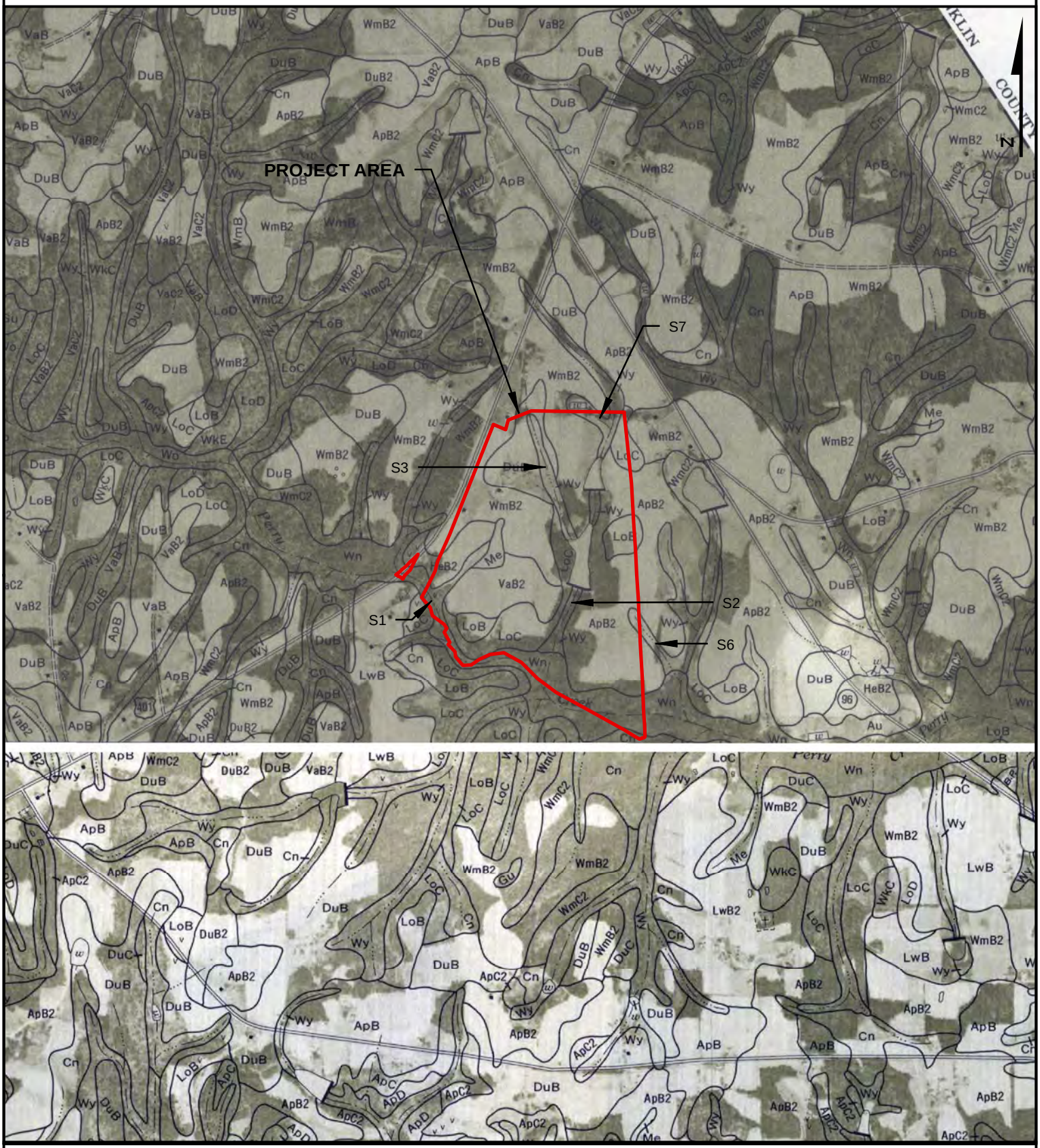
McAdams

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

X:\Projects\ROL\ROL-19000\04-Production\Natural Resources\GIS\ROL19000_Figure 1 USGS.mxd, 5/23/2019 1:40:33 PM, pierzga



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

McADAMS

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

X:\Projects\ROL\ROL-19000\04-Production\Natural Resources\GIS\ROL19000_Figure 2 Soil Survey.mxd, 8/26/2019 1:35:51 PM, roth

McADAMS

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

X:\Projects\ROL\ROL-19000\04-Production\Natural Resources\GIS\ROL19000_Figure 3 Aerial Map.mxd, 5/9/2019 3:34:42 PM, roth

W8
S2
W6
W7
P2
S5
S4
W5
W3
S2
W4
S3
P1
S1 (Perry Creek)
W2
S2
W1
OPEN WATER
Louisburg Rd
N
2017

LEGEND

- Stream
- Pond
- Wetland
- 50-ft Neuse riparian buffer
- Project area
- Roads
- 2-ft contours

McAdams

FIGURE 4. PRELIMINARY 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:	2/12/2020
JOB NO:	ROL-19000
DRAWN BY:	roth

X:\Projects\ROL\ROL-19000\04-Production\Natural Resources\GIS\ROL19000_Figure 4 Delineation Map.mxd, 2/12/2020 3:35:40 PM, roth

North Carolina Department of Natural and Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary Susi H. Hamilton

Office of Archives and History
Deputy Secretary Kevin Cherry

July 22, 2019

Kelly Roth
McAdams
One Glenwood, Suite 201
Raleigh, NC 27603

roth@mcadamsco.com

Re: Develop Frazier Farm Park Master Plan, 11624 Louisburg Road, Rolesville, Wake County, ER 19-1874

Dear Ms. Roth:

Thank you for your submission concerning the above referenced project. We have reviewed the materials provided and offer the following comments.

The subject project area is located on well drained soils adjacent to the confluence of Perry Creek and the Little River, and therefore has a high probability for containing precolonial American Indian archaeological sites. In addition, the 1914 Wake County soil survey map shows a structure in the project area, indicating that the remains of historic sites may also be present.

Prior to the initiation of any ground disturbing activities within the project area, we recommend a comprehensive archaeological survey of the project area be conducted by an experienced archaeologist. The purpose of this survey will be to identify and evaluate the significance of archaeological sites that may be damaged or destroyed by the proposed project.

Please note that our office now requests consultation with the Office of State Archaeology Review Archaeologist to discuss appropriate field methodologies prior to the archaeological field investigation. A list of archaeological consultants who have conducted or expressed an interest in contract work in North Carolina is available at https://files.nc.gov/dncr-arch/Consultants_List_2019-05_columns.pdf. The archaeologists listed, or any other experienced archaeologist, may be contacted to conduct the recommended survey.

One paper and one digital copy of all resulting archaeological reports, as well as one digital copy of the North Carolina site form for each site recorded, should be forwarded to the Office of State Archaeology through this office for review and comment as soon as they are available and in advance of any construction or ground disturbance activities.

We have determined that the project as proposed will not have an effect on any historic structures.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
Deputy State Historic Preservation Officer

June 3, 2019

Ms. Renee Gledhill-Earley
State Historic Preservation Office
4617 Mail Service Center
Raleigh, North Carolina 27699-4617

Re: Cultural Resource Environmental Review
Frazier Farm Park Master Plan
Rolesville, Wake County, NC

Dear Ms. Gledhill-Earley:

McAdams has been contracted to conduct a site investigation for the proposed Frazier Farm Park site located at 11624 Louisburg Rd in Rolesville, Wake County, North Carolina (hereinafter referred to as the subject property). It consists of one 116-acre parcel owned by the Town of Rolesville (Wake County PIN 1779076610). The subject property is shown on the attached U.S. Geological Survey (USGS) 7.5-minute Rolesville, NC topographic quadrangle (**Figure 1**). The subject property vicinity consists of a residential area across Louisburg Road to the west, residential and agricultural land to the east, forested land to the south, and agricultural land to the north. The proposed project is a recreational park containing athletic fields (baseball, softball, soccer, lacrosse) with natural and synthetic turf, picnic areas, accessible playgrounds, agritourism, universal design facilities and associated support structures.

McAdams conducted a review of SHPO's records for the subject property. The following structures were identified within 0.25-mile of the subject property.

Site ID	Status	Site Name	Description
WA1788	SO	Dunn-Scarborough-Frazier Farm	c. 1826; c. 1935 Farm Complex
WA1789	SD	S. H. Scarborough Fark Tenant House (Gone)	Gone before 2010

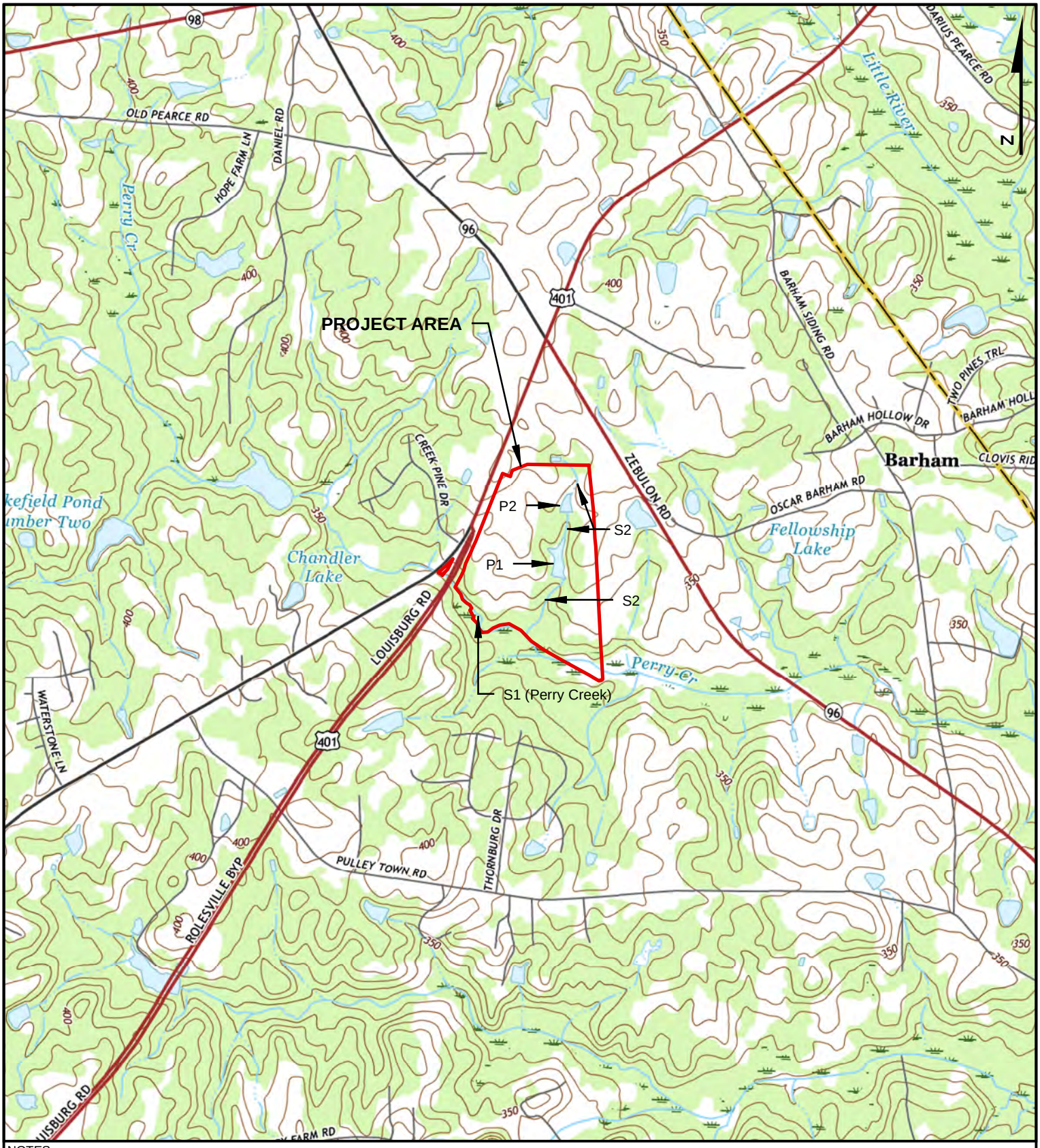
Figure 2 depicts the subject property on an aerial photograph of the area. The subject property contains approximately sixty percent agricultural land that is currently under wheat production. The rest of the site consists of two farm ponds, forested land surrounding Perry Creek and its tributaries, a house and several small barns. Based on a field reconnaissance of the project area, there is one house and several outbuildings present on the property.

We are requesting consultation regarding the project's impact to historic properties. If you should have any questions or require additional information, please do not hesitate to contact me at (919) 361-5000.

Sincerely,
MCADAMS

Kelly Roth
Environmental Consultant II, Water Resources

Attachments:
Figure 1 USGS Exhibit
Figure 2 Existing Conditions Exhibit



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

McAdams

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

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McAdams

FIGURE 2. EXISTING CONDITIONS EXHIBIT
FRAZIER FARM PARK MASTER PLAN
ROLESVILLE, WAKE COUNTY, NC

0 125 250
Feet
1 inch = 250 feet

VERSION:	1
DATE:	6/3/2019
JOB NO:	ROL-19000
DRAWN BY:	roth

X:\Projects\ROL\ROL-19000\04-Production\Natural Resources\GIS\ROL19000_Figure 3 Aerial Map.mxd, 6/3/2019 1:57:04 PM, roth

PHASE I ARCHAEOLOGICAL SURVEY

FRAZIER FARM PARK MASTER PLAN

11624 Louisburg Road, Town of Rolesville,
Wake County, North Carolina

NC SHPO Tracking No: ER 19-1874

PREPARED FOR:

McAdams
2905 Meridian Parkway
Durham, North Carolina 27713

March 2020

RGA
CULTURAL
RESOURCE
CONSULTANTS

PHASE I ARCHAEOLOGICAL SURVEY

FRAZIER FARM PARK MASTER PLAN

11624 Louisburg Road, Town of Rolesville, Wake County, North Carolina

NC SHPO Tracking No: ER 19-1874

Principal Investigator:

Paul J. McEachen, MA, RPA

Co-Authors:

Matthew Harrup, MA, RPA
Olivia Heckendorf, MA
Michelle L. Davenport, MA, RPA
Ellen Turco, MA
Paul McEachen, MA, RPA

Prepared by:

Richard Grubb & Associates, Inc.
525 Wait Avenue
Wake Forest, North Carolina 27587

Prepared for:

McAdams
2905 Meridian Parkway
Durham, North Carolina 27713

Date:

March 9, 2020

MANAGEMENT SUMMARY

On behalf of the Town of Rolesville and McAdams, Richard Grubb & Associates, Inc. (RGA) completed a Phase I archaeological survey for the proposed development of a recreational park at the Frazier Farm in the Town of Rolesville, Wake County, North Carolina. It is anticipated that that project will require a United States Army Corps of Engineers permit. The Phase I archaeological survey was performed pursuant to Section 106 of the National Historic Preservation Act, as amended.

The property is comprised of a 116-acre undeveloped agricultural tract (PIN#1779076610) on the southeast side of Louisburg Road (U.S. Route 401). The Area of Potential Effects (APE) or limits of ground disturbance includes approximately 76.04 acres.

Archaeological fieldwork was conducted from November 18-26, 2019 and included the excavation of 373 shovel test pits (STPs) at 30-meter, 15- meter, and 5-meter intervals within the APE. Thirty-six (36) prehistoric artifacts and 88 historic artifacts were recovered that resulted in the identification of three archaeological sites. These sites include a prehistoric isolated find (31WA2254), a prehistoric lithic scatter (31WA2253), and a historic site associated with the extant nineteenth-century Dunn-Scarborough-Frazier Farmstead (31WA2252). Sites 31WA2252 and 31WA2254 are considered ineligible for listing in the NRHP. No further archaeological survey is recommended for sites 31WA2252 and 31WA2254.

Site 31WA2253 contains data that could inform our knowledge of prehistory in the Little River drainage of the North Carolina Piedmont. It is the understanding of RGA that the Town of Rolesville plans to redesign the project to avoid site 31WA2253. As such, site 31WA2253 is unassessed. No further archaeological survey is recommended for site 31WA2253. The Frazier Farm Park project will have no effect on historic properties.

Table i.1: NRHP Eligibility Recommendations.

Site Number	Site Name	Components	Time Period	NRHP* Recommendation	Management Recommendation
31WA2252	Dunn-Scarborough-Frazier Farmstead	Historic/Post-contact, Farmstead	Circa 1826-Present	Not Eligible	No further work
31WA2253	Frazier Farm Precontact Site 1	Precontact, Lithic Scatter	Woodland period	Unassessed	Avoidance; no further work
31WA2254	Frazier Farm Precontact Site 2	Precontact, Non-Diagnostic Isolated Find	Unknown	Not Eligible	No further work

*NRHP – National Register of Historic Places

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Appendices:

LIST OF FIGURES AND TABLES

FIGURES:

TABLES:

1.0 INTRODUCTION

Richard Grubb & Associates, Inc. (RGA) completed a Phase I archaeological survey for the proposed development of the Frazier Farm Park on the east side of Louisburg Road (U.S. Route 401) in the Town of Rolesville, Wake County, North Carolina (Figures 1.1 and 1.2). The Town of Rolesville is preparing a Master Plan to study various alternatives for the proposed multi-purpose recreational facility at the park. The park will include athletic fields for baseball, softball, soccer, and lacrosse with natural and synthetic turf, and picnic areas, accessible playgrounds, agritourism features, universal design facilities, and associated support structures and appurtenances (Figure 1.3). The proposed improvements fall on a 116-acre parcel at 11624 Louisburg Road (PIN#1779076610) that is defined herein as the project area.

It is anticipated that that project will require a United States Army Corps of Engineers (USACE) permit. As such, the Phase I archaeological survey was performed pursuant to Section 106 of the National Register of Historic Places Act, as amended (36 CFR Part 800).

The purpose of the Phase I archaeological survey was to identify archaeological sites, define archaeological site limits and provide National Register eligibility assessments for identified sites. As part of this effort, management recommendations were prepared based on the results of the assessment. The Phase I archaeological survey meets the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (1983) and complies with the archaeological survey and reporting guidelines of the North Carolina Office of State Archaeology (OSA) set forth in *Archaeological Investigations Standards and Guidelines* (2017). This level of survey satisfies the OSA's requirements for an intensive archaeological survey.

In a review letter dated July 22, 2019, the North Carolina Department of Natural and Cultural Resources/State Historic Preservation Office (HPO) requested the completion of an archaeological survey due to the high probability for precontact and historic period archaeological resources. The HPO letter noted that the setting of the project area on well-drained soils overlooking Perry Creek is conducive to pre-colonial American Indian archaeological sites. The HPO indicated that the remains of historic sites may be present. The methodology for archaeological survey was discussed with Mary Beth Fitts, Ph.D. of the OSA (Personal communication, August 12, 2019). The July 22, 2019 HPO letter also stated that the project will have no effect on any historic structures.

An extant 1826 farmhouse and associated outbuildings, previously recorded as the Dunn-Scarborough-Frazier Farm (WA 1788), lie within the project area. The use of the Dunn-Scarborough-Frazier farmhouse is under consideration as part of the master planning process.

The Area of Potential Effects (APE) for the proposed project encompasses 76.04 acres of land that will be subject to development within the 116-acre parcel (see Figure 1.3). The APE is mostly undeveloped, aside from the extant historic farmstead, and has been used for agricultural purposes since at least the early nineteenth century. Archaeological fieldwork for the project was conducted between November 18 and 26, 2019 and included the excavation of 373 shovel test pits (STPs) at 30-meter, 15-meter, and 5-meter intervals within the APE.

Paul J. McEachen, MA, RPA served as the Principal Investigator. Mr. McEachen meets the requirements of 36 CFR 61 set forth by the National Park Service (Appendix A). Mr. McEachen is approved to conduct archaeological surveys by the North Carolina Department of Transportation. Fieldwork was supervised by Matthew J. Harrup, MA, RPA and David Strohmeier, PSM. David Jenkins, MA, RPA performed artifact analysis. Graphics were created by David Strohmeier and Patricia McEachen. Background research and report writing was completed by Matthew Harrup, MA, RPA, Olivia Heckendorf, MA, Michelle L. Davenport, MA, RPA, Ellen Turco, MA and Paul J. McEachen. Catherine Smyrski served as technical editor.

This report includes a discussion of the environmental setting, background research, results of both subsurface testing and pedestrian reconnaissance, artifact analysis, assessment of National Register of Historic Places (NRHP) eligibility, and management recommendations. Copies of this report and all field notes, photographs, and project maps are on file at the offices of RGA in Wake Forest, North Carolina.

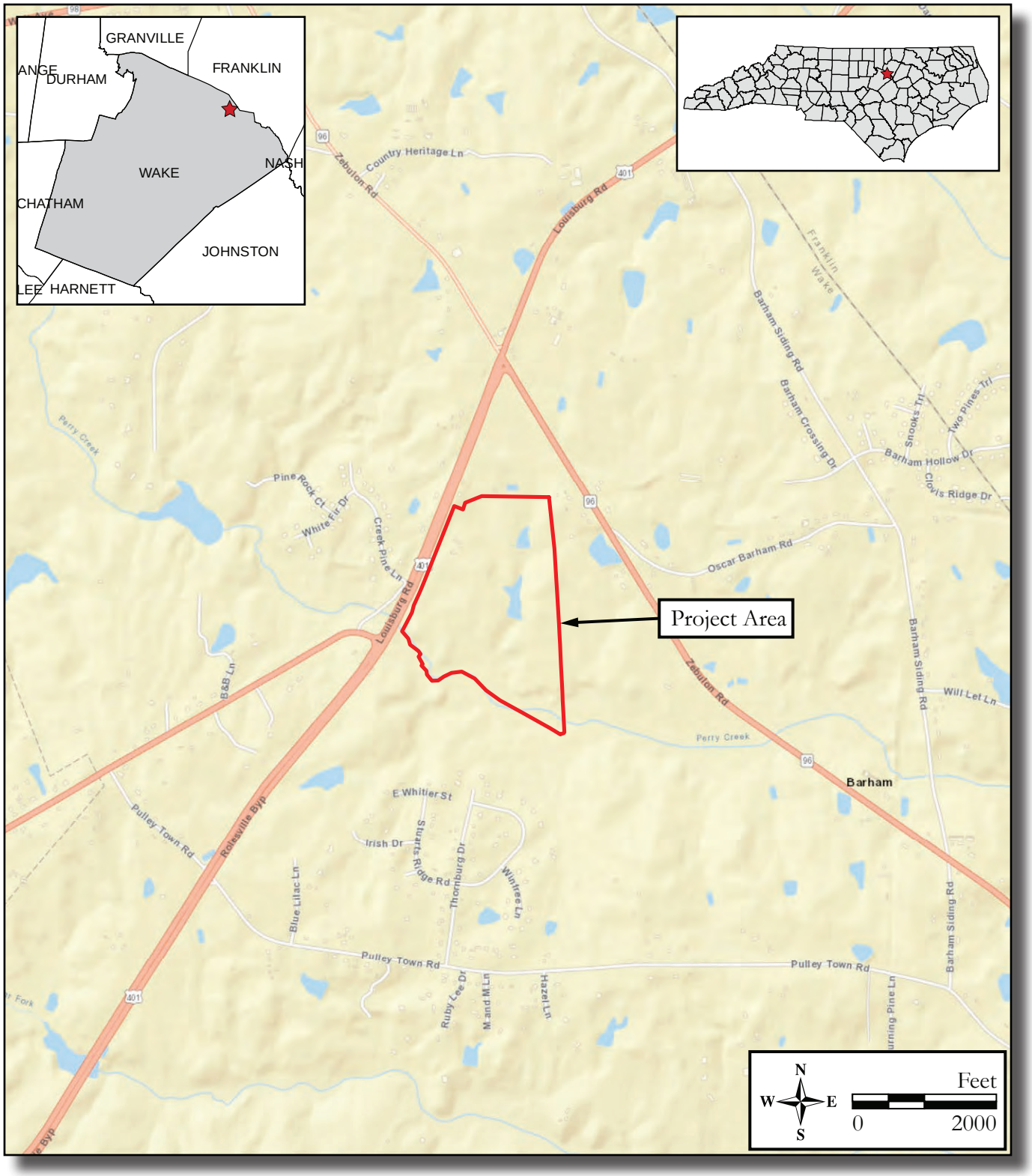

Figure 1.1: Project Location Wake County
(World Street Map, ESRI 2019).

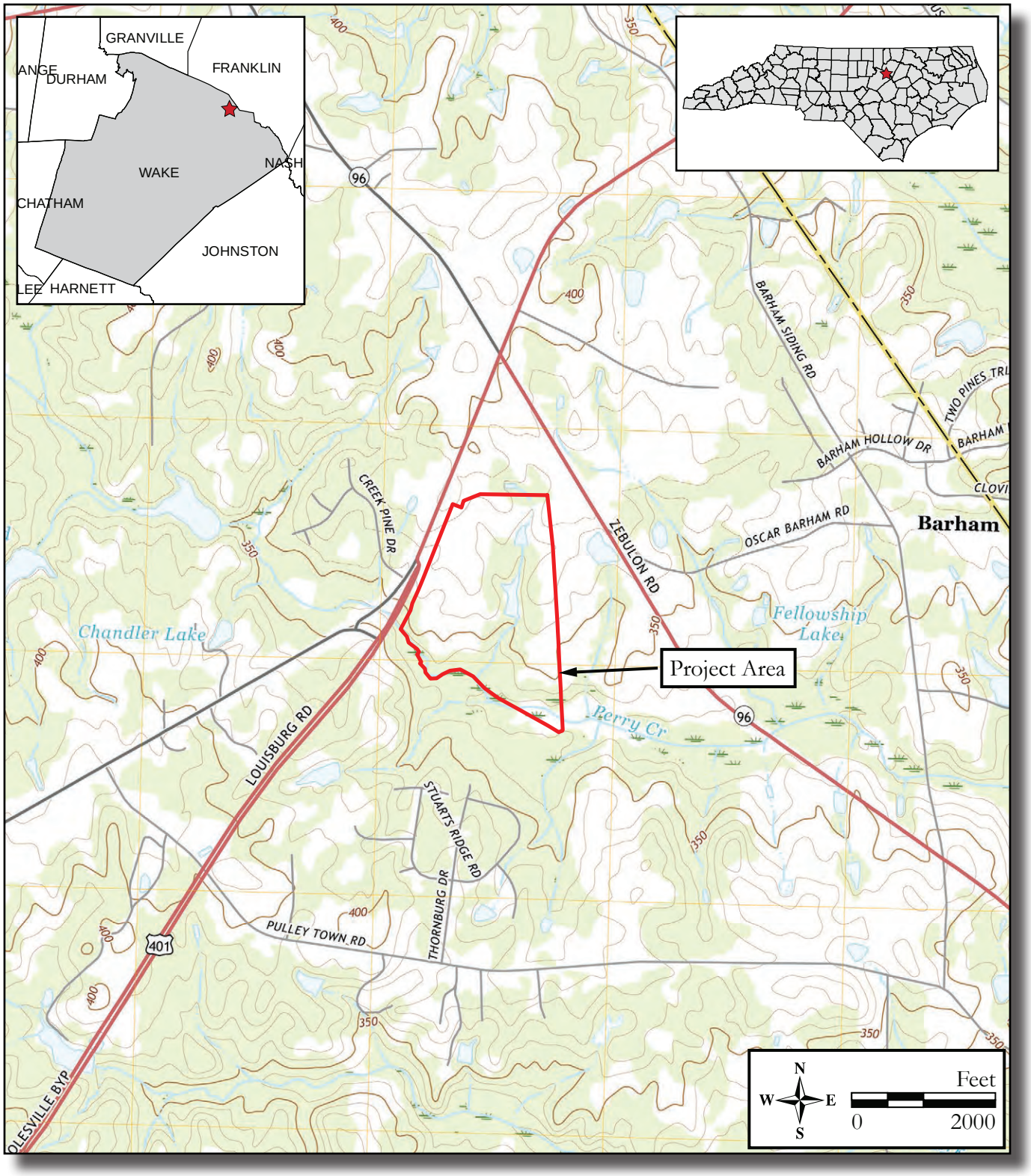

Figure 1.2: Project Location U.S.G.S. Map
(from 2019 U.S.G.S. 7.5' Quadrangle: Rolesville, NC).

Figure 1.3: Frazier Farm Athletic Complex Master Plan (McAdams 2019).

2.0 ENVIRONMENTAL SETTING

2.1 Location

The proposed project is situated on a 116-acre tract (PIN#1779076610) on the east side of U.S. Highway 401 (11624 Louisburg Road), approximately 606 meters south of its intersection with State Route (S.R.) 96 (Zebulon Road) in the Town of Rolesville (see Figures 1.1 and 1.2). The project area is comprised of cultivated farmland and wooded areas along the banks of Perry and Little creeks. A 100-foot wide Wake Electric Power easement with associated utility poles traverse the project area parallel to Perry Creek. An extant circa 1826 historic farmhouse with associated twentieth-century outbuildings known as the Dunn-Scarborough-Frazier Farm (WA 1788) fronts Louisburg Road (Figures 2.1-2.9).

2.2 Geology and Topography

The project area is situated in the Piedmont Physiographic Province, within the Carolina Slate Belt (North Carolina Geological Survey 1991). The Piedmont Physiographic Province is characterized by rolling hills and long, low ridges ranging in elvation between 300 feet above modern sea level (AMSL) towards the east and southeast, where it borders the Coastal Plain, and approximately 1,500 feet AMSL towards the west and northwest, where it borders the Blue Ridge (ESRI 2019). Surficial sediments within the project area are comprised of volcanic and sedimentary rock of the Paleozoic period, including metamudstone, argillite, and epiclastic rock. The project area additionally contains a surface outcropping of Rolesville Granite, also known as Rolesville diorite Batholith or the Rolesville Pluton, an orange-yellow igneous rock comprising the bedrock of much of eastern Wake County (North Carolina Geological Survey 1991).

Elevations range from approximately 377 feet AMSL in the northern portion of the project area to approximately 342 feet AMSL in the southwestern portion (see Figure 1.2). The project area is situated predominantly on an upland side slope topographic setting. The Rolesville area contains a gently sloping to rolling topography with moderately incised drainageways (Cawthorn 1970).

2.3 Hydrology

The project area is drained by Little Creek, which bisects the tract, and Perry Creek. Little Creek flows into two artificial ponds on the tract. The confluence of Perry Creek and Little Creek occurs immediately south of the project area. Perry Creek, a tributary of the Little River, forms the southwest border of the project area (see Figure 1.1). The Little River is a tributary of the Neuse River. The Neuse River drainage is a major river system that empties into the Pamlico Sound, and eventually the Atlantic Ocean. The aforementioned man-made ponds were constructed prior to 1955 and are likely related to the agricultural use of the property (NETR 1955; see Figures 1.3 and 2.1).

2.4 Climate and Vegetation

The climate of Wake County is characterized as moderate with four seasonal changes. The mean annual high temperature is 71.3 degrees Fahrenheit, and the mean low temperature is 50.3 degrees Fahrenheit (US Climate Data 2019; United States Department of Agriculture [USDA] Soil Conservation Service 1971)). Average annual rainfall is 46.58 inches and average seasonal snowfall is two inches (US Climate Data 2019; USDA Soil Conservation Service 1971).

Vegetation within the project area consists primarily of secondary growth coniferous trees interspersed with secondary growth oaks and low-lying weeds and leaf litter in wooded areas (see Figures 2.2-2.9). Much of the cultivated land in the project area was mature soybeans at the time of the survey. The Wake Electric Power easement has been cleared of vegetation, exposing soils and an eroding slope (see Figure 2.8). Erosion was noted.

2.5 Soils

Soils mapped within the project area consist of moderately well-drained to well-drained Altavista, Helena, Wedowee, Wedoweee-Saw complex, and Rawlins-Rion complex soils and somewhat poorly-drained Chewacla and Wedhakee soils with slopes ranging from two to 15 percent (see Figure 2.1; NRCS 2019). Altavista soils, mapped in the southeast portion of the project area, are formed from loamy alluvium derived from igneous and metamorphic rock and are typically encountered on stream terraces (NRCS 2019). Helena, Wedowee, Wedowee-Saw complex, and Rawlins-Rion complex soils, mapped throughout the project area, are formed in residuum weathered from granite and gneiss and are typically located on interfluves, summits, backslopes, and side slopes. Somewhat poorly-drained Chewacla and Wedhakee soils are mapped in the southern portion of the project area, adjacent to Perry Creek, and within a small central section of the project area (see Figure 2.1). These soils, typically encountered on floodplains, are formed in loamy alluvium derived from igneous and metamorphic rock (NRCS 2019). The characteristics of the soil types mapped within the project area presented in Table 2.1.

Table 2.1: Soils mapped within the project location (NRCS 2019).

Soil Name	Soil Type	Slope	Drainage	Landform
Altavista fine sandy loam, rarely flooded (AaA)	Fine sandy loam	0-4%	Moderately well-drained	Stream terraces
Chewacla and Wehadkee soils, frequently flooded (ChA)	Loam	0-2%	Somewhat poorly drained	Floodplains
Helena sandy loam (HeB)	Sandy loam	2-6%	Moderately well-drained	Interfluves
Rawlings-Rion complex, 2 to 6 percent slopes (RgB)	Sandy loam	2-6%	Well-drained	Interfluves
Rawlings-Rion complex, 6 to 10 percent slopes (RgC)	Sandy loam	6-10%	Well-drained	Interfluves
Rawlings-Rion complex, 10 to 15 percent slopes (RgD)	Sandy loam	10-15%	Well-drained	Interfluve
Wedowee sandy loam (WeB)	Sandy loam	2-6%	Well-drained	Interfluve
Wedowee-Saw complex (WfB)	Sandy loam	2-6%	Well-drained	Interfluve

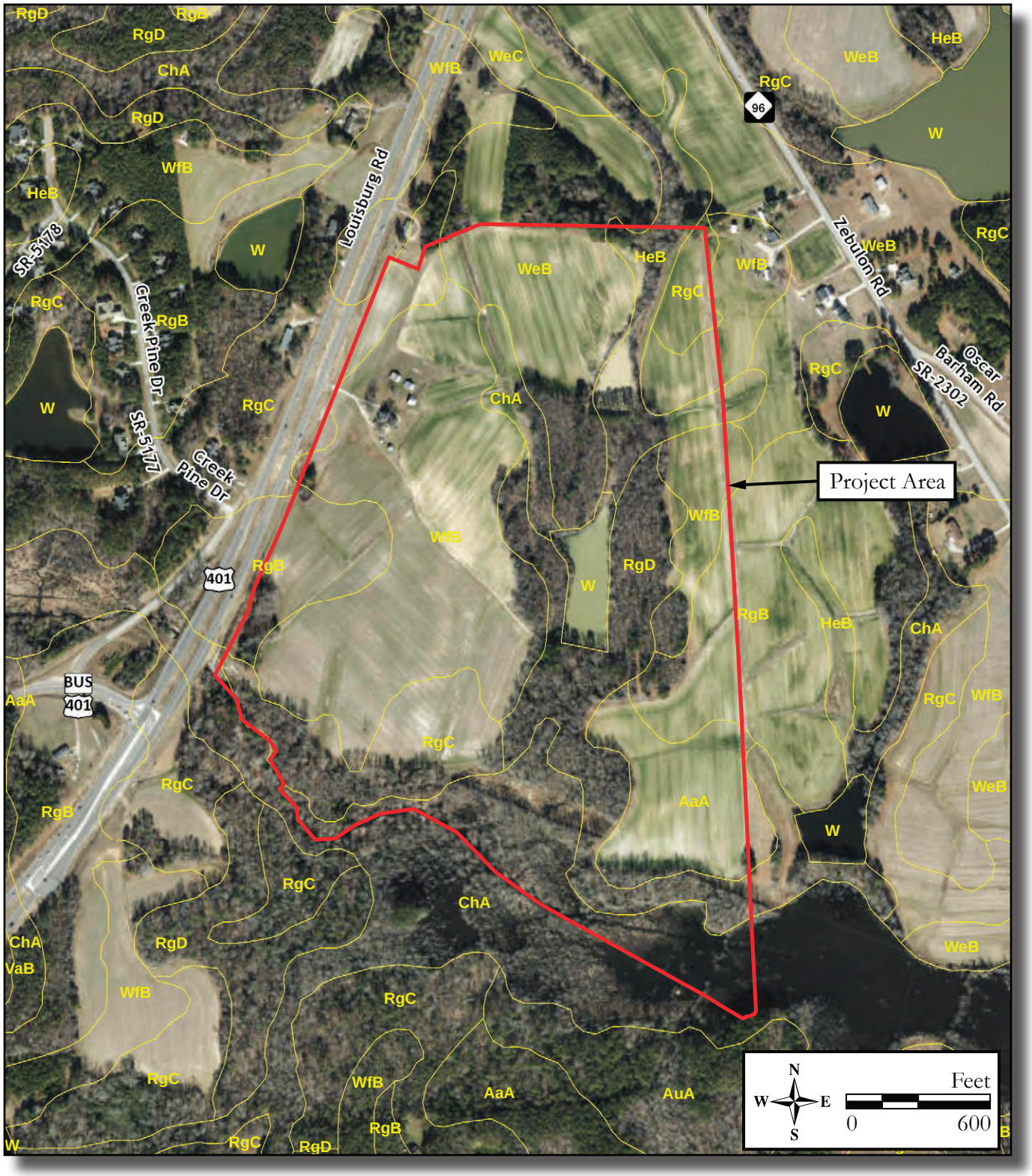

Figure 2.1: Project Location Web soil survey
(from 2019 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Soil Survey Geographic [SSURGO]).

