

REMEDIAL INVESTIGATION – FIRST PHASE

**Reynold's School Road
End of Reynold's School Road
Canton, Haywood County, North Carolina
ID No. NONCD0000813**

**Task No. 813FP
State Contract No. N13001S**

Prepared for:

**North Carolina Department of Environmental Quality
Division of Waste Management
Inactive Hazardous Sites Branch
Pre-Regulatory Landfill Unit
1646 Mail Service Center
Raleigh, North Carolina 27699**

Prepared by:



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June 23, 2016

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1.0 INTRODUCTION

This Remedial Investigation – First Phase report has been prepared by ESP Associates, P.A. (ESP) to present the findings of the first phase activities performed at the Reynold's School Road (NONCD0000813) located at the end of Reynolds School Road, Canton, Haywood County, North Carolina (hereinafter referred to as the Site). The first phase activities presented in this report were performed in general accordance with ESP's work plan for Task Order 813FP dated March 24, 2016, approved by the Pre-Regulatory Landfill Unit of the North Carolina Department of Environmental Quality (NCDEQ).

On April 12 through 14, 2016, ESP conducted a site reconnaissance consisting of walking the site properties (i.e., four adjoining tax parcels identified by Parcel Identification Numbers [PINs] 8666-28-0297, 8666-28-2408, 8666-18-6455, and 8666-18-9711 [see Figure 1]) and performing a vehicular reconnaissance of the surrounding area to document features for the various maps presented herein (see Appendix A for field notes and photographs). Prior to the site reconnaissance, ESP submitted tickets to NC811 to have underground utilities marked on the four site properties. During the site reconnaissance, the locations of relevant features (e.g., visual waste boundary, type and extent of ground cover, structures, storm water pipes, and identified underground utilities) were recorded using a Trimble Geo7X global positioning system (GPS) unit. Information regarding topography was obtained from on-line mapping sources.

Based on the site reconnaissance of the site properties, ESP estimated the waste disposal area boundary based on visual observation (see Figure 1). The northern edge of the waste disposal area boundary based on visual observation was defined by the presence of scattered surficial debris and mounding as noted on Figure 1 and shown on Photograph 6 in Appendix A. The tabulated coordinates, in decimal degrees to the seventh order in the State Plane Coordinate System using both the North American Datum of 1983 (NAD83) and the World Geodetic System of 1984, for the waste disposal area boundary based on visual observation, starting at the northernmost point and moving around the perimeter in a clockwise progression, are provided in Appendix B. Additional observations made during the site reconnaissance are discussed in Sections 3 through 5.

2.0 GEOPHYSICAL STUDY

2.1 Geophysical Study Line Clearing

Site ground cover conditions range from open field to underbrush/briars to woods with underbrush/briars. On April 12 to 14, 2016, as directed by ESP's geophysicist, ESP personnel cleared geophysical study lines through the underbrush/briars. Line clearing was conducted using a gas-operated weed-whacker and bush axes. A field logbook (see Appendix A) was completed in the field to document the geophysical study line clearing activities.

2.2 Geophysical Study Procedures

On April 14, 2016, ESP conducted a single-frequency electromagnetic induction (EM) geophysical study to attempt to define the horizontal extent of buried waste at the Site. The approximate 3.1-acre geophysical study area is depicted on Figure 1.

ESP's staff geophysicist collected conductivity (quadrature) and in-phase (metal detection) data using a Geonics EM31 terrain conductivity meter operated in the vertical dipole mode. The data were collected continuously along lines spaced approximately 50 feet (ft) apart. The actual lines walked are shown as black lines on Figures 1 through 3 in the "Report on Geophysical Studies for Lateral Extent of Waste" dated April 28, 2016 (provided in Appendix C). ESP used a Differential Global Positioning System for location control for the EM data and to identify relevant surface features that could influence interpretation of the geophysical study results. ESP used the program Surfer to grid and contour the EM data to show the conductivity and in-phase responses.

2.3 Geophysical Study Results

A Geophysical Study Results Map is provided as Figure 1. The approximate waste disposal area boundary based on the geophysical study is presented on Figure 1. The combination of the

EM31 responses (conductivity and in-phase) identified a main buried waste disposal area in the central portion of the geophysical study area. A smaller waste disposal area, located southwest of the main waste disposal area, appears to extend beyond the geophysical study area and, therefore, has not been fully defined to the southwest. Based on the geophysical study, the main waste disposal area is estimated to be approximately 1.4 acres in size, while the portion of the smaller waste disposal area to the southwest as shown on Figure 1 is approximately 0.1 acre in size.

The tabulated coordinates, in decimal degrees to the seventh order using the NAD83, for the boundaries of the main waste disposal area and the smaller waste disposal area to the southwest based on the geophysical study are reported in Table 1 of the "Report on Geophysical Studies for Lateral Extent of Waste" dated April 28, 2016 (provided in Appendix C). The tabulated coordinates start at the northernmost point of each waste disposal area and are listed in a clockwise progression around the perimeter. The geophysical study did not detect buried waste on the tax parcel identified as PIN 8666-18-9711.

3.0 SITE MAP

A Site Map is provided as Figures 2a and 2b. The main site tax parcel is the location of the Old Reynolds School while the other three site tax parcels are residential properties. The ground cover on the site properties ranges from open field to underbrush/briars to woods with underbrush/briars (see Figure 2b). The northern and western portions of the waste disposal area are covered by woods with thick underbrush, while the southern and eastern portions of the waste disposal area are primarily open field. The ground surface within the main waste disposal area is unstable, and there was evidence of tire tracks where vehicles had become stuck trying to drive onto the waste disposal area. Access to the Site is from Reynolds School Road near its intersection with Eleanor Drive (see Figure 2a).

Within the northwestern portion of the main waste disposal area, there is an outlet of a culverted stream, identified as the unnamed tributary of Pigeon River (see Photographs 2 and 3 in Appendix A). The unnamed tributary of Pigeon River flows west within the main waste disposal

area passing through a sink hole (see Photograph 4 in Appendix A). Photograph 5 in Appendix A shows the unnamed tributary of Pigeon River as it continues beyond the western edge of the main waste disposal area. Site history presented in the "Site Summary Report" (Marshall Miller & Associates, Inc., 2014) depicted this unnamed tributary of Pigeon River as traversing the land where the main waste disposal area is now located (see 1935 United States Geologic Survey [USGS] topographic map provided in Appendix D). This unnamed tributary of Pigeon River was reportedly culverted prior to initiation of waste disposal at the Site. The inlet for the culvert is east of Reynolds School Road. The unnamed tributary flows east to west and discharges into the Pigeon River located approximately 4,000 ft to the west of the waste disposal area boundary.

Prior to the site reconnaissance conducted on April 12 to 14, 2016, ESP contacted NC811 to mark underground utilities on the site properties. During the site reconnaissance, ESP located marked underground water and sewer lines; ESP also visually identified and located unmarked underground utilities based on surface appurtenances (sewer man holes and fire hydrant). Subsequent to the site reconnaissance, ESP contacted a representative of USIC Locating Services, Inc. who was responsible for locating cable television lines. The representative of USIC confirmed that there were no underground cable television lines on the site properties along Holtzclaw Road (see telephone communication record in Appendix E). Electric lines were visually-observed to be located overhead along Holtzclaw Road. Therefore, the only identified underground utilities on the site properties are water and sewer lines.