Figure 2.2: Overview of the cultivated field and outbuildings associated with the Dunn-Scarborough-Frazier Farm (WA1788).

Photo view: South

Photographer: David Strohmeier

Date: November 21, 2019

Figure 2.3: Overview of the northern portion of the project area.

Photo view: South

Photographer: David Strohmeier

Date: November 21, 2019

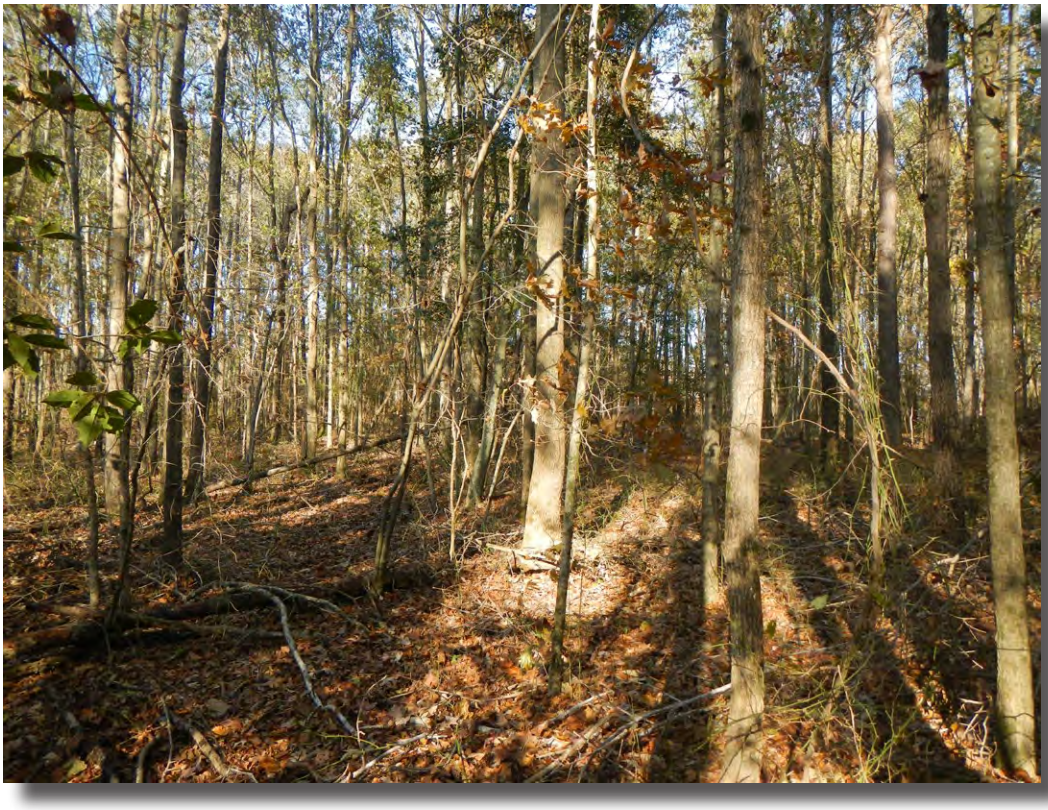

Figure 2.4: Overview of wooded section of the central portion of the project area.

Photo view: North

Photographer: David Strohmeier

Date: November 21, 2019

Figure 2.5: Overview of the cultivated field at the northeastern end of the project area.

Photo view: South

Photographer: David Strohmeier

Date: November 21, 2019

Figure 2.6: Overview of the cultivated field from the southeast corner of the project area.

Photo view: North

Photographer: David Strohmeier

Date: November 21, 2019

Figure 2.7: Overview of the forested uplands north of Perry Creek.

Photo view: West

Photographer: David Strohmeier

Date: November 21, 2019

Figure 2.8: Overview of the southern end of the agricultural field at the southern end of the project area. Note: the overhead lines denote the location of the Wake Electric Power Easement.

Photo view: North

Photographer: David Strohmeier

Date: November 21, 2019

Figure 2.9: Overview of the Dunn-Scarborough-Frazier Farm (WA1788).

Photo view: East

Photographer: David Strohmeier

Date: November 21, 2019

3.0 CULTURAL CONTEXT

Background research was conducted to determine if previously identified archaeological resources or historic properties are within the project area and to develop appropriate prehistoric and historic contexts. Research was conducted at the HPO in Raleigh to identify resources listed in or eligible for listing in the NRHP. Previous historic sites surveys and regulatory survey reports on file at the HPO were reviewed. Files at the HPO and OSA were checked for the presence of registered archaeological sites within or near the project area Additional background research consisted of a review of pertinent primary and secondary sources, including aerial photographs, historic maps, atlases, photographs, and local and county histories. Records that were reviewed include agricultural census data, ancestry research, cemetery information, deed and title research, and newspaper articles. Research was performed at the Olivia Raney Local History Library in Raleigh and several online sources. Staff members at the Little House Museum and Gallery in Rolesville were consulted on information pertinent to the project area. This information was used to assess the probabililty for prehistoric and historic resources and to evaluate the NRHP eligibility of identified archaeolgocal resources.

3.1 Precontact Context

Archaeologists organize chronological and cultural information about the prehistoric occupants of North Carolina into three broad time periods: Paleoindian, Archaic, and Woodland (Coe 1964; Harris 2010a, 2010b). These periods act as a framework in order to study the approximately 13,000 years of human occupation in the area. The Archaic and Woodland periods are subsequently subdivided into Early, Middle, and Late sub-periods. The prehistoric era is considered to have ended approximately A.D. 1600, during the time of initial contact between Native groups and Old World populations, and is followed by a period of extensive colonization by European settlers (Ward and Davis 1999). A generalized prehistoric cultural chronology for the Middle Atlantic and North Carolina Piedmont region is presented below.

Over the last several decades there has considerable debate over when humans first arrived in the New World. The traditional interpretation is that humans first arrived in North America via the Bering Land Bridge that connected Alaska to Siberia at the end of the Pleistocene, approximately 13,500 years ago. These migrants may have then moved southward through an ice-free corridor to eventually settle in North and South America. The "Clovis first" model has been questioned by data from several sites in the east. Sites providing possible evidence for earlier (Pre-Clovis) occupations include Monte Verde in Chile (Dillehay 2000), Meadowcroft Rockshelter in Pennsylvania (Adovasio et al. 1990), Miles Point in Maryland (Carr 2018), Cactus Hill in Virginia (McAvoy and McAvoy 1997) and Topper in South Carolina (Goodyear 2005). Pre-Clovis sites include a technology consisting of flake tools, small bifacial projectile points, and blade-like or elongated flakes. Use of retouched or utilized flakes is pronounced (Carr 2018). Although a growing number of site components have been attributed to pre-Clovis occupations, the data regarding such occupations is not universally accepted (Fiedel 2013).

3.1.1 Paleoindian Period (ca. 13,000-10,000 B.P.)

The term Paleoindian is generally applied to the earliest period of human occupation of the Americas (Carr 2018). The earliest inhabitants of North Carolina likely hunted large game animals such as mammoths, mastodon, and caribou, as well as smaller animal species while relying on a variety of other foods (Daniel 2005; Ward and Davis 1999). The climate was cooler and drier than now, and the landscape likely included a mosaic of environments and vegetation. Large spears tipped with well-made chipped stone fluted lance-shaped points, characterized by the removal of a large channel flake, or flute, are the best known Paleoindian stone tool. The Hardaway site in Stanly County contains an important Paleoindian component (Ward and Davis 1999). Paleoindian components are identified by fluted and unfluted point varieties including Clovis, Hardaway and possibly Palmer points (Coe 1964). Toolstones were produced from local rhyolites and high quality cherts from the Coastal Plain and Ridge and Valley provinces (Daniel 2005; Ward and Davis 1999).

Early sites are relatively rare for several reasons: low populations, the highly mobile lifestyles of Paleo-Indian people, rising sea levels and changing coastlines with concomitant changes in land forms, and lack of preserved sites. Paleo-Indian settlement patterning is closely linked to the availability of high-quality lithic raw materials (Carr 2018). The patterning of point finds in North Carolina indicate early inhabitants' preference for raw material sources, such as quarries, which were heavily utilized in their seasonal rounds (Daniel 2005; Ward and Davis 1999).

By the end of the Paleo-Indian period, many Pleistocene animal species, like mammoth and mastodon, were extinct and subsistence strategies were generalized mixed hunting and gathering with reliance on deer, small prey animals, fishing, and gathering of wild plants such as blackberries, hackberries, grapes, amaranth and nuts (Dent 1995).

3.1.2 Archaic Period (ca. 10,000-3,000 B.P.)

Archaic populations likely consisted of small, mobile hunting and gathering bands that shifted their camps seasonally to exploit a wide variety of game and natural resources. Climatic change during the Archaic Period led to sea level rise and warmer conditions, which influenced the expansion of environmental settings utilized for habitation and an increase in population (Custer 1990; Sassaman 2001; Stright 1995). Site types largely include base camps and task-specific sites used for resource procurement (Phelps 1983). Joffre Lanning Coe (1964) documented stratified Archaic Period sites in the North Carolina Piedmont, including the Hardaway site, which yielded Early, Middle, and Late Archaic Period components identified by a variety of projectile point types, including Stanly, Morrow Mountain I and II, Guilford, Halifax, and Savannah River (Ward and Davis 1999; Coe 1964).

The Early Archaic period may have been very similar to the preceding Paleoindian period in terms of mobile lifestyle and generalized hunting/gathering lifestyle; the main differences are reflected in a change to small-stemmed and notched projectile point styles such as Kirk and Palmer types, which may signify a change in hunting technology (Gardner 1989). An overall increase in tool diversity indicates expanded settlement and subsistence patterns, which increased during the Middle Archaic Period (Anderson and Hanson 1988; Harris 2010a:62). During the Middle Archaic Period, methodological changes to hunting practices are indicated by the use of atlatl weights, which aided spear propulsion by providing a counterbalance (Harris 2010a:62). Coe (1964) was the first to excavate the Middle Archaic Period Stanly Stemmed projectile point, with an estimated date of approximately 7,000 B.P. in the Carolina Piedmont (Coe 1964:35-36).

Subsistence-settlement pattern changes occurred at the beginning of the Late Archaic, which led to the exploitation of a greater variety of ecological settings. Additionally, site sizes and site numbers increased at the beginning of the Late Archaic period. The general trends of the Late Archaic period, possibly initiated by the development of a more modern climate, consisted of the rise and expansion of trade networks, an increase in population, and a greater degree of sedentism (Dent 1995). Late Archaic tool types include a wider variety of chipped stone tools. Groundstone axes, adzes, pestles, and other tools are interpreted as wood-working or seed and nut-grinding implements. Projectile points initially became much broader and thinner than their predecessors; this is followed by a narrower style with a base that resembles a fishtail (Ward and Davis 1999). Large, heavy, flat-bottomed containers were made of soapstone or steatite and may have been used as ceremonial feasting bowls. The use of stone vessels, and the beginnings of experimentation with ceramics may indicate a more sedentary lifestyle (Griffin 1978: 231).

3.1.3 Woodland Period (ca. 3,000-400 B.P.)

The Early and Middle Woodland periods are marked by rapid and extensive social and political change that led to the establishment of semi-permanent villages along stream valleys that provided fertile soils for agricultural activities (Harris 2010b:120). In the Southeast, the Woodland period is generally characterized by horticulture and the appearance of mound construction and burial ceremonialism. Religious movements, such as the Hopewell Tradition, spread from the Mid-West to the Southeast region and animal effigies and non-local raw materials were utilized (Anderson and Sassaman 2012). The production and use of pottery, such as the regional Uwharrie Series and Pee Dee Series identified at the Doerschuk site located in the Uwharrie Mountain Region and Yadkin River Basin, increased

significantly throughout the Woodland Period (Coe 1964: 5, 9, 32-33; Harris 2010b:120; Ward and Davis 1999). Diagnostic projectile points of the Woodland Period include Badin, Yadkin, Pee Dee, and Caraway, which were identified in the North Carolina Piedmont (Coe 1964:5, 45-49; Harris 2010b:120).

The Late Woodland period for the eastern United States is the last period commonly classified as prehistoric. Environmental and climatic characteristics had assumed fully modern form by this point in time. The Late Woodland period is distinguished from earlier periods by the increase of semi-sedentary occupations, smaller territory size, and a near widespread shift to horticultural practices. During the Late Woodland period, dramatic changes in social organization, material cultural, site structure and settlement patterns are documented in various portions of the Middle Atlantic and Southeast regions (Coe 1964; Harris 2010b). The Mississippian culture is believed to have influenced settlement configuration, ceremonialism, and artifact morphology to some degree within the North Carolina Piedmont during the Late Woodland Period, based predominately on the excavation and analysis of the Town Creek mound site in Montgomery County (Coe 1964; Harris 2010b:121; Ward and Davis 1999).

3.2 Historic Context

Some of the earliest European settlers in the Rolesville area were squatters during the Revolutionary War. The project area, formerly a part of Johnston County, became part of the newly formed Wake County in 1771 by an act of the colony's General Assembly (Corbitt 1987:212; Lally 1994:3).

The Dunn Family

In 1779, eight years after the formation of Wake County, a 555-acre land patent was issued to Drury Dunn on the west side of the Little River, placing the Dunn family in the vicinity of the subject parcel (NC Land Grants 1779). In 1785, Drury Dunn's son, John, was granted 56 acres of land along the Cedar Prong, which runs west from the Little River just south of the subject parcel (NC Land Grants 1785). Following the Revolutionary War, the Rolesville area remained rural and the land was used primarily for agriculture. Primary cash crops included tobacco, wheat, and corn (Freeman 1976:6).

The area known today Rolesville developed as a stop along the stage road that ran from Fayetteville to the Virginia border. The stage road approximately followed the modern-day alignment of U.S. Route 401 (i.e. North Main Street). According to a detailed stage road map from 1822, Ephram Dunson was living north of Middle Fork, known today as Perry Creek, on the subject parcel (Figure 3.1; Brazier 1822). Dunson appears in the 1830 federal census but references to him are not found in other records except for the 1822 map (United States Bureau of the Census [US Census] 1830). The 1822 map also depicts the location of a cotton market, the Roll's Halfway House, Dunn's Store, and land owned by Benjamin Dunn southwest of the subject parcel.

The main house at what is known today as the Dunn-Scarborough-Frazier Farm (WA1788) was likely constructed by Benjamin Dunn in 1826, according to a date stone from the former chimney that reads "B.D. 1826" (North Carolina State Historic Preservation Office [HPO] 1990) (Figures 3.2-3.3). No written documentation has been found that attributes the house to Dunn, but the 1779 and 1785 land grants and the date stone provide evidence that the dwelling was built by Benjamin Dunn. In addition, the cartographer of an 1832 map shows the name "Captn Benjn Dunn" at the project area in the southwest corner of the map (Figure 3.4; Brazier 1832). This map places the Dunn lands along the Stage Road and along the Middle Prong (present-day Perry Creek). Dunn, born in 1783, was the son of John Dunn and an officer of the War of 1812. He married Matilda Marriott High in 1806 (Wake County Court Records [WCCR] n.d.).

In the 1820s, the Rolesville area was growing as a result of its location at the intersection of two major roads, the Oxford to Smithfield road and the Raleigh to Louisburg road, which was part of the stage road to Virginia (Murray 1983:417; Lally 1994:240). In 1837, William H. Roles chartered the town,

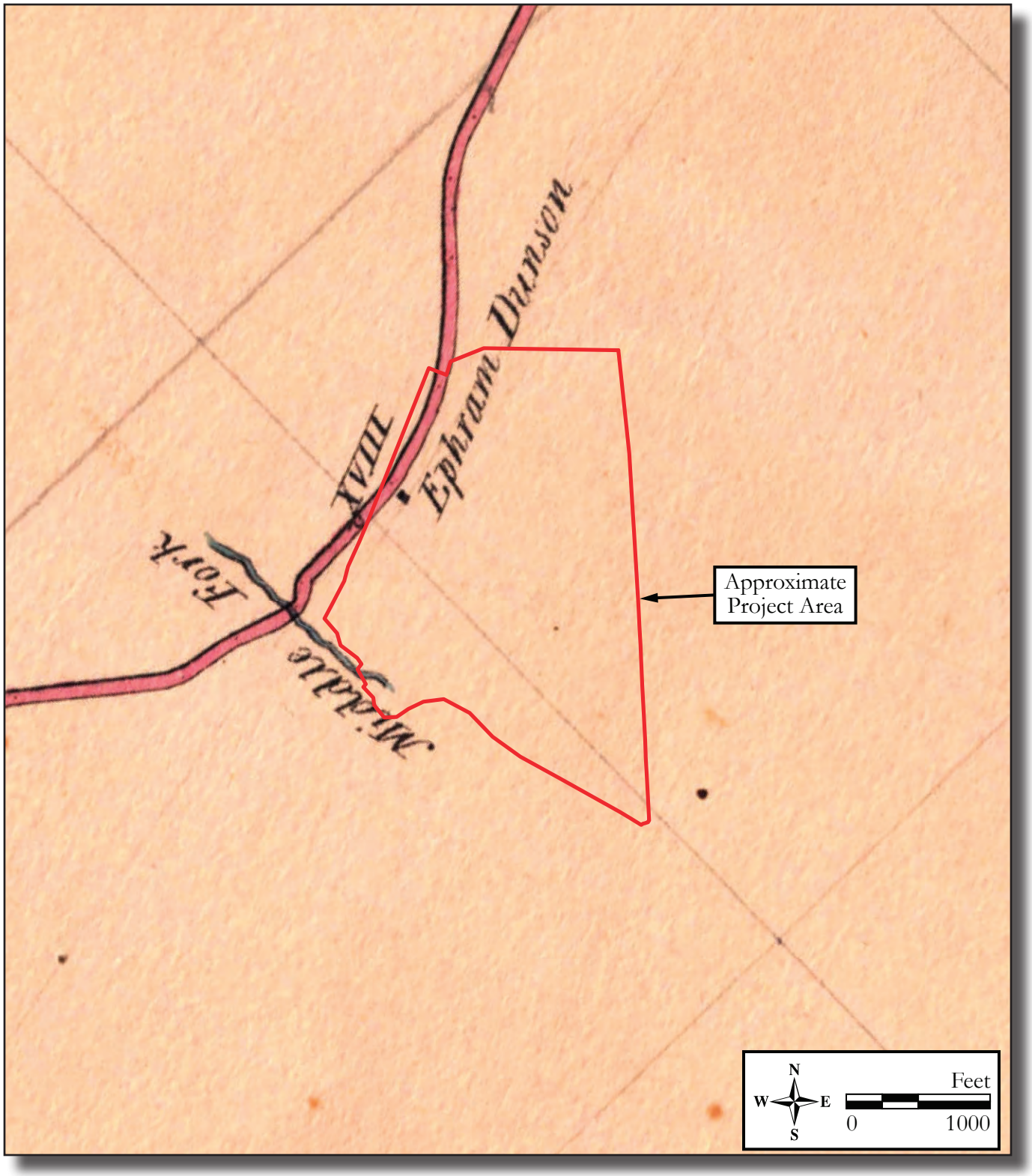

Figure 3.1: *Plan of the Stage Road from Fayetteville by Raleigh, Louisburg, Warrenton, and Robinson's Ferry to the Virginia Line* produced in 1822, which shows the location of Ephram Dunson (Robert H. B. Brazier and Hamilton Fulton, Raleigh, North Carolina).

Figure 3.2: View of the primary (west) elevation of the Dunn-Scarborough-Frazier Farm (WA1788).

Photo view: East

Photographer: Olivia Heckendorf

Date: November 20, 2019

Figure 3.3: Date stone at base of 1940s chimney that reads "B.D. 1826."

Photo view: South

Photographer: Olivia Heckendorf

Date: November 20, 2019

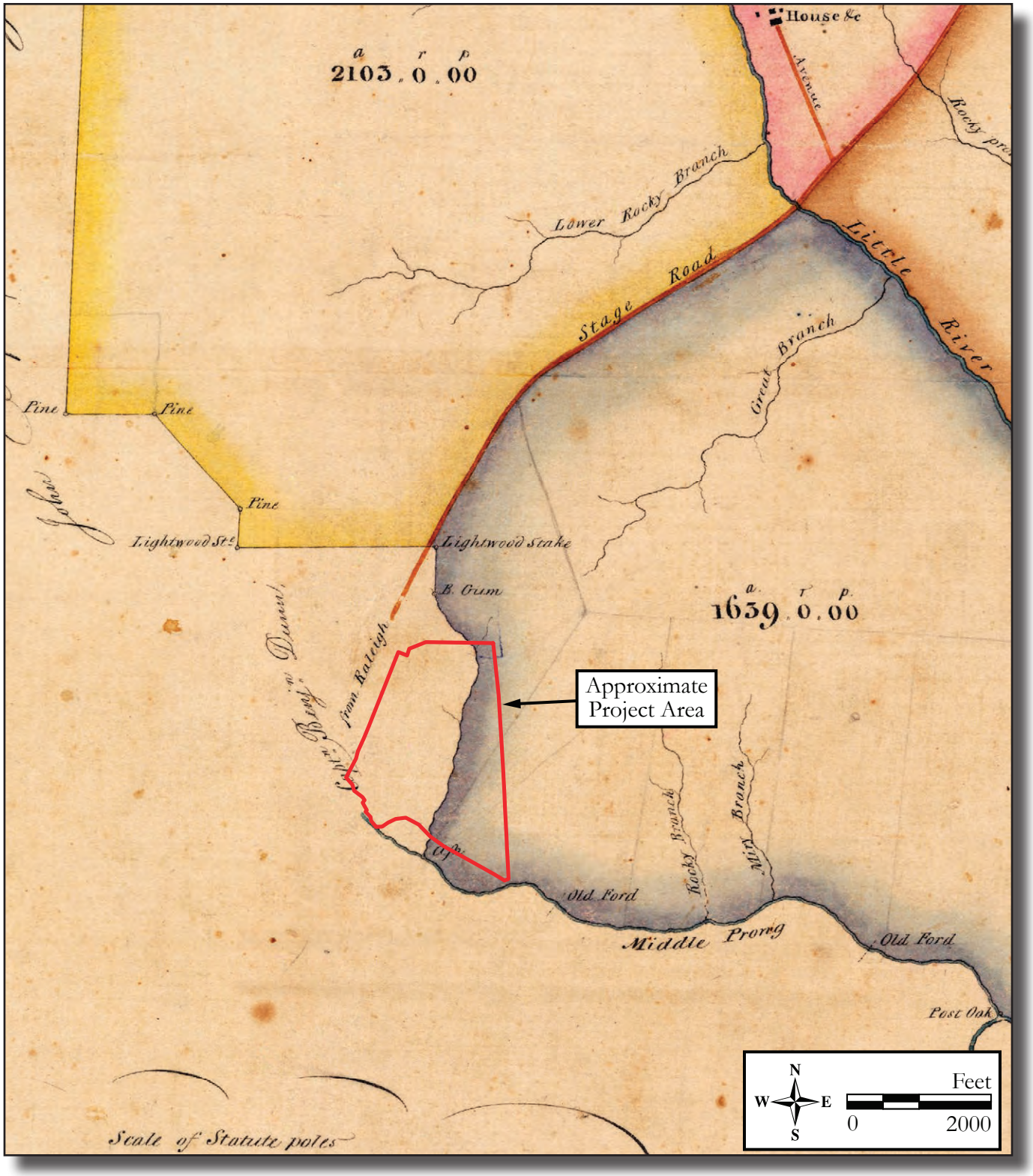

Figure 3.4: *Plan of a Tract of Land Situated in the Counties of Franklin and Wake, NC, the property of William M. Jeffreys, Esqur.*, which shows the Jeffreys land in 1832. The cartographer identified the Captain Benjamin Dunn lands in the southwest corner of the map along the Stage Road and the Middle Prong (present-day Perry Creek), which confirms the location of the Dunn family as being within the project area (Robert H. B. Brazier and H. H. Tharp, Raleigh, North Carolina).

making Rolesville Wake County's second chartered town (Murray 1983:417). Agriculture was the main livelihood of people living in and around Rolesville in the first half of the nineteenth century. Corn, sweet potatoes, wheat, peas, beans, cotton, and tobacco were among the most important food and cash crops for planters and farmers in the area (Lally 1994:4). Agriculture was supported by slave labor and was further expanded with the construction of additional railroad lines in the area during the 1840s and 1850s (Lally 1994:5). Rolesville was the site of a large slave market (Hammarth et al. 2004:6). According to the 1850 Slave Schedule, Benjamin Dunn lived in Wake Forest Township and owned four slaves: two men and two women (US Census 1850).

It is probable that Benjamin Dunn's property was transferred to his son, Dr. Allan Rogers Dunn, when he died in 1852. There is no documentation of the transfer, but later deeds indicate that the property once belonged to Dr. Allan Rogers Dunn (Wake County Register of Deeds [WCRD] 1881 67:597). Dr. Allan Rogers Dunn was born in 1834 and graduated from the University of Pennsylvania Medical School in 1856 (Fayetteville Semi-Weekly Observer 1856). He later married Angerona Wilder Hinton and together they had three children: Mary, Bettie Reaves, and Allan (US Census 1860; US Census 1880).

The 1860 census lists Dr. Allan Rogers Dunn and his family in Rolesville. Dunn was a man of means and a successful farmer with real estate valued at $6,000 and a personal estate valued at $14,000 (US Census 1860). Although he owned a large farm, Dunn did not own slaves according to the 1860 slave schedule (US Census 1860). In 1860, Dunn had a deed drawn up conveying his property to Augustus Marion Lewis. However, the deed was not recorded until December 6, 1869 (WCRD 1869 29:406). Dunn died in 1865. The cause of his death is not known, though he had enlisted as a private in the Confederate Army (National Park Service 2007).

Augustus Marion Lewis
Augustus Marion Lewis was born in 1821 and also was known as Major Lewis, lawyer (US Census 1860). In 1850 he resided in Franklin County. By 1860 he had relocated to Raleigh. There is no evidence that Lewis, his wife, and their nine children lived on the subject property. Instead Lewis divided up the land and rented it to sharecroppers.

Deed records identify one farmer, J.B. Redford, working Lewis' land, although there may have been others. Redford's residence was noted in a deed from 1881 (WCRD 1881 67:596). Redford also appears in the 1870 agricultural census in Rolesville. According to the records, Redford cultivated 75 acres of improved land with a cash value of $250. In addition, Redford had mules, cows, swine, and "other cattle." He produced 100 bushels of sweet potatoes, 20 pounds of butter, and sold $120 worth of animals for slaughter (1870 United States Agricultural Census).

In 1877, Lewis sold the subject property, which included 600 acres of land, to John and Sallie L. Gatling for $3,282 (WCRD 1881 60:598). The Gatlings immediately entered into a sales contract with Stephen Hines Scarborough. This agreement stated that Scarborough was to pay $4,000 for the 600-acre property (WCRD 1881 67:596). Scarborough paid the full amount of $4,000 plus interest by 1881, and the property was legally transferred to him.

Stephen Hines Scarborough
Scarborough was born on September 4, 1842 in eastern Wake County to parents John H. Scarborough, a farmer, and Betsey Elizabeth Horton Scarborough (Badders 1988:137). With the Civil War ongoing, Scarborough enlisted at Camp Mangum as a private at age 20 (Badders 1988:138). Scarborough was captured as a prisoner of war at the Battle of Cold Harbor in Mechanicsville, Virginia in 1864 and subsequently served time at a prison in Elmira, New York (Badders 1988:138). While a prisoner, Scarborough caught typhoid fever and was later released and sent to Wilmington, North Carolina as part of a prisoner exchange (Badders 1988:138). Following the war, he returned to Wake County and took his oath of allegiance to the United States on June 9, 1865 (Badders 1988:138). Upon his return, Scarborough helped his father farm and opened a general store in Rolesville (Badders 1988:138). On February 29, 1876, Scarborough married Roxey Morning Wall (Badders 1988:138). The couple

lived in Rolesville in a house they purchased from James and Mary Webb (Badders 1988:138). Roxey Scarborough passed away during childbirth but the baby girl, Roxey Hines Scarborough, survived to adulthood. Roughly one year following the death of his first wife in 1877, Scarborough married again; this time to Caroline Wall, the sister of Roxey Morning Wall (Badders 1988:139).

After his second marriage, Scarborough sold his store in Rolesville and purchased a tract of land recognized as the "old Dunn tract" in the deed (WCRD 1881 67:596). This land, sold by John Gatling, was composed of roughly 780 acres. Scarborough later purchased additional acreage in 1904 from Van B. and James Moore. Van B. Moore's 200 acres was purchased for $2,000, and James Moore's 296 acres of land, situated in both Wake and Franklin counties, was acquired for $3,250 (WCRD 1904 178:475; 195:81). The Scarboroughs raised dairy cattle and set up a local milk delivery route that was driven by Bennie Barham (NCSHPO 1990). In addition to his dairy herd, Scarborough also cultivated sweet potatoes, tobacco and corn (Lally 1994:243). An article in The Caucasian from 1906 reported that Scarborough's farm produced 500 barrels of corn and 40,000 pounds of tobacco (The Caucasian 1906).

The 1920s ushered in a tumultuous end for Scarborough. Recognized as a man worth nearly $100,000, Scarborough was known for his willingness to assist young men start their own farms by providing loans and advice on buying land (The News Reporter 1924). In 1919, Scarborough invested a few thousand dollars in oil stock with some success (The News Reporter 1924). When presented with another investment opportunity, Scarborough jumped. He poured roughly $80,000 into investments with the Southport Fish Scrap and Oil Company and the Carolina Beach Railway Company, as well as three other companies (Hickory Daily Record 1920). These businesses failed and Scarborough lost all his investments. While struggling with the realization that he had lost all his money to faulty investments, Scarborough was fighting throat cancer and his wife, Caroline, passed away (The Concord Daily Tribune 1925). As the newspapers reported, Scarborough lost everything and "…not even a homestead has been saved to the old man out of all the rich farm land that he owned" (The Concord Daily Tribune 1925). Scarborough died a pauper in 1925 at the Wake County Home (The Concord Daily Tribune 1925).

Prior to Scarborough's death his property was transferred to the Farmers and Merchants Bank of Wendell in 1924 to pay his debts (WCRD 1924 438:56). The property subsequently passed to the North Carolina Joint Stock Land Bank of Durham, which was created under the Federal Farm Loan Act (WCRD 1924 568:114; 735:735). In January 1924, engineer Harry Tucker drew a plat map of the "S. H. Scarboro" property showing the land divided into eight farms of varying sizes ranging from 22 acres to 124.1 acres (Figure 3.5; WCRD 1924 BM1924:87). The subject parcel is identified as "Farm No. 1" on the plat map. This parcel is bounded by an unnamed road to the north, "Farm No. 2" to the east, the Little Prong Creek (now Perry Creek) to the south, and the Raleigh-Louisburg Road (U.S. Route 401) to the west. Tucker identified several buildings on the property, including the main house, three outbuildings immediately north of the house, and another outbuilding immediately south of the house. Another building was located at the north end of the property line along the unnamed road.

James Robert Frazier & Family, 1935-2017

In 1936, James Robert Frazier purchased "Farm No. 1" from the federal land bank for $10 (WCRD 1936 735:140; Lally 1994:243). The Frazier family grew mainly tobacco, but also some cotton and small grains such as soybeans (NCSHPO 1990). Frazier's ownership ushered in a new era for the former Scarborough farm and led to alterations and an addition to the main house and the construction of additional outbuildings. The earliest aerial photograph of the property was produced by the USDA in 1938 (Figure 3.6; USDA 1938). Although the view of the house is obscured by foliage, it is possible to see several outbuildings scattered around the house. In addition, there appears to be another substantial structure less than one-quarter mile southeast of the main house, which is no longer extant. The 1938 aerial demonstrates how the Frazier lands were used for cultivation. The Frazier family grew mainly tobacco, but also some cotton and small grains such as soybeans (NCSHPO 1990). The 1940 census recorded the value of the Frazier home at $800 (US Census 1940). It is unclear if the current rear ell addition on the house was constructed before or after this census was taken. The original alignment of U.S. Route 401 is depicted on the 1938 aerial image (see Figure 3.6).

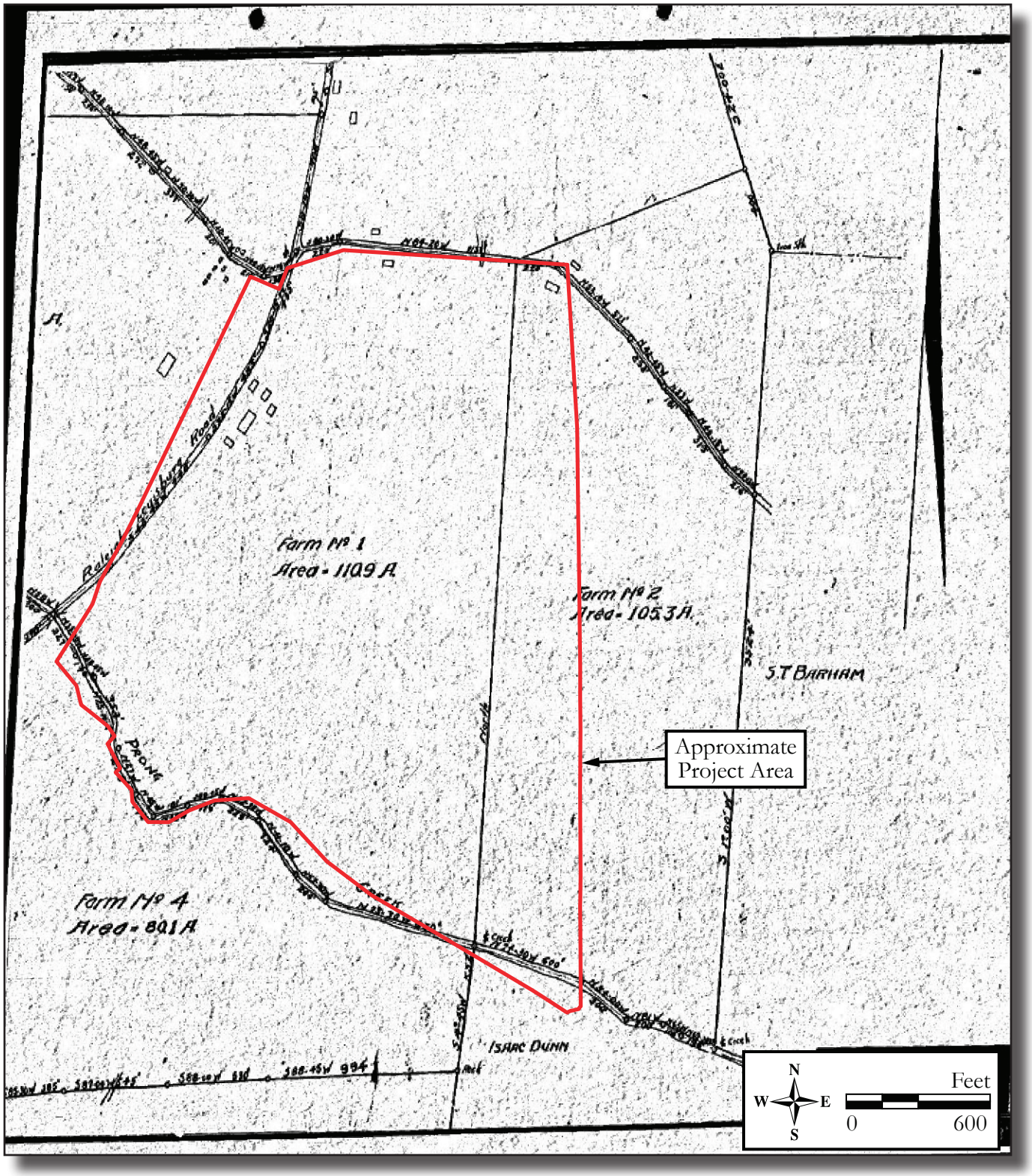

Figure 3.5: Plat map of the Stephen Hines Scarborough property showing Farm No. 1, which is now included in the project area (WCRD 1924 BM1924:87).

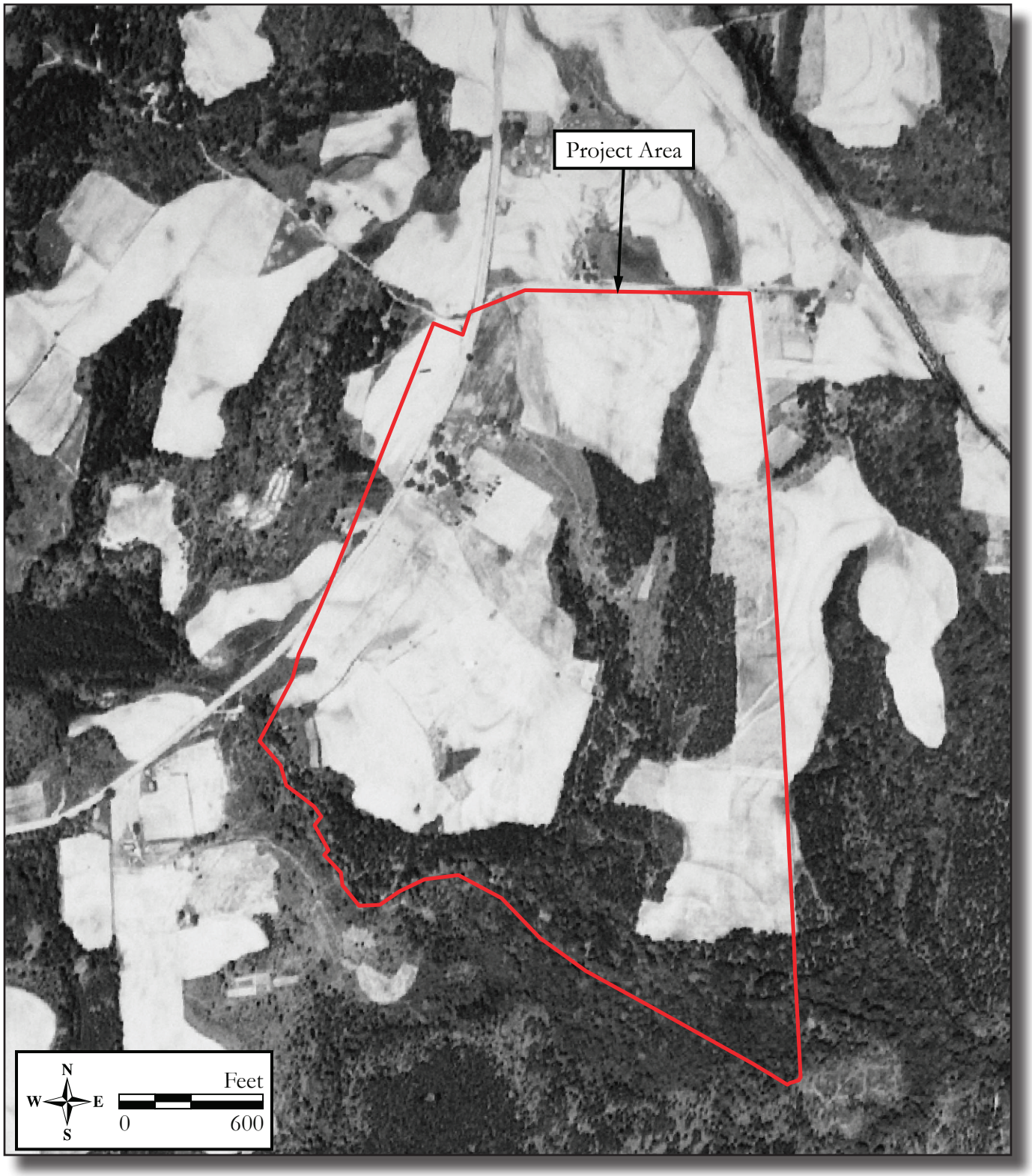

Figure 3.6: 1938 USDA aerial photograph showing the project area (USDA, Raleigh, North Carolina).

Another set of aerial photographs was produced in 1955 and provides a clearer overview of the Frazier farm (Nationwide Environmental Title Research [NETR] 1955). By this time the rear ell was present. In addition to the outbuildings visible on the 1938 aerial image, several additional outbuildings were constructed by Frazier, including two substantial buildings directly south of the house. The 1955 aerial also shows the extensive network of farm roads running through the property. The USDA commissioned another set of aerial imagery in 1959 and these photographs reflect little to no change in the property from 1955 (Figure 3.7; USDA 1959). By 1959, the alignment of U.S. Route 401 was realigned slightly to the northwest away from the project area. This improvement smoothed out a significant curve along U.S. Route 401 that existed in front of the Frazier farm. The outline of the former road remained in place (see Figure 3.7).

Aerial photographs from 1964 indicate that an additional barn was constructed directly to the south of the house, bringing the total number of barns to three (NETR 1964). Between 1959 and 1964, the wooded area behind the house was cleared, likely to make room for more crop production. The 1971 USDA aerial photographs show little to no change to the property between 1964 and 1971 (Figure 3.8; USDA 1971).

By 1993, aerial photographs show several differences on the Frazier farm when compared with those from 1971 (NETR 1993). It appears that the barns that were located to the south were gone by this time or moved to the north of the house where they are today. In addition, the buildings southeast of the house are no longer present in 1993.

Town of Rolesville, 2017-present
Today, the Dunn-Scarborough-Frazier farm is owned by the Town of Rolesville, who purchased the property from the Frazier family in 2017 (WCRD 2017 16956:773). Although the house is vacant, the land is rented out to a farmer who plants soybeans, thus continuing the tradition of agriculture which has been in place on the property since the Dunn family owned the property in the late eighteenth century.

3.3 National and State Register of Historic Places Eligible and Listed Properties

A review of files at the HPO indicated that no National or State Register-listed or -eligible properties or historic districts are situated within, or adjacent to, the project area.

3.4 Previously Recorded Archaeological Sites, Prior Investigations and Other Resources

Background research was conducted in October 2019 at the OSA and HPO in Raleigh. Records examined at the HPO included master archaeological site maps, state archaeological site files, and associated archaeological survey reports.

Registered Archaeological Sites
No archaeological sites have been recorded within the project area. There are five previously recorded archaeological sites, including two prehistoric sites, two historic sites, and one multicomponent site, within a one-mile radius of the project area (Table 3.1).

Site 31WA1406, is a prehistoric lithic surface scatter containing an Early Archaic Big Sandy-like point and a small amount of debitage. The site was determined to be not eligible for listing in the NRHP due to its continued cultivation over time, and it was likely destroyed by construction associated with the widening of U.S. Route 401 (Scholl et al. 2007).

Site 31WA1620 is a small prehistoric lithic surface scatter containing no diagnostic material. The site was recommended ineligible for the NRHP due to a lack of data and integrity (Scholl et al. 2007).

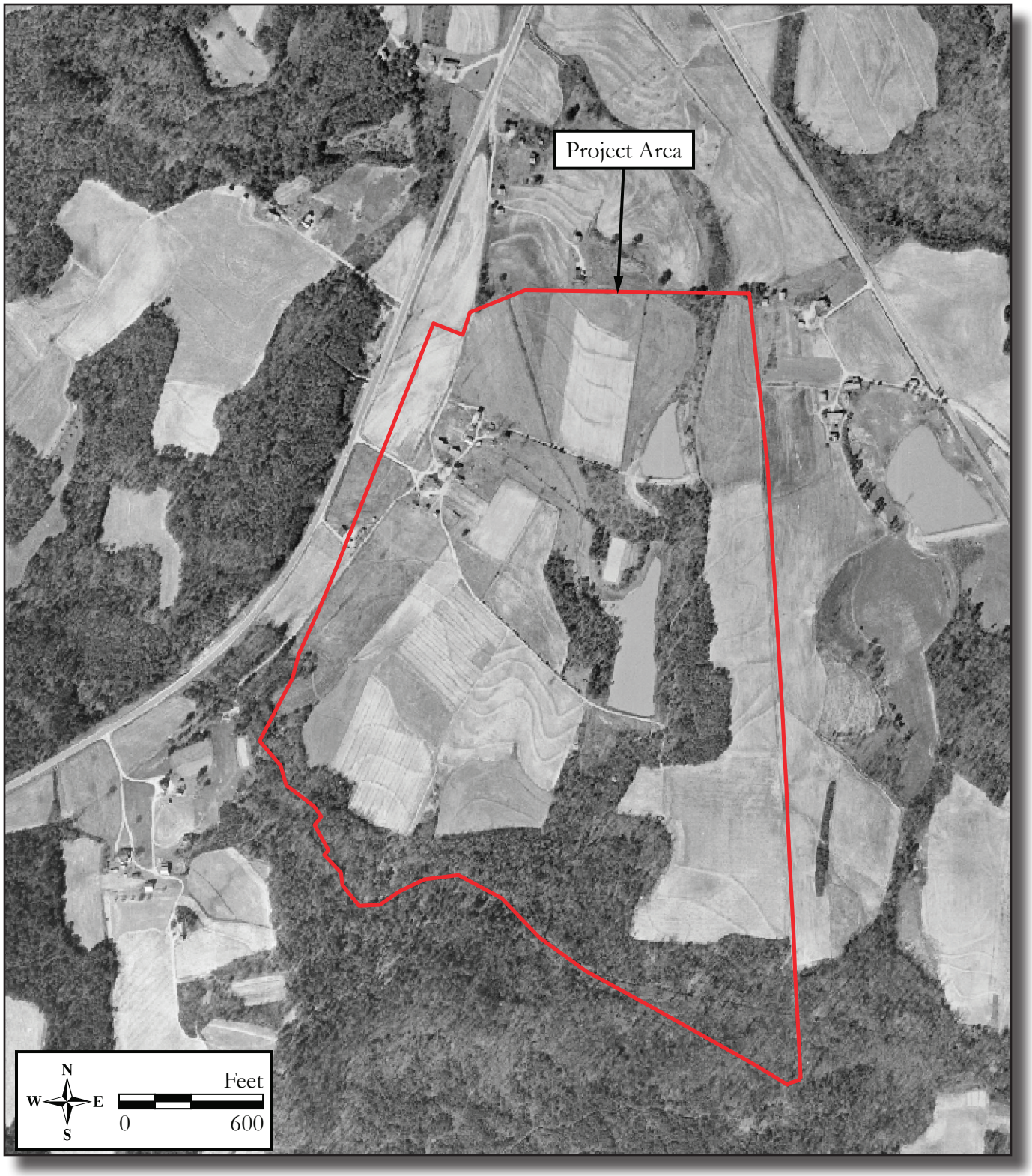

Figure 3.7: 1959 USDA aerial photograph showing the project area (USDA, Raleigh, North Carolina).

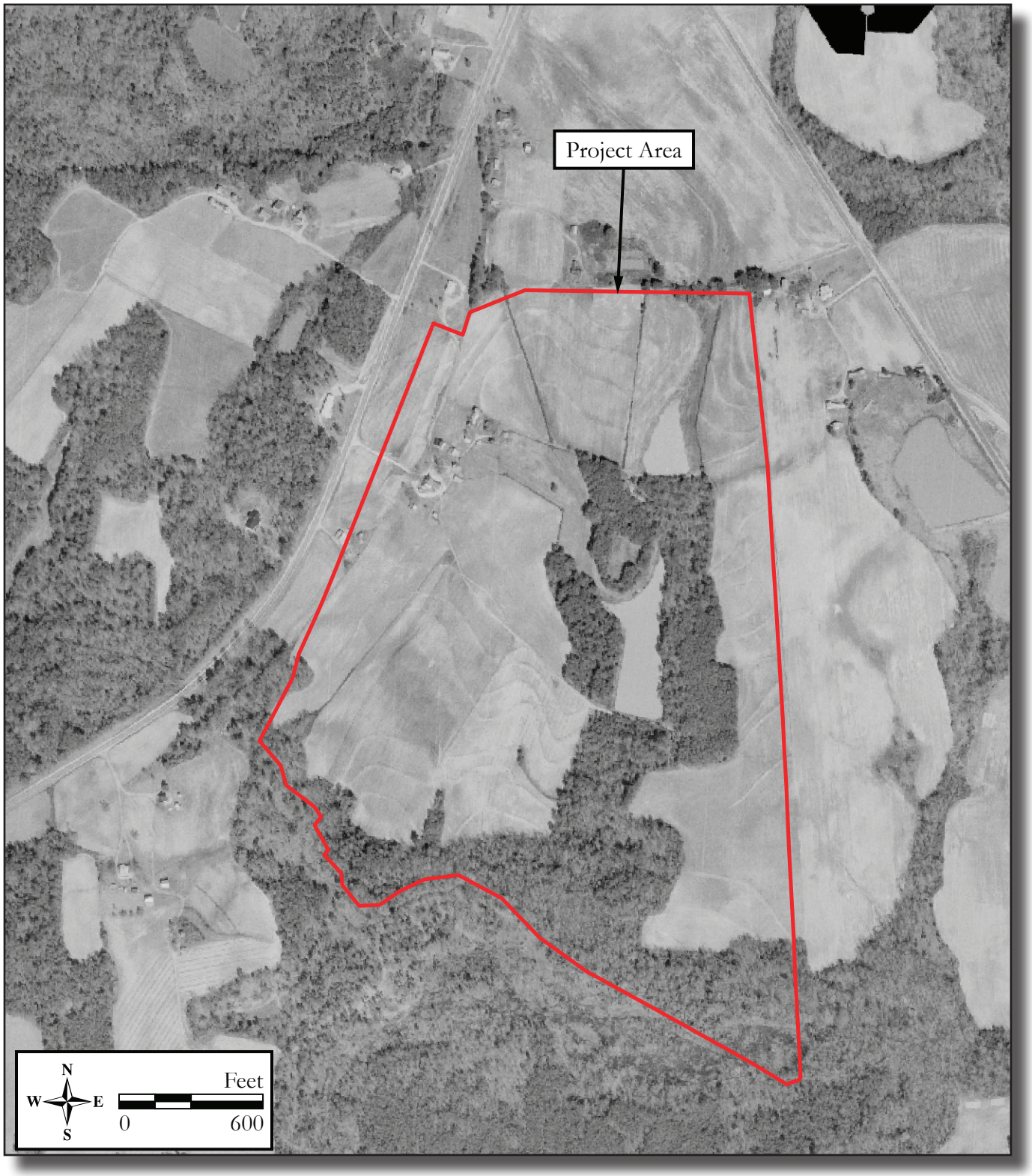

Figure 3.8: 1971 USDA aerial photograph showing the project area (USDA, Raleigh, North Carolina).

Site 31WA1415 is a nineteenth-century historic farmstead containing a farmhouse and several associated outbuildings. The extant structures are still occupied, and were determined to not be historically or architecturally significant. The archaeological significance of 31WA1415 has not yet been assessed (Robinson 1998).

Site 31WA1619 is a small early nineteenth-century historic scatter identified within a wooded area. The site was recommended ineligible for the NRHP due to its lack of sufficient data and integrity.

Multicomponent site 31WA1618, the Jerry Keith Site, is a multicomponent site encountered during surface survey and subsurface testing on a rise above Perry Creek east of U.S. Route 401 (Scholl et al. 2007). The 2007 survey recovered debitage, triangular points, sand-tempered ceramics, and a scatter of late nineteenth- through twentieth-century materials from the ground surface and within shovel tests. The landowner of the site owns a collection of Early Archaic through Late Woodland period projectile points, Woodland period ceramics, steatite bowl fragments, and a celt that were gathered from the site area over time (Scholl et al. 2007). The site appeared to have lost its integrity over time as a result of cultivation, erosion, and artifact collection, and was recommended ineligible for listing in the NRHP (Scholl et al. 2007).

Cultural Resources Surveys

A review of the files and records at the OSA and HPO indicated that two previous cultural resources surveys for the widening of U.S. Route 401 and construction of the Rolesville Bypass have been conducted adjacent to the project area (Robinson 1988; Scholl et al. 2007). As a result, five archaeological sites were identified within one mile of the project area (see Table 3.1). Neither survey recorded any archaeological sites within the project area.

The first survey was an archaeological background report conducted prior to the widening of U.S. Route 401 between the Neuse River and Louisburg, the study corridor of which appears to have passed adjacent to the western edge of the project area (Robinson 1998). The study identified multiple cultural resources that had been previously documented within the proposed widening corridor, two of which fall within one mile of the project area: 31WA1406 and 31WA1415.

The second survey was an archaeological survey and site evaluation for the widening of U.S. Route 401 and construction of the Rolesville Bypass, which was conducted adjacent to the western edge of the project area (Scholl et al. 2007). This survey identified three cultural resources within one mile of the project area: 31WA1618, 31WA1619, and 31WA1620 (see Table 3.1).

Previously Identified Architectural Resources/Structures

The extant Dunn-Scarborough-Frazier Farm (WA1788) has been recorded within the project area as an architectural resource (HPO 1990). The farmhouse, likely constructed in 1826 by Benjamin Dunn, was extensively remodeled in 1935 and 1940 by J.R. Frazier (Lally 1994). Several outbuildings have been constructed on the property near the farmhouse, although the farmhouse is the only structure that has been recorded as an architectural resource. According to the HPO's records, the farmhouse is not listed in the NRHP, nor was it considered eligible for the NRHP. However, the Dunn-Scarborough-Frazier farmhouse merits consideration during the current park master planning process due its age and status as an increasingly rare hall-and-parlor house type in Wake County.

Michael Bailey, President of the Historic Rolesville Society, performed a site visit while fieldwork was ongoing. RGA discussed the survey results to date, and Mr. Bailey indicated that he was not aware of any prior archaeological sites on the parcel (personal communication Michael Bailey, November 22, 2019). Mr. Bailey was very appreciative of the Town of Rolesville for sponsoring the archaeological survey (Historic Rolesville Society 2019).

Table 3.1: Registered archaeological sites within a one-mile radius of the project location.

Smithsonian Site Registration #	Site Type	NRHP Status/ Recommendation	Source
31WA1406	Prehistoric (Early Archaic)	Not eligible/ No further work	OSA Site Form; Robinson 1998
31WA1415	Historic Farmstead (Nineteenth century)	Not architecturally or historically significant; archaeologically unassessed/ Further testing recommended	OSA Site Form; Robinson 1998
31WA1618	Prehistoric (Early Archaic-Late Woodland); Historic Farmstead (Twentieth century)	Not eligible/ No further work	OSA Site Form; Coastal Carolina Research, Inc. 2007
31WA1619	Historic Scatter (Early nineteenth century)	Not eligible/ No further work	OSA Site Form; Coastal Carolina Research, Inc. 2007
31WA1620	Prehistoric (Unknown Component)	Not eligible/ No further work	OSA Site Form; Coastal Carolina Research, Inc. 2007

NRHP - National Register of Historic Places
OSA - North Carolina Office of State Archaeology files

Cemeteries
Available historic maps and USGS topographic maps (USGS 1972, 1975, 2019) do not appear to depict any cemeteries within the project area. No cemeteries are recorded on the parcel in the files at the OSA.

3.5 Historic Map Review

An examination of historic maps and atlases indicated that the project area and proximity was sparsely populated in the early nineteenth century. In the 1820s, the area around Rolesville experienced significant growth as a result of its location along the intersection of two major roads, the Oxford to Smithfield road and the Raleigh to Louisburg road. One of the earliest maps to show the project area is an 1822 map of the stage road that ran from Fayetteville to the Virginia border (see Figure 3.1; Brazier 1822). A portion of this map lists Ephram Dunson living north of Middle Fork, known today as Perry Creek, within the project area (see Figure 3.1). The relationship between the structure attributed to Dunson and Benjamin Dunn (ca. 1826) is unclear. The extant circa 1826 house originated in the antebellum period. The map also depicts a settlement near the Town of Rolesville, which was later established in 1837, southwest of the project area and included a cotton market, the Roll's Halfway House, Dunn's Store, and land owned by Benjamin Dunn. Ten years later, Brazier produced a map depicting the property of William M. Jeffreys near the project area (see Figure 3.4: Brazier 1832). In the southwest corner of the map Brazier identified the adjacent lands of Captain Benjamin Dunn within the project area who, based on historic documentary research, was likely the builder of the extant farmhouse within the project area. Present-day Perry Creek is labeled as Middle Prong.

It is not until 1924 that a map showing the project area was completed in great detail (see Figure 3.5: WCRD 1924). By this time, Rolesville had become a well established community south of the project area that was surrounded by undeveloped agricultural land. The plat map of the "S. H. Scarboro" property shows the former Scarborough lands divided into eight separate farms for resale (see Figure 3.5; WCRD 1924 BM1942:87). The subject parcel is identified as "Farm No. 1" on the map which shows several buildings on the property, including the main house, three outbuildings immediately north of the house, and another outbuilding immediately south of the house. In addition, another building is located at the north end of the property line along an unnamed road.

In 1938, the USDA produced a set of aerial photographs of Wake County, which included the project area (see Figure 3.6; USDA 1938). The 1938 aerial photograph of the subject property shows several outbuildings scattered around the house and demonstrates that the Frazier family, who owned the property at the time, actively farmed the land within the project area. Another aerial photograph produced by the USDA in 1959 shows the house unobscured by vegetation as well as an extensive network of farm roads that had been constructed on the property (see Figure 3.7; USDA 1959). An aerial photograph from 1964 depicts a total of three barns directly south of the house (NETR 1964). In addition, the wooded area behind the house was cleared by this time, likely to increase the amount of land available for crop production. The 1971 USDA aerial photograph including the project area shows little change to the property between 1964 and 1971 (see Figure 3.8; USDA 1971). By 1993, aerial photographs show that the barns located south of the house in 1971 were either removed or had been relocated north of the house, reflecting the outbuilding layout that is observed within the project area in 2016 (NETR 1993, 2016; USDA 1971 In addition, a building that had been situated southeast of the house prior to 1971 was removed by 1993 (NETR 1964, 1993; USDA 1971).

The alignment of U.S. Route 401 has been modified over time. The most recent adjustment proximate to the project area was the contruction of the Rolesville Bypass between circa 2010 and 2016 (NETR 2010, 2012, 2014; Town of Rolesville n.d.).

The Rolesville area has seen extensive late twentieth-century/early twenty-first-century residential development. One relatively recent development called The Lakes of Rolesville lies on the opposite side of U.S. Route 401 from the project area (NETR 1999, 2006).

3.6 Expected Archaeological Potential

Pre-Contact Resources

The project area occupies a well-drained upland setting at the confluence of Little Creek and Perry Creek. This setting would have provided a resource-rich environment conducive to land use by Native Americans for several millennia. Early Archaic through at least Middle Woodland period settlement patterns observed in the archaeological record of the North Carolina Piedmont indicate intensive use of riverine and smaller stream environments, transitioning over time from seasonal transient occupations towards semi-permanent habitations (Ward and Davis 1999). Within one mile of the project area, prehistoric archaeological sites containing evidence of Early Archaic through Late Woodland period occupations have been identified in similar environmental settings. Specifically, the multicomponent Jerry Keith Site (31WA1618) is situated on a rise above the south bank of Perry Creek southwest of the project area. Surface collections and excavations at site 31WA1618 have yielded a number of diagnostic projectile points, ceramics, and other artifacts indicating that the site was occupied during the Early Archaic through Late Woodland periods (Scholl et al. 2007). While excavations at 31WA1618 yielded no intact features or evidence that could point to continuous occupation or multiple separate occupation events, the amount and chronological range of material recovered from the site indicates that the landscape adjacent to Perry Creek was used by Native American groups throughout prehistory. Based on the previously identified sites (see Table 3.1), it appears that small to moderate sized encampments would be anticipated. As a result, there is a high probability for the archaeological survey to encounter prehistoric cultural resources.

Post-Contact (i.e. Historic) Resources

The project area encompasses the nineteenth-century Dunn-Scarborough-Frazier farm, which has been occupied since its construction around 1826. Outbuildings associated with the farmstead have been constructed and removed over the course of two centuries. Analysis of historic documents, historic maps, and aerial photographs suggests that the remainder of the project area consists of predominantly undeveloped agricultural land. There is a high probability for post-contact archaeological resources associated with the extant Dunn-Scarborough-Frazier farm. The remainder of the project area has a reduced, or low, probability for historic resources.

4.0 METHODS

The Phase I archaeological survey was completed to satisfy the requirements of Section 106 and NEPA. This report was designed to contain sufficient depth and length to allow for an independent assessment, and evaluation of eligibility and effects, and was prepared in accordance with the OSA's *Archaeological Investigations Standards and Guidelines* (2017).

The goals of the Phase I archaeological survey was to identify archaeological sites, define archaeological site limits and provide NRHP eligibility assessments for identified sites within the APE (see Figure 1.3). As part of this effort, management recommendations were prepared based on the survey results. Background research, archaeological fieldwork and artifact analysis were performed to fulfill these goals.

4.1 Archaeological Field Methods

Fieldwork for the project was conducted between November 18 and 26, 2019 and comprised approximately 36 person-days. The fieldwork was performed under the direction of Matthew Harrup, MA, RPA and David Strohmeier, PSM. The field crew included Holly Adlington, Timothy Boykin, and David Jenkins, MA, RPA. The archaeological survey included a pedestrian reconnaissance, subsurface archaeological testing of the APE, and documentation of existing conditions via digital photography and field notes (see Figures 2.1-2.9).

The APE was divided into five discrete areas to facilitate survey (i.e. Areas 1-5). Shovel test pits (STPs) were excavated at 30-meter (100-foot) intervals on a rectilinear grid within the APE. Each STP was numbered consecutively with the area designation followed by the STP number (i.e. STP 1 in Area 1 was attributed STP 1-1). Staggered 15-meter (50-foot) interval transects were employed within the open areas adjacent to the farmhouse and associated outbuildings. The closer interval was selected due the increased sensitivy for historic period resources. Shovel test pits excavated at 15-meter intervals proximate to the farmstead were given designations of .5 following the STP number (i.e. STP 1-27.5). When prehistoric cultural material was encountered in STPs, delineation STPs were excavated at 15- and 5-meter intervals in cardinal directions to define site limits. The latter STPs were given appropriate designations according to where they fell from the original positive STP and within the existing survey grid (for example, STP 1-137 W15 is situated 15 meters west of STP 1-137).

Shovel test pits falling within previously disturbed areas, existing buildings and sloped areas were not excavated. Shovel test pit locations were mapped using a sub-meter-accurate Trimble Global Positioning System (GPS) unit, and tapes and compasses from referenced existing landmarks, where necessary.

The STPs measured at least 30 centimeters (12 inches) in diameter and were excavated at least 10 centimeters (4 inches) into sterile B-horizon soils. The STPs were excavated by natural strata. Each soil stratum was excavated and screened separately. Excavated soil from each STP was screened through one-quarter-inch wire mesh to facilitate artifact recovery. Descriptions of each stratum, including Munsell color, texture, sediments, and presence or absence of cultural material, were recorded on standardized STP forms. The context of artifact finds was recorded on bag tags. Shovel test pits were immediately backfilled upon completion to restore the ground to its natural contours.

4.2 Laboratory Methods

Artifact processing consisted of cleaning and hand washing non-friable cultural material. Durable artifacts (i.e. ceramic, glass) were washed to remove residual soil and to facilitate identification. Less durable artifacts (i.e., metal and other organic materials) were carefully

dry-brushed to remove residues prior to identification. Artifacts were placed in archival, four-mil polyethylene zip lock bags. The artifacts were analyzed using artifact typologies and analytical methods currently accepted in North Carolina. All artifacts were cataloged and an effort was made to identify and date all temporally and functionally diagnostic artifacts.

All historic artifacts were analyzed and cataloged according to provenience, artifact functional group, material, artifact type, decorative or surface treatments(s), and period of manufacture (when applicable) (see Appendix B).

Lithic artifacts were classified based on morphological attributes. Length, width, thickness, weight, and notable use-wear characteristics and raw materials were recorded attributes for tools. Lithic debitage from chipped stone tool manufacture was sorted into flakes (i.e. primary, secondary and tertiary) or angular debris. Flakes exhibit a dorsal and ventral surface while angular debris does not retain these characteristics (Andrefsky 2000). Flakes were recorded as either whole or fragments. Length, width, and thickness measurements were taken for whole flakes.

North Carolina site registration forms were submitted to the OSA for identified archaeological sites. The Smithsonian designations were used to identify the archaeological site locations (see Section 5.0).

The artifact assemblage, project documents, and all field notes, and photographs are temporarily stored at the RGA's offices in Wake Forest, North Carolina. At the close of the project, the material will be provided to the Town of Rolesville or packaged for curation in accordance with the guidelines set forth by the Office of State Archaeology Research Center (OSARC) and curated at the OSARC facility in Raleigh (36 CFR 79).

4.3 National Register Eligibility Assessment

Each identified archaeological site was assessed using the criteria for NRHP eligibility. Historic properties include districts, structures, objects, or sites that are at least 50 years of age and meet at least one NRHP criterion. Criteria used in the evaluation process are specified in the Code of Federal Regulations, Title 36, Part 60, National Register of Historic Places (36 CFR 60.4). To be eligible for inclusion in the NRHP, a historic property(s) must possess:

> the quality of significance in American History, architecture, archaeology, engineering, and culture [that] is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:
>
> a) that are associated with events that have made a significant contribution to the broad patterns of our history, or
>
> b) that are associated with the lives of persons significant in our past, or
>
> c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components lack individual distinction, or
>
> d) that have yielded, or may be likely to yield, information important in pre-history or history (36 CFR 60.4).

Evaluations of significance for archaeological sites frequently consider their eligibility for inclusion in the NRHP under Criterion D, the potential to yield important information in history or prehistory. A commonly used standard to determine a site's research potential is based on a number of physical characteristics including variety, quantity, integrity, clarity, and environmental context (Glassow 1977). The National Park Service (Little et al. 2000:29) has outlined five primary steps in the Criterion D evaluation for archaeological sites that address a historic property's data sets (categories of archeological, historical, or ecological information); historic context(s), that is, the appropriate historical and archaeological framework in which to evaluate the property; important research question(s) that the property's data sets can be expected to address; archaeological integrity, in terms of the data sets' potential and known ability to answer research questions; and, capacity to yield important information relevant to the research questions identified for the property.

5.0 RESULTS

5.1 Archaeological Fieldwork

Archaeological fieldwork was conducted between November 18 and 26, 2019. The 76.04-acre APE was separated into five areas (Areas 1-5), each of which were subject to pedestrian reconnaissance and subsurface testing (Figure 5.1). Pedestrian reconnaissance was performed to search for surface features such as foundations and other building remains and surface scatters of historic and prehistoric artifacts. Visibility was generally poor except for eroded portions of the agricultural fields. Subsurface testing consisted of the excavation of 373 STPs plotted at 30-meter (100-foot) and 15-meter (50-foot) intervals in portions of the APE that fell proximate to the Dunn-Scarborough-Frazier farmstead. Bracket (or radial) tests were positioned at 15- and 5-meter intervals where prehistoric resources were identified. One hundred and twenty four (124) artifacts were identified.

In general, soils encountered across the APE consisted of a 15- to 25-centimeter-thick dark yellowish brown (10YR 4/4) to yellowish brown (10YR 5/4) sandy loam plow zone (Ap) horizon, underlain by a compact sandy clay to clay subsoil (B-horizon) ranging in color from yellowish brown (10YR 5/6) to reddish yellow (7.5YR 6/8 to 7/8). Wooded portions of the APE adjacent to Perry Creek exhibited an A-horizon, rather than an Ap-horizon, and soils encountered around the extant farmstead buildings included up to three distinct layers of soils in a secondary context (i.e. redeposited), overlying a buried plow zone or subsoil. Shovel test pits excavated adjacent to farm roads in Area 1 exhibited a truncated soil profile where the topsoil had been removed. Two pieces of glass were recovered from Area 2 (see Appendix B), and these materials are considered insignificant.

5.2 Archaeological Sites

The Phase I archaeological survey identified two archaeological sites within Area 1 and one archaeological site in Area 4 (see Figure 5.1; Table 5.1). Two newly identified sites, 31WA2253 and 31WA2254, are prehistoric in nature. One site, 31WA2252, is a historic scatter associated with the extant Dunn-Scarborough-Frazier Farmstead complex within the APE.

Table 5.1. Archaeological sites identified within the APE.

Site Number	Site Name	Components	Time Period	NRHP Recommendation	Management Recommendation
31WA2252	Dunn-Scarborough-Frazier Farmstead	Historic/ Postcontact, Farmstead	Circa 1826-Present	Not Eligible	No further work
31WA2253	Frazier Farm Precontact Site 1	Precontact, Lithic Scatter	Woodland period	Unassessed	Protection and avoidance
31WA2254	Frazier Farm Precontact Site 2	Precontact, Non-Diagnostic Isolated Find	Unknown	Not Eligible	No further work

NRHP – National Register of Historic Places

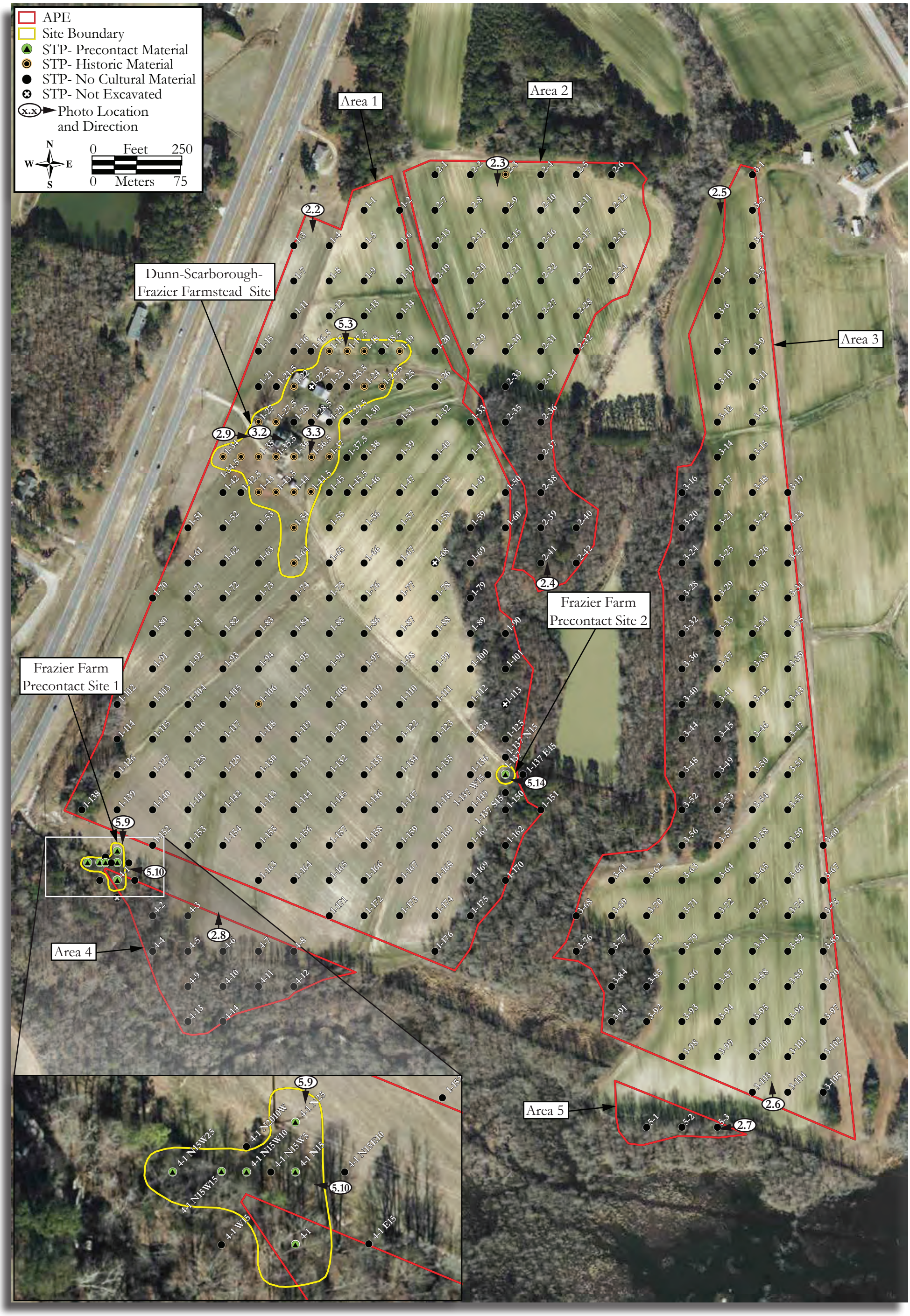

Figure 5.1: Aerial photograph showing the APE, shovel test pit locations, site locations, and photograph locations and directions (2015 NC OneMap GeoSpatial Portal).

5.2.1 Site 31WA2252 (Dunn-Scarborough-Frazier Farmstead Site)

The Dunn-Scarborough-Frazier Farmstead Site (31WA2252) is a historic scatter surrounding the extant farmstead of the same name in the northwest section of the APE (Figure 5.2; see Figure 5.1, Area 1). The site measures 12,670.6 square meters (3.15 acres) in area and encompasses the circa 1826 farmhouse, five outbuildings associated with the previously recorded Dunn-Scarborough-Frazier Farmstead (WA1788), and crosses two of the farm roads on the property. The site area is currently used as a yard area, driveway, roadway, and agricultural field (Figure 5.3; see Figure 2.9). The Dunn-Scarborough-Frazier Farmstead (WA1788) is not listed in or documented as eligible for listing in the NRHP.