Since there appeared to be incomplete marking of the water and sewer lines on the site properties by the utility locator, ESP contacted Mr. Richard Hodge, the Town of Canton Water and Sewer Department Head, to clarify the locations of the water and sewer lines. Mr. Hodge stated that the east/west water line marked by the utility locator (and recorded by ESP using the GPS unit as documented in Appendix B) is incorrect and does not exist; therefore, this line is not shown on Figure 2a. Mr. Hodge clarified the locations of the water and sewer lines, and indicated that the sewer pipe was a 6-inch diameter terracotta pipe (see telephone communication record in Appendix E). The approximate locations of the water and sewer lines based on information provided by Mr. Hodge (as well as associated fire hydrant and man holes observed by ESP

during the site reconnaissance) are shown on Figure 2a. As shown on Figure 2a, the water and sewer lines run through the main waste disposal area. Figure 2a identifies a depression in the central portion of the main waste disposal area (see Photograph 1 in Appendix A) overlying the water line.

Two potential underground utility cutoffs (see Figure 2a and Photographs 7 and 8 in Appendix A) were identified adjacent to the northwestern corner of the main waste disposal area; their purpose is not known.

Because NC811 does not mark private lines, there may be additional underground utilities associated with the residences and school structures on the site properties. No septic systems were identified on the site properties during the site reconnaissance or interview with Mr. Hodge. Aboveground utility lines were observed on the site properties along Holtzclaw Road; the wires on the two power poles near the school (see Figure 2a) had been disconnected.

4.0 VICINITY MAP

A Vicinity Map is provided as Figure 3. Figure 3 identifies property lines and zoning classifications for the properties containing the waste disposal area and adjacent properties within 500 ft of the waste disposal area boundary. The tax parcels containing the waste disposal area and the surrounding parcels in all directions within 500 ft of the waste disposal area are zoned as residential (R1), with the exception of a cemetery located on the adjacent tax parcel to the southeast zoned as an exclusion zone (EC). The Canton Landfill is located approximately 900 ft from the waste disposal area boundary to the east/southeast.

5.0 WATER SOURCE SURVEY MAP

A Water Source Survey Map is provided as Figure 4. Mr. Hodge, the Town of Canton Water and Sewer Department Head, was contacted and stated that he was not aware of any water supply wells (WSWs) within 1,000 ft of the waste disposal area boundary, and the area is serviced by public water and sewer (see communication record in Appendix E). The Public

Water Supply Section of the NCDEQ Division of Water Resources was also contacted and identified no public WSWs or surface water intakes within 1,000 ft of the waste disposal area boundary (see communication record in Appendix E). ESP did not observe any private WSWs during its visual site reconnaissance of the surrounding area on April 12, 2016, besides an abandoned WSW located on the Old Reynolds School property (location shown on Figure 4). Abandonment of this WSW was based on visual observation of the backfilled well (see Photographs 9 and 10 in Appendix A) rather than on a well abandonment log.

Figure 4 identifies the surface water features located within 1,000 ft of the waste disposal area boundary. A seep and a drainage pipe outlet were observed discharging into the unnamed tributary near the northwest corner of the main waste disposal area. A small tributary of the unnamed tributary was identified on USGS topographic maps in the neighborhood northwest of the site properties. A lake southwest of the site properties also feeds into the unnamed tributary.

6.0 SENSITIVE ENVIRONMENTS

ESP sent a letter via email to each of the agencies listed in Appendix C of the current NCDEQ's *Guidelines for Assessment and Cleanup* dated October 2015. The letter provided Site location information and requested information regarding the presence of sensitive environments near the Site. These letters and the associated agency responses are presented in Appendix F. Table 1 summarizes the sensitive environment survey results, including the name of the agency, name and contact information for the agency representative who responded, and information provided with regard to the presence or absence of sensitive environments under the agency's jurisdiction. Responses were received from all agencies. Sensitive environments near the Site were identified by the North Carolina Natural Heritage Program, the NCDEQ Division of Water Resources, the North Carolina Wildlife Resources Commission, and the US Army Corps of Engineers (USACE) as summarized in Table 1 and shown on Figure 5.

The Site is located in the headwaters of the Pigeon River Watershed and drains to an unnamed tributary. A portion of the Pigeon River [AU# 5-(7)b], just downstream of where the unnamed tributary converges with the Pigeon River, is impaired for biological integrity. It is listed on the

North Carolina 2014 303(d) list of impaired waters. Since the Site is located in the headwaters of the Pigeon River watershed, it is suggested that any activity on the Site include precautions to protect the watershed from further impacts. The unnamed tributary and the Pigeon River [AU# 5-(7)b], both Class C surface waters, are currently considered to be in an environmentally sensitive area for the protection and maintenance of aquatic life.

The Site drains to the Pigeon River, which is part of the Pigeon River Aquatic Habitat, a natural area designated by the NC Natural Heritage Program due to the richness of rare species it contains. The following protected species have been documented within a one-mile radius of the Site (note: the Pigeon River Aquatic Habitat is located approximately 4,000 ft west of the waste disposal area perimeter) and may potentially be present near the Site if suitable habitat exists:

- Appalachian Elktoe (*Alasmidonta raveneliana*), freshwater bivalve, US Endangered (E), NC E;
- Olive Darter (*Percina squamata*), freshwater fish, US Federal Species of Concern, NC Special Concern (SC); and
- Wavyrayed Lampmussel (*Lampsilis fasciola*), freshwater bivalve, NC SC.

The unnamed tributary of the Pigeon River beginning in the western portion of the waste disposal area and the seeps/springs where the tributary begins are Waters of the United States according to USACE.

Based on the presence of surface hydrology for a portion of the year, hydric soils indicators, and hydrophylic vegetation, the topographic low area in the east central portion of the waste disposal area (i.e., the location of the depression) is a wetland and could be a Water of the United States according to USACE.

7.0 LOCAL GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

The Site is located within the Blue Ridge Physiographic Province of North Carolina, a region underlain by metamorphic and igneous rocks of varying age subdivided into geologic belts. Based on the Geologic Map of North Carolina (North Carolina Geological Survey, 1985), the Site is located within the Coweeta Group of the Blue Ridge Belt locally comprised of metamorphic biotite gneiss of Middle/Late Proterozoic age. Bedrock within the region is overlain with regolith consisting of unconsolidated material including soil, saprolite, and alluvium. Saprolite, a layer of weathered and variably decomposed bedrock, generally mantles bedrock in the region. Saprolite has the appearance of compact clayey to sandy soil, with original bedrock textures and features preserved. Bedrock is generally exposed only in areas of rugged topography or in stream channels where erosion has removed the regolith.

Groundwater in the area is generally encountered within the upper 30 ft within saprolite under unconfined water-table conditions. Based on surface topography, groundwater within the water-table aquifer at the Site is expected to flow to the west toward the unnamed tributary of Pigeon River. Secondary joints, fractures, and faults within crystalline bedrock control the occurrence and movement of groundwater in the deeper bedrock water-bearing zone. Groundwater within the bedrock zone may be under confined or unconfined conditions.