PERMANENT SITE NUMBER: 31WA2252	SITE NAME: Dunn-Scarborough-Frazier Farmstead Site
ACCESSION NUMBER: 2020.037	UTM COORDINATES: Zone 17N N 3980279 E 732312 Elevation 376 feet AMSL
COMPONENT: Historic – Early 19th-Century to Present	SITE DIMENSIONS: 12,670.6 square meters
DESCRIPTION: Subsurface scatter of historic artifacts surrounding six standing structures	SOIL: Wedowee-Saw complex sandy loam (WfB)
	LANDFORM: Upland Side Slope
NRHP RECOMMENDATION: Not Eligible	VEGETATION: Manicured Grass, Cultivated field

Historic documents and maps indicate that the project area has been occupied since the early nineteenth century. A structure attributed to Ephram Dunson is depicted on an 1822 map of the project area (see Figure 3.1), and the property containing the farmstead is shown as being owned by Benjamin Dunn in 1833 (see Figure 3.4). According to late eighteenth-century land grants and a dated stone adjacent to the extant farmhouse chimney, Benjamin Dunn owned the property during the early nineteenth century and likely built the farmhouse in 1826 (HPO 1990) (see Figures 3.2 and 3.3). Historic documents, maps, and aerial photographs indicate that the property continued to be cultivated and, likely, modified until the present day. Five structures are documented on the farmstead in 1924, and aerial photographs taken of the area between 1938 and 2016 indicate that multiple outbuildings have been constructed and removed from the site area over the last two centuries (see Figures 3.5-3.8; NETR 1993, 2016).

Forty STPs were plotted at 15-meter (50-foot) intervals within the vicinity of the Dunn-Scarborough-Frazier farmhouse and its outbuildings. Thirty-nine of those STPs were excavated, 22 of which yielded a total of 88 historic artifacts from the surface (n=2), plow zone (n=54) and secondary contexts (i.e. redeposited horizons) (n=32) (see Figure 5.1). Soils varied within the site area. Most STPs encountered a 15- to 35-centimeter-thick dark yellowish brown (10YR 4/4) sandy silt loam Ap-horizon, underlain by a yellowish brown (10YR 5/8) to brownish yellow (10YR 6/6) sandy clay subsoil (Figure 5.4). Six STPs encountered between one and three layers of fill capping either a buried Ap-horizon or subsoil. Shovel testing did not encounter any features associated with non-extant structures.

Historic artifacts recovered from 31WA2252 range in date of manufacture between the early nineteenth century and the present (Figures 5.5-5.7). Artifacts include: leather (n=2); brick fragments (n=14); cut nails (n=29); wire nails (n=1); brown, aqua, blue, clear, and purple vessel glass fragments (n=17); clear flat glass fragments (n=6); milk glass (n=1); whiteware (n=7); modern green and white decorated whiteware (n=1); lead bullet (n=1); a metal linchpin (n=1); and mortar (n=5). Cut nails were manufactured between circa 1810 and circa 1893, but continued to be used through the early twentieth century as they were gradually replaced by wire nails (Wells 1998). Purple glass dates to between circa 1840 and the early 1880s, and milk glass was manufactured between circa 1870 and the mid-twentieth century (Lindsey 2020). Undecorated whiteware can date to anytime between circa 1820 and the present (Miller et al. 2000).

Site 31WA2252 contains a scatter of nineteenth- through twenty-first-century artifacts in surface, plow zone, and disturbed fill contexts within the vicinity of the Dunn-Scarborough-Frazier Farmstead (WA1788), an extant farmstead that has been continuously occupied between circa 1826 and 2017.

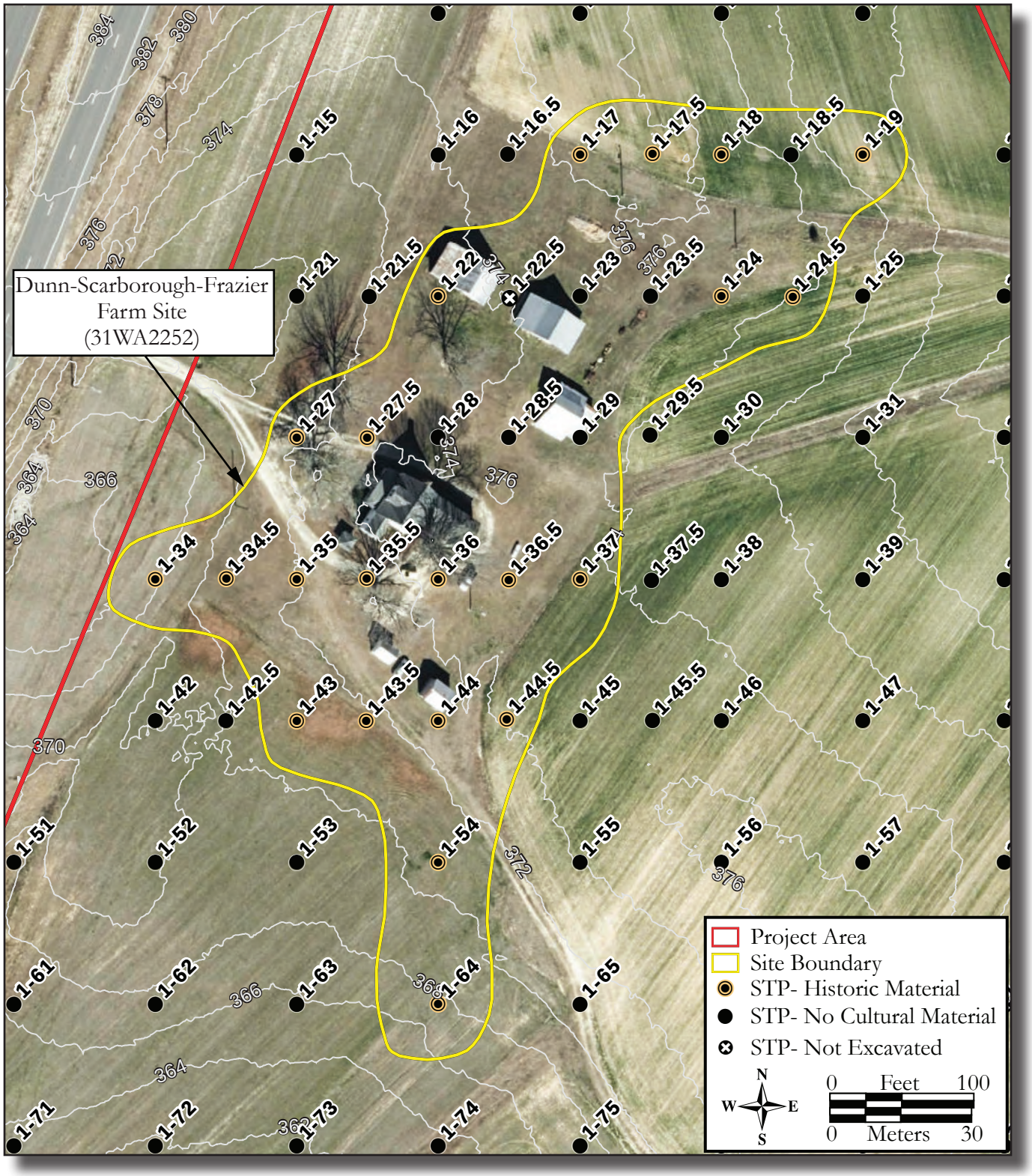

Figure 5.2: Detail map of the Dunn-Scarborough-Frazier Farmstead site (31WA2252) (2015 NC OneMap GeoSpatial Portal).

Figure 5.3: Overview of the Dunn-Scarborough-Frazier Farmstead Site (31WA2252), showing the cultivated landscape surrounding the outbuildings associated with the farmstead.

Photo view: South

Photographer: David Strohmeier

Date: November 21, 2019

Figure 5.4: View of a representative soil profile from Site 31WA2252 (STP 1-27).

Photo view: N/A

Photographer: Matthew Harrup

Date: November 18, 2019

Figure 5.5: Nails recovered from Site 31WA2252 (Cat#9 and Cat#13).

Photographer: Olivia Heckendorf

Figure 5.6: Whiteware recovered from Site 31WA2252 (Cat#12).

Photographer: Olivia Heckendorf

Figure 5.7: Bottle glass and mortar fragments recovered from Site 31WA2252 (Cat#23).

Photographer: Olivia Heckendorf

It is likely that the artifact assemblage represents a mixture of domestic and architectural material discarded by farmstead occupants over time between the early nineteenth century and 2017, when the farmstead was purchased by the Town of Rolesville. No discrete chronological deposits were encountered, and no dense concentrations of architectural material or remant structural remains were observed. Further investigation at the site is unlikely to yield new data about Rolesville's early occupants or historic farmsteads. It is unlikely that the site would yield important new information in history (Criterion D). The site does not appear to meet the requirements of the other three eligibility criteria. Site 31WA2252 is recommended not eligible for the NRHP under all four NRHP eligibility criteria. No additional archaeological work is recommended.

5.2.2 Site 31WA2253 (Frazier Farm Precontact Site 1)

The Frazier Farm Precontact Site 1 (31WA2253) is a subsurface scatter of prehistoric artifacts located on a gentle slope above the north bank of Perry Creek in the southwest corner of the APE (Figure 5.8; see Figure 5.1, Area 4). The northern edge of the site is situated within a northwest-to-southeast-trending overhead power line corridor, and the southern portion of the site lies within a wooded area adjacent to the creek. Vegetation in the vicinity of the site includes low grass and a cultivated field to the north, and mixed hardwood secondary growth to the south (Figures 5.9-5.10). Pedestrian reconnaissance in this area identified no historic or prehistoric artifacts on the ground surface. The site measures 783.879 square meters (0.19 acres) in area

PERMANENT SITE NUMBER: 31WA2253	SITE NAME: Frazier Farm Precontact Site 1
ACCESSION NUMBER: 2020.038	UTM COORDINATES: Zone 17N N 3979908 E 732151 Elevation 352 feet AMSL
COMPONENT: Precontact: Woodland ceramic and unknown lithics	SITE DIMENSIONS: 783.879 square meters
DESCRIPTION: Subsurface scatter of lithics and one piece of Woodland-period ceramic	SOIL: Rawlins-Rion complex sandy loam (RgC)
	LANDFORM: Upland Side Slope/ Interfluve
NRHP RECOMMENDATION: Unassessed	VEGETATION: Cultivated field and mixed hardwoods

The site was identified during shovel testing in Area 4 of the APE. One chert flake fragment and one rhyolite flake fragment were recovered from the A-horizon of the original positive STP (4-1). Where possible, close-interval shovel tests were excavated at 5-meter intervals in cardinal directions off of the original positive STP (see Figure 5.8). A total of 11 STPs was excavated to define the boundaries of site 31WA2253 which is bounded to the south and west by slopes greater than 10 percent and to the north and west by the power corridor and cultivated field. Soils encountered within the southern portion of the site consist of a 15- to 35-centimeter-thick very dark grayish brown (10YR 3/2) to dark yellowish brown (10YR 4/4) silty loam, underlain by a pale brown (10YR 6/6) to light yellowish brown (2.5Y 6/4) silty clay subsoil. Soils encountered within the northern portion of the site, which is situated within the Wake Electric Power Easement and cultivated field, consist of a 10- to 30-centimeter-thick yellowish brown (10YR 5/4) silty sand Ap-horizon underlain by a 10-to 20-centimeter-thick olive yellow (2.5Y6/6) silty clay B1-horizon over a reddish yellow (7.5YR 6/6) clay B2-horizon (Figure 5.11). No cultural features were identified.

Six of the 11 STPs yielded a total of 35 prehistoric artifacts from A-horizon (n=5) and Ap-horizon (n=30) soils. Artifacts recovered from 31WA2253 include: chert debitage (n=20), rhyolite debitage (n=8), quartzite debitage (n=1), quartz debitage (n=2), sandstone debitage (n=1), rhyolite utilized flake tools (n=2), and one coarse sand temper ceramic body sherd (n=1) (Figure 5.12). The coarse sand tempered ceramic sherd is too weathered to determine surface treatment and, as such, can only be attributed to the broader Woodland period. Debitage is represented mostly by tertiary and secondary flakes (see Appendix B). Relatively high frequencies of prehistoric artifacts were observed in STPs 1N15W10 (n=8), 1N15W15 (n=8) and 1N15W25 (n=11) (see Appendix B).

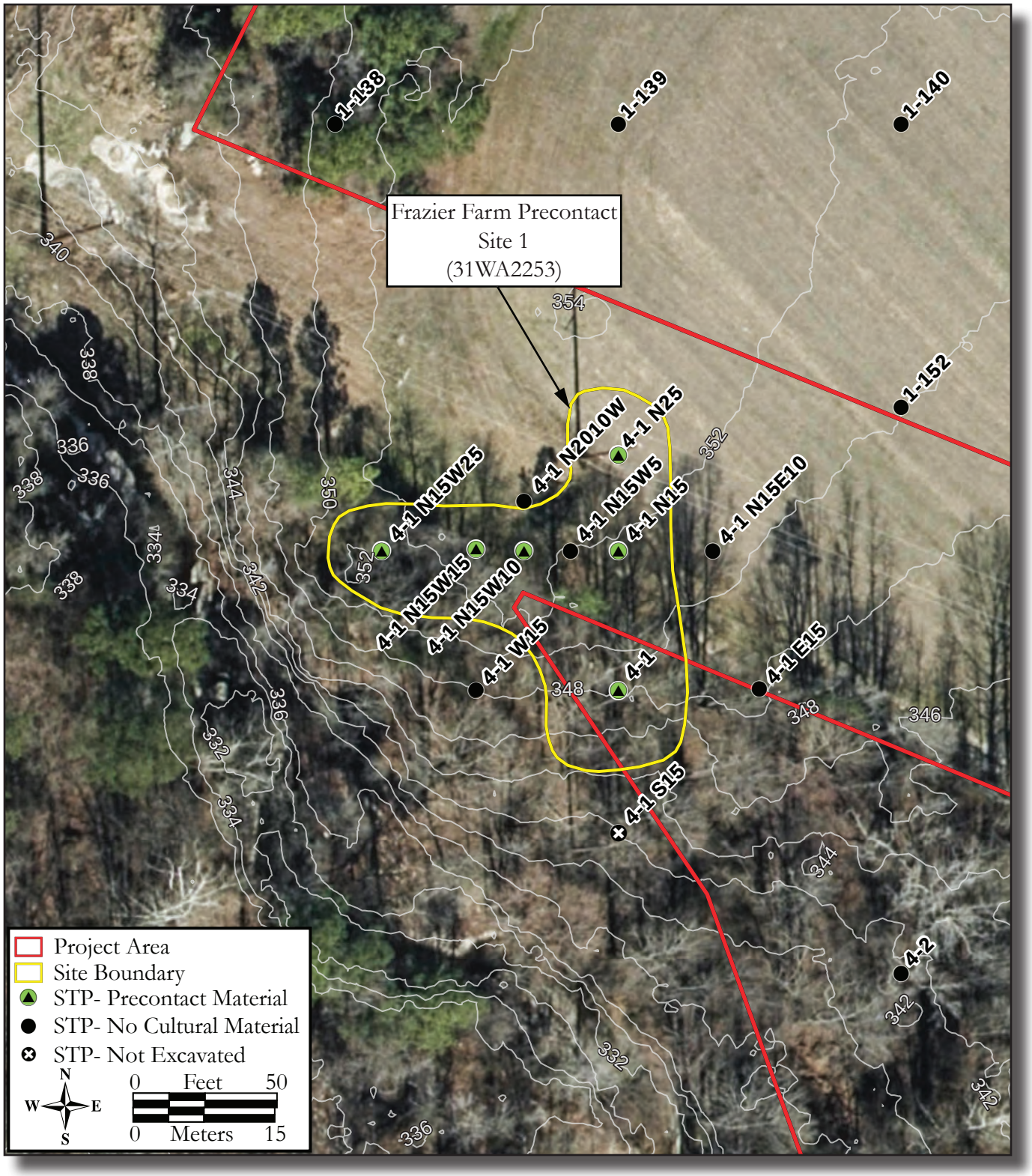

Figure 5.8: Detail map of the Frazier Farmstead Precontact Site 1 (31WA2253) (2015 NC OneMap GeoSpatial Portal).

Figure 5.9: View towards the northern edge of the Frazier Farm Precontact Site 1 (31WA2253), showing the Wake Electric Power Easement.

Photo view: South

Photographer: Dave Strohmeier

Date: November 21, 2019

Figure 5.10: Overview of the wooded portion of the Frazier Farm Precontact Site 1 (31WA2253).

Photo view: West

Photographer: Matthew Harrup

Date: November 26, 2019

Figure 5.11: View of a representative soil profile encountered at Site 31WA2253 (STP 4-1).

Photo view: N/A

Photographer: Matthew Harrup

Date: November 26, 2019

Figure 5.12: Prehistoric artifacts recovered from Site 31WA2253 (Cat#31).

Top row, left to right: Sandstone primary flake, Coarse sand temper ceramic.

Middle row, left to right: Chert tertiary flake, chert tertiary flake, chert secondary flake.

Bottom row, left to right: Rhyolite possible utilized flake, chert tertiary flake, chert tertiary flake.

Photographer: Olivia Heckendorf

Site 31WA2253 is represented by a scatter of lithic debitage, two utilized flakes, and one Woodland period ceramic sherd. The lithic assemblage indicates that activities related to tool refurbishment or late stage production of stone tools took place. Some limited processing activities are suggested by the presence of the utilized flakes. The evidence suggests that the site location was used for a short duration. It is unknown if the activities are related to one or more occupations. The setting of the site on the north bank of Perry Creek is similar to that of site 31WA1618 on the opposite side of the creek, which yielded evidence of Early Archaic through Late Woodland period occupation. Further research is necessary to ascertain the relationship between site 31WA2253 and 31WA1618 and the wider area. There is potential for further investigations at site 31WA2253 to yield additional information about prehistoric settlement and use of the Perry Creek/Little River drainage.

Site 31WA2253 is situated at the southeast corner of the project area and a majority of it does not occur within the APE for the proposed project. It is the understanding of RGA that site 31WA2253 will be avoided. As such, the NRHP eligibility of the Frazier Farm Prehistoric Site 1 (31WA2253) is considered unassessed. No further survey is recommended.

5.2.3 Site 31WA2254 (Frazier Farm Precontact Site 2)

The Frazier Farm Precontact Site 2 (31WA2254) is a prehistoric isolated find adjacent to the southern edge of a two-track farm road at the eastern edge of a cultivated agricultural field comprising Area 1 of the APE (Figures 5.13-5.14; see Figure 5.1, Area 1). A single tertiary chert flake was recovered from the plow zone in STP 1-137. Four STPs were excavated at 15-meter (50-foot) intervals in cardinal directions around STP 1-137 to define the boundary of the site. Soils encountered at the site mostly consist of an approximately 20-centimeter-thick dark yellowish brown (10YR 4/4) sandy silt loam Ap-horizon overlying a brownish yellow (10YR 6/6) compact clayey sand B-horizon (Figure 5.15). Delineation STPs excavated in the cultivated field south and west of the original positive encountered truncated soils consisting only of a 20- to 40-centimeter-thick light olive brown (2.5Y 5/4) to yellowish brown (10YR 5/4) silty sandy clay B1-horizon underlain by an olive yellow (2.5Y 6/6) to reddish yellow (7.5YR 6/6) sandy clay B2-horizon with a distinct absence of an A- or Ap-horizon. No bracket STPs encountered additional cultural material and no cultural features were observed. The site limits include an approxmately 191.301 square meter (0.04727-acre) area.

<table>
<tr><td>PERMANENT SITE NUMBER: 31WA2254</td><td>SITE NAME: Frazier Farm Precontact Site 2</td></tr>
<tr><td rowspan="2">ACCESSION NUMBER: 2020.039</td><td>UTM COORDINATES: Zone 17N
N 3979993 E 732486
Elevation 359 feet AMSL</td></tr>
<tr><td>SITE DIMENSIONS: 191.301 square meters</td></tr>
<tr><td rowspan="2">DESCRIPTION: Isolated flake</td><td>SOIL: Wedowee-Saw Complex (WfB)</td></tr>
<tr><td>LANDFORM: Upland Side Slope/ Interfluve</td></tr>
<tr><td>NRHP RECOMMENDATION: Not Eligible</td><td>VEGETATION: Cultivated field</td></tr>
</table>

The single chert flake is non-diagnostic and was not found in association with a cultural feature (Figure 5.16). Based on these results, it is unlikely that the site would yield important new information in prehistory (Criterion D). The site does not appear to meet the requirements of the other three eligibility criteria. Site 31WA2254 is recommended not eligible for the NRHP under all four NRHP eligibility criteria. No additional archaeological work is recommended.

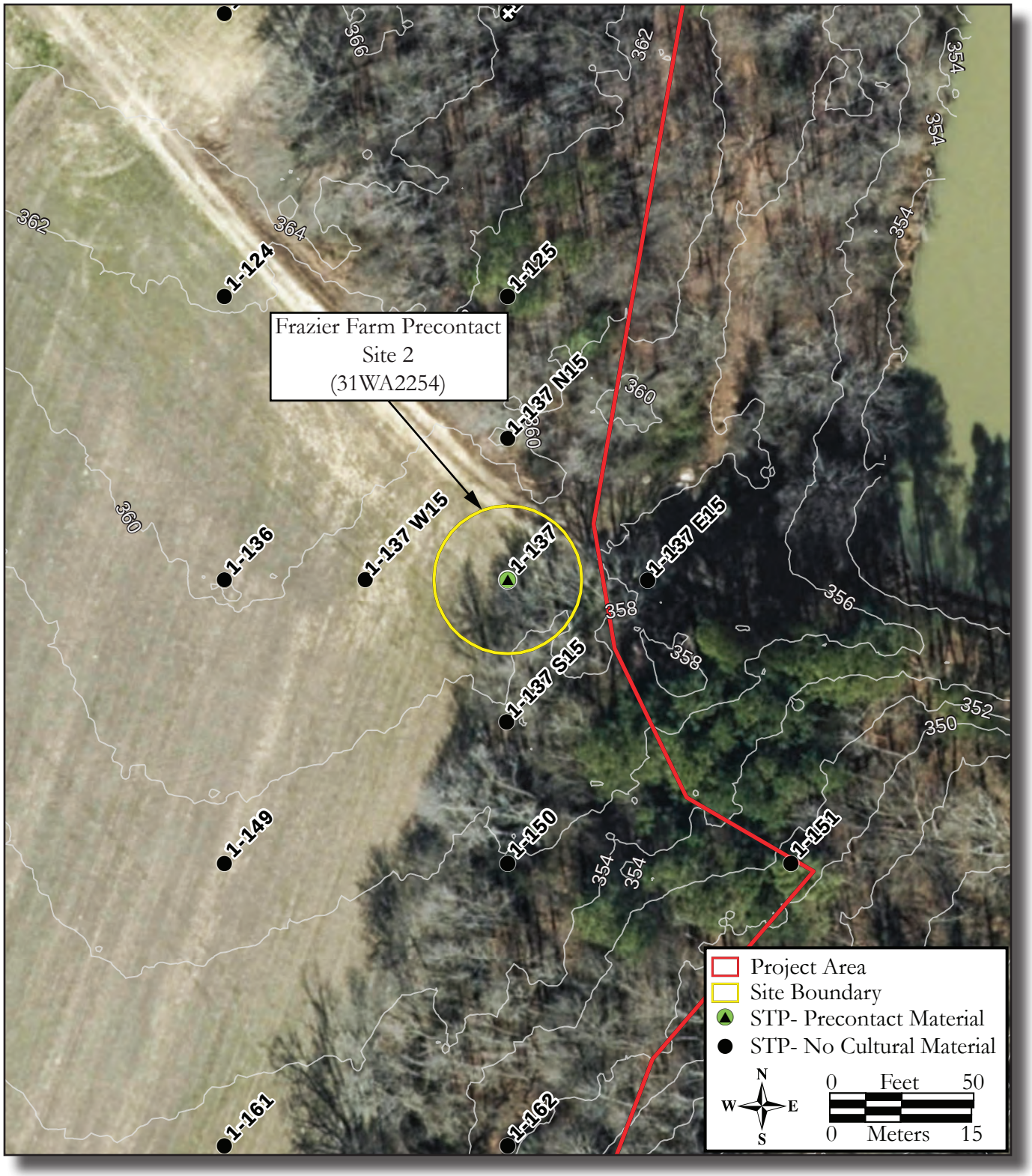

Figure 5.13: Detail map of the Frazier Farmstead Precontact Site 2 (31WA2254) (2015 NC OneMap GeoSpatial Portal).

Figure 5.14: Overview of the Frazier Farm Precontact Site 2 (31WA2254).

Photo view: West

Photographer: Dave Strohmeier

Date: November 21, 2019

Figure 5.15: View of a representative soil profile from Site 31WA2254 (STP 1-137).

Photo view: N/A

Photographer: Matthew Harrup

Date: November 25, 2019

Figure 5.16: Isolated chert flake (Cat#24) recovered from Site 31WA2254.

Photographer: Olivia Heckendorf

6.0 CONCLUSIONS AND RECOMMENDATIONS

Richard Grubb & Associates, Inc. (RGA) completed a Phase I archaeological survey for the proposed construction of the Frazier Farm Park on the southeast side of Louisburg Road (U.S. Route 401) in the Town of Rolesville, Wake County, North Carolina. The purpose of the Phase I archaeological survey was to identify the presence or absence of archaeological resources within the Area of Potential Effects (APE), to make assessments of National Register of Historic Places (NRHP) eligibility of each identified archaeological site, and to prepare management recommendations for any further studies that may be required. It is anticipated that that project will require a United States Army Corps of Engineerspermit. As such, the Phase I archaeological survey was performed pursuant to Section 106 of the National Historic Preservation Act, as amended (36 CFR 800).

Fieldwork for the project was conducted in November of 2019, and included the excavation of 373 shovel test pits (STPs). A total of 124 historic and precontact artifacts were recovered. Three archaeological sites were identified, including two prehistoric and one historic site (see Table 5.1). Two of the sites, 31WA2252 and 31WA2254, are recommended ineligible for listing in the NRHP. No further archaeological survey is recommended for these sites. It is RGA's understanding, based on communication with McAdams and the Town of Rolesville, that site 31WA2253 will be avoided during construction activities. The NRHP eligibility of prehistoric site 31WA2253 is unassessed at this time. As such, no further archaeological survey is recommended in advance of project implementation. A finding of no effect on historic properties is recommended.

7.0 REFERENCES CITED

Adovasio, J.M., J. Donahue and R. Stuckenrath
1990 The Meadowcroft Rockshelter Radiocarbon Chronology 1975-1990. *American Antiquity* 55(2):348-354.

Anderson, D.G. and G.T. Hanson
1988 Early Archaic Settlement in the Southeastern United States: A Case Study from the Savannah River Valley. *American Antiquity* 53(2):262-286.

Anderson, David G. and Kenneth E Sassaman
2012 *Recent Developments in Southeastern Archaeology: From Colonization to Complexity*. The SAA Press, Washington, D.C.

Andrefsky, Jr. William
2000 *Lithics: Macroscopic Approaches to Analysis*. Cambridge University Press, Cambridge, England.

Badders, Nannie Rogers, et al.
1988 *The Descendants of Samuel Scarborough, 1788-1988*.

Brazier, Robert H. B. and Hamilton Fulton
1822 *Plan of the Stage Road from Fayetteville by Raleigh, Louisburg, Warrenton, and Robinson's Ferry to the Virginia Line*. State Board of Internal Improvements. Raleigh, North Carolina.

Carr, Kurt W.
2018 Peopling of the Middle Atlantic: A Review of Paleoindian Research. In *Middle Atlantic Prehistory: Foundations and Practice*, edited by Heather M. Wholey and Carole L. Nash, pp. 219-260. Rowman & Littlefield, Lanham, Maryland.

Cawthorn, Joel W.
1970 *Soil Survey of Wake County, North Carolina*. United States Department of Agriculture, Washington, DC.

The Caucasian [Clinton, North Carolina]
1906 To the Voters of Wake County. 1 November. Clinton, North Carolina.

Coe, Joffre Lanning
1964 The Formative Cultures of the Carolina Piedmont. *Transactions of the American Philosophical Society* 54(5):1, 3, 5-130.

The Concord Daily Tribune [Concord, North Carolina]
1925 Brokeen [Broken] By Wild Cat Stocks Scarboro Seeks Poor House. 5 May. Concord, North Carolina.

Corbitt, David Leroy
1987 *The Formation of the North Carolina Counties, 1663-1943*. State Department of Archives and History. Raleigh, North Carolina.

Custer, J.F.
1990 Early and Middle Archaic Cultures of Virginia: Cultural Changes and Continuity, in *Early and Middle Archaic Research in Virginia: A Synthesis*, edited by T.R. Reinhart and M.E.N. Hodges, pp:1-60. Special Publication No. 22, Archaeological Society of Virginia.

Daniel, I. Randolph, Jr.
2005 The Archaeology of Early Carolina: The Paleo-Indian Period. *Tar Heel Junior Historian*, North Carolina Museum of History, Raleigh, North Carolina.

Dent, Richard J.
1995 *Chesapeake Prehistory: Old Traditions, New Directions*. Plenum Press, New York.

Dillehay, Thomas D.
2000 *The Settlement of the Americas: A New Prehistory.* Basic Books, New York.

Fayetteville Semi-Weekly Observer [Fayetteville, North Carolina]
1856 Medical Graduates. 3 April. Fayetteville, North Carolina.

Fiedel, Stuart J.
2013 Is That All There Is? The Weak Case for Pre-Clovis Occupation of Eastern North America. In *In the Eastern Point Tradition*, edited by Joseph A.M. Gingerich, pp. 333-354. University of Utah Press, Salt Lake City.

Freeman, Eloise Averette
1976 *Our Past, History of Greater Rolesville Area*. Broadfoot Bookmark, Wendell, North Carolina.

Gardner, William
1989 An Examination of Culture Change in the Late Pleistocene and Early Holocene (ca. 9200 to 6800 B.C.). In *Paleoindian Research in Virginia: A Synthesis*, edited by J. Mark Wittkofski and Theodore R. Reinhart, pp. 5-51. Archaeological Society of Virginia, Special Publication #19.

Glassow, Michael A.
1977 Issues in Evaluating the Significance of Archaeological Resources. *American Antiquity* 42(3): 413-420.

Goodyear, Albert C.
2005 Evidence for Pre-Clovis Sites in the Eastern United States. In *Paleoindian Origins: Beyond Clovis*, edited by Robson Bonnichsen, Bradley T. Lepper, Dennis Stanford, Dennis, and R. Michael Waters, pp. 103-112. Texas A&M University Press, College Station.

Griffin, James B.
1978 The Midlands and Northeastern United States. In *Ancient North Americans*, J. Jennings, ed., pp. 221-280. W. H. Freedman, San Francisco, California.

Hammarth, Ashley, Liz Lyons, Kristin Munro-Leighton, Emily Piltch, Tammy Williams, and Amy Woodell
2004 Town History. *An Action-Oriented Community Diagnosis: Findings and Next Steps of Action*. Rolesville, North Carolina.

Harris, Ron L.
2010a The Archaic Period in the Carolina Piedmont. *Central States Archaeological Journal* 57(2):62-64 Archaic Focus Issue.
2010b The Carolina Piedmont during the Woodland Period. *Central States Archaeological Journal* 57(3):120-121 Woodland Focus Issue.

Hickory Daily Record [Hickory, North Carolina]
1920 Seeks to Recover Money Invested. 23 November. Hickory, North Carolina.

Historic Rolesville Society
2019 Facebook Post dated November 22, 2019, "The Frazier Farm archaeology is underway" https://www.facebook.com/pg/HistoricRolesville/posts/?ref=page_internal. Accessed February 28, 2020.

Lally, Kelly A.
1994 *The Historic Architecture of Wake County, North Carolina.* Wake County Government, Raleigh, North Carolina.

Lindsey, Bill
2020 Bottle/Glass Colors. *Historic Glass Bottle Identification & Information Website*. Electronic document, https://sha.org/bottle/colors.htm, accessed January 24, 2020.

Little, Barbara, Erika Martin Siebert, Jan Townsend, John H. Sprinkle, Jr. and John Knoerl
2000 *National Register Bulletin: Guidelines for Evaluating and Registering Archeological Properties.* United States Department of the Interior, National Park Service, Interagency Resources Division, Washington D.C.

McAdams
2019 Frazier Farm Athletic Complex Master Plan, Schematic Rendering-Full Build Out. On file, McAdams, Raleigh, North Carolina.

McAvoy, J. M., and L. D. McAvoy, editors
1997 *Archaeological Investigations of Site 44SX202, Cactus Hill, Sussex County, Virginia.* Virginia Department of Historic Resources, Research Report Series No. 8, Richmond.

Miller, George L. with contributions by Patricia Samford, Ellen Shlasko, and Andrew Madsen
2000 Telling Time for Archaeologists. *Northeast Historical Archaeology* 29:1-22.

Murray, Elizabeth Reid
1983 *Wake, Capital County of North Carolina: Volume I, Prehistory Through Centennial*. Capital County Publishing Company, Raleigh, North Carolina.

National Park Service
2007 *U.S. Civil War Soldiers, 1861-1865*. https://www.nps.gov/civilwar/search-soldiers.htm. Accessed December 2019.

Nationwide Environmental Title Research (NETR)
1955 Historic Aerial Photographs. Electronic Document, http://historicaerials.com. Accessed December 2019.
1964 Historic Aerial Photographs. Electronic Document, http://historicaerials.com. Accessed December 2019.
1993 Historic Aerial Photographs. Electronic Document, http://historicaerials.com. Accessed December 2019.
1999 Historic Aerial Photographs. Electronic Document, http://historicaerials.com. Accessed December 2019.
2006 Historic Aerial Photographs. Electronic Document, http://historicaerials.com. Accessed December 2019.
2010 Historic Aerial Photographs. Electronic Document, http://historicaerials.com. Accessed December 2019.
2012 Historic Aerial Photographs. Electronic Document, http://historicaerials.com. Accessed December 2019.
2014 Historic Aerial Photographs. Electronic Document, http://historicaerials.com. Accessed December 2019.
2016 Historic Aerial Photographs. Electronic Document, http://historicaerials.com. Accessed December 2019.

NC Land Grants
1779 File No. 591, Drury Dunn. http://www.nclandgrants.com/grant/?mars=12.14.119.641&qid=508220&rn=1. Accessed December 17, 2019.
1785 File No. 796, John Dunn. http://www.nclandgrants.com/grant/?mars=12.14.119.846&qid=509993&rn=3. Accessed December 23, 2019.

The News Reporter [Whiteville, North Carolina]
1924 Octagenarian [Octogenarian] Loses All With Wildcats. 31 January. Whiteville, North Carolina.

North Carolina Department of Natural and Cultural Resources/State Historic Preservation Office (HPO)
1990 Survey Site Number WA1788, Dunn-Scarborough-Frazier Farm, North Carolina Historic Structures Short Data Sheet. On file, North Carolina State Historic Preservation Office, Raleigh, North Carolina.

Phelps, D.S.
1983 Archaeology of the North Carolina Coast and Coastal Plain: Problems and Hypotheses. In *The Prehistory of North Carolina, an Archaeological Symposium*, edited by Mark A. Mathis and Jeffrey L. Crow, pp. 1-51. North Carolina Division of Archives and History, Department of Cultural Resources, Raleigh, North Carolina.

Robinson, Kenneth W.
1998 Archaeological Background Report, Widening of US 401 from the Neuse River (at SR 2044) to Louisburg (at SR 1700) and the Rolesville Bypass, Wake and Franklin Counties, North Carolina. Planning and Environmental Branch, North Carolina Department of Transportation. On file, North Carolina State Historic Preservation Office, Raleigh, North Carolina.

Sassaman, Kenneth E.
2001 Middle Archaic in the Greater Southeast and Northeast Florida. Florida Museum, Electronic Document, https://www.floridamuseum.ufl.edu/envarch/research/florida/lake-monroe/archaic-period/, accessed January 8, 2019.

Scholl, Michael D., Bill Hall, and Loretta Lautzenheiser
2007 Archaeological Survey and Site Evaluations of US 401 Widening and Rolesville Bypass, Wake and Franklin Counties, North Carolina. US 401 from North of SR 2044 (Ligon Mill Road) to NC 39 in Lousiburg, Wake and Franklin Counties, North Carolina. Coastal Carolina Research, Inc. Tarboro, North Carolina. On file, North Carolina State Historic Preservation Office, Raleigh, North Carolina.

Stright, Melanie J.
1995 Archaic Period Sites on the Continental Shelf of North America: The Effect of Relative Sea-Level Changes on Archaeological Site Locations and Preservation, in *Archaeological Geology of the Archaic Period in North America*, E. Arthur Bettis, III, ed., pp:131-148, The Geological Society of America, Inc., Boulder, Colorado.

Town of Rolesville
n.d. Town of Rolesville Main Street Vision Plan. On file, Town of Rolesville, Rolesville, North Carolina.