8.0 REFERENCES

Marshall Miller & Associates, Inc.; Site Summary Report, Reynolds School Road; Prepared for the North Carolina Department of Environment and Natural Resources; May 20, 2014.

North Carolina Geological Survey; Geologic Map of North Carolina; 1985.

9.0 SOLE USE STATEMENT

This document was prepared solely for the intended use of the NCDEQ's Inactive Hazardous Sites Branch, as defined in the scope of work for Task Order 813FP. Use or reliance on this document for other purposes or by other parties is at the sole risk of the user.

10.0 CERTIFICATION

Document Name: Remedial Investigation – First Phase

Site Name: Reynold's School Road

Site ID: NONCD0000813

Task Order: 813FP

I certify that, to the best of my knowledge, after thorough investigation, the information contained in or accompanying this certification is true, accurate, and complete.

Christopher Ward, P.G., RSM
ESP Associates, P.A.

6/23/16
Date

I, MARY M. BEARE, a Notary Public of said County and State, do hereby certify that CHRISTOPHER J. WARD did personally appear before me this day, produced proper identification in the form of License, was duly sworn to be the authorized person referenced above, and signed this certification in my presence.

Witness my hand and official seal this 23 day of June, 2016.

Mary M. Beare
Notary Public (signature)

4/11/21
My Commission Expires On

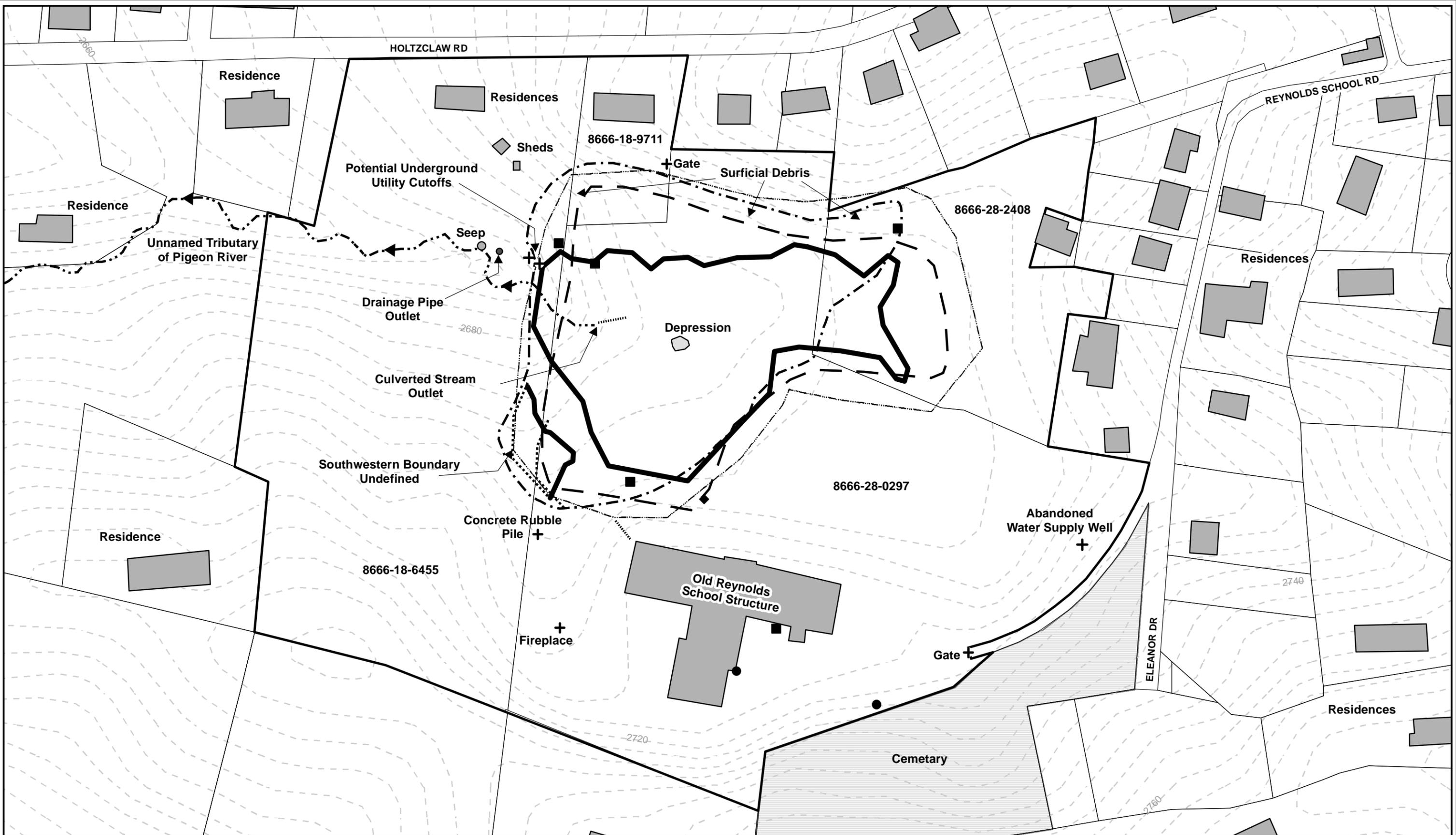
NC
State

Mecklenburg
County

(OFFICIAL SEAL)



FIGURES



Waste Disposal Boundary Based on Geophysical Study, April 2016	Point of Interest	Perennial Stream
Waste Disposal Boundary Based on Visual Observations, April 2016	Man Hole	Structure
Estimated Waste Disposal Area Based on Aerial Photograph from Site Summary Report, May 2014	Fire Hydrant	Property Line
Geophysical Study Area	Power Pole	LIDAR 4 Foot Contour Elevation Interval
Parcel	Drainage Pipe	
Depression		

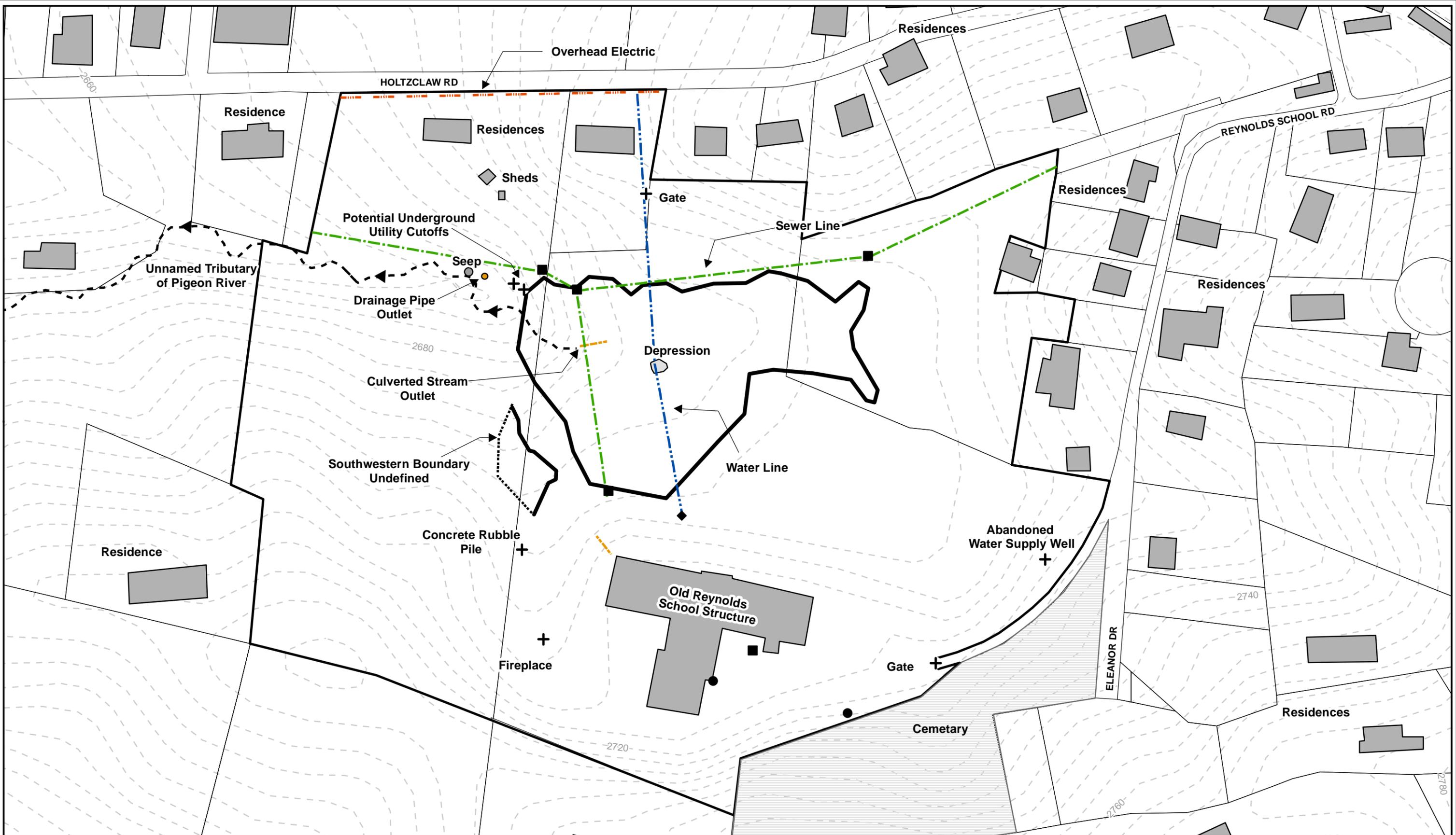
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Figure 1
 Geophysical Study Results Map
 Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD0000813

0 20 40 80 120
 Feet
 Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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 Charlotte NC, 28241
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<ul style="list-style-type: none"> ■ Man Hole ◆ Fire Hydrant ● Power Pole ⊕ Point of Interest 	<ul style="list-style-type: none"> --- Water Line --- Sewer Line --- Drainage Pipe --- Overhead Electric 	<ul style="list-style-type: none"> ▲ Perennial Stream --- LIDAR 4 Foot Contour --- Elevation Interval 	<ul style="list-style-type: none"> ■ Structure □ Parcel □ Property Line ■ Depression
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SHEET TITLE:
Figure 2a
 Site Map - Underground Utilities and Points of Interest
 Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD0000813

0 25 50 100 150
 Feet
 Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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	Waste Disposal Boundary Based on Geophysical Study, April 2016		Structure
	Open Field		Parcel
	Underbrush		Property Line
	Woods		Depression
	Woods/Underbrush		
	Perennial Stream		
	LIDAR 4 Foot Contour		
	Elevation Interval		
	Drainage Pipe		

SHEET TITLE:

Figure 2b
Site Map - Ground Cover

Reynold's School Road
Canton, Haywood County, North Carolina
ID# NONCD0000813

Feet
0 25 50 100 150

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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DATE: June 23, 2016

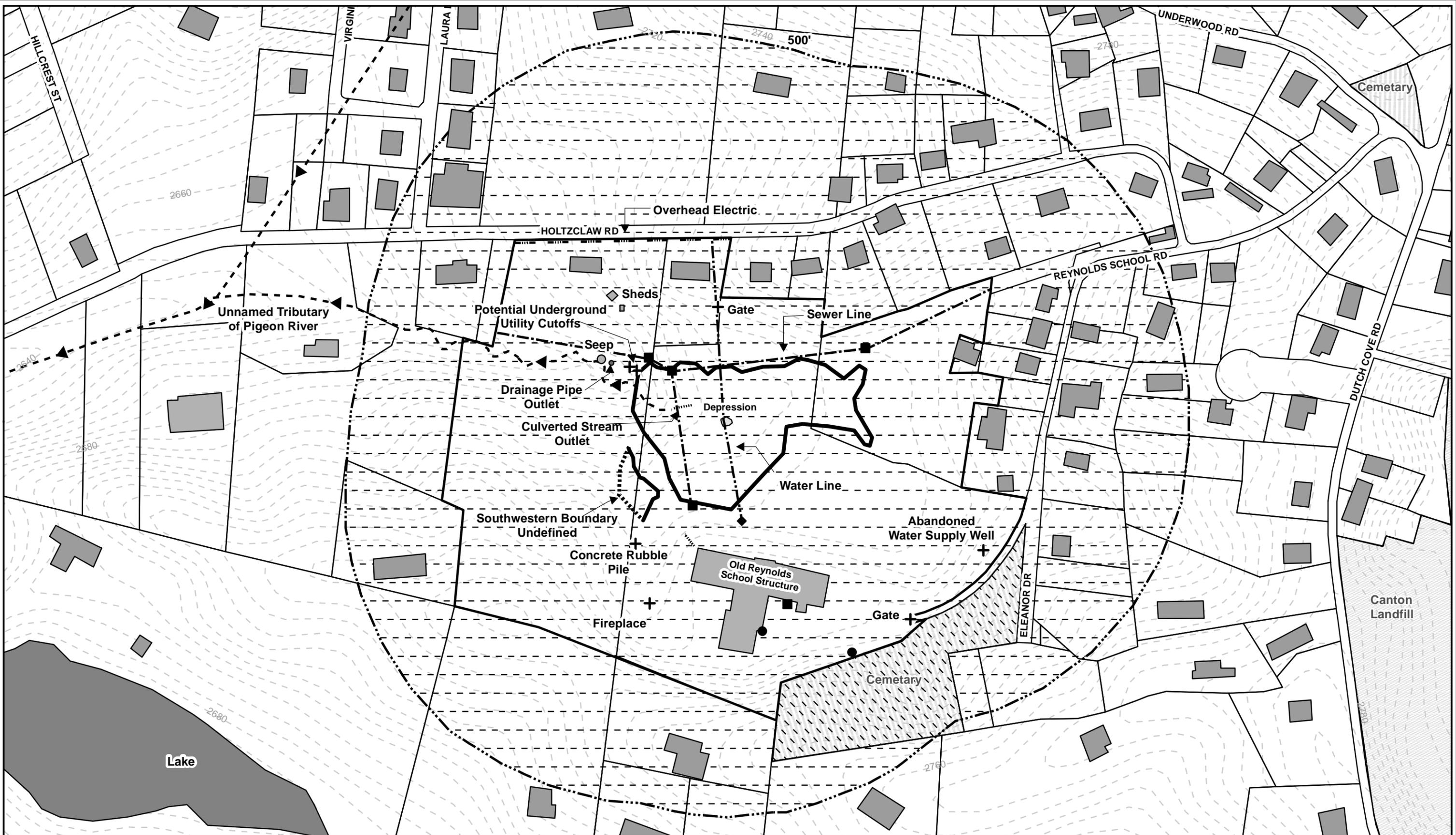
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<ul style="list-style-type: none"> ■ Man Hole ◆ Fire Hydrant ⊕ Point of Interest ● Power Pole 	<ul style="list-style-type: none"> --- Water Line --- Overhead Electric --- Sewer Line --- Drainage Pipe --- LIDAR 4 Foot Contour Elevation Interval 	<ul style="list-style-type: none"> --- 500' Buffer --- Parcel R1 Zoning --- Parcel EC Zoning □ Depression ■ Structure □ Property Line ◄ Perennial Stream ■ Lake □ Parcel
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SHEET TITLE:

Figure 3
Vicinity Map

Reynold's School Road
Canton, Haywood County, North Carolina
ID# NONCD000813

0 37.5 75 150 225 Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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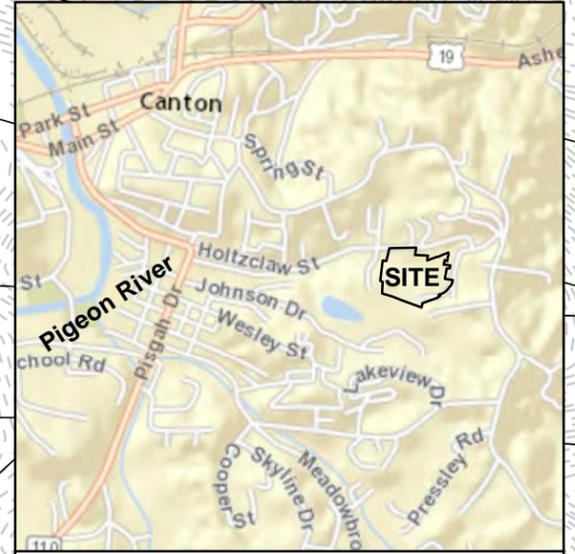
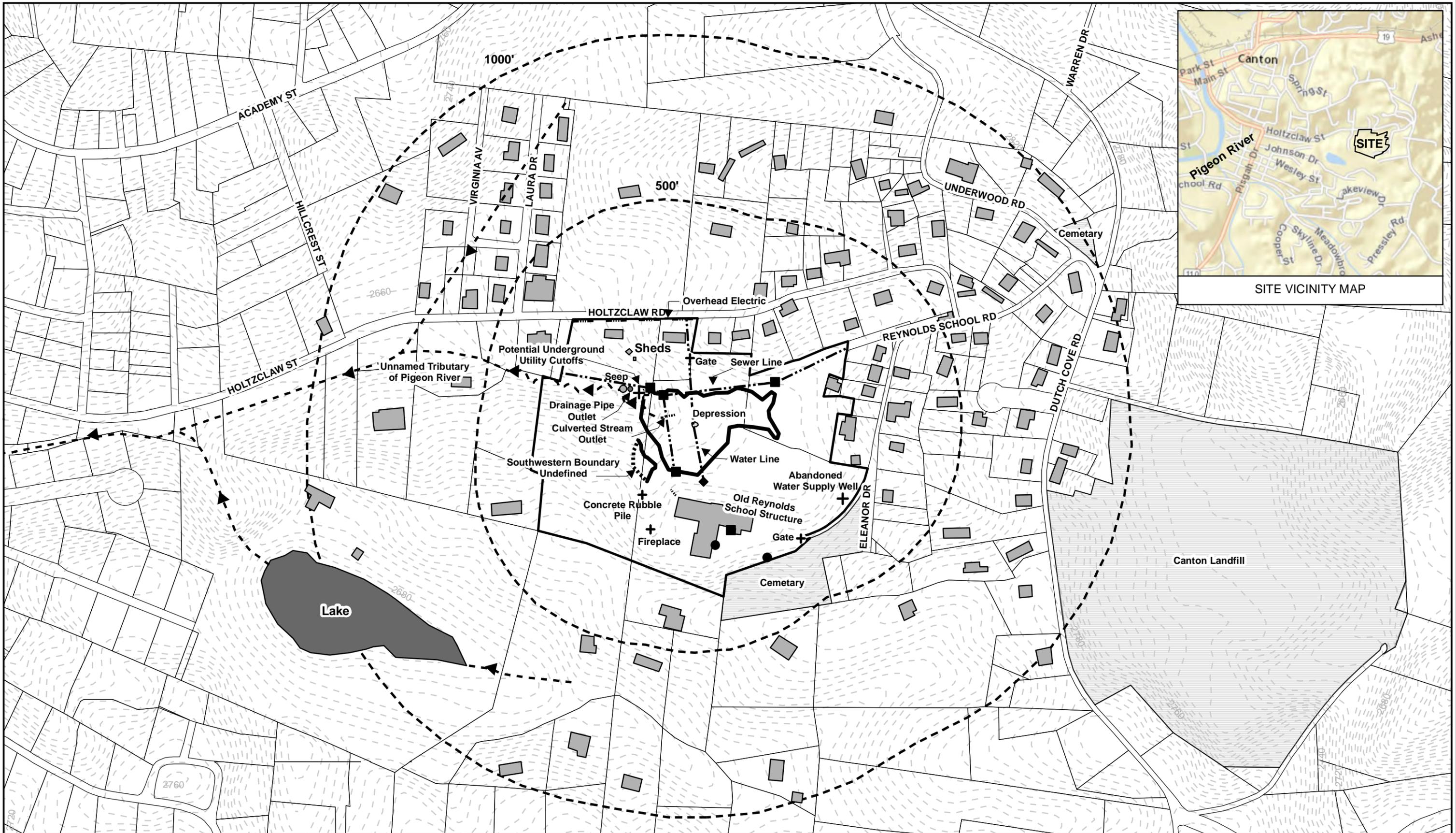
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SITE VICINITY MAP

Waste Disposal Boundary Based on Geophysical Study, April 2016			
+	Point of Interest	---	Water Line
■	Man Hole	---	Sewer Line
◆	Fire Hydrant	Drainage Pipe
●	Power Pole	- - -	LIDAR 4 Foot Contour Elevation Interval
▲	Perennial Stream	▬	Overhead Electric
▭	Depression	▭	Structure
▭	Lake	▭	Property Line
▭	Parcel	▭	500' and 1000' Buffers

SHEET TITLE:
Figure 4
 Water Source Survey Map
 Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD000813