United States Bureau of the Census (US Census)
1830 United States of America, Bureau of the Census, Fifth Census of the United States, 1830. On file, National Archives, Washington, D.C.
1850 U.S. Federal Census, Slave Schedules. United States of America, Bureau of the Census. Seventh Census of the United States, 1850. On file, National Archives, Washington, D.C.
1860 United States of America, Bureau of the Census, Eighth Census of the United States, 1860. On file, National Archives, Washington, D.C.
1870 U.S. Federal Census, Agricultural Schedule. United States of America, Bureau of the Census. Ninth Census of the United States, 1870. On file, Olivia Raney Local History Library, Raleigh, North Carolina.
1880 United States of America, Bureau of the Census, Tenth Census of the United States, 1880. On file, National Archives, Washington, D.C.
1940 United States of America, Bureau of the Census, Sixteenth Census of the United States, 1940. On file, National Archives, Washington, D.C.

United States Department of Agriculture (USDA)
1938 *Wake County, NC 1938*. North Carolina Office of Archives and History, Raleigh, North Carolina.
1959 *Wake County, NC 1959*. North Carolina Office of Archives and History, Raleigh, North Carolina.
1971 *Wake County, NC 1971*. North Carolina Office of Archives and History, Raleigh, North Carolina.

United States Geological Survey (U.S.G.S.)
1972 7.5' Quadrangle: Rolesville, NC.
1975 7.5' Quadrangle: Rolesville, NC.
2019 7.5' Quadrangle: Rolesville, NC.

U.S. Climate Data
2019 Raleigh, North Carolina. Electronic document, https://www.usclimatedata.com/climate/raleigh/north-carolina/united-states/usnc0558, accessed December 08, 2019.

Wake County Court Records (WCCR)
n.d. North Carolina, Marriage Index, 1741-2004. County Court Records, Raleigh, North Carolina.

Wake County Register of Deeds (WCRD)
n.d. Wake County Deed Books. Retrieved from http://services.wakegov.com/booksweb/genextsearch.aspx.
1924 Wake County Plat Maps. Retrieved from http://services.wakegov.com/booksweb/genextsearch.aspx.

Wake Technical Community College Department of Geology
2019 Outdoor Geology Laboratory: Rolesville Granite. Electronic document, https://www.waketech.edu/about-wake-tech/divisions/mathematics-sciences-engineering/departments/natural-sciences/geology/olg/9, accessed December 08, 2019.

Ward, H.T. and R.P. Steven Davis
1999 *Time Before History: The Archaeology of North Carolina*. University of North Carolina Press, Chapel Hill, North Carolina.

APPENDIX A: QUALIFICATIONS OF THE PRINCIPAL INVESTIGATOR

PAUL J. McEACHEN, RPA
PRINCIPAL SENIOR ARCHAEOLOGIST (36 CFR 61)

YEARS OF EXPERIENCE:
With this firm:
1998-Present
With other firms: 3

EDUCATION:
MA 1996
Memorial University
Anthropology

BA 1993
University of Windsor
Anthropology and
Classics

PROFESSIONAL TRAINING:

Section 106: Principles and Practice, Philadelphia, PA, July 2014

Advanced National Register Workshop, Ewing, NJ, June 2012

PROFESSIONAL REGISTRATION:
Register of Professional Archaeologists

PROFESSIONAL SOCIETIES:
Southeastern Archaeological Conference

Society for American Archaeology

Eastern States Archaeological Federation

Professional Experience Summary:

Paul J. McEachen, Director of Archaeological Services, has served as a Principal Investigator on all phases of archaeological investigations, and specializes in prehistoric archaeology. Mr. McEachen has prepared and directed cultural resources surveys in accordance with Section 106 of the National Historic Preservation Act, NEPA, and various municipal and state cultural resource regulations. Mr. McEachen was approved to conduct Archaeological Resource Surveys by the North Carolina Department of Transportation. He meets the qualifications set forth in the Secretary of Interior's Standards for Archaeologists [36 CFR 61].

Representative Project Experience:

Bay View and Greenwood Cemeteries, Town of Morehead City, Carteret County, NC (Sponsor: Town of Morehead City) Co-Principal Investigator for an archaeological survey of exposed soil caused by trees overturned during Hurricane Florence within two cemeteries. Five exposed root masses and tree fall cavities were investigated to identify disturbed cemetery materials, burials, and/or archaeological sites prior to the removal of the fallen trees and other woody debris from the cemeteries. Three of the fallen trees had disturbed cemetery structures and two archaeological sites were identified. No human remains were identified. It was recommended that an archaeological monitor be present during the removal of fallen trees and additional ground disturbance within the cemeteries during debris removal. The project was sponsored by the Federal Emergency Management Agency (FEMA).

Intersection of Wall Street and Highway 24, PIN #6548-04-61-3553, City of Albemarle, Stanly County, NC (Sponsor: Hampton by Hilton) Co-Principal Investigator for a Phase I archaeological survey of a proposed 2-acre hotel site. The project area lay on a ridgetop and side-slope setting overlooking Poplin Creek in the Yadkin-Pee Dee River drainage. A series of shovel test pits was excavated at 20-meter intervals and no prehistoric artifacts were identified. Survey methods and report preparation closely followed the OSA's guidelines. No further archaeological survey was recommended. The project was financed by the United States Department of Agriculture (USDA) and the Phase I archaeological survey was performed pursuant to Section 106 of the National Historic Preservation Act, as amended.

Smith-Reynolds Airport, Taxiways Q and A, Forsythe County, NC (Project Sponsor: Forsythe County) Principal Investigator for the proposed new Parallel Taxiway Q and Reconfiguration of Taxiway A at Smith-Reynolds Airport. A close review of prior background research and project impacts for Parallel Taxiway Q indicated a low probability for impacts on archaeological resources. However, the location of the Foy Cemetery lay within the limits of Taxiway A and was believed to lie under considerable fill deposits. Mr. McEachen consulted the NC SHPO at an agency coordination meeting and via the submission of written correspondence to facilitate project review. The NC SHPO subsequently recommended archaeological monitoring during earthmoving activities associated with the removal of Taxiway A. Further archival and historical research was also recommended to evaluate the Foy Cemetery for listing on the National Register of Historic Places.

Representative Project Experience (Continued):

Monmouth County Bridge S-32 on Rumson Road over Shrewsbury River, Boroughs of Rumson and Sea Bright, Monmouth County, NJ (Sponsor: Monmouth County/North Jersey Transportation Planning Authority/NJDOT) Principal Senior Archaeologist for the Monmouth County Bridge S-32 replacement project. The work, in support of the Local Preliminary Engineering phase of the project, was completed in compliance with Section 106 of the National Historic Preservation Act, as amended. An initial cultural resources screening, completed during the Local Concept Development phase, determined that portions of the APE for archaeology were sensitive for prehistoric and historic archaeological resources. A subsequent Phase I/II archaeological investigation identified prehistoric and historic sites, and evaluated their National Register eligibility. Neither was recommended eligible for National Register listing. Drafted a Memorandum of Agreement and prepared measures to mitigate adverse effects on National Register eligible Bridge S-32.

Stonymead Residential Development, Buckingham Township, Bucks County, PA (Project Sponsor: Private Developer) Provided oversight to the Principal Investigator, Senior Archaeologist for the Phase III archaeological investigation at two National Register-eligible prehistoric sites (36Bu302 and 36Bu303) in the Pennsylvania Piedmont. This work documented significant Late Woodland Period lithic reduction workshops that contribute to the Hardyston Jasper Prehistoric District. This work mitigated the effects of the proposed development on the significant prehistoric sites.

Shelton-Lowe Farmstead, Lincoln County, NC (Sponsor: Lincoln County Parks and Recreation Department and Lincoln County Historical Association) Co-Principal Investigator, Principal Senior Archaeologist for a Reconnaissance archaeological survey of the Shelton-Lowe Farmstead site (31-Ln-221) in Denver, North Carolina. The site was identified in 2008 by the LCHA and currently lies on the grounds of the Rock Spring Nature Preserve. The archaeological survey consisted of documentation of archaeological features and structural remnants associated with the circa 1820s farmstead site. The site contains intact foundation remains and has the potential to yield important information in history. Lincoln County is considering the construction of new recreational trails proximate to the site. Several recommendations were presented regarding site preservation initiatives, vegetation management, promotion of the early history of the Rock Spring Nature Preserve and further archaeological survey.

Potomac River Transmission Lines Project, Prince George's County, MD, and District of Columbia (Sponsor: Pepco Holdings, Inc.) Provided oversight to the Principal Investigator, Senior Archaeologist for the Phase IA/IB archaeological surveys for aboveground and belowground transmission line projects along a 5-mile long project corridor. Historical research was undertaken to identify the location of a Potters Field believed to be in close proximity to the APE. Archival research determined that the location of the historic cemetery was over 1,500 feet from the proposed project; therefore, there was low potential for impact to this resource. Phase IB archaeological testing was conducted in areas of moderate to high sensitivity for prehistoric and historic archaeological resources.

Fort Stanton Park, Slope Stabilization and Environmental Restoration Project, District of Columbia (Sponsor: District of Columbia Water and Sewer Authority) Provided oversight to the Principal Investigator, Senior Archaeologist for a Phase I reconnaissance-level historical and archaeological survey for the proposed Slope Stabilization and Environmental Restoration Project at Fort Stanton Park, a contributing resource to the National Register-listed Civil War Fort Sites Historic District. As a result of the survey, it was determine that there was a low potential for undisturbed prehistoric or historic archaeological resources to be present within the APE. No further work was recommended.

Monumental Mills Dam Improvements, Rixeyville, Culpepper County, VA (Sponsor: U.S. Fish and Wildlife Service) Provided oversight to the Principal Investigator for the partial removal of the Monumental Mills Dam in rural Virginia. The dam posed a migration barrier to aquatic organisms and was a hazard to recreational activities. The Monumental Mills Dam is an industrial resource eligible for listing in the National Register of Historic Places under Criterion A for its contribution to Culpeper County's industrial history. The Monumental Mills complex was established by 1816 and included an earlier dam in the same location as the current dam to support the mill's operations. RGA monitored and photo-documented dam removal activities. Remnants of a circa 1920s-1930s plank crib dam were exposed by river flow in the Hazel River, to the south of the Monumental Mills Dam. The results were presented in a Historic Structures Documentation report that was approved by the Virginia Department of Historic Resources.

APPENDIX B: ARTIFACT INVENTORY

APPENDIX B: ARTIFACT CATALOG

Access. #	RGA Bag #	Area	STP	Level	Depth (cm)	Stratum	Count/ Qty.	Material/ Class	Object	Type	Form	Treatment/ Decoration	Color	Comments	Dim. (cm)	Weight (g)	Date
Site 31WA2252																	
2020.0037	1	1	17	2	8-18	A	1	Red Clay	Brick		Fragment		Red		18.8	OVER	
2020.0037	2	1	18	1	0-19	Ap	1	Metal	Linchpin		Whole		Brownish orange		8.0	20.4	
2020.0037	2	1	18	1	0-19	Ap	2	Glass		Vessel	Fragment		Clear				
2020.0037	2	1	18	1	0-19	Ap	4	Metal	Nail	Cut	2 fragments, 2 whole		Brownish orange				
2020.0037	3	1	19	1	0-17	Ap	1	Metal	Nail	Cut	Fragment		Brown		3.0	3.6	
2020.0037	4	1	22	1	0-17	Ap	1	Glass		Vessel	Fragment		Aqua		2.4	2.5	
2020.0037	4	1	22	1	0-17	Ap	3	Metal	Nail	Cut	Fragment		Brown				
2020.0037	5	1	24	1	0-24	Ap	3	Metal	Nail	Cut	2 fragments, 1 whole		Reddish brown				
2020.0037	6	1	24.5	1	0-18	Ap	1	Red Clay	Brick		Fragment						
2020.0037	7	1	34	1	0-42	Ap	1	Red Clay	Brick		Fragment		Red		1.4	0.8	
2020.0037	7	1	34	1	0-42	Ap	1	Coal			Fragment		Black		1.4	0.7	
2020.0037	7	1	34	1	0-42	Ap	1	Glass		Vessel	Fragment		Aqua		1.2	0.2	
2020.0037	7	1	34	1	0-42	Ap	1	Glass		Vessel	Fragment		Purple		1.8	0.7	
2020.0037	7	1	34	1	0-42	Ap	1	Glass		Unknown	Fragment		Clear	0.6 cm Th	4.6	9.7	
2020.0037	7	1	34	1	0-42	Ap	2	Glass		Window	Fragment		Clear				
2020.0037	8	1	34.5	1	0-36	Fill 1	3	Metal	Nail	Cut	Fragment		Reddish brown				
2020.0037	9	1	35	1	0-23	Fill 1	1	Red Clay	Brick		Fragment		Red		4.5	19.2	
2020.0037	9	1	35	1	0-23	Fill 1	1	Metal	Nail	Cut	Whole		Reddish brown		5.0	4.9	
2020.0037	9	1	35	1	0-23	Fill 1	1	Glass		Bottle/Vessel	Fragment		Blue	Rim	3.4	8.4	
2020.0037	10	1	35.5	2	7-13	Fill 2	1	Glass		Vessel (vase)	Fragment		Clear		2.6	2.4	
2020.0037	11	1	36	1	0-7	Fill 1	3	Metal	Nail	Cut	Fragment		Brownish orange				
2020.0037	11	1	36	1	0-7	Fill 1	1	Lead	Bullet?		Fragment		Green and gray		4.8	7.6	
2020.0037	12	1	36.5	1	0-17	Fill 1	2	Metal	Nail	Cut	Fragment		Brown	One with wire attached			
2020.0037	12	1	36.5	1	0-17	Fill 1	2	Glass		Vessel	Fragment		Clear				
2020.0037	12	1	36.5	1	0-17	Fill 1	5	Modern Ceramic	Whiteware		Body Fragment	Undecorated	White				
2020.0037	13	1	37	1	0-22	Ap	1	Metal	Nail	Cut	Whole		Brownish orange		5.8	8.8	
2020.0037	13	1	37	1	0-22	Ap	1	Glass		Vessel	Fragment		Brown		2.3	1.9	

Access. #	RGA Bag #	Area	STP	Level	Depth (cm)	Stratum	Count/ Qty.	Material/ Class	Object	Type	Form	Treatment/ Decoration	Color	Comments	Dim. (cm)	Weight (g)	Date
2020.0037	13	1	37	1	0-22	Ap	1	Glass		Milk	Fragment		White		1.7	0.7	
2020.0037	13	1	37	1	0-22	Ap	1	Hist. Ceramic	Whiteware		Fragment		White		1.3	0.07	
2020.0037	13	1	37	1	0-22	Ap	1	Red Clay	Brick		Fragment		Red		2.2	0.8	
2020.0037	14	1	43	1	0-20	Ap	1	Metal	Nail	Cut	Fragment		Brownish orange		3.9	10.6	
2020.0037	14	1	43	1	0-20	Ap	1	Glass		Vessel	Fragment		Clear		1.9	0.7	
2020.0037	14	1	43	1	0-20	Ap	2	Glass		Window	Fragment		Clear				
2020.0037	15	1	43.5	1	0-20	Ap	1	Glass		Vessel	Fragment		Clear		1.3	0.6	
2020.0037	15	1	43.5	1	0-20	Ap	1	Modern Ceramic	Whiteware		Fragment		White	Rim	L = 3, W = 2	3.7	
2020.0037	16	1	44	3	18-23	Apb	1	Modern Ceramic	Whiteware		Body Fragment		Green and white		L = 1.8, W= 1.6	1.6	
2020.0037	16	1	44	3	18-23	Apb	1	Glass		Window	Fragment		Clear		1.2	0.2	
2020.0037	16	1	44	3	18-23	Apb	2	Glass		Vessel	Fragment		1 clear, 1 brown				
2020.0037	16	1	44	3	18-23	Apb	3	Metal	Nail	1 wire, 2 cut	Fragment		Reddish brown				
2020.0037	17	1	44.5	1	0-18	Ap	1	Red Clay	Brick		Fragment		Reddish brown		3.9	29.0	
2020.0037	18	1	54	1	0-17	Ap	1	Glass		Window	Fragment		Clear		1.8	0.3	
2020.0037	19	1	64	1	0-17	Ap	1	Red Clay	Brick		Fragment		Orange		16.6	116.4	
2020.0037	20	1	106	1	0-24	Ap	1	Metal	Nail	Cut	Fragment		Reddish brown		2.9	5.3	
2020.0037	21	1	17.5	Surface	Surface	Surface	2	Leather	Unknown		Fragment		Brown	Surface find			
2020.0037	22	1	27	1	0-22	A	1	Glass			Fragment		Clear		1.4	0.4	
2020.0037	22	1	27	1	0-22	A	2	Red Clay	Brick		Fragment		1 red, 1 orange				
2020.0037	22	1	27	1	0-22	A	3	Metal	Nail	Cut	Fragment		Reddish brown				
2020.0037	23	1	27.5	2	10-15	Fill	1	Metal	Nail	Cut	Fragment		Reddish brown	Head	1.8	1.5	
2020.0037	23	1	27.5	2	10-15	Fill	1	Glass		Bottle	Fragment		Clear	Rim	2.0	1.6	
2020.0037	23	1	27.5	2	10-15	Fill	5	Red Clay	Brick		Fragment		Orange				
2020.0037	23	1	27.5	2	10-15	Fill	5	Mortar			Fragment		White				
Site 31WA2254																	
2020.0039	24	1	137	1	0-21	Ap	1	Lithic	Debitage	Chert	Flake Fragment		Gray	Tertiary	1.0	0.1	
Non Site																	
	25	2	3	1	0-14	Ap	2	Glass		Vessel	Fragment		Clear				

Access. #	RGA Bag #	Area	STP	Level	Depth (cm)	Stratum	Count/ Qty.	Material/ Class	Object	Type	Form	Treatment/ Decoration	Color	Comments	Dim. (cm)	Weight (g)	Date
Site 31WA2253																	
2020.0038	26	4	1	1	0-15	A	1	Lithic	Debitage	Chert	Flake Fragment		Gray	Tertiary	1.3	0.2	
2020.0038	26	4	1	1	0-15	A	1	Lithic	Debitage	Rhyolite	Flake Fragment		Gray and white	Tertiary	1.3	0.1	
2020.0038	27	4	1 N15	1	0-20	A	1	Lithic	Debitage	Chert	Flake Fragment		Gray	Secondary	1.7	0.6	
2020.0038	27	4	1 N15	1	0-20	A	1	Lithic	Debitage	Chert	Flake Fragment		Gray	Tertiary	1.6	0.5	
2020.0038	28	4	1 N25	1	0-12	Ap	4	Lithic	Debitage	Chert	Flake Fragment		Gray	Tertiary	1.0-1.5	0.05-0.2	
2020.0038	29	4	1 N15W10	1	0-30	Ap	3	Lithic	Debitage	Chert	Flake Fragment		Gray	Tertiary			
2020.0038	29	4	1 N15W10	1	0-30	Ap	1	Lithic	Debitage	Chert	Whole flake		Light gray	Secondary	1.8	0.7	
2020.0038	29	4	1 N15W10	1	0-30	Ap	3	Lithic	Debitage	Rhyolite	Flake Fragment		Light gray, gray	Tertiary			
2020.0038	29	4	1 N15W10	1	0-30	Ap	1	Lithic	Debitage/Tool	Rhyolite	Whole flake		Gray and white	Tertiary, possible utilized flake	L = 2.6, W = 1.9	2	
2020.0038	30	4	1 N15W15	1	0-25	Ap	1	Lithic	Debitage	Quartzite	Flake Fragment		Light gray	Tertiary	1.8	0.6	
2020.0038	30	4	1 15NW15	1	0-25	Ap	2	Lithic	Debitage	Quartz	Flake Fragment		White	Tertiary	1.2-1.9	0.1-0.5	
2020.0038	30	4	1 N15W15	1	0-25	Ap	2	Lithic	Debitage	Rhyolite	Flake Fragment		Gray	Tertiary			
2020.0038	30	4	1 N15W15	1	0-25	Ap	3	Lithic	Debitage	Chert	Flake Fragment		Light gray	Tertiary			
2020.0038	31	4	1 N15W25	1	30-70	Ap	1	Lithic	Debitage	Rhyolite	Flake Fragment		Dark gray and white	Secondary, possible utilized flake	2.3	1.1	
2020.0038	31	4	1 N15W25	1	30-70	Ap	1	Lithic	Debitage	Sandstone	Whole flake		Tan	Primary	2.7	2.1	
2020.0038	31	4	1 N15W25	1	30-70	Ap	2	Lithic	Debitage	Rhyolite	Flake Fragment		Gray	Tertiary			
2020.0038	31	4	1 N15W25	1	30-70	Ap	1	NA Ceramic	Coarse Sand Temper		Body Sherd		Brownish orange		L = 1.6, W = 1.3, Th = 0.6	1.3	Wood-land
2020.0038	31	4	1N15W25	1	30-70	Ap	6	Lithic	Debitage	Chert	Flake Fragment		Gray, light gray	Tertiary			
Total Artifacts:							124										

Key:

STP = shovel test pit
NA = native
Hist = historic

g = grams
cm = centimeter

L = length
W = width
Th = thickness

Prepared by: Richard Grubb & Associates, Inc., December, 2019
Institution Code: 151

APPENDIX C: ANNOTATED BIBLIOGRAPHY

Authors:	Matthew Harrup, MA, RPA, Olivia Heckendorf, MA, Michelle L. Davenport, MA, RPA, Ellen Turco, MA, and Paul J. McEachen, MA, RPA
Title:	Phase I Archaeological Survey, Frazier Farm Park Master Plan, 11624 Louisburg Road, Town of Rolesville, Wake County, North Carolina
Date:	March 2020
RGA Database Title:	Phase I Frazier Farm Park
RGA Project No.:	2019-269NC
State:	North Carolina
County:	Wake
Municipality:	Town of Rolesville
U.S.G.S. Quad:	Rolesville, NC
Drainage Basin:	Little Creek, Perry Creek, Neuse River, Pamlico Sound, Atlantic Ocean
Regulation:	Section 106, National Historic Preservation Act of 1966, as amended
Project Type:	Development: Park Master Plan
Project Sponsor:	Town of Rolesville
Client:	McAdams
Level of Survey:	Phase I
Cultural Resources:	Dunn-Scarborough-Frazier Farm (WA1788), Dunn-Scarborough-Frazier Farmstead Site (31WA2252); Frazier Farm Precontact Site 1 (31WA2253); Frazier Farm Precontact Site 2 (31WA2254)

Species Conclusions Table

Project Name: Frazier Farm Park Master Plan

Date: 06/25/2019

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Red-cockaded Woodpecker *Picoides borealis*	No suitable habitat present	No effect	Habitat assessment indicates no potential habitat present
Atlantic Pigtoe *Fusconaia masoni*	Potential habitat present and no current survey conducted	May affect	Suitable habitat may be present and no survey has been conducted
Dwarf Wedgemussel *Alasmidonta heterodon*	Potential habitat present and no current survey conducted	May affect	Suitable habitat may be present and no survey has been conducted
Tar River Spinymussel *Elliptio steinstansana*	Potential habitat present and no current survey conducted	May affect	Suitable habitat may be present and no survey has been conducted
Yellow Lance *Elliptio lanceolata*	Potential habitat present and no current survey conducted	May affect	Suitable habitat may be present and no survey has been conducted
Michaux's Sumac *Rhus michauxii*	No suitable habitat present	No effect	Habitat assessment indicates no potential habitat present
Critical Habitat	No critical habitat present	No effect	
Bald eagle *Haliaeetus leucocephalus*	Unlikely to disturb nesting bald eagles	No Eagle Act Permit Required	No known nest within action area and not within 10 miles
Northern Long-eared Bat *Myotis septentrionalis*	Suitable habitat present	May affect	Relying upon the findings of the 1/5/2016 Programmatic Biological Opinion for Final 4(d) Rule on the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions to fulfill our project-specific section 7 responsibilities.

Acknowledgement: I agree that the above information about my proposed project is true. I used all of the provided resources to make an informed decision about impacts in the immediate and surrounding areas.

Kelly K Bath Environmental Consultant II 06/25/2019

Signature /Title Date

Town of Rolesville
Louisville Road – Frazier Farm Park

The Town of Rolesville has acquired land and building structures at 11624 Louisburg Road in Wake Forest, NC. The objective of this narrative is to give guidance as to whether the structures on the property are suitable for reuse as the Town develops the property into a public park.

The property is currently known as Frazier Farm and the building structures include a residence and five outbuildings plus a covered well. The residence is approximately 2,000 square feet with most of the area on the first floor plus converted attic space.

The core of the residence may be approximately 150 years old, as indicated by a rock near the foundation. There have been two or three additions to the original house over the years, the last addition added in the 1950s.

Integrated Design does not specialize in historic architecture and recommends further consultation with the North Carolina Historic Preservation Office or a similar entity that specializes in historic architecture. Traditionally, a structure that is old is evaluated by two main criteria:

1. Did an event of significance to the community occur at this location?
2. Does the structure exhibit unique features or is a quality example of a particular style?

The residence is fairly typical of a North Carolina farmhouse of its time period; however the structure has been greatly altered over time.

1. The chimney structure of the original house has been replaced with modern brick
2. The wooden clapboard siding of the original house has been covered over with aluminum siding.
3. Many original windows have been replaced or covered over with storm windows.
4. Roofing material has been replaced with modern asphalt shingles.
5. Fireplaces were converted to coal burning stoves, which have later been removed.
6. The ceilings of the house have been covered by acoustic tile.

In general, there is very little left of the original house finishes with the exception of the wooden flooring.

Should the house be retained on the property for use by the Town as park offices or other public uses, the house may be required to be brought up to code. The house should be evaluated for hazardous materials including lead paint and asbestos flooring, building materials used extensively during the time of the additions and renovations. The building would need a new HVAC system and the electrical wiring replaced. The residence includes only bathroom. The additions to the house are at different floor levels, making accessibility an issue. In conclusion, should the Town wish to continue to use the house for public use, the expense of bringing the house up to code would likely exceed replacement.

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Raleigh, NC 27605-1136
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The property also includes five outbuildings of various sizes. Two of these buildings are larger barns, while the smaller ones may have been tool sheds, smoke houses, or for similar uses. The outbuildings are generally in good shape and could continue to be used by the Town for maintenance of the park.

The locations of these outbuildings may not be ideal for maintenance however. It is likely that NCDOT will require the entrance to the park be located at the current lane. This would put the maintenance area directly in the field of view during the entrance approach to the park, which may not be ideal.

This location, where the farm house and outbuildings are currently located, could feature prominently as an entrance focal point for the new park. Items that may contribute to this area as a focal point could be the existing large shade trees, the covered well structure, and the foundation rock.

Figure 1. Original Farm House

Figure 2. Farm House Additions

Figure 3. Foundation Rock

Figure 4. Barns

Figure 5. Smaller Outbuildings

Figure 6. Barns

Proposed Frazier Farm Athletic Complex requires septic systems to collect, treat, and dispose of wastewater generated onsite. Using McAdams' "Schematic Rendering > Full Build-Out" dated August 20, 2019, Mitchell Environmental determined that five separate and independent septic systems are the best option for meeting septic system needs for this site, while also accommodating phased construction of the park as it grows over time.

Septic systems with design sewage flows of 3,000 gallons per day (*gpd*) or less can be reviewed and approved by Wake County. Septic systems with flows greater than 3,000 gpd require review and approval of the NC On-Site Water Protection (*OSWP*) Branch. Facilities 1-3 and 5 below are anticipated to have design flows of 3,000 gpd or less, while facility 4 is anticipated to have design flows greater than 3,000 gpd. Sewage flow rates are determined using 15A NCAC 18A .1949 and/or 15A NCAC 02T .0114, as applicable, in combination with the number of seats at each facility, occupancy loading rates per facility, etc.

All septic systems will require field staking of proposed nitrification trenches, including repair nitrification fields, sufficient for full replacement of the initial field in the event the initial field fails. Once nitrification trenches are field staked, these will be accurately located using GPS equipment for use in detailed design calculations and drawings. Detailed design calculations, drawings, and component specifications will be compiled into a single submittal document for each individual septic system on the site. This document will be submitted directly to Wake County for review, accompanied by Wake County's required building permit application(s), completed independently for each facility served by individual septic systems. Systems with design flows greater than 3,000 gpd will also be concurrently submitted to the OSWP Branch for review. Upon Wake County's acceptance of building permit applications, and required fees are paid, their staff will begin a review of soils and nitrification trench staking for each septic system. Any issues or concerns discovered by Wake County's New Construction Staff must be addressed prior to system design review. Common issues addressed at this stage include assignment of soil hydraulic loading rates, determination of usable soil depth, determination of acceptable nitrification trench types (*conventional, LPP, subsurface drip, etc.*), determination of wastewater pretreatment level (*septic tank only, NSF-40, TS-I, or TS-II*), determination of additional soil hydraulic conductivity testing, lateral flow analyses, or mounding analyses, etc. Once soils and staking are approved by New Construction Staff, the full design proceeds to Wake County's Design Review / Technical Assistance Staff. At this point, all septic system design calculations and components will be reviewed for conformance with applicable North Carolina and Wake County septic system regulations. For any systems with design flows greater than 3,000 gpd, OSWP Brach staff will assist with review of soils and system design. All septic systems with design flows greater than 3,000 gpd, that utilize nitrification fields designed to accommodate more than 1,500 gpd, require detailed hydraulic assessment prior to system approval. After all of these reviews are completed to the satisfaction of Wake County, and the OSWP Branch where applicable, required permits (*IP-Improvement Permit and CA-Construction Authorization*) will be issued, allowing building construction to begin. After each septic system is installed, inspected, and approved, Wake County will issue an OP-Operation Permit that allows the use of the newly installed septic system(s).

The five septic systems will independently serve the following amenities:

1. Athletic Fields 1-5 and nearby Concessions Shelter (*Peak design flow=3,000 gpd; Cost estimate $70,000-$90,000*);

2. Athletic Fields 6-7, and the nearby Concessions Shelter and Maintenance Building (*Peak design flow=1,000 gpd; Cost estimate $40,000-$50,000*);

3. Three Multi-Use Fields in the southeast corner of the site (*Peak design flow=1,250 gpd; Cost estimate $55,000-$70,000*);

4. Amphitheater, Event Center, and Event Lawn (*Peak design flow=25,000 gpd; Cost estimate $250,000-$475,000*), and;

5. Historic Preservation / Agritourism Area (*Peak design flow=450 gpd; Cost estimate $15,000-$25,000*).

Cost estimates provided by David Brantley & Sons, Inc., and McFarland Septic, LLC.

GRAPHIC SCALE
0
100
200
1 inch = 100 ft.

Historic Oreservation / Agritourism Septic System

Fields 1-5 Septic System

Multi-Use Fields Septic System

Event Center and Amphitheater Septic System

Event Center and Amphitheater Septic System

Fields 6-7 Septic System

NAD 83

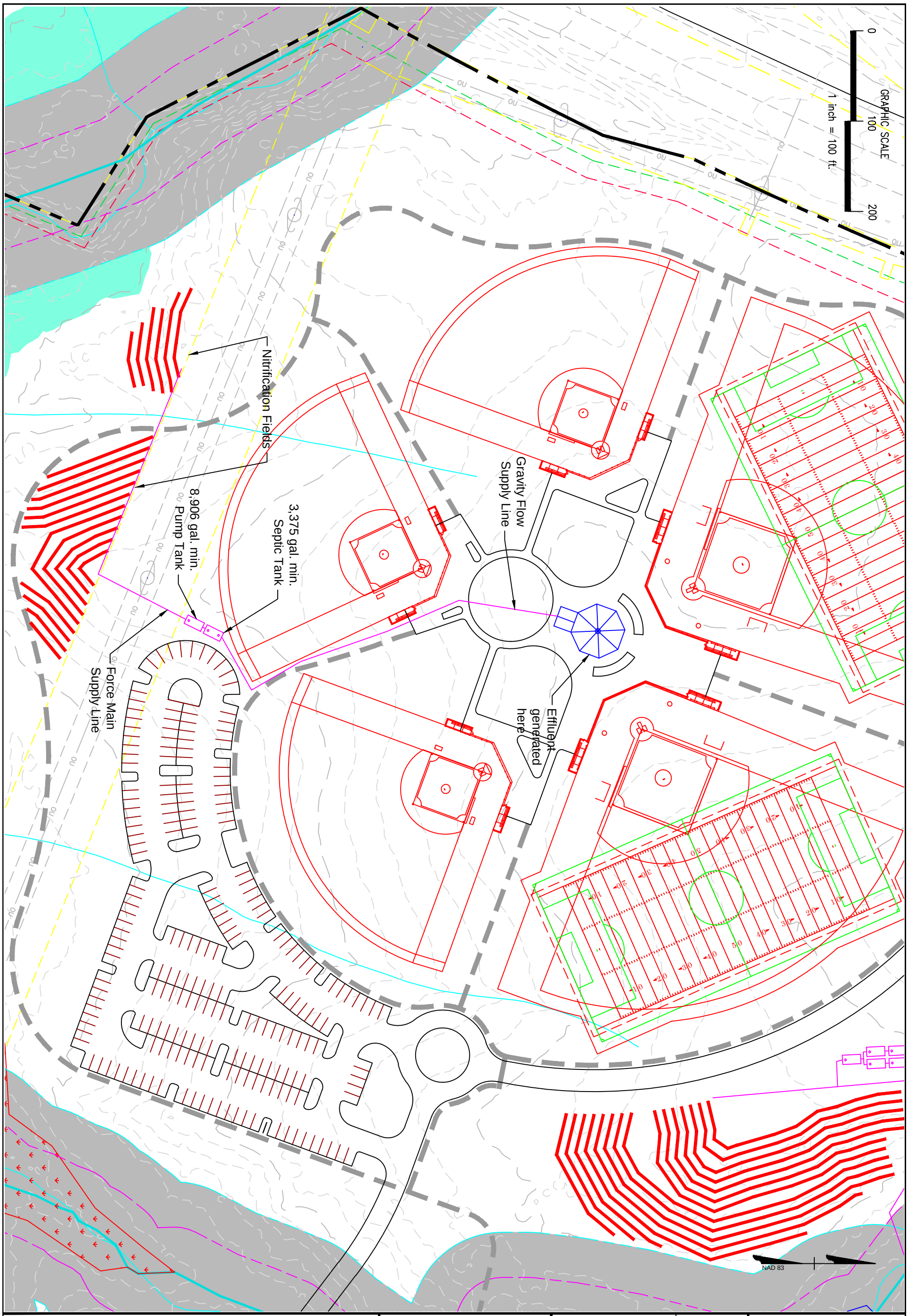
MITCHELL ENVIRONMENTAL, PA	PREPARED FOR : McAdams, 2905 Meridian Parkway, Durham, NC 27713
C-2911	DATE : February 13, 2020
1501 LAKESTONE VILLAGE LANE	DESIGNER CONTACT: ADAM AYCOCK, EI
SUITE 205	SURVEYOR CONTACT:
FUQUAY VARINA, NC 27526	

REVISION NO.	DATE
Original Submittal	February 13, 2020
Revision 1	-----
Revision 2	-----
Revision 3	-----
Master Set	-----

SHEET NUMBER

1 of 6

Town of Rolesville
Frazier Farm
Overall Septic



MITCHELL ENVIRONMENTAL, PA
C-2911

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SURVEYOR CONTACT:

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Revision 1	-----
Revision 2	-----
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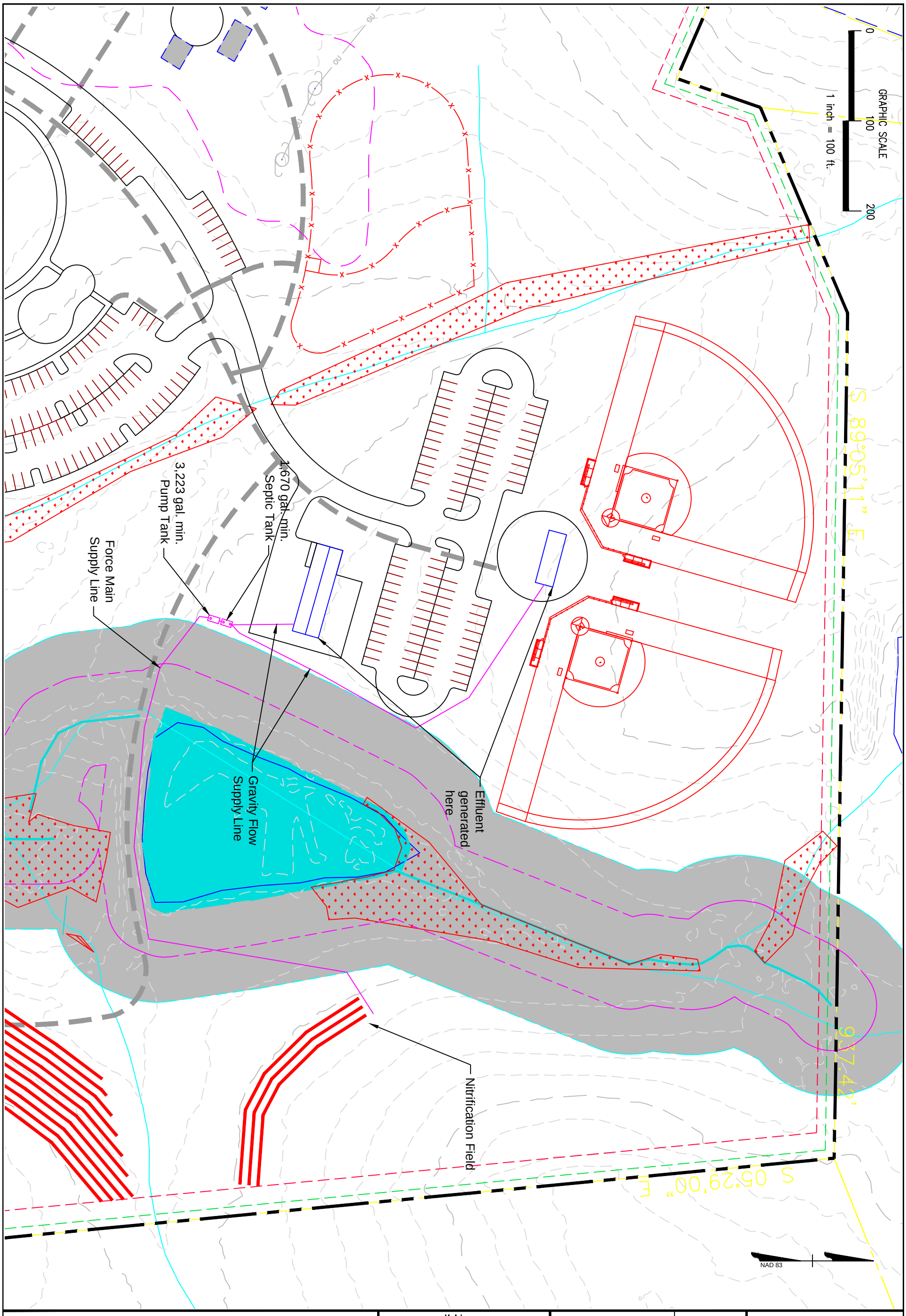
Master Set	-----

SHEET NUMBER

2 of 6

Town of Rolesville
Frazier Farm
Fields 1-5 Septic



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SURVEYOR CONTACT:

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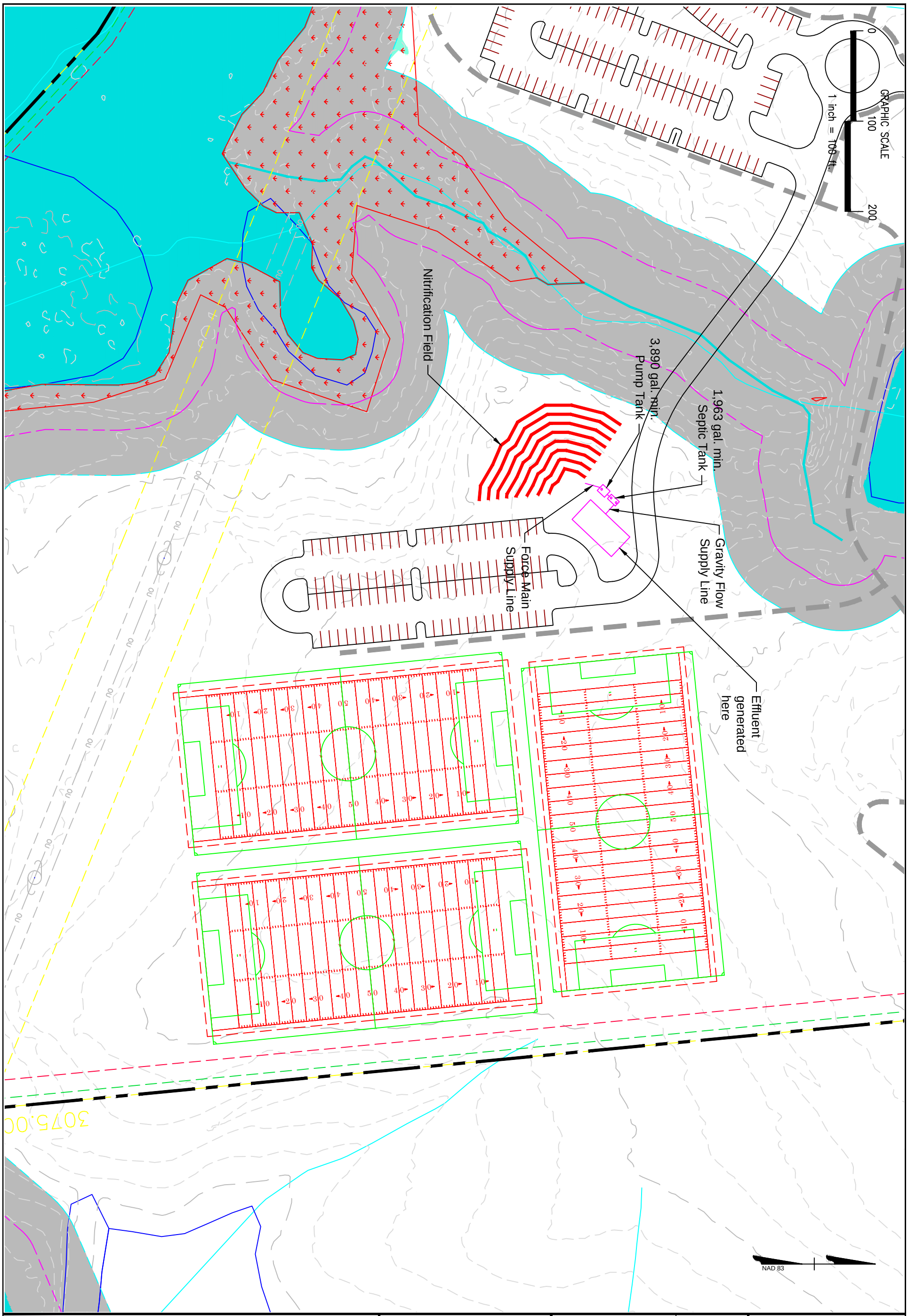
3 of 6

Town of Rolesville
Frazier Farm
Fields 6–7 Septic



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SUITE 205
FUQUAY VARINA, NC 27526

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Durham, NC 27713

DATE : February 13, 2020

DESIGNER CONTACT:
ADAM AYCOCK, EI

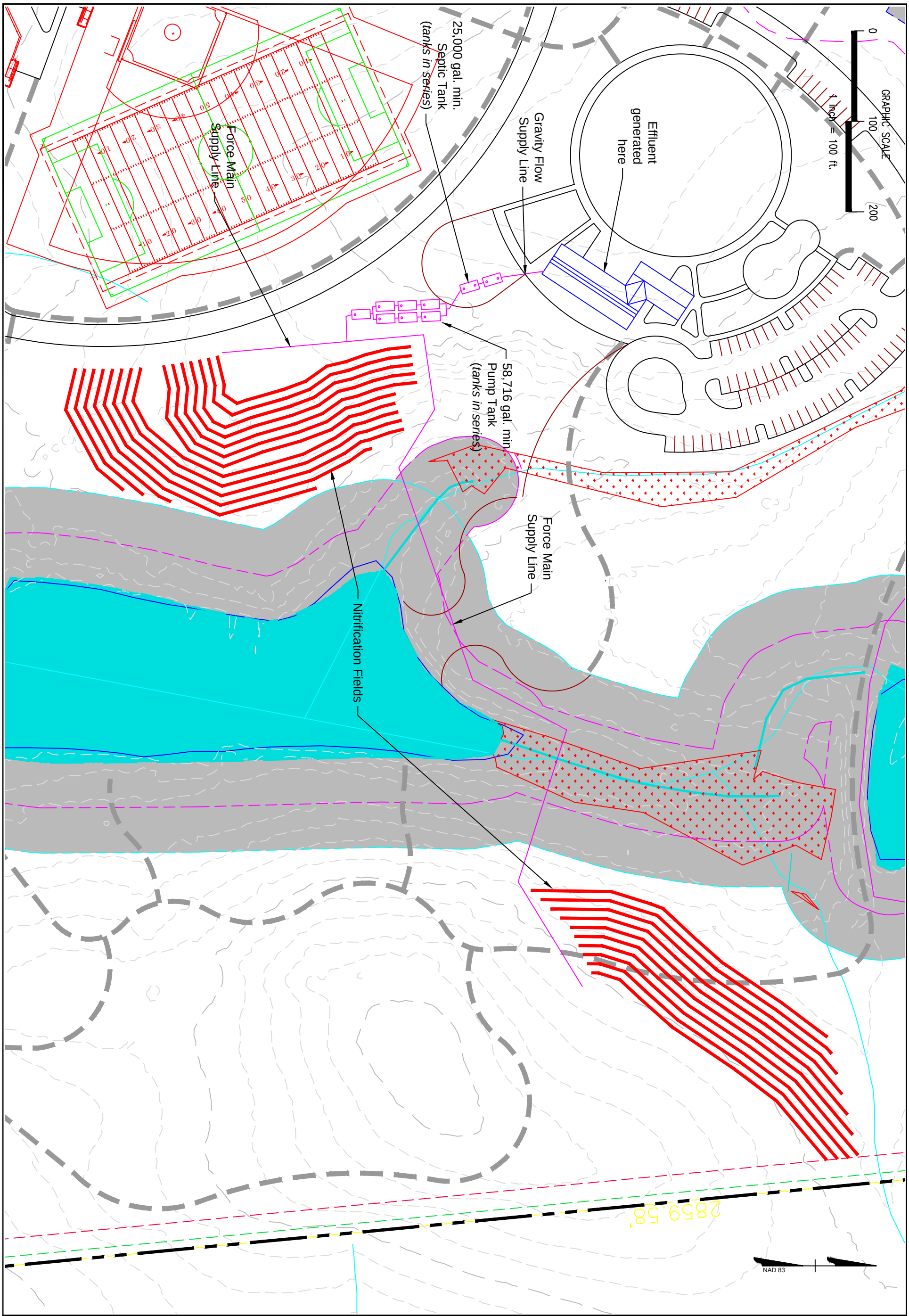
SURVEYOR CONTACT:

REVISION NO.	DATE
Original Submittal	February 13, 2020
Revision 1	-----
Revision 2	-----
Revision 3	-----
Master Set	-----

SHEET NUMBER

4 of 6

Town of Rolesville
Frazier Farm
Multi-Use Fields Septic



MITCHELL ENVIRONMENTAL, PA *C–2911* *1501 LAKESTONE VILLAGE LANE* *SUITE 205* *FUQUAY VARINA, NC 27526*	PREPARED FOR : McAdams 2905 Meridian Parkway Durham, NC 27713 DATE : February 13, 2020 DESIGNER CONTACT: ADAM AYCOCK, EI SURVEYOR CONTACT:	REVISION NO. / DATE Original Submittal — February 13, 2020 Revision 1 — ----- Revision 2 — ----- Revision 3 — ----- Master Set — -----	*SHEET NUMBER* *5 of 6* *Town of Rolesville* *Frazier Farm* *Events Center Septic*

GRAPHIC SCALE
0
60
120
1 inch = 60 ft.

Effluent generated here

Force Main Supply Line

Gravity Flow Supply Line

900 gal. min. Septic Tank

1,674 gal. min. Pump Tank

Nitrification Field

NAD 83

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1501 LAKESTONE VILLAGE LANE
SUITE 205
FUQUAY VARINA, NC 27526

PREPARED FOR : McAdams
2905 Meridian Parkway
Durham, NC 27713

DATE : February 13, 2020

DESIGNER CONTACT:
ADAM AYCOCK, EI

SURVEYOR CONTACT:

REVISION NO.	DATE
Original Submittal	February 13, 2020
Revision 1	-----
Revision 2	-----
Revision 3	-----
Master Set	-----

SHEET NUMBER

6 of 6

Town of Rolesville
Frazier Farm
Historic Pres. Septic

Town of Rolesville
Frasier Farm Athletic Complex

Building Descriptions

The Event Center
The Event Center is a building of approximately 5,000 square feet of Type VB construction with mixed occupancies A-3, B, S-1, and F-1. Due to its size and occupancy, the building may be required to have a fire sprinkler system.

The Building is broken into two connected sections with a barn-like aesthetic. The shifting of the building creates a gathering area towards the event lawn on one side and the other side becomes an entry off the nearby parking and drop-off loop. The main structure is an open assembly area for events. The long axis of the building opens to a gathering area perpendicular to the edge of the event lawn. The space features generous windows both on the ground level and in a clearstory roof feature. Connected to the assembly area, but in the second roof volume, is a kitchen to serve both the space and concession windows facing the event lawn. The second volume under the second roof is for toilets. The toilets are accessed by a covered area, but exterior to the building, in order to facilitate use by either the Event Center, the event lawn and nearby playground, or the Amphitheater.

Construction: The building has a concrete slab foundation. The structure features built-up columns and trusses of 2x dimensions. The walls are 2x6 wood studs with plywood sheathing, air barrier, 2” rigid insulation, and horizontal fiber cement siding (Z-furring strips through the rigid insulation) on the exterior side. The walls have open-cell spray foam insulation and 5/8” gypsum wall board on the interior side. The clear story and end walls have a similar construction, but with a stained vertical wood siding. Windows are aluminum storefront with Low-E glass. The roof is a standing seam metal roof on a structure that includes the 2x built-up member trusses and purloins with a tongue-in-groove deck. Floor finishes include epoxy floors in the restrooms and kitchen, LVT in the assembly area.

Concessions Building
The Concessions Building serves Fields 6 and 7 plus the nearby Dog Park and Tree Grove areas. The building is Type III construction. The building has two volumes connected by one gabled roof that is open in the middle for circulation and gathering.

Construction. The building has a concrete slab foundation. The load-bearing walls are 8” CMU with an air barrier, 2” rigid insulation, and horizontal fiber cement siding (Z-furring strips through the rigid insulation) on the exterior side. The roof is a standing seam metal roof on a structure that includes the 2x built-up member trusses and purloins with a tongue-in-groove deck. Floor finishes include epoxy floors in the restrooms and concessions.

The Octagon
The Octagon Building serves Fields 1 through 5. The building is Type VB construction. The first floor contains restrooms and concessions, while the second floor overlooks the fields as a press box.

Construction. The building has a concrete slab foundation. On the first floor, the load-bearing walls are 8” CMU with an air barrier, 2” rigid insulation, and horizontal fiber cement siding (Z-furring strips through the rigid insulation) on the exterior side. The second floor is 2x6 wood studs with plywood sheathing, air barrier, 2” rigid insulation, and stained vertical wood siding (Z-furring strips through the rigid insulation) on the exterior side. The walls have open-cell spray foam insulation and 5/8” gypsum wall board on the interior side. The roof is a standing seam metal roof on a structure that includes the 2x built-up member trusses and a plywood deck. Floor finishes include epoxy floors in the restrooms and concessions, VCT on the upper floor.

Maintenance Building

The Maintenance Building is Type VB construction of approximately 2,500 square feet. The building contains a large working area, plus office, break room, and electrical room for nearby field lighting.

Construction. The building has a concrete slab foundation. The load-bearing walls are 8” CMU with an air barrier, 2” rigid insulation, and stained vertical wood siding (Z-furring strips through the rigid insulation) on the exterior side. The roof is a standing seam metal roof on wood trusses and a plywood deck. Floor finishes include VCT in the office and break room.

Amphitheater

The Amphitheater is an outdoor assembly area seating approximately 900.

Construction. The seating is wood-formed poured in place concrete in the graded sloped hill side. The stage is a raised concrete platform with a wood structure and a standing seam metal roof. The structure can be stick-built like the other buildings or can be a premanufactured structure with a focus wall added in the back.

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LOUISBURG ROAD PARK MASTER PLAN

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AMPITHEATER

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AMPITHEATER

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TOWN OF ROLESVILLE
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DATE: 02-20-2020
CONCESSIONS BUILDING

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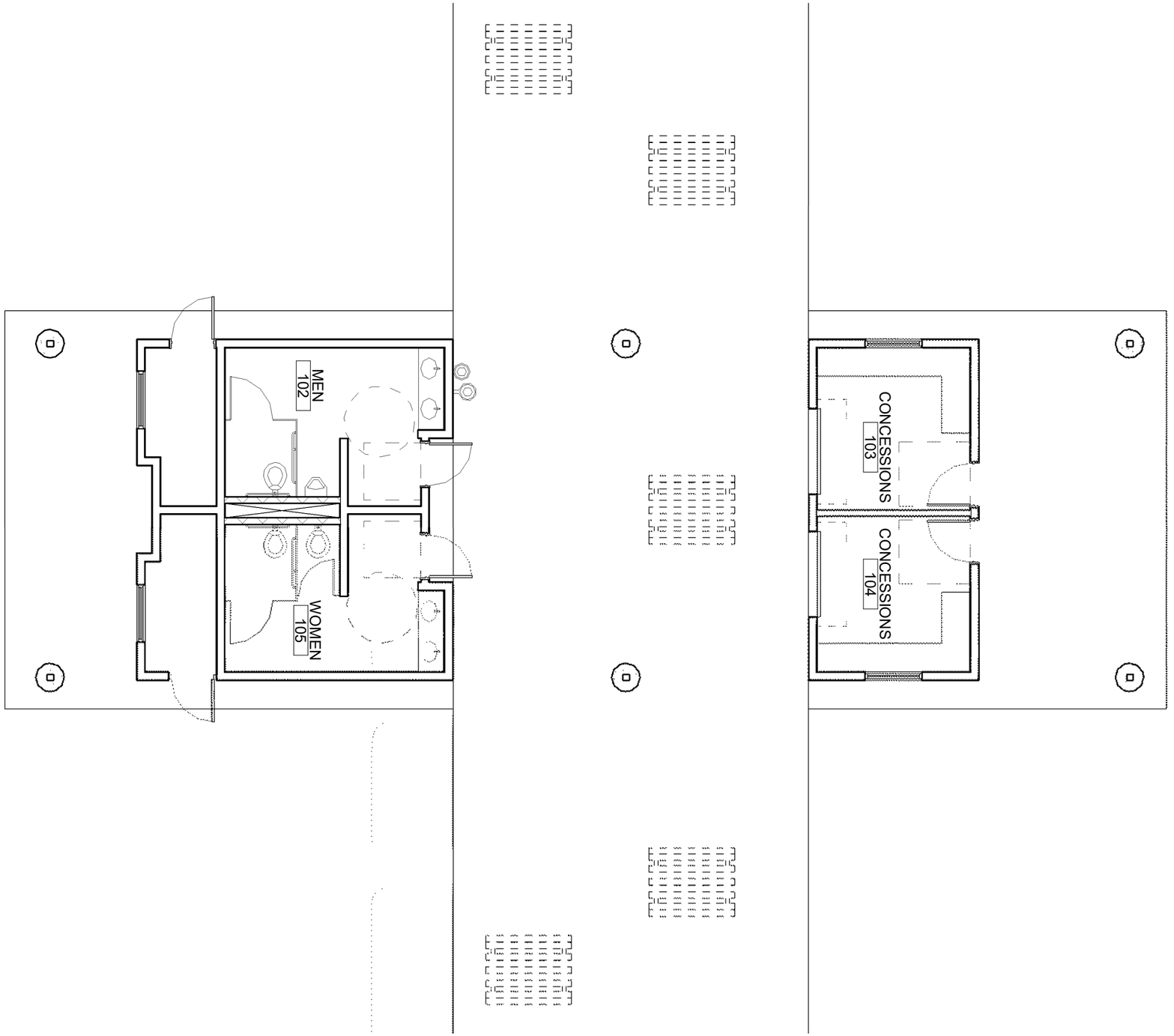
TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

JOB CODE: TORLRPMP
DATE: 02-20-2020
CONCESSIONS BUILDING



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TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

JOB CODE: TORLRPMP
DATE: 02-20-2020
CONCESSIONS BUILDING
1/16” = 1’-0”

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TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

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DATE: 02-20-2020
EVENT CENTER

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TOWN OF ROLESVILLE
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EVENT CENTER

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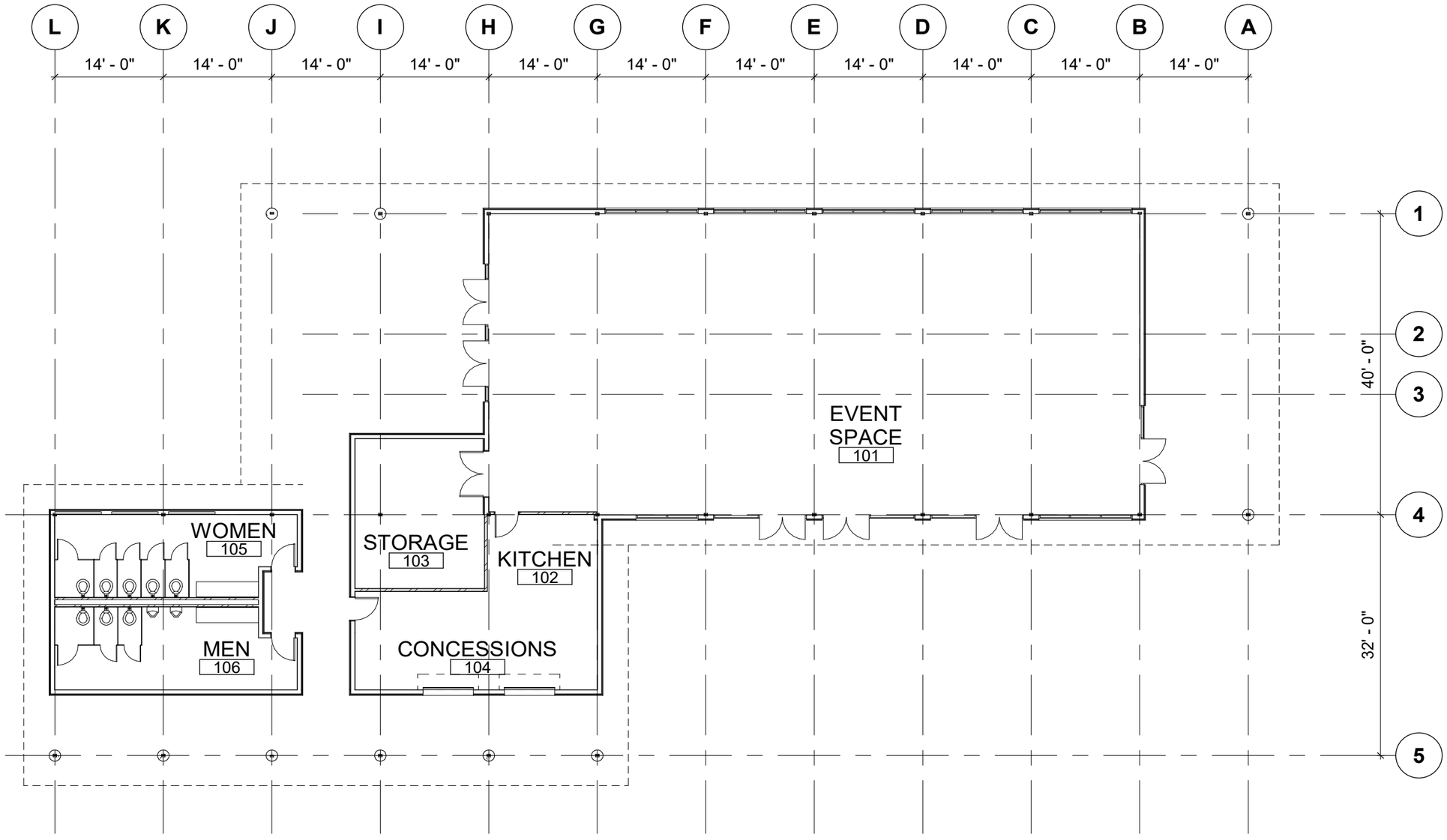

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TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

JOB CODE: TORLRPMP
DATE: 02-20-2020
EVENT CENTER
1/16” = 1’-0”

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TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

JOB CODE: TORLRPMP
DATE: 02-20-2020
MAINTENANCE BUILDING

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TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

JOB CODE: TORLRPMP
DATE: 02-20-2020
MAINTENANCE BUILDING

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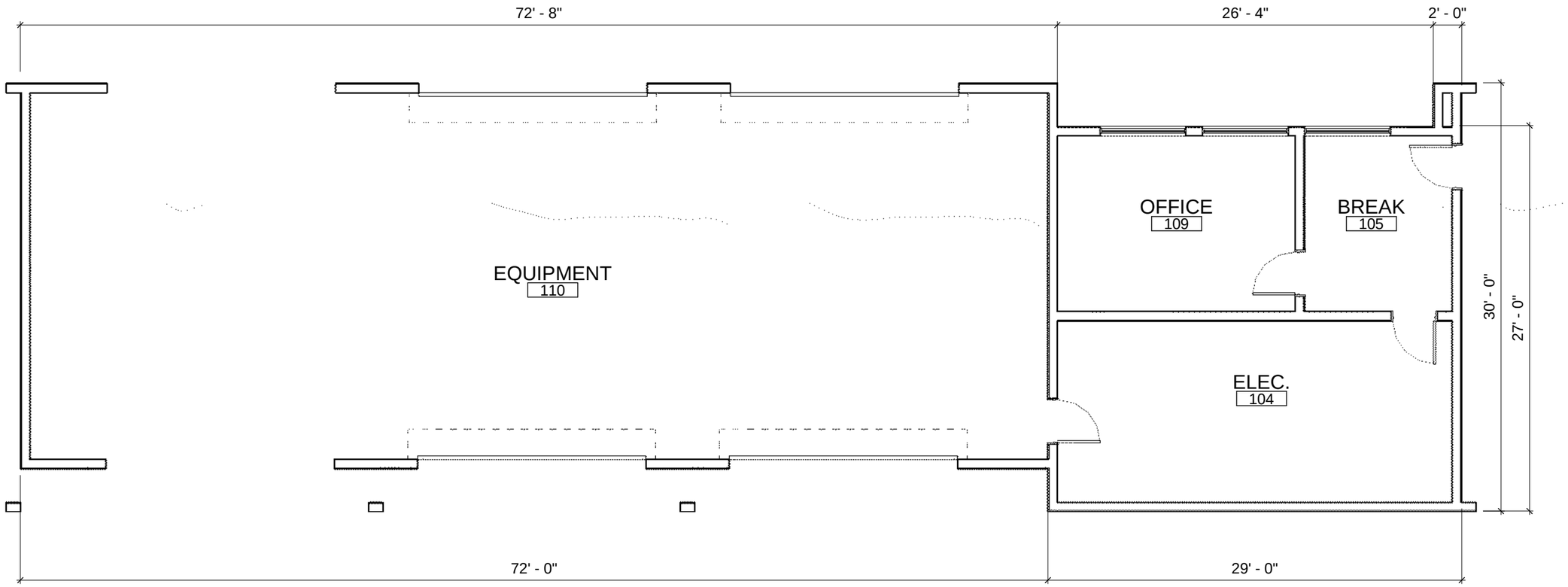
TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

JOB CODE: TORLRPMP
DATE: 02-20-2020
MAINTENANCE BUILDING



Integrated Design
architecture | planning | interiors

TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

JOB CODE: TORLRPMP
DATE: 02-20-2020
MAINTENANCE BUILDING
1/8” = 1’-0”

Integrated Design
architecture | planning | interiors

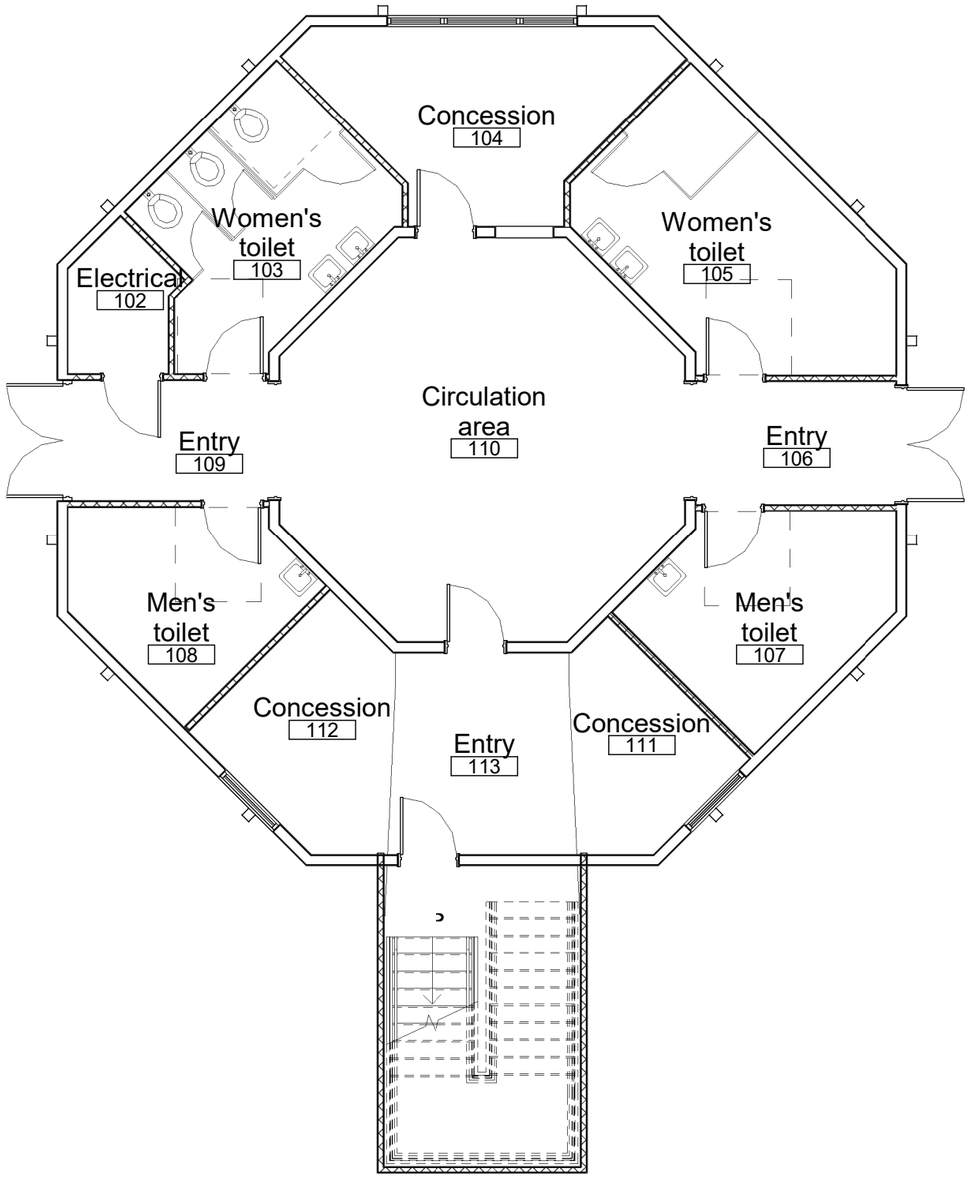
TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

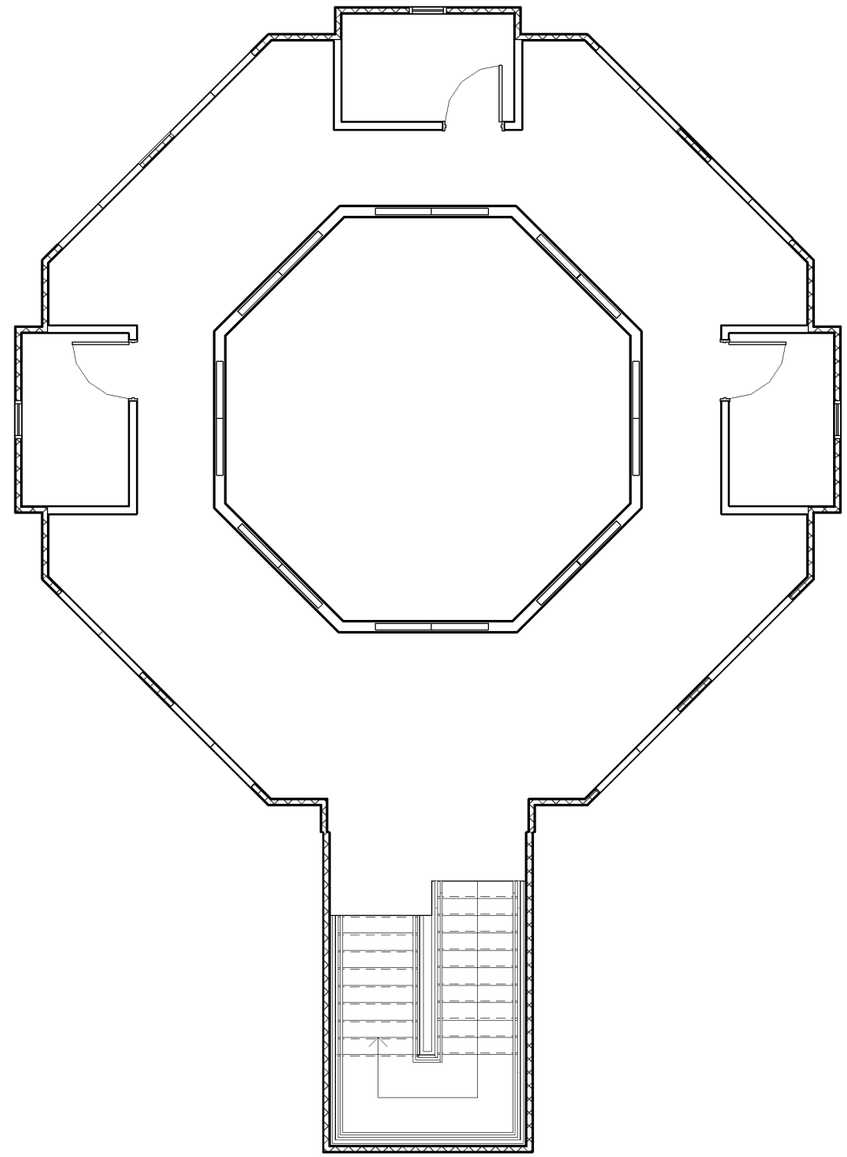
JOB CODE: TORLRPMP
DATE: 02-20-2020
THE OCTAGON - CONCESSIONS AND RESTROOMS

Integrated Design
architecture | planning | interiors

TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

JOB CODE: TORLRPMP
DATE: 02-20-2020
THE OCTAGON - CONCESSIONS AND RESTROOMS





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TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

JOB CODE: TORLRPMP
DATE: 02-20-2020

THE OCTAGON - CONCESSIONS AND RESTROOMS

1/8” = 1’-0”

ROLESVILLE FRASIER FARM

ATHLETIC COMPLEX

OPERATIONS AND MAINTENANCE PLAN

DATE	REVIEWED BY	COMMENTS
May 6	Tracey Padget	See comments and redline
May 20	Philip Parnin	Amendments made and questions answered

TABLE OF CONTENTS

CHAPTER ONE INTRODUCTION

The Town of Rolesville Parks and Recreation Department ("Department") has expressed the desire for an Operations and Maintenance Plan for a park that serves unmet needs within the community. The Department has enhanced operations and service delivery through implementation of the Parks and Recreation Comprehensive Master Plan ("Comp Plan"). The Department provides a variety of quality recreational programs and experiences; however, the recreation space and number of community athletic fields is limiting the delivery of services. Extensive community engagement and planning helped identify residents' need for the addition of new athletic fields and both indoor and outdoor recreation spaces as important priorities. This led to the conceptual development of the Frasier Farm Athletic Complex ("the Park").

In order to move the concept forward, PROS Consulting was selected to assist in completing an Operations and Maintenance Plan for Frazier Farm Park. The Operations and Maintenance Plan is a logical progression from the needs assessment that analyzes the market and establishes an operational plan. Once the operational philosophy and assumptions are established, a pro forma is developed to forecast the financial performance of the Parkand determine the overall operations.

1.1 CORE STRATEGIES

By providing an objective analysis of the market and an optimal operational plan, Frazier Farm Park has the opportunity to be viable and sustainable, while meeting the needs of the local market. This study will also ensure that the Park meets the economic and financial expectations of the Town and the community as a whole. Three core strategies were utilized as the primary objectives for the Park Operations and Maintenance Plan:

- Objective Analysis – A project of this nature must be founded in an objective approach that demonstrates to all interested and affected parties that the final outcome is based on good data, sound analysis, and valid assumptions. The highest standards of professional practice and industry knowledge were applied to this project.
- Financial Sustainability and Economic Viability – Exciting projects with visions of activity and vibrance are great candidates for capital dollars, but inevitably, these projects have to be operated and maintained or their success wanes. The financial performance of Frazier Farm Park should be able to responsibly generate revenue to sufficiently support operational expenses at an optimal ratio to other realistic forms of financial support available.