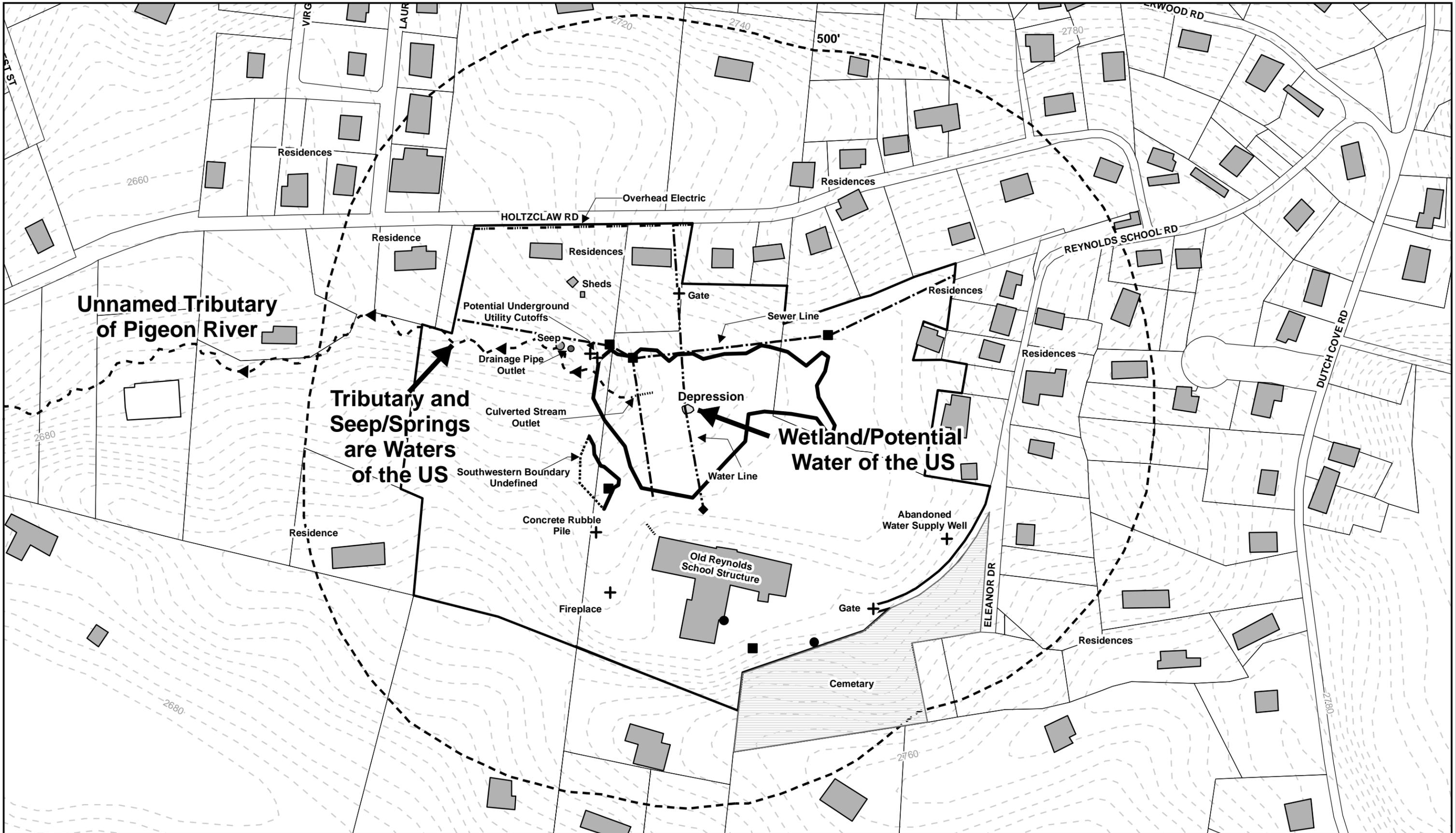
0 65 130 260 390
 Feet
 Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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<ul style="list-style-type: none"> Man Hole Fire Hydrant Power Pole Point of Interest 	<ul style="list-style-type: none"> Water Line Sewer Line Drainage Pipe Overhead Electric 	<ul style="list-style-type: none"> Perennial Stream 500' Buffer LIDAR 4 Foot Contour Elevation Interval 	<ul style="list-style-type: none"> Structure Parcel Property Line Depression
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SHEET TITLE:
Figure 5
Sensitive Environments Map
 Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD0000813

0 37.5 75 150 225 Feet
 Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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TABLES

Table 1
Summary of Sensitive Environment Survey
Reynold's School Road

Agency Contacted	Contact Name	Contact Telephone Number / Email Address	Sensitive Environments Covered	Documented Sensitive Environment? (Yes or No)	Summary of Documented Sensitive Environment
NCDNCR Natural Heritage Program	Judith Ratcliffe	919-707-8628 judith.ratcliffe@ncdcr.gov natural.heritage@ncdcr.gov Website: http://portal.ncdenr.org/web/nhp/data-services	State parks	Possible (if suitable habitat exists)	The following protected species have been documented within a one-mile radius of the Site and may potentially be present if suitable habitat exists: <ul style="list-style-type: none"> • Appalachian Elktoe (<i>Alasmidonta raveneliana</i>), freshwater bivalve, US Endangered (E), NC E; • Olive Darter (<i>Percina squamata</i>), freshwater fish, US Federal Species of Concern, NC Special Concern (SC); and • Wavyrayed Lampmussel (<i>Lampsilis fasciola</i>), freshwater bivalve, NC SC. The Site drains to the Pigeon River, which is part of the Pigeon River Aquatic Habitat, a natural area designated by the NC Natural Heritage Program. The Pigeon River Aquatic Habitat is located approximately 4,000 feet west of the waste disposal area boundary.
			Areas important to maintenance of unique natural communities		
			Sensitive areas identified under the national estuary program		
			Designated state natural areas		
			State seashore, lakeshore, and river recreational areas		
			Rare species (state and federal threatened and endangered)		
			Sensitive aquatic habitat		
State wild and scenic rivers					
National Park Service	Anita Barnett	404-507-5706 Anita_Barnett@nps.gov Website: http://www.nps.gov/rivers	National seashore, lakeshore, and river recreational areas	No	N/A
			National parks or monuments		
			Federal designated wild and scenic rivers		
US Forest Service	Heather Luczak	828-257-4817 hluczak@fs.fed.us	Designated and proposed federal wilderness and natural areas	No	N/A
			National preserves and forests		
			Federal land designated for the protection of natural ecosystems		

Table 1
Summary of Sensitive Environment Survey
Reynold's School Road

Agency Contacted	Contact Name	Contact Telephone Number / Email Address	Sensitive Environments Covered	Documented Sensitive Environment? (Yes or No)	Summary of Documented Sensitive Environment
NCDEQ Division of Water Resources	Michelle Raquet	919-707-9006 michelle.raquet@ncdenr.gov	State designated areas for protection or maintenance of aquatic life	Yes	The Site is located in the headwaters of the Pigeon River Watershed and drains to an unnamed tributary. A portion of the Pigeon River [AU# 5-(7)b], just downstream of where the unnamed tributary converges with the Pigeon River, is impaired for biological integrity. It is listed on the North Carolina 2014 303(d) list of impaired waters. Being that the Site is located in the headwaters of the Pigeon River watershed, it is suggested that any activity on the Site include precautions to protect the watershed from further impacts. The unnamed tributary and the Pigeon River [AU# 5-(7)b], both Class C surface waters, are currently considered to be in an environmentally sensitive area for the protection and maintenance of aquatic life.
NC Forest Service	Frances Jones	919-857-4837 frances.jones@ncagr.gov	State preserves and forests	No	N/A
US Fish & Wildlife Service	Allen Ratzlaff	828-258-3939 x229 allen_ratzlaff@fws.gov	Endangered species	No	N/A
NC Department of Natural and Cultural Resources	Renee Gledhill-Early	919-807-6579 environmental.review@ncdcr.gov Website: http://gis.ncdcr.gov/hpoweb/	National and state historical sites	No	N/A
NCDEQ Division of Coastal Management	Doug Huggett	252-808-2808 x212 doug.huggett@ncdenr.gov Website: http://portal.ncdenr.org/web/cm/	Areas identified under coastal protection legislation Coastal barriers or units of a coastal barrier resources system	No	N/A

Table 1
Summary of Sensitive Environment Survey
Reynold's School Road

Agency Contacted	Contact Name	Contact Telephone Number / Email Address	Sensitive Environments Covered	Documented Sensitive Environment? (Yes or No)	Summary of Documented Sensitive Environment
NC Wildlife Resources Commission	Andrea Leslie	828-558-6011 andrea.leslie@ncwildlife.org	National or state wildlife refuges	Yes	The Site drains to the Pigeon River, which is part of the Pigeon River Aquatic Habitat, a natural area designated by the NC Natural Heritage Program due to the richness of rare species it contains, including: <ul style="list-style-type: none"> • Appalachian Elktoe [<i>Alasmidonta raveneliana</i> , US Endangered (E), NC E]; • Olive Darter [<i>Percina squamata</i> , US Federal Species of Concern, NC Special Concern (SC)]; and • Wavyrayed Lampmussel (<i>Lampsilis fasciola</i> , NC SC).
			State lands designated for wildlife or game management		
			Migratory pathways and feeding areas critical for maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which such fish spend extended periods of time		
			Spawning areas critical for the maintenance of fish/shellfish species within river, lake or coastal tidal waters		
US Army Corps of Engineers (USACE)	David Brown	828-271-7980 x232 david.w.brown@usace.army.mil	Wetlands	Yes	The unnamed tributary of the Pigeon River beginning in the western portion of the waste disposal area and the seeps/springs where the tributary begins are Waters of the United States. Based on the presence of surface hydrology for a portion of the year, hydric soils indicators, and hydrophylic vegetation, the topographic low area in the east central portion of the waste disposal area is a wetland and could be a Water of the United States.

APPENDIX A
FIELD DOCUMENTATION AND PHOTOGRAPHS

4.12.16 Reynolds School Road
BN12, 614.002 TO 813 FP; B, C

Task 2, 3

0715 Depart office for site 54601

1010 Arrive site 54749

1020 HASP review

1030 FM setting up Tumble, begin
visual recon and gps locations

1035 ER begin locating, marking grid
points

1230 Notified PM, need to add extra
day for clearing, portions very thick
inaccessible for recon and marking
tasks

1300 Begin clearing activities

1330 Call from PM, might send Dillon
down to assist clearing

1400 Notified PM that the Pyabi brush
cutter is not running properly and
one bush axe will not accomplish
task of clearing for task C

1445 Depart site for Home Depot Rental
for brush clearing equipment;

795 Fairview, Piskerville

1510 Arrive Home Depot 54771

1535 Depart Home Dept for site 54771
1610 Arrive site 54793
1615 Perform Water Source Survey of
area
1645 Finish survey, depart site
for hotel 54796
1710 Arrive hotel 54803

4.13.16 Reynold's School Road
BN12.614.002 TO 813 FP; B,C
Task 2,3
0730 Depart hotel for site 54803
0750 Arrive site 54807
0800 IHSP review
0830 Begin clearing activities
1445 Finish " "
1500 Additional visual recon, pics
1600 Finish recon, load equipment
1630 Leave site for hotel 54807
1655 Arrive hotel 54824

10.0
2) 8.5
7) 1.5

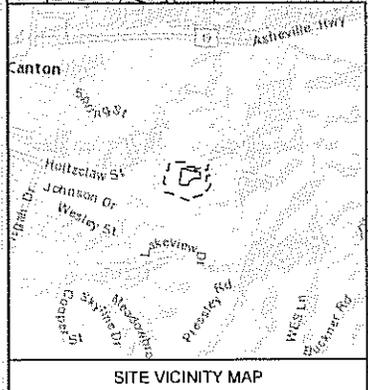
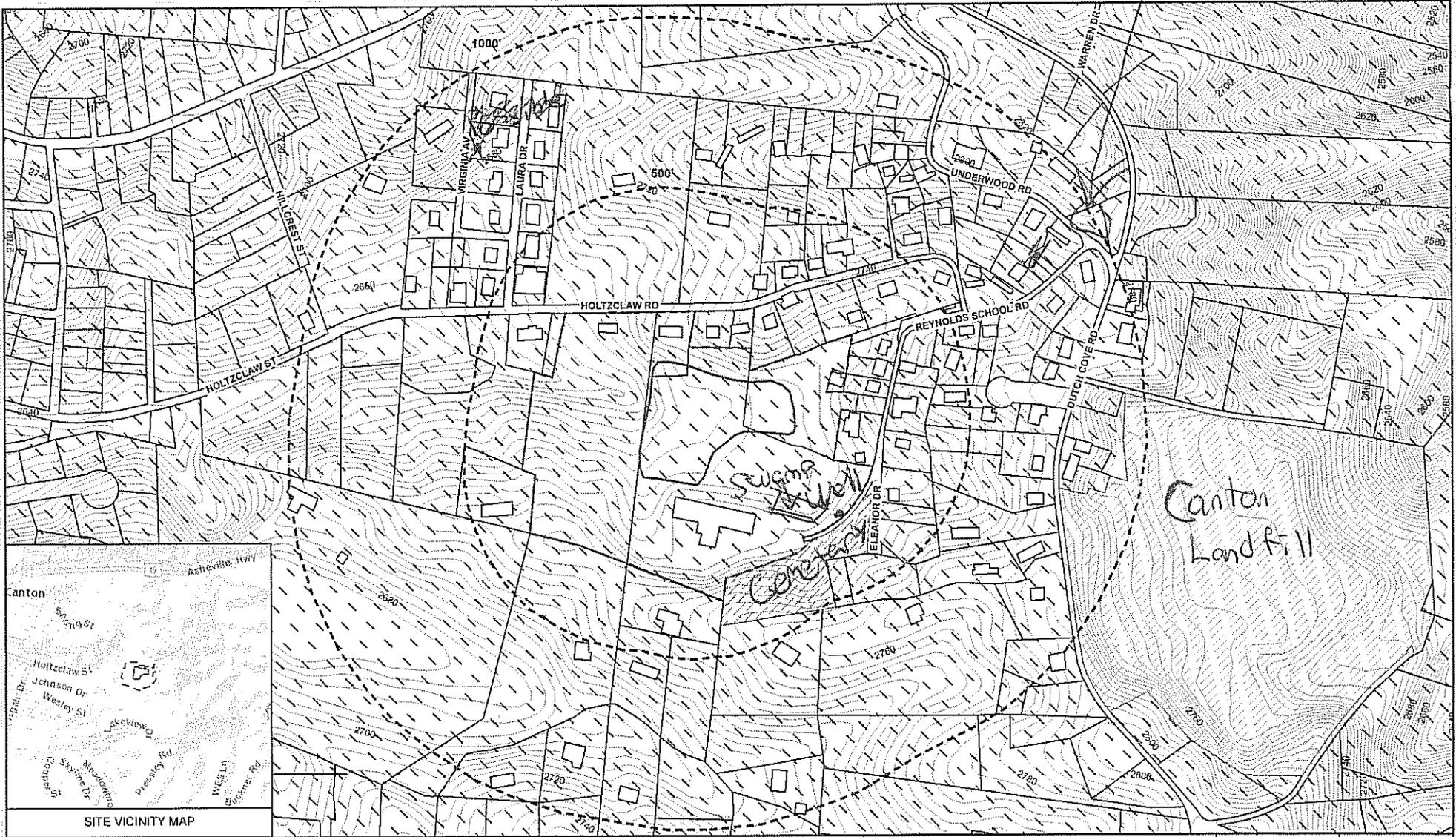
9.5
2) 1.25 1.0
2) 8.5 8.5
①

- 9.14.10 Reynolds School Road
 BN12, 614, 002, T0813 FP: BC
 Task 2, 3, 6
- 0700 Depart hotel for site 54824
- 0730 Arrive site 54837
- 0735 DN arrives for Task ~~1~~² ~~3~~ ~~4~~ ~~5~~ ~~6~~
- 0745 HASP review
- 0805 Begin geophysical survey with DN,
 FN locating SW pond.
- 0945 Finish geophysical survey, begin
 processing EM31 data
- 0950 FN departs site to return clearing
 equipment at Home Depot 54837
- 1100 FN arrives site 54882
- 1130 Landowner William McDowell
 on site informed as there is a
 WSW (inactive at top of hill) had
 FN locate & enter GPS data.
 702, 525, 8510, contacted P.M.
 got Matt Cutman's # for Mr. McDowell
- 1145 Notified by PM NB is looking over
 geophysical data
- 1155 NB notifies DN to do another
 grid line
- 1210 Process, send grid data to NB

- 1230 NB notifies DN redo site partials
- 1255 Begin task ~~2~~³ again FN clearing
- 1350 Finish task ~~2~~³
- 1355 Process send grid data to NB
- 1440 Redo 2 grid lines
- 1450 Finish " " process send
 data to NB
- 1515 Depart site to office 54882
- 1820 Arrive office 55027

11.5
 02 2 11.5
 FN 3 11.5

W
Cemetery



	Estimated Waste Disposal Area		Parcel R1 Zoning
	Site Parcel Boundaries		Parcel EC Zoning
	Structure		Parcel EX Zoning
	Waste Disposal Area Radius		4 Foot LIDAR Contour Elevation Interval

SHEET TITLE:
Figure 2
 1000' Radius Site Vicinity Map
 Reynolds School Road
 Canton, Haywood County North Carolina
 ID# NONCD0000013

0 125 250 375 Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

DATE: April 5 2016

PROJECT NO:	EM12 614	 ESP Associates, P.A. P.O. Box 7030 Charlotte NC 28241 4353 W. I-85 Front Street, Suite 100 Phone: 803-552-2449
SCALE:	As Shown	
DRAWN BY:	FN	
CHECKED BY:	CW	

well

REYNOLD'S SCHOOL ROAD (April 12 - 14, 2016)



PHOTOGRAPH 1 - VIEW OF DEPRESSION (CONTAINING SOME WATER DURING SITE RECON) WITHIN MAIN WASTE DISPOSAL AREA (LOOKING EAST)



PHOTOGRAPH 2 - VIEW OF CULVERTED UNNAMED TRIBUTARY OF PIGEON RIVER EMERGING WITHIN MAIN WASTE DISPOSAL AREA



PHOTOGRAPH 3 - VIEW OF DISCHARGE POINT OF CULVERTED UNNAMED TRIBUTARY OF PIGEON RIVER WITHIN MAIN WASTE DISPOSAL AREA



PHOTOGRAPH 4 - VIEW OF SINK HOLE WITHIN MAIN WASTE DISPOSAL AREA WEST OF CULVERT DISCHARGE

REYNOLD'S SCHOOL ROAD (April 12 - 14, 2016)



PHOTOGRAPH 5 - VIEW OF UNNAMED TRIBUTARY OF PIGEON RIVER AT THE WESTERN EDGE OF THE MAIN WASTE DISPOSAL AREA



PHOTOGRAPH 6 - VIEW OF NORTHERN EDGE OF THE MAIN WASTE DISPOSAL AREA BASED ON VISUAL OBSERVATIONS



PHOTOGRAPH 7 - VIEW OF POTENTIAL UNDERGROUND UTILITY CUTOFFS AT THE NORTHWESTERN CORNER OF THE MAIN WASTE DISPOSAL AREA



PHOTOGRAPH 8 - INTERNAL VIEW OF POTENTIAL UNDERGROUND UTILITY CUTOFF AT THE NORTHWESTERN CORNER OF THE MAIN WASTE DISPOSAL AREA

REYNOLD'S SCHOOL ROAD (April 12 - 14, 2016)



PHOTOGRAPH 9 - VIEW OF ABANDONED WATER SUPPLY WELL (AND ASSOCIATED CONCRETE PAD) ON THE OLD REYNOLDS SCHOOL PROPERTY (LOOKING TOWARDS THE SCHOOL)



PHOTOGRAPH 10 - CLOSE-UP VIEW OF ABANDONED WELL ON OLD REYNOLDS SCHOOL PROPERTY SHOWING VEGETATION GROWING FROM THE TOP OF THE BACKFILLED WELL

APPENDIX B
GPS COORDINATES

Appendix B
GPS Coordinates

Point	Point Name	NAD83 and WGS84 (degrees)	
		Latitude	Longitude
Gates			
52	gate	35.5256607	-82.8247223
115	gate	35.5270641	-82.8258901
Waste Disposal Area			
531	waste disposal area	35.5270573	-82.8260745
532	waste disposal area	35.5270440	-82.8259308
533	waste disposal area	35.5269869	-82.8257105
534	waste disposal area	35.5269551	-82.8255631
535	waste disposal area	35.5269151	-82.8253640
536	waste disposal area	35.5269296	-82.8252541
537	waste disposal area	35.5269751	-82.8250370
538	waste disposal area	35.5267520	-82.8251080
539	waste disposal area	35.5266408	-82.8252723
540	waste disposal area	35.5265102	-82.8253229
541	waste disposal area	35.5264552	-82.8254504
542	waste disposal area	35.5263217	-82.8255475
543	waste disposal area	35.5262177	-82.8256705
521	waste disposal area	35.5260190	-82.8262228
522	waste disposal area	35.5262225	-82.8264618
523	waste disposal area	35.5263359	-82.8264016
524	waste disposal area	35.5264429	-82.8263579
525	waste disposal area	35.5266621	-82.8263666
526	waste disposal area	35.5267585	-82.8263517
529	waste disposal area	35.5268195	-82.8263866
530	waste