1.2 PLANNING PROCESS

The Operations and Maintenance Plan process follows the planning path illustrated below. This process is designed to emphasize market data and community interests to determine the appropriate design of Frazier Farm Park, along with the application of best practices to determine the optimal operation and financial forecast. The review of existing data includes a prior community survey and demographic information from the Comp Plan. The operational plan establishes the working details of Frazier Farm Park and provides assumptions that inform the operational pro forma. The pro forma forecasts the financial performance of Frazier Farm Park by establishing a baseline year of revenues and expenditures, then projecting five years of operational growth. This culminates in a final report with all findings and recommendations.

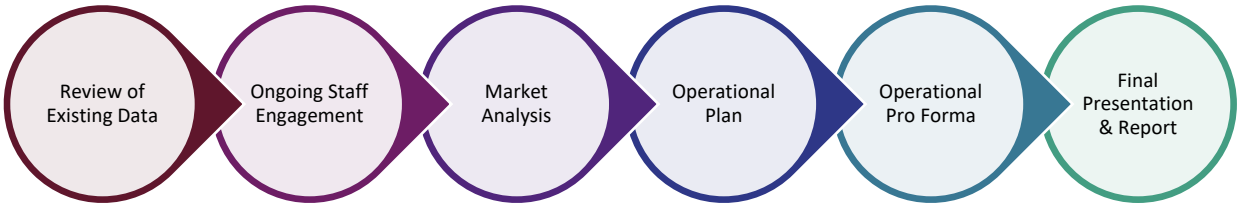

Figure 1: Planning Process Graphic

1.3 CONCLUSION

Based on the information provided in the Operations and Maintenance Plan, there is a clear need and a promising opportunity to develop Frazier Farm Park. There are notable gaps for parks and facilities in Rolesville and the demographic characteristics suggest strong potential for the Park in meeting the current and future needs as the Town continues to grow. The Park program plan and concept design were developed based on market conditions and the specific needs and preferences identified by community stakeholders. The operational plan and pro forma resulted in a high level of cost recovery (59%+) and expects the Park to be an active, high-performing complex over the first six years. This cost recovery is higher than the Department's overall cost recovery (36%).

The energy and excitement of a new park highlights the community's desire for improved access to open space and the value residents place on parks as a contributor to quality of life. and improved access to open space and demonstrates to residents, the importance of the Town to improve the quality Frazier Farm Park fits the vision of a healthy, vibrant community with multiple experiences on site and will make Rolesville a better place to live, work, and play.

CHAPTER TWO OPERATIONS AND MAINTENANCE

In this chapter the program zones of phase one are identified and defined along with maintenance standards, the operational plan and pro forma.

2.1 PROGRAM ZONES

This section describes the program zones that comprise Frazier Farm Park. These zones are created to develop the program and operational standards. the Park. The zones are defined as:

- **Athletic Zone:** Athletic Turf and surrounding areas
- **Event Zone:** Events Lawn, Event Center, Small Playground, & Amphitheater
- **Passive Zone:** Historical Preservation, Tree Grove, Trails, Woods & Ponds

The total footprint of the Park is 116 acres with three (3) program zones and an operations building and yard. There are approximately 30.25 wooded acres, about nine (9) acres of open water, 2,100 linear feet of protected streams, 8,500 linear feet (1.61 miles) of asphalt trail, 4,300 square feet of brick pavers, and 53,000 square feet of concrete hardscape.

For the purpose of this Plan, the focus is on phase one of the property development, as seen in Figure 19. This includes ~60 total acres, ~ 16 acres of wooded area, and specific amenities identified in Frazier Farm Park Program Zones. The following sections describe the size, features, and offerings that will take place in each core program area.

Figure 1: Frasier Farm Athletic Complex Phase One Master Plan

2.1.1 Farm Program Zones

ATHLETIC ZONE

- Three (3), 225' natural turf ballfields each with dugouts + bleachers
- One (1), 300' natural multi-use field with dugouts + bleachers
- One (1), 300' artificial turf multi-use field with dugouts + bleachers
- Large playground (6,600 SF)
- Play surface: engineered wood fiber
- 2,600 SF restroom, concessions and press box structure.
- Instructional programs / skills training / clinics / camps
- Field use / rentals
- Youth Leagues
- Open Play
- Tournaments (flag football, kickball, ultimate frisbee, soccer, rugby, etc.)
- Adult Rec Leagues

EVENT ZONE

- 900-seat amphitheater
- 40,000 SF event lawn: 7,000 – 8,000-person capacity, excluding space for event structures (temporary stage, tents, booths, etc.)
    - Natural turf
- 8,000 SF treed outdoor event space: 1,500-person capacity. Mainly for weddings, picnics, family reunions.
    - Natural turf
- 5,000 SF Event Center
- Events could include:
    - Summer Concert Series
    - One day artisan festival with vendors and music
    - Blues and BBQ Harvest Festival
    - Easter Egg Hunt
    - Walk / Run start & finish with social event following
    - Sports Vendors in combination with athletic tournament
    - Christmas Under the Stars – Choir performances, pictures with Santa in event center, artisan vendors – hand crafted
- Youth programs could include:
    - STEM classes
    - Life skills / enrichment
        - Safe sitter
        - First Aid, CPR & AED
    - Teens programs/events – battle of the bands
- Adult programs could include:
    - Life skills / enrichment
    - Dance and performing arts
    - Senior programs

- Rentals
  - Meetings and events
  - Small banquets and gatherings
  - Birthday parties / private rentals
  - Weddings

PASSIVE ZONE

- Agritourism existing structures: Farmhouse, three barns and two outbuildings
- Open space
- Tree grove (Fruit trees to help support an event)
- Interpretive playground
- Dog Park (1.08 acres):
  - Large dog park: 0.68 AC
  - Small dog park: 0.4 AC
- Activities to activate these spaces could include:
  - Hayrides
  - Interpretive tours
  - Field Trips
  - Community gardens
  - Farmers Market
  - Team building - cultural heritage challenges or solving problems with resources available at that time
- Rentals
  - Meetings and events – historical clubs, civic organizations, Master Gardener and Master Naturalist activities, etc.
  - Barn Weddings
  - Small banquets and gatherings
  - Themed birthday parties / private rentals – (i.e., garden party, farming, games and activities from the cultural heritage of the time, etc.

2.1.2 Farm Operational Zones

MAINTENANCE

- 2,500 SF maintenance building with 4,000 SF yard
  - Office space
  - Complex controls / technology

HARDSCAPE

- Brick Pavers: ±4,300 SF
- Concrete Hardscape: ±53,100 SF

PARKING

- 439 parking spaces

UTILITY / SUPPORT AREAS

- Storage

- Mechanical
- Receiving
- Refuse

2.2 OPERATIONS AND MAINTENANCE STANDARDS

The consulting team have established operational standards and costs for Frazier Farm Park based on set maintenance standards for the full operations. This will include hours of operation, maintenance standards, staffing levels needed, technology requirements and customer service requirements.

Processes	**Management**	**Resources**	**Technology**	**Communications**
A series of actions or steps taken in order to achieve outcomes identified through approved plans, policies, and standards for parks and recreation services	The organization, coordination, and supervision of all business activities in a park and recreation agency to achieve defined outcomes	A stock or supply of money, inventory, staff, information, and other assets in a parks and recreation agency that can be utilized in order to function effectively	The application of software, devices, tools and equipment for practical parks and recreation purposes, especially to increase efficiency	The internal and external exchange of information regarding parks and recreation operations, promoting services, and capital projects

Maintenance standards can change by season and month depending on the type of park area level of use. Standards will be calculated by time and equipment proposed for all of the Park.

This format provides guidance in terms of understanding the required work activities and elements in a descriptive manner that then can be quantified numerically. Following are descriptions of the levels of service and both qualitative and quantitative maintenance standards as proposed for all parks in the system.

Operation(s) are the infrastructure and assets that require specific routine and asset preservation to continue providing safe and enjoyable parks and recreation services to the community and visitors.

Staff are the position(s) the Town has assigned responsibility for the tasks identified in the operation and include, PM = Park Manager, PRD = Park & Recreation Director, PC = Program Coordinator

Task(s) are the actions that need to be completed to maintain the infrastructure and assets identified as an Operation(s).

Frequency identifies how often the specific tasks are to be completed in order to maintain and preserve the infrastructure and assets identified as Operation(s).

Maintenance Zones ("Zones") identify specific use areas of the property. These may have amenities or facilities within them that require specific maintenance tasks. Maintenance zones can be applied for hiring staff by zones for efficiency.

Maintenance Levels ("Level") are standards that define the operation, staff, task, and frequency with which a zone is maintained. These levels are applied to zones for the purpose of efficiency and effectiveness of operations.

2.3 CURRENT STANDARD PROCEDURES

The purpose of the current standards procedures for the Town of Rolesville is to ensure all parks and facilities are safe, clean and in working order for citizens, staff and visitors. The consulting team analyzed the current standards for processes, staff, task and frequency.

The following tables identify current Department standards. These standards may need to be adapted or changed to support Frazier Farm Park. The Department's standards occasionally identified inspection items. These inspection specific items should be added to an inspection sheet. Each staff member should be assigned an inspection sheet in the location of their weekly, monthly, and annual duties. Many organizations use workflow technology which will allow team members to have a daily, weekly, monthly, and annual check list with the addition of work orders that have been reported by others.

2.3.1 General Areas

Restrooms			
Operation	**Staff**	**Task**	**Frequency**
Lights/Plumbing/Drainage	PM / PRD	Inspect	Bi-Weekly
Lights/Plumbing/Drainage	PM / PRD	repair, replace and paint	As needed
Fixtures (Toilets, sinks, faucets, mirrors, grip bars, hand dryers)	PM / PRD	Inspect, clean, sanitize, tighten fixtures; Empty cans, replace liners; Restock supplies, Document name, date and time of servicing.	Bi-weekly
HVAC System	PM / PRD	Inspect, scheduled maintenance log	Bi-Weekly
HVAC System	PM / PRD	Change filters	Monthly
HVAC System	PM / PRD	Schedule Professional Inspection (March & October)	Bi-Annually

Drinking Fountains			
Operation	**Staff**	**Task**	**Frequency**
Drinking Fountain	PM / PRD	Inspect, clean & sanitize	Weekly

Parking Lot			
Operation	**Staff**	**Task**	**Frequency**
Lot Area	PM / PRD	Inspect, clean, remove barriers, repair, blow and power wash	Weekly
Surface	PM / PRD	Inspect, clean, remove barriers, repair, blow and power wash	Weekly

Lights Poles, Lights, Flag Poles & Banners			
Operation	**Staff**	**Task**	**Frequency**
Posts & globes	PM / PRD	Inspect, repair, replace, adjust	Monthly
Banners	PM / PRD	Inspect, repair, replace, adjust	Monthly
Flag Poles	PM/PC	Inspect, repair, replace, adjust	Monthly

Seating Areas			
Operation	**Staff**	**Task**	**Frequency**
Grounds	PM / PRD	Inspect, clear, & clean	Bi-Weekly
Grounds	PM / PRD	Power wash	Bi-Weekly
Grounds	PM / PRD	Pet waste bags- replace	As Needed
Tables	PM / PRD	Inspect, clear, & clean	Weekly
Tables	PM / PRD	Paint	As Needed

Playground Equipment and Areas			
Operation	**Staff**	**Task**	**Frequency**
Structure	PM / PRD	Inspect and clean	Weekly
Structure	PM / PRD	Document findings, repair, document repairs, clean & paints, lubricate	As Needed
Safety Surface	PM / PRD	Inspect	Weekly
Safety Surface	PM / PRD	Add & level mulch	Weekly
Fall Zone	PM / PRD	Inspect, report, clean & spread surface evenly	Weekly
Fall Zone	PM / PRD	free of graffiti, trash, and weeds	Weekly

Fences, Boarders, Bollards			
Operation	**Staff**	**Task**	**Frequency**
Split rail fence- posts	PM / PRD	Inspect & trim shrubs	Monthly
Split rail fence- posts	PM / PRD	Repair	Monthly
Split rail fence- posts	PM / PRD	Treated wood to prevent rotting	Annually
Privacy fence-posts	PM / PRD	Inspect & trim shrubs	Monthly
Privacy fence-gates	PM / PRD	Inspect & trim shrubs	Monthly
Private fence- post & gates	PM / PRD	Repair	Monthly
Private fence- post & gates	PM / PRD	Treat wood to prevent rotting	Annually
Boarders	PM / PRD	Inspect - termites & damage	Monthly
Boarders	PM / PRD	Repair/replace	As Needed
Bollards	PM / PRD	Inspect	Monthly
Bollards	PM / PRD	Lubricate Locks	Monthly
Bollards	PM / PRD	Repair	As Needed

Signs			
Operation	**Staff**	**Task**	**Frequency**
Signs	PM / PRD	Inspect	Weekly
Signs & Posts	PM / PRD	Repair, paint, clean, & weather treat	As Needed

Benches			
Operation	**Staff**	**Task**	**Frequency**
Benches	PM / PRD	Inspect & clean	Weekly
Benches	PM / PRD	Repair	As Needed

Landscaping			
Operation	**Staff**	**Task**	**Frequency**
Turf	PM / PRD	Mow, edge, clean, clear, weed,	Weekly
Turf	PM / PRD	Chemical control, spray, fertilize, aerate, over seed	As Needed
Walkways	PM / PRD	blow, clear	Weekly
Plant Beds	PM / PRD	Inspect	Weekly
Plant Beds	PM / PRD	Mulch	As Needed
Plants & Trees	PM / PRD	Inspect, maintain, remove dead trees/branches, weed, insects, diseases	Weekly

2.3.2 Sports Areas

Shelters/Pavilions			
Operation	**Staff**	**Task**	**Frequency**
Structure/Roof/Electrical	PM / PRD	Inspect, clean	Weekly
Structure/Roof/Electrical	PM / PRD	Repair and replace	Weekly
Insects/Nest	PM / PRD	Removed and cleared	Weekly
Trash/Hazards	PM / PRD	Removed and cleared	Weekly
Shelter Floor	PM / PRD	Pressure washed and clear of stains, bricks are in place	Weekly
Picnic Tables	PM / PRD	Inspect,	Weekly
Picnic Tables	PM / PRD	Repair, replace, paint	As Needed
Picnic Tables at Shelter D	PM / PRD	Inspect, weather-proofing	Annually
Grill Units	PM / PRD	Inspect, secure and clean, free of rust and holes	Weekly

Irrigation			
Operation	**Staff**	**Task**	**Frequency**
Waterlines	PM / PRD	Inspect	3/ Year
Backflow	PM / PRD	Inspect	3/ Year
Backflow	PM / PRD	Tested	Annually
Timer	PM / PRD	Set for season (March - October)	Annually
Winterizing/Opening	PM / PRD	Water turned on/off (blow lines/adjust water)	Bi-Annually

Concession Stands			
Operation	**Staff**	**Task**	**Frequency**
Lights/Plumbing/Drainage	PM / PC	Inspect	Weekly
Lights/Plumbing/Drainage	PM / PC	Repair, replace, & paint	As Needed
Fixtures/Appliances	PM / PC	Inspect, clean, sanitize, trash, & document	Weekly

Storage Rooms			
Operation	**Staff**	**Task**	**Frequency**
Storage Rooms	PM/ PC	Clean, treat for insects, organize	Monthly

Score Stands			
Operation	**Staff**	**Task**	**Frequency**
Stands Structure	PM/ PC	Inspect	Monthly
Stands Structure	PM/ PC	Repair	As Needed
Stands Structure	PM/ PC	Weather treat	Annually

Baseball/Softball/Football Fields			
Operation	**Staff**	**Task**	**Frequency**
Amenities (backstops/fences/ benches/bleachers/Gates)	PM/ PC	Inspect, chemical control, remove weeds	Weekly
Amenities (backstops/fences/ benches/bleachers/Gates)	PM/ PC	Repair	As Needed
Scoreboard	PM/PC	Inspect	Weekly
Scoreboard	PM/PC	repair & replace	As Needed
Turf	PM/PC	Spray, fertilize, aerate over seed	Weekly
Ball Diamonds	PM/PC	Graded, loose rock & weed free	Weekly
Ball Diamonds	PM/PC	Graded, repair, drag, line, rack, check bases, mounds & plates	Before Play
Dugouts	PM/PC	Clean	Weekly
Bleachers	PM/PC	Inspect & clean	Weekly
Bleachers	PM/PC	Repair, replace	As Needed

2.3.3 Natural AReas

Fountains & Ponds			
Operation	**Staff**	**Task**	**Frequency**
Water	PM / PRD	Inspect & clean	Weekly
Fountains	PM / PRD	Inspect & clean	Weekly
Fountains	PM / PRD	Repair	As needed

Greenways/Nature Trails			
Operation	**Staff**	**Task**	**Frequency**
Path	PM / PRD	Inspect, clear & clean	Weekly
Signage	PM / PRD	See signs	Weekly

2.3.4 Events & Facility area

Stage			
Operation	**Staff**	**Task**	**Frequency**
Stage	PM/ PC	Inspect & clean	Weekly
Stage	PM/ PC	Repair & paint	As Needed
Stage	PM/ PC	Weather treat	Annually

Ticket Booth			
Operation	**Staff**	**Task**	**Frequency**
Ticket Booth	PM/ PC	Inspect	Monthly
Ticket Booth	PM/ PC	Clean & organize	As Needed

2.3.5 Maintenance

Maintenance Buildings			
Operation	**Staff**	**Task**	**Frequency**
Building Area	PM/ PC	Inspect, clean, organize	Weekly
Building Area	PM/ PC	Repair	As Needed

Equipment			
Operation	**Staff**	**Task**	**Frequency**
2012 Silverado	PM/ PC	Check fluids	Monthly
2012 Silverado	PM/ PC	Add fluids	As Needed
2012 Silverado	PM/ PC	Change Oil 3,000 miles	As Needed
2012 Silverado	PM/ PC	Tires- pressure, wear, tread	Monthly
2012 Silverado	PM/ PC	Rotate tires 6,000 miles	As Needed
2012 Silverado	PM/ PC	Wash & Clean (minimum monthly)	Monthly
2012 Silverado	PM/ PC	Owner Manual Recommendations	Monthly
2012 16' Horton Enclosed Trailer	PM/ PC	Tires- pressure, wear, tread	Monthly
2012 16' Horton Enclosed Trailer	PM/ PC	Hitch, door, wheels/bearings- inspect	Monthly
2012 16' Horton Enclosed Trailer	PM/ PC	Hitch, door, wheels/bearings repair & grease	As Needed
1200A John Deere	PM/ PC	Tires- pressure, wear, tread	Monthly
1200A John Deere	PM/ PC	Check fluids	Monthly
1200A John Deere	PM/ PC	Add fluids	As Needed
1200A John Deere	PM/ PC	Change Fluids (March & September)	Bi-Annually
1200A John Deere	PM/ PC	Drag- Inspect	Monthly
1200A John Deere	PM/ PC	Drag- repair	As Needed
1200A John Deere	PM/ PC	Clean	Weekly
1200A John Deere	PM/ PC	Service and Maintenance - See Manual	Monthly

2.3.6 Existing Standard conclusion

It is best practice to have standards as the Town does. Using best practices for new assets added to the system will reduce cost and increase efficiencies within park maintenance. Analyzing the current standards, the consulting team identified best practices that should be included based on the phase one site design. These areas included inspection process and frequency.

2.4 FRAZIER FARM PARK MAINTENANCE STANDARDS

The Department should also consider developing and adopting new standards for areas not currently addressed in the processes above. These areas would include Stadium Seating, Historical Preservation Agritourism Area, Tree Grove, Dog Park, , and Event Center. When the design is complete with all amenities, species of agritourism, and tree grove, best practices can then be identified.

TECHNOLOGY

Inspection processes should consider technology to support maintenance operations. These systems can track who tasks were assigned to, when they were completed, how long it took to complete the task, assign work orders, and maintain standard schedules.

Rolesville Parks and Recreation already has a software system that can perform rentals and reservations. The Department needs to lean of this software for fields, amphitheater, events lawn, and event center reservations and scheduling. Most of the program registration software can also support point of sale which will be needed for concession stands.

LEVEL OF MAINTENANCE

Different from staffing zones, Frazier Farm Park may also utilize level of maintenance applied to specific zones as standards, which include a focus on frequency. Three maintenance levels are generally defined for any specific park site or area within a park. The difference between each level is the frequency of maintenance tasks and the outcomes to be achieved. In Figure 2, There are areas within the Parkthat could be identified at a different level due to low traffic or passive use. These levels can be adjusted as necessary to react to changes in seasonal impacts and use. Maintenance Standards when defined through levels have these general characteristics:

- **Level One:** High profile areas visible to foot traffic such as entrances to specific park attractions, signature facilities, and areas where funding permits a higher level of maintenance.
- **Level Two:** Moderate to heavy use, typical of most parks.
- **Level Three:** Typical for low usage parks or when funding is limited.

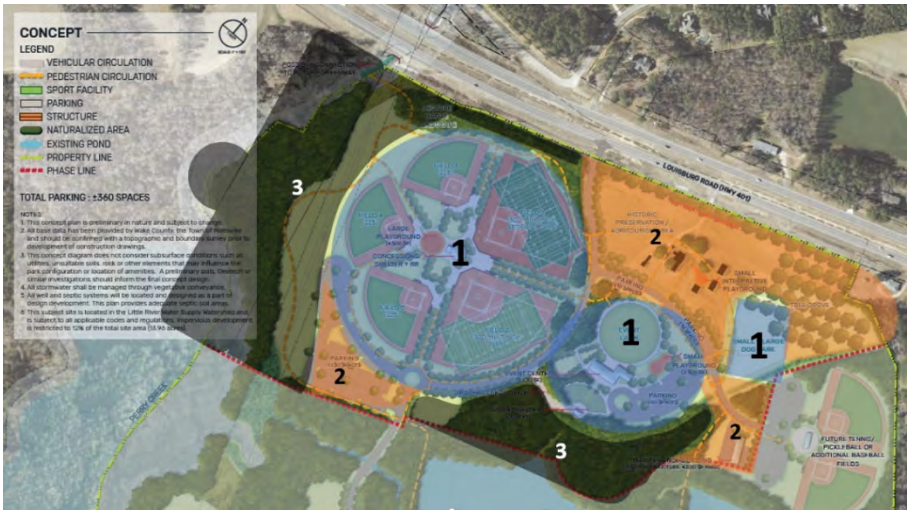

Figure 2: Level of Maintenance applied to The Farm design

2.4.1 Level One Maintenance Standards

Level one maintenance standards usually apply to areas of park land that are in prime season, meaning the park areas have high pedestrian traffic and the temperatures have increased vegetation growth.

Turf Maintenance			
Operation	**Staff**	**Task**	**Frequency**
Turf	PM	Mow (2.5")	2 times/week or warmer than 75 degrees
Turf	PM	Edge	Weekly
Turf	PM	Fertilize Aerate or Rest	Turf Coverage < 95% or Bare Areas > 2%
Turf	PM	Remove	Visible grass clippings
Turf	PM	Treat	Pin point and treat weed infestation > 3%
Turf	PM	Aerate	Annually
Thatch Layer	PM	Inspect	Monthly (Remove as needed)
Soil/ Water	PM	Test	Annually
Soil	PM	Water	No wet areas, no dry areas, firm for foot /mower, wetting agents to uniform moisture, & hand water as needed
Turf/Soil	PM	Inspect	Daily for insects, disease, and stress (respond within 24 hours)
Turf	PM	Fertilize	3 times/ year
Turf	PM	Over seed	Annually
Turf	PM	Top dress	Annually

Irrigation Systems			
Operation	**Staff**	**Task**	**Frequency**
Irrigation	PM	Inspect	Monthly (or Computer Monitor)
Irrigation	PM	Repair	(Non-functioning within 24 hours)
Back Flow	PM	Test	Annually

Storm Cleanup			
Operation	**Staff**	**Task**	**Frequency**
Drains	PM	Inspect	2 times/month (before rain or immediately after)
Drains Covers	PM	Clean	Immediately
Water Inlet	PM	Inspect	Height at 100% of design standards

Tree and Shrub			
Operation	**Staff**	**Task**	**Frequency**
Tree/Shrub	PM	Trim Prune	2 times/year
Tree/Shrub	PM	Sucker Removal	Annually
Tree/Shrub	PM	Test	Annually (appropriate nutrition)
Tree/Shrub	PM	Fertilize	Plant species requirements
Tree/Shrub	PM	Inspect	Monthly (respond to diseases and insects within 48 hours)
Tree	PM	Mulch	2” high by 18” ring
Shrub	PM	Mulch	2” high (reduce weed growth)
Dead Tree	PM	Remove	Immediately (unless in natural environmental areas)
Invasive	PM	Remove	Within 5 days of discovery
Flower Bed	PM	Upkeep	Annually
Flower Bed	PM	Fertilize	Annually
Pond	PM	Inspect	Weekly (maintenance Annually)
Water Features	PM	Inspect	Weekly (maintenance as needed)

Litter Control			
Operation	**Staff**	**Task**	**Frequency**
Trash	PM	Clean	Pick up litter/empty trash Daily
Organics	PM	Remove	Leaves and organic debris (Weekly) or As Needed

Hard Surface			
Operation	**Staff**	**Task**	**Frequency**
All	PM	Remove	(Debris & glass) Immediately
Walks	PM	Remove	Sand, dirt and organic debris (Weekly) or As Needed
Hard Courts	PM	Remove	Sand, dirt and organic debris (Weekly) or As Needed
All	PM	Remove	(Trip hazard) Immediately
Signs/All	PM	Paint Replace	Fading /indistinct instructions or Annually
All	PM	Blow	Grass clippings after mowing

Playground			
Operation	**Staff**	**Task**	**Frequency**
Playground	PM	Audit	ASTM Performance Standards F1487 & Consumer Product Safety Commission "Handbook for Public Playground Safety"
Low Frequency	PM	Inspect	2 times/Month (or as required)- (CPSI)
High Frequency	PM	Inspect	Weekly (CPSI)
All	PM	Repair	Immediately (within 48 hours, if features are closed to public)
Safety Surfaces	PM	Groom	3 times/week

Hard Court			
Operation	**Staff**	**Task**	**Frequency**
Courts	PM	Inspect	Monthly
Courts	PM	Repair	Immediately (within 48 hours, if features are closed to public)
Lines	PM	Repair	Annually
Nets	PM	Replace	Frayed, broken or removed
Posts Hardware	PM	Repair Replace	Original design specifications

Trail			
Operation	**Staff**	**Task**	**Frequency**
All Trails	PM	Inspect	Monthly
Hard Trail	PM	Remove	Dirt, sand, and organics debris-Weekly
Soft Trail	PM	Remove	Organics debris-Weekly
Soft Trail	PM	Groom	3-4” Uniform depth compact material (Immediately)
All	PM	Remove	Graffiti (weekly)
Branches	PM	Remove	Overhang 84” from trail surface 2 times/year
Growth	PM	Control	Mechanically/Chemically 24” from trail sides
Amenities	PM	Inspect	Monthly
Amenities	PM	Repair	Within 10 days of discovery
Lighting	PM	Inspect	Monthly
Lighting	PM	Repair	Immediately

Benches, Trash Containers, Picnic Tables, Grills, Bicycle Racks, Flag Poles, Drinking Fountains & other Site Amenities			
Operation	**Staff**	**Task**	**Frequency**
All	PM	Inspect	Monthly
All	PM	Repair	Within 24 hours
All	PM	Clean	Clean, shrub & power wash 2 times/year

Athletic Fields			
Operation	**Staff**	**Task**	**Frequency**
Fields	PM	Mow 2”	Striping mower, 2 times/week or temperatures <75 degrees (maintain 2”)
Fields	PM	Edging	2 times/month
Fields	PM	Inspect	Daily (insects, disease, stress and respond within 24 hours)
Fields	PM	Fertilize Aerate or Rest	Turf Coverage < 95% at Start of season and 0% bare area
Fields	PM	Fertilize Aerate or Rest	After play begins <80% and <15 % bare area
Fields	PM	Fertilize	Monthly z
Fields	PM	Treat	Pin point treat weed infestation > 5%
Fields	PM	Seed	Pre-germinated seed after every tournament
Fields	PM	Remove	Visible grass clippings
Fields	PM	Aerate	3 times/year or spot treat high use areas
Thatch Layer	PM	Inspect	Monthly
Thatch Layer	PM	Remove	As Needed
Fields	PM	Over seed	Annually
Soil /Water	PM	Test	Annually
Soil	PM	Watering	No wet areas, no dry areas, firm for foot /mower, wetting agents to uniform moisture, & hand water as needed

Signs			
Operation	**Staff**	**Task**	**Frequency**
Signs	PM	Inspect	Monthly
Signs	PM	Repair	Within 24 hours
Signs	PM	Clean	Clean, shrub & power wash 2 times/year
Signs	PM	Cut	Cut back plants Annually or As Needed

Fence & Gate			
Operation	**Staff**	**Task**	**Frequency**
All	PM	Inspect	2 times/year
All	PM	Repair	Within 48 hours
All	PM	Cut	Cut back plants Annually or As Needed

Pest Control			
Operation	**Staff**	**Task**	**Frequency**
Pest	PM	Inspect	Monthly
Pest	PM	Remedy	Immediately

Vandalism & Graffiti			
Operation	**Staff**	**Task**	**Frequency**
All	PM	Remedy	Immediately

Picnic Shelters			
Operation	**Staff**	**Task**	**Frequency**
Reserved	PM	Clean Inspect	Before/After rentals
Shelter	PM	Repair	Minor Repairs (immediately)
Non-Reserved	PM	Clean	Weekly – Power wash as Needed

Lighting Security Area			
Operation	**Staff**	**Task**	**Frequency**
Foot-candle	PM	Repair	Levels dropped below original design
Lights	PM	Inspect	Monthly
Bulbs	PM	Replace	Within 24 hours

Broken Equipment			
Operation	**Staff**	**Task**	**Frequency**
All	PM	Repair	Immediately (Staff capability with available parts)
All	PM	Secured	If staff cannot immediately repair

Concession Stand			
Operation	**Staff**	**Task**	**Frequency**
Complex	PC	Clean Sanitized	Before each opening/closing
Appliances	PC	Inspect Clean	Before each opening (repair Immediately)/closing
Supplies	PC	Clean	Before each opening/closing
Signs	PC	Post	All prices and signs posted daily
Lights	PC	Inspect	Before each opening (repair Immediately)
Permit	PC	Secure	Before each opening
Register	PC	Test	Before each opening
Circuit Breaker	PC	Test	Before each opening
Standards	RPD	Audit	Monthly

Dog Park			
Operation	**Staff**	**Task**	**Frequency**
Turf	PC	Mow	Weekly (3”)
Parking Lot	PC	Clean	Pick up trash Daily
Dog Areas	PC	Move	2 times/month
Fence	PC	Inspect	Weekly
Lights	PC	Inspect	Weekly
Dog Area	PC	Clean	Daily- No Animal Waste

2.4.2 Level Two Maintenance Standards

Maintenance standards can change by season and month depending on the park and level of use. Standards will be calculated by time and equipment needed to develop the required operation budgets. The difference between Level 1 and Level 2 standards is the frequency rate, highlighted in gray.

Turf Maintenance			
Operation	**Staff**	**Task**	**Frequency**
Turf	PM	Mow	Weekly or temperatures < 75 degrees blade reached (2.5")
Turf	PM	Edge	2 times/month
Turf	PM	Fertilize Aerate or Rest	Turf Coverage < 88% or Bare Areas > 4%
Turf	PM	Remove	Visible grass clippings
Turf	PM	Treat	Pin point treat weed infestation > 3%
Turf	PM	Aerate	Annually
Thatch Layer	PM	Inspect	Monthly (Remove as needed)
Soil/ Water	PM	Test	Annually
Soil	PM	Watering	No wet areas, no dry areas, firm for foot /mower, &wetting agents to uniform moisture, & hand water as needed
Turf/Soil	PM	Inspect	Daily for insects, disease, and stress (respond within 24 hours)
Turf	PM	Fertilize	3 times/ year
Turf	PM	Over seed	Annually
Turf	PM	Top dress	Annually

Storm Cleanup			
Operation	**Staff**	**Task**	**Frequency**
Drains	PM	Inspect	Monthly (before rain or immediately after)
Drains Covers	PM	Clean	Monthly (before forecasted storms)
Water Inlet	PM	Inspect	Height at 100% of design standards

Tree and Shrub			
Operation	**Staff**	**Task**	**Frequency**
Tree/Shrub	PM	Trim Prune	Annually
Tree/Shrub	PM	Sucker Removal	As Needed
Tree/Shrub	PM	Test	Annually (appropriate nutrition)
Tree/Shrub	PM	Fertilize	Plant health declines
Tree/Shrub	PM	Inspect	Monthly (respond to diseases and insects within 48 hours)
Tree	PM	Mulch	2” high by 18” ring
Shrub	PM	Mulch	2” high (reduce weed growth)
Dead Tree	PM	Remove	Within 30 days
Invasive	PM	Remove	Annually
Hazards	PM	Remove	Immediately
Flower Bed	PM	Upkeep	Annually
Flower Bed	PM	Fertilize	Annually
Pond	PM	Inspect	Weekly (maintenance Annually)
Water Features	PM	Inspect	Weekly (maintenance as needed)

Playground			
Operation	**Staff**	**Task**	**Frequency**
Playground	PM	Audit	ASTM Performance Standards F1487 & Consumer Product Safety Commission “Handbook for Public Playground Safety”
Low Frequency	PM	Inspect	2 times/Month (or as required)- (CPSI)
High Frequency	PM	Inspect	Weekly (CPSI)
All	PM	Repair	Immediately (within 48 hours, if features are closed to public)
Safety Surfaces	PM	Groom	2 times/week

Hard Surface			
Operation	**Staff**	**Task**	**Frequency**
All	PM	Remove	(Debris & glass) Immediately
All	PM	Remove	Sand, dirt and organic debris (Monthly) or As Needed
All	PM	Remove	(Trip hazard) Immediately
Signs/All	PM	Paint Replace	Fading /indistinct instructions or Annually
All	PM	Remove	Weeds/Grass in the cracks Monthly
All	PM	Blow	Grass clippings after mowing

Hard Court			
Operation	**Staff**	**Task**	**Frequency**
Courts	PM	Inspect	Monthly
Courts	PM	Repair	Immediately (within 10 days, if features safe to play or closed to public)
Lines	PM	Repair	Every 2 years
Nets	PM	Replace	Frayed, broken or removed within 10 days
Posts Hardware	PM	Repair Replace	Original design specifications within 10 days

Trail			
Operation	**Staff**	**Task**	**Frequency**
All Trails	PM	Inspect	Monthly
Hard Trail	PM	Remove	Dirt, sand, and organics debris-Monthly
Soft Trail	PM	Remove	Organics debris-Monthly
Soft Trail	PM	Groom	2-4” Uniform depth compact material (Immediately)
All	PM	Remove	Graffiti (Monthly)
Branches	PM	Remove	Overhang 84” from trail surface Annually
Growth	PM	Control	Mechanically/Chemically 24” from trail sides Annually
Amenities	PM	Inspect	Monthly
Amenities	PM	Repair	Within 10 days of discovery
Lighting	PM	Inspect	Monthly
Lighting	PM	Repair	Immediately

Benches, Trash Containers, Picnic Tables, Grills, Bicycle Racks, Flag Poles, Drinking Fountains & other Site Amenities			
Operation	**Staff**	**Task**	**Frequency**
All	PM	Inspect	Monthly
All	PM	Repair	Within 5 days (unless insects, within 24 hours)
All	PM	Clean	Clean, shrub & power wash Annually

Athletic Fields			
Operation	**Staff**	**Task**	**Frequency**
Fields	PM	Mow 2”	Striping mower, 2 times/week or temperatures <75 degrees (maintain 2.5”)
Fields	PM	Mow 2”	Striping mower, 2 times/week or temperatures >75 degrees (maintain 3”)
Fields	PM	Edging	Monthly
Fields	PM	Inspect	Daily (insects, disease, stress and respond within 24 hours)
Fields	PM	Fertilize Aerate or Rest	Turf Coverage < 80% at Start of season and 5% bare area
Fields	PM	Fertilize Aerate or Rest	After play begins <65% and <15 % bare area
Fields	PM	Fertilize	Monthly z
Fields	PM	Treat	Pin point treat weed infestation > 5%
Fields	PM	Seed	As Needed
Fields	PM	Remove	Visible grass clippings
Fields	PM	Aerate	Annually
Thatch Layer	PM	Inspect	Monthly
Thatch Layer	PM	Remove	As Needed
Fields	PM	Over seed	Annually
Soil /Water	PM	Test	Annually
Soil	PM	Watering	No wet areas, no dry areas, firm for foot /mower, &wetting agents to uniform moisture, & hand water as needed

Fence & Gate			
Operation	**Staff**	**Task**	**Frequency**
All	PM	Inspect	Annually
All	PM	Repair	Within 5 days
All	PM	Cut	Cut back plants Annually or As Needed

Signs			
Operation	**Staff**	**Task**	**Frequency**
Signs	PM	Inspect	Every 3 months
Signs	PM	Repair	Within 5 days
Signs	PM	Clean	Clean, shrub & power wash Annually
Signs	PM	Cut	Cut back plants Annually or As Needed

Picnic Shelters			
Operation	**Staff**	**Task**	**Frequency**
Reserved	PM	Clean Inspect	Before/After rentals
Shelter	PM	Repair	Minor Repairs (immediately)
Non-Reserved	PM	Clean	2 times/month – Power wash as Needed

Lighting Security Area			
Operation	**Staff**	**Task**	**Frequency**
Foot-candle	PM	Repair	Levels dropped below original design
Lights	PM	Inspect	Every 3 Months
Bulbs	PM	Replace	Within 72 hours

2.4.3 Level Three Maintenance Standards

Level three maintenance standards are usually identified when a park area is low pedestrian traffic and decisions are made based on budget restraints.

Turf Maintenance			
Operation	**Staff**	**Task**	**Frequency**
Turf	PM	Mow	Every 10 days or temperature <75 degrees blade reached (2.5")
Turf	PM	Edge	2 times/month
Turf	PM	Fertilize Aerate or Rest	Turf Coverage < 50% or Bare Areas > 20%
Hazards	PM	Remove	Safety concerns

2.4.4 Maintenance Standards Recommendations

- The Department should classify each zone as high and/or low traffic by season. This will help staff know when the peak seasons are and where there will need to be increased maintenance due to amount of use.
- Identify work Staffing Zones for Frazier Farm Park to address the skills needed and to increase the park maintenance staff. These team members may already be on staff.
- Review best practices with maintenance team, identify areas that should be changed to increase efficiency and lower maintenance costs.
- Track the changes made to level of maintenance standards and the financial impact of each, to identify if further adjustments are needed.
- Research technology support that may assist in documentation and evaluating capacity, workloads, inspections, repairs, and budgets. An example would be to use a table for inspections in the field, and real time data.

2.5 OPERATIONAL PLAN

The operational and financial assumptions describe the overall philosophy of Frazier Farm Park and explain how revenues and expenses were derived to develop the operational proforma for the Park. The pro forma is demonstrated over a six-year period and forecasts all revenues and costs associated with the operation and maintenance of the Park.

The following operational assumptions were used to develop the pro forma, which will help to determine the overall feasibility of the project.

2.5.1 Hours of Operation

- Frazier Farm Park will be open 365 days per year as a park and regular hours of operation will be:
  - Sunrise to sunset
  - In lighted athletic areas, or when visitors are participating in an approved activity, park hours are extended until the program or activity is completed
  - Operations for sports activities will be March -October as peak season
  - Event center activities to be year-round and potentially after park hours

2.5.2 Operational and Pricing Philosophy

The department pricing philosophy for programs and services are identified in **Figure 21**. Additional pricing and revenue strategies are listed below.

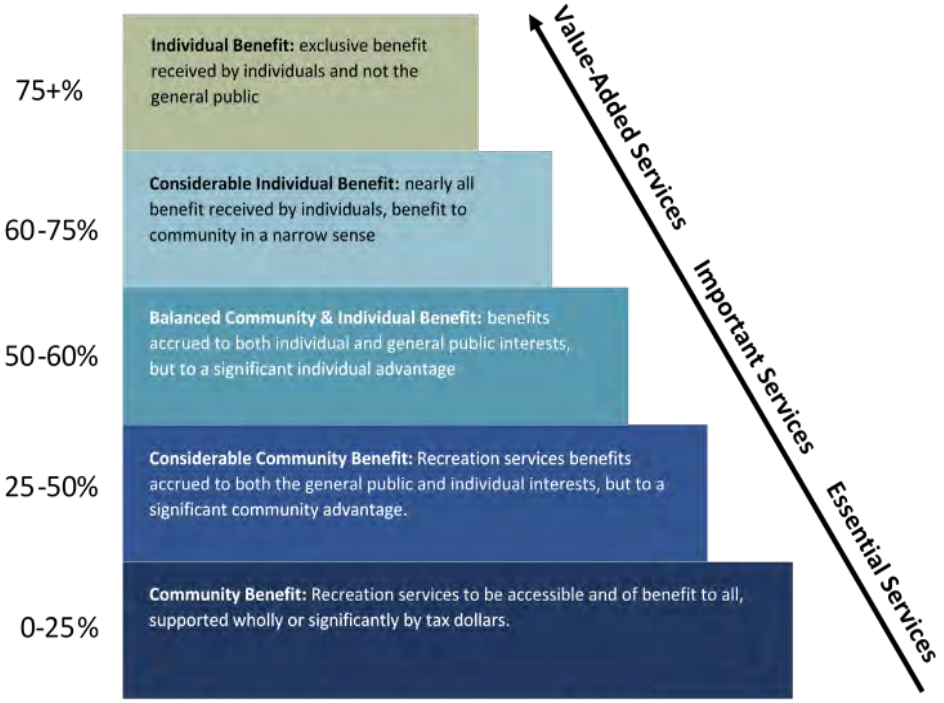

Figure 3: Cost Recovery Modeled from 2019 Rolesville Parks and Recreation Comp Plan

PRICING AND REVENUE STRATEGY

- Revenues stem from user fees (sports, programs, events), rentals / permits, dog park memberships and daily entry, facility / amenity naming rights, and sponsorships for events and sports teams. Revenues are categorized into the following areas: Sports, Programs / Events, Rentals, and Other Revenue.
- Pricing and participation for programs are based on rates from existing offerings by the Department, along with consideration of the local market rates based on the community's demographics and the similar provider analysis. In some cases, pricing for the site will be higher than the Department's existing rates due to the fact Frazier Farm Park will be new and high-quality and/or the market dictates a higher price point.
- All program and facility / amenity rental pricing (except weddings) include differential rates for residents and non-residents. Weddings, sponsorships, naming rights, and vendor booth space do not factor in differential rates based on residency.
- Rentals are available for: Shelters, Amphitheater, Event Lawn, Weddings, Meeting Rooms, Community Garden Plots, Vendor Booths, Food Truck Spaces, and Athletic Fields, which include add-ons for Field Lighting, Concessions, Alcohol Permits and Field Prep.
- Amenity / facility naming rights opportunities include: Athletic Fields, Event Lawn, Event Center, Treed Outdoor Event Space, Amphitheater, Community Gardens, Agritourism Area, Dog Park, and Trail Markers.
- Sponsorship opportunities include: Athletic Teams, Outfield / Backstop Signage, Community Events, and Walk / Run Events
- The cost recovery goal for the entire Community Center operation is 35%+.
- All pricing and participation rates used in developing revenue projections for the operational pro forma can be found in the **Appendix**.

2.5.3 Staffing Levels

STAFFING

To operate and maintain Frazier Farm Park, staffing levels and hours required for fulltime staff, part-time staff, seasonal staff and contractors have been calculated using the FY 19-20 Pay and Classification Plan. This would include employee benefit costs of 35% of FT salaries, as well. A total of five (5) full-time positions are required to manage the Park outcomes to their full potential, as well as part-time and contracted employees.

FULLTIME STAFFING

> Recreation Superintendent – New FT position (40% Dedicated to park) based on pay grade 16 midpoint
> Events Manager - –FT position could be developed from existing Special Events Coordinator position and backfilled (80% dedicated to park) based on pay grade 13 midpoint
> Program Manager –FT position could be developed from existing Program Coordinator position and backfilled (80% dedicated to park) based on pay grade 13 midpoint
> Athletic Manager - New FT position could be developed from existing Athletic Coordinator position and backfilled (80% dedicated to park) based on pay grade 13 midpoint
> Maintenance Foreman Dedicated – New FT position that should have competition turf background (100% dedicated to park) based on pay grade 11 midpoint

- Maintenance Worker Dedicated – New FT Position to support ongoing maintenance needs based on pay grade 7 midpoint

PART-TIME STAFFING

- Part-time program staff– $11/hour average Youth programs
  - Fitness classes, life skill classes, etc.
- Part-time maintenance staff - $15/hour average
  - (4) Mowing, weed eating, event setup / clean up, trash collecting, etc. Reports to the Maintenance Worker

CONTRACT SERVICES

- Deep cleaning / specialized repairs
- Program / athletic instructors – 50/50 split (could contract out adult programs for the first year or two to see how the community responds to the additional offerings. This also mitigates the financial investment risk.
- Concession/ vending service
- Refuse pick-up
- Sports field lighting routine maintenance
- HVAC

2.5.4 Additional Operational Costs

- Utility costs, based on per acre or per square foot, reflect industry rates based on actual costs for similar operations.
- All equipment, materials, and supplies were estimated based on existing expenses and industry rates to account for the provision of program services and to operate Frazier Farm Park on an annual basis.
- Maintenance costs were incorporated based on industry best-practices and the desired maintenance standards, which includes all costs except personnel.
- Marketing costs to promote the programs and services of the Park are estimated at 2% of the operational budget for the park.
- Credit card fees estimated at 2% of revenues.
- An ongoing asset management / lifecycle replacement costs is estimated at 3% of the annual operating budget.
- Furniture, Fixtures, and Equipment will be factored into upfront capital development costs.
- A full detail of costs and rates that were used in developing forecasts for the operational pro forma can be found in the **Appendix**.

PRO FORMA

An operational pro forma was developed to estimate and forecast the revenues and expenditures on an annual basis. The pro forma is conservative in nature and represents an objective estimate at a moment in time; therefore, future projections can, and likely will, experience variation due to unforeseen market conditions. This information should be used as a guide and will need to be updated as time passes, operations occur, and conditions change. The pro forma culminates in the expected cost recovery for Frazier Farm Park, which predicts to what extent revenues expect to offset the costs to operate and maintain the Park each year. Please note, these projections do not account for the impact of COVID-19 with regards to the economic impact, social restrictions/guidelines, or general angst for participation in programs or events.

The table below represents the six-year operational pro forma for Frazier Farm Park. Based on the assumptions outlined and typical growth inputs for revenues and expenditures, the Park is projected to achieve 59% cost recovery in year one, with expected improvement to 62% by year six. (Note: full revenue and expenditure detail can be found in the **Appendix**.)

Pro Forma Revenues & Expenditures

Frasier Farm Athletic Complex

Revenues	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Sports	$165,838	$175,788	$184,578	$193,807	$201,559	$209,621
Programs / Events	$98,790	$104,717	$109,953	$115,451	$120,069	$124,872
Rentals	$175,235	$185,749	$195,037	$204,788	$212,980	$221,499
Other	$257,725	$273,189	$286,848	$301,190	$313,238	$325,767
Total Revenue	$697,588	$739,443	$776,415	$815,236	$847,846	$881,759

Expenditures	1th Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Personnel Services	$475,736	$494,766	$514,557	$535,139	$556,544	$578,806
Supplies / Routine Maintenanc	$365,475	$376,439	$387,733	$399,365	$411,346	$423,686
Other Services & Charges	$306,778	$319,049	$331,811	$345,083	$358,887	$373,242
Capital Outlay	$34,440	$35,473	$36,537	$37,633	$38,762	$39,925
Total Expense	$1,182,429	$1,225,727	$1,270,637	$1,317,220	$1,365,539	$1,415,659

Total Cost Recovery	**59%**	**60%**	**61%**	**62%**	**62%**	**62%**

2.6 OPERATIONAL PLAN CONCLUSION

Based on the information provided in the Operations and Maintenance Plan, there is a clear need and a promising opportunity to develop Frazier Farm Park. There are notable gaps for parks and facilities in Rolesville and the demographic characteristics suggest strong potential for the Park in meeting the current needs and future needs as the Town continues to grow. Frazier Farm Park program plan and concept design were developed based on market conditions and the specific needs and preferences identified by community stakeholders. The operational plan and pro forma resulted in a high level of cost recovery (59%+) and expects the Park to be an active, high-performing complex over the first six years. This cost recovery is higher than the Department's overall cost recovery (36%).

Frazier Farm Park fits the vision of a healthy, vibrant community with multiple experiences on site and will make Rolesville a better place to live, work, and play. Please note, due to the timing of this project and the current uncertainties, this plan does not account for any COVID19 measures that are in development and evolving within the Town. Measures developed and implemented consistently by the Town moving forward should be analyzed for overall financial impact to the pro forma and added to the standards developed within this Plan. The following additional considerations could help enhance the visitor experience and operations:

- Explore the potential for a temporary fencing system at the Event Center and Amphitheater to section off for ticketed events. Make this service available to exclusive use rentals and appropriately priced.
- Develop cost recovery and track expenditures by zones for a true understanding of how each zone is performing so that cost recovery goals can be established and measured over time, specific to Frazier Farm Park. Essentially using the data that the Department is creating as a benchmark from year-to-year to focus improvements in operations and update the financial forecast for Frazier Farm Park.
- Consider contracting for adventure course and zipline in wooded areas, which will drive additional revenue and maximize potential of passive areas in the park.
- Consider a challenge course developed with the intent to host challenge 5k races and team building.
- Remodel at least one of the barns to be for weddings, which will add significant value to rentals and allow the Department to obtain a higher price point.
- Develop themed birthday parties for the agritourism and farm.
- Develop marketing material for all the programs that can be incorporated as part of the rentals (i.e., themed birthday parties, weddings, meetings, and reunions).
- Incorporate paid sponsors into appropriate marketing materials as well. This additional exposure adds value and helps to retain sponsors.
- Develop an Earned Income Policy with naming rights for Heart-Healthy Trails, event center, amphitheater, fields, shelters, dugouts, etc. This should include promotional and marketing materials that demonstrate the value and identify the timeframe, availability and costs associated with the naming rights and sponsorships.
- Explore professional services for developing a logo with meaning and incorporate the community's overall vision for Frazier Farm Park. Ensure the logo compliments the Town's branding.

- Explore increasing the value of rentals and weddings by establishing an ordinance that addresses the ability to obtain alcohol permits and partnerships with preferred vendors at the Park.
- Enhance shelter rentals for better revenue generation. This could be done by adding rentable shelters and incorporating a Department delivered activity such as hayrides which would extend the outdoor shelter rental season.
- For phase two of developing Frazier Farm Park, the Town should consider facilities and program zones that complement the phase one plan or expand upon phase one. The Town should look at similar providers of potential phase two uses. Another survey could also help pinpoint needs from the community in case they have evolved since the last survey conducted.

Integrated Design
architecture | planning | interiors

TOWN OF ROLESVILLE
LOUISBURG ROAD PARK MASTER PLAN

JOB CODE: TORLRPMP
DATE: 02-20-2020
EVENT CENTER

APPENDIX – COMMUNITY ENGAGEMENT (2019 ROLESVILLE PARKS AND RECREATION COMP PLAN)

STATISTICALLY VALID SURVEY

High priority facilities

- Greenway trail system
- Natural trails
- Indoor fitness and exercise facility
- Aquatics/swimming facility (outdoor)
- Dog park
- Community gardens
- Outdoor amphitheaters
- Senior center

High priority youth programs

- Aquatic programs
- Outdoor adventure programs
- Outdoor music/concerts
- Art, dance, performance arts
- Youth sports programs
- Special events/family festivals
- Music lessons/classes
- Teen sports programs
- Life skills programs/education

High Priority adult programs

- Adult fitness and wellness programs
- Outdoor music/concerts
- Special events/family festivals
- Outdoor adventure programs
- Aquatic programs
- Adult sports programs

COMMUNITY INPUT MEETING

Community Values

- **Health + Fitness**
- **Environment + Nature**
- **People + Community**

Reasons for visiting parks

- "It is a great place to play organized sports"
- "It is a great place for enjoying nature"
- **"It is a great place for the whole family"**

Programs residents would like to see

- **Youth athletics**
- **Adult athletics**
- **Movie + concert series**

Facilities residents would like to see

- **Greenway trails**
- Football or soccer fields
- Fields for open play
- **Nature trails + parks**
- Baseball + softball fields

STAFF + ADVISORY COMMITTEE INPUT

Big Ideas

- The Department provides a small number of well-loved parks, such as Main Street Park, and will need to continue growing their park system to keep pace with development.
- Staff's impression is that there is an existing demonstrated need for more recreational programming and more space in existing programs, but limited staff limit expansion
- The vision for Rolesville's **future greenway system** is a hub and spoke approach, with Main Street Park as the hub. Spokes will connect to the Neuse River Greenway and the larger Wake County network.
- The department has an informal 100 percent cost recovery policy. A formalized pricing and cost recovery policy could add nuance to this approach allowing some programs to have revenue meet or exceed expenditures while others could fall below the 100 percent mark.
- Department is functioning with limited staff and facilities.
- Challenge of partnering with schools to provide recreational facilities due to scheduling conflicts.
- Youth athletics are a strong feature of the department but there is expressed interest in a **Senior Center and senior programming** as well.

APPENDIX – COMMUNITY ENGAGEMENT & FARM DESIGN COMPARISON

Community Engagement and Farm Design Comparison	
Spaces/Amenities/Action	**Input Source**
Athletic Zone	
Playground	Survey Medium Priority Investment
Baseball & Softball Fields	Survey Low Priority Investment, Community Input Meeting
Youth Sports	Survey High Priority Investment (Youth), Community Input Meeting
Teen Sports Programs	Survey High Priority Investment (Youth)
Adult Sports	Survey High Priority Investment (Adult), Community Input Meeting
Football + Soccer Fields	Community Input Meeting
Event Zone	
Outdoor Amphitheater	Survey High Priority Investment
Playground	Survey Medium Priority Investment
Classroom/meeting/event space	Survey Medium Priority Investment
Outdoor Music Concerts	Survey High Priority Investment (Adult & Youth)
Special Events/Family Festivals	Survey High Priority Investment (Adult & Youth)
Movie + Concert Series	Community Input Meeting
Passive Zone	
Dog Park	Survey High Priority Investment
Community Gardens	Survey High Priority Investment
Playground	Survey Medium Priority Investment
Environmental Education	Survey Low Priority Investment (Adult & Youth)
Greenway Trail System	Survey High Priority Investment, Community Input Meeting, Staff + Advisory Committee
Natural Trails	Survey High Priority Investment, Community Input Meeting
Fields for open play	Community Input Meeting
Operations	
Develop additional Parks	Community Input Meeting
Cost Recovery	Staff + Advisory Committee
Youth Athletics are strong	Staff + Advisory Committee

APPENDIX - PRO FORMA REVENUE AND EXPENDITURE DETAIL

REVENUE MODELS

Sports Revenues

DIVISION	ACCOUNT TITLE	PRICE	UNITS		REVENUES	EXPLANATION
	REVENUES		Sessions	Participant / Teams		
Sports	T-ball - Spring Baseball	$53.00	1	28	$1,484.00	
Sports	T-ball NR - Spring Baseball	$80.00	1	43	$3,440.00	
Sports	Adv T-ball - Spring Baseball	$53.00	1	24	$1,272.00	
Sports	Adv T-ball NR - Spring Baseball	$80.00	1	36	$2,880.00	
Sports	Boys Coach Pitch - Spring Baseball	$53.00	1	33	$1,749.00	
Sports	Boys Coach Pitch NR - Spring Baseball	$80.00	1	56	$4,480.00	
Sports	Midget - Spring Baseball	$53.00	1	26	$1,378.00	
Sports	Midget NR - Spring Baseball	$80.00	1	34	$2,720.00	
Sports	Little League - Spring Baseball	$53.00	1	18	$954.00	
Sports	Little League NR - Spring Baseball	$80.00	1	29	$2,320.00	
Sports	Jr League - Spring Baseball	$53.00	1	9	$477.00	
Sports	Jr League NR - Spring Baseball	$80.00	1	15	$1,200.00	
Sports	Girls Coach Pitch - Spring Softball	$53.00	1	16	$848.00	
Sports	Girls Coach Pitch NR - Spring Softball	$80.00	1	19	$1,520.00	
Sports	U10 Softball - Spring Softball	$53.00	1	17	$901.00	
Sports	U10 Softball NR - Spring Softball	$80.00	1	16	$1,280.00	
Sports	U12 Softball - Spring Softball	$53.00	1	7	$371.00	
Sports	U12 Softball NR - Spring Softball	$80.00	1	5	$400.00	
Sports	U14 Softball - Spring Softball	$53.00	1	-	$0.00	
Sports	U14 Softball NR - Spring Softball	$80.00	1	-	$0.00	
Sports	Late Fees - Spring Baseball/Softball	$10.00	1	48	$480.00	
Sports	Boys Coach Pitch - Fall Baseball	$53.00	1	14	$742.00	
Sports	Boys Coach Pitch NR - Fall Baseball	$80.00	1	25	$2,000.00	
Sports	Midget - Fall Baseball	$53.00	1	19	$1,007.00	
Sports	Midget NR - Fall Baseball	$80.00	1	30	$2,400.00	
Sports	Little League - Fall Baseball	$53.00	1	9	$477.00	
Sports	Little League NR - Fall Baseball	$80.00	1	16	$1,280.00	
Sports	Jr League - Fall Baseball	$53.00	1	13	$689.00	
Sports	Jr League NR - Fall Baseball	$80.00	1	13	$1,040.00	
Sports	Girls Coach Pitch - Fall Softball	$53.00	1	9	$477.00	
Sports	Girls Coach Pitch NR - Fall Softball	$80.00	1	17	$1,360.00	
Sports	U10 Softball - Fall Softball	$53.00	1	13	$689.00	
Sports	U10 Softball NR - Fall Softball	$80.00	1	10	$800.00	
Sports	U12 Softball - Fall Softball	$53.00	1	15	$795.00	
Sports	U12 Softball NR - Fall Softball	$80.00	1	11	$880.00	
Sports	U14 Softball - Fall Softball	$53.00	1	-	$0.00	
Sports	U14 Softball NR - Fall Softball	$80.00	1	-	$0.00	
Sports	Late Fees - Fall Baseball/Softball	$10.00	1	46	$460.00	
Sports	5U Soccer - Spring	$53.00	1	29	$1,537.00	
Sports	5U Soccer NR - Spring	$80.00	1	15	$1,200.00	
Sports	6U Soccer - Spring	$53.00	1	47	$2,491.00	
Sports	6U Soccer NR - Spring	$80.00	1	41	$3,280.00	
Sports	9U Soccer - Spring	$53.00	1	44	$2,332.00	
Sports	9U Soccer NR - Spring	$80.00	1	33	$2,640.00	
Sports	12U Soccer - Spring	$53.00	1	151	$8,003.00	
Sports	12U Soccer NR - Spring	$80.00	1	99	$7,920.00	
Sports	Late Fees - Spring Soccer	$10.00	1	32	$320.00	
Sports	5U Soccer - Spring	$53.00	1	29	$1,537.00	
Sports	5U Soccer NR - Spring	$80.00	1	19	$1,520.00	
Sports	6U Soccer - Spring	$53.00	1	38	$2,014.00	
Sports	6U Soccer NR - Spring	$80.00	1	31	$2,480.00	
Sports	9U Soccer - Spring	$53.00	1	62	$3,286.00	
Sports	9U Soccer NR - Spring	$80.00	1	45	$3,600.00	
Sports	12U Soccer - Spring	$53.00	1	40	$2,120.00	
Sports	12U Soccer NR - Spring	$80.00	1	40	$3,200.00	
Sports	Late Fees - Spring Soccer	$10.00	1	85	$850.00	
Sports	Varsity Football	$53.00	1	9	$477.00	
Sports	Varsity Football - NR	$80.00	1	9	$720.00	
Sports	Cheerleading	$53.00	1	12	$636.00	
Sports	Cheerleading NR	$80.00	1	17	$1,360.00	
Sports	Late Fees - Football/Cheerleading	$10.00	1	7	$70.00	
Sports	Gate Admissions - Football/Cheer	$790.00	1	4	$3,160.00	
Sports	Clinics / Instructional Classes	$120.00	75	4	$36,000.00	
Sports	Clinics / Instructional Classes NR	$150.00	25	4	$15,000.00	
Sports	Adult Softball	$625.00	2	4	$5,000.00	2 seasons, 4 teams per season
Sports	Concessions Revenue	$5.00		1,567	$7,835.00	$5 spend for each participant
	TOTAL SPORTS REVENUES				**$165,838.00**	

Programs / Events Revenues

DIVISION	ACCOUNT TITLE	PRICE		UNITS	REVENUES	EXPLANATION
	REVENUES					
Programs / Events	Free Community Events - 10 per year	$0.00		10	$0.00	in-house, free events - e.g. 4th of July 6,000 ppl, Easter Egg, Santa, Concert Series
Programs / Events	Walk / Run Event Registrations	$25.00	4	150	$15,000.00	
Programs / Events	Walk / Run Event Registrations NR	$40.00	4	50	$8,000.00	
Programs / Events	Youth Arts & Crafts - Intro	$90.00	10	4	$3,600.00	6-week sessions, 4 times per year
Programs / Events	Youth Arts & Crafts NR - Intro	$100.00	2	4	$800.00	6-week sessions, 4 times per year
Programs / Events	Youth Arts & Crafts - Adv	$130.00	10	4	$5,200.00	6-week sessions, 4 times per year
Programs / Events	Youth Arts & Crafts NR - Adv	$140.00	2	4	$1,120.00	6-week sessions, 4 times per year
Programs / Events	Youth STEM Program	$190.00	10	2	$3,800.00	6-week sessions, 2 times per year
Programs / Events	Youth STEM Program NR	$200.00	2	2	$800.00	6-week sessions, 2 times per year
Programs / Events	Youth Dance / Performing Arts	$55.00	8	12	$5,280.00	4-week sessions, 12 times per year
Programs / Events	Youth Dance / Performing Arts NR	$65.00	2	12	$1,560.00	4-week sessions, 12 times per year
Programs / Events	Youth Summer Camps	$105.00	36	9	$34,020.00	weeklong sessions, 9 times
Programs / Events	Youth Summer Camps NR	$125.00	6	9	$6,750.00	weeklong sessions, 9 times
Programs / Events	Adult Arts & Crafts - Intro	$130.00	10	2	$2,600.00	6-week sessions, 4 times per year
Programs / Events	Adult Arts & Crafts NR - Intro	$145.00	2	2	$580.00	6-week sessions, 4 times per year
Programs / Events	Adult Arts & Crafts - Adv	$30.00	10	8	$2,400.00	individual classes, 8 per year
Programs / Events	Adult Arts & Crafts NR - Adv	$40.00	2	8	$640.00	individual classes, 8 per year
Programs / Events	Adult Dance / Performing Arts	$55.00	10	6	$3,300.00	4-week sessions, 6 times per year
Programs / Events	Adult Dance / Performing Arts NR	$65.00	2	6	$780.00	4-week sessions, 6 times per year
Programs / Events	Senior Programs	$10.00	10	12	$1,200.00	individual classes, 12 per year
Programs / Events	Senior Programs NR	$15.00	2	12	$360.00	individual classes, 12 per year
Programs / Events	Nature Education Programs	$3.00	25	5	$375.00	75% of nature education programs are free - 25 youth, 5 times per year
Programs / Events	Nature Education Programs NR	$5.00	5	5	$125.00	75% of nature education programs are free - 5 youth, 5 times per year
Programs / Events	Field Trips	$25.00		20	$500.00	
	TOTAL PROGRAMS / EVENTS REVENUES				**$98,790.00**	

Rental Revenue

DIVISION	ACCOUNT TITLE	PRICE	QTY	UNITS	REVENUES	EXPLANATION
	REVENUES					
Rentals	Shelter Rental	$100.00		15	$1,500.00	shelter rentals from athletic fields during fall season; include hayrides
Rentals	Shelter Rental NR	$125.00		5	$625.00	shelter rentals from athletic fields during fall season; include hayrides
Rentals	Amphitheater	$150.00	4	10	$6,000.00	4-hour rental per month x 10 months (March-October)
Rentals	Amphitheater NR	$180.00	2	10	$3,600.00	2-hour rental per month x 10 months
Rentals	Event Center / Lawn	$250.00	4	10	$10,000.00	4-hour rental per month x 10 months (March-October)
Rentals	Event Center / Lawn NR	$280.00	2	10	$5,600.00	2-hour rental per month x 10 months (March-October)
Rentals	Weddings - Wooded Area & Event Center	$4,000.00		10	$40,000.00	1 per month for 10 months (March-October)
Rentals	Meeting Rooms	$60.00	4	12	$2,880.00	4 hours of rental per month for 12 months
Rentals	Meeting Rooms NR	$90.00	1	12	$1,080.00	1 hour of rental per month for 12 months
Rentals	Community Garden Plots	$50.00		25	$1,250.00	quarter acre = 25 plots
Rentals	Farmers Market Booth Rentals	$20.00	22	20	$8,800.00	20 weeks, average 22 vendors
Rentals	Event Vendor Booths	$100.00	22	2	$4,400.00	2 events, average 22 vendors
Rentals	Food Truck Spaces	$50.00	4	10	$500.00	10 events, average 4 food trucks
Rentals	Alcohol Permits	$150.00		30	$4,500.00	estimated for 30 private rentals / events
Rentals	Field 1 - Artificial Turf 300'	$100.00	16	10	$16,000.00	Four 4-hour rentals per month for 10 months (March-October)
Rentals	Field 1 - Artificial Turf 300' NR	$125.00	4	10	$5,000.00	One 4-hour rental per month for 10 months (March-October)
Rentals	Field 2 - Turf 300'	$80.00	16	10	$12,800.00	Four 4-hour rentals per month for 10 months (March-October)
Rentals	Field 2 - Turf 300' NR	$100.00	4	10	$4,000.00	One 4-hour rentals per month for 10 months (March-October)
Rentals	Field 3 - Turf 225'	$60.00	16	10	$9,600.00	Four 4-hour rentals per month for 10 months (March-October)
Rentals	Field 3 - Turf 225' NR	$80.00	4	10	$3,200.00	One 4-hour rental per month for 10 months (March-October)
Rentals	Field 4 - Turf 225'	$60.00	16	10	$9,600.00	Four 4-hour rentals per month for 10 months (March-October)
Rentals	Field 4 - Turf 225' NR	$80.00	4	10	$3,200.00	One 4-hour rental per month for 10 months (March-October)
Rentals	Field 5 - Turf 225'	$60.00	16	10	$9,600.00	Four 4-hour rentals per month for 10 months (March-October)
Rentals	Field 5 - Turf 225' NR	$80.00	4	10	$3,200.00	One 4-hour rental per month for 10 months (March-October)
Rentals	Field lights	$30.00	4	10	$1,200.00	4 hours of rental per month for 10 months (March-October)
Rentals	Field lights NR	$45.00	1	10	$450.00	1 hour of rental per month for 10 months (March-October)
Rentals	Concessions use	$30.00	4	10	$1,200.00	4 hours of rental per month for 10 months (March-October)
Rentals	Concessions use NR	$45.00	1	10	$450.00	1 hour of rental per month for 10 months (March-October)
Rentals	Field Prep - Baseball	$50.00	6	10	$3,000.00	6 per month for 10 months (March-October)
Rentals	Field Prep - Football / Soccer	$100.00	2	10	$2,000.00	2 per month for 10 months (March-October)
	TOTAL RENTAL REVENUES				**$175,235.00**	

Other Revenues

DIVISION	ACCOUNT TITLE	PRICE	UNITS	REVENUES	EXPLANATION
	REVENUES				
Other	Spring Baseball/Softball Sponsorships	$325.00	32	$10,400.00	
Other	Fall Baseball/Softball Sponsorships Lvl 1	$325.00	13	$4,225.00	
Other	Fall Baseball/Softball Sponsorships Lvl 2	$300.00	4	$1,200.00	
Other	Spring Soccer Sponsorships	$200.00	12	$2,400.00	
Other	Fall Soccer Sponsorships	$200.00	28	$5,600.00	
Other	Field 1 Naming Rights	$15,000.00	1	$15,000.00	
Other	Field 2 Naming Rights	$13,500.00	1	$13,500.00	
Other	Field 3-5 Naming Rights	$10,500.00	3	$31,500.00	
Other	Outfield Fence Signage	$5,500.00	10	$55,000.00	
Other	Event Lawn Naming Rights	$9,500.00	1	$9,500.00	
Other	Event Center Naming Rights	$9,500.00	1	$9,500.00	
Other	Treed Outdoor Event Space Naming Rights	$5,500.00	1	$5,500.00	
Other	Amphitheater Naming Rights	$8,000.00	1	$8,000.00	
Other	Community Gardens Naming Rights	$6,000.00	1	$6,000.00	
Other	Agritourism Naming Rights	$8,000.00	1	$8,000.00	
Other	Playground Naming Rights	$4,000.00	1	$4,000.00	
Other	Dog Park - Daily Entry	$4.00	2,000	$8,000.00	
Other	Dog Park - Daily Entry NR	$6.00	500	$3,000.00	
Other	Dog Park Memberships - Annual	$40.00	80	$3,200.00	
Other	Dog Park Memberships NR - Annual	$60.00	20	$1,200.00	
Other	Community Event Title Sponsorship	$2,500.00	10	$25,000.00	
Other	Community Event Sponsorship	$1,000.00	20	$20,000.00	
Other	Walk / Run Event Sponsorship	$1,000.00	4	$4,000.00	
Other	Trail Marker / Trail Signage Sponsorship	$4,000.00	1	$4,000.00	
	TOTAL OTHER REVENUES			**$257,725.00**	

EXPENDITURE MODELS

Personnel Expenses

PERSONNEL	HOURS	RATE	BUDGET	EXPLANATION
Recreation Superintendent			$28,238.40	40% of salary - pay grade 16 midpoint
Events Manager			$48,786.40	80% of salary - pay grade 13 midpoint
Program Manager			$48,786.40	80% of salary - pay grade 13 midpoint
Athletic Manager			$48,786.40	80% of salary - pay grade 13 midpoint
FT Maintenance Supervisor			$55,314.00	pay grade 11 midpoint
FT Maintenance Staff			$45,507.00	pay grade 7 midpoint
PT Program Staff	968.10	$11.00	$10,649.10	camp counselors, rec staff for youth sports
PT Maintenance Staff	4,421.00	$15.00	$66,315.00	5 PT positions totalling 4,160 hours, plus 161 hours of field prep and 100 hours for events
Benefits			$96,396.51	35% of FT Salaries
Employer's Share of FICA			$26,957.28	7.65% of Salaries and Wages
Total	**Personnel Services**		**$475,736.49**	

Supplies & Routine Maintenance Expenses

SUPPLIES / ROUTINE MAINTENANCE COSTS	UNITS	COST/UNIT	BUDGET	EXPLANATION
General Grounds / Mowing	38.57	$3,000.00	$115,710.00	60 acres less 16 wooded acres, 3.27 hardscape/trail acres, and 2.16 facility/amenity acres
Event Lawn / Treed Space Grounds / Mowing	1.10	$5,000.00	$5,500.00	
Wooded Area	16	$500.00	$8,000.00	
Amphitheater	13,335	$0.30	$4,000.50	
Ballfields - Turf 225'	3	$7,000.00	$21,000.00	
Ballfields - Turf 300'	1	$8,000.00	$8,000.00	
Ballfields - Artificial 300'	1	$5,000.00	$5,000.00	
Parking / Hardscape	57,400	$0.05	$2,870.00	
Dog Parks	1.08	$6,000.00	$6,480.00	
Playground / Tot Lot	10,600	$0.25	$2,650.00	
Concessions / Event Center / Restrooms	9,360	$5.00	$46,800.00	
Storage / Mx Buildings	2,740	$2.50	$6,850.00	
Nature Trails (soft, 5ft wide)		$0.75	$0.00	Not currently in design, use if developed
Trails (hard, 10ft wide)	8,520	$1.05	$8,945.69	
Community Garden	10,890	$0.80	$8,712.00	quarter acre = appx. 25 plots
Recreation Program supplies			$15,000.00	
Sports Uniforms and Equipment			$26,000.00	
Staff Uniforms			$431.25	15 positions x @ $23 per shirt x 25% turnover
Cost of Goods Sold - Concessions			$3,525.75	45% of concession revenue
Community Events	$10.00	$5,000.00	$50,000.00	
Walk / Run Events	4.00	$2,500.00	$10,000.00	
Safety supplies (i.e. first aid kits, eyewear, etc)			$5,000.00	
Other miscellaneous			$5,000.00	
Total	**Supplies / Routine Maintenance**		**$365,475.19**	

Other Services & Charges Expenses

OTHER SERVICES & CHARGES	BUDGET	EXPLANATION
Sports Officials	$21,131.00	
Sports Field Prep	$2,500.00	
Contract Instructor Split	$35,010.00	50% of contracted program revenues
Security maintenance and monitoring	$12,000.00	
Contract services	$30,000.00	
Pest control	$10,000.00	
Utilities (e.g. water, electricity, sewer, trash)	$120,000.00	$10K/mo
Irrigation	$10,000.00	
Rental equipment	$10,000.00	
Onboarding / training (incl. drug tests, background checks)	$12,000.00	
Marketing and Promotions	$23,185.19	appx 2% of operating budget
Credit Card Fees	$14,151.76	estimated at 2% of all revenues
Staff rewards / incentives	$2,000.00	
Insurance		If insurance does not fall under the existing coverage of the town, we will need a number from the Town here.
Other / Misc	$5,000.00	
Total **Other Services & Charges**	**$306,977.95**	

Capital Outlay Expense

CAPITAL OUTLAY	BUDGET	EXPLANATION
Replacement / Repairs	$34,439.69	3% of operational expense for lifecycle replacement
Total **Capital Outlay**	**$34,439.69**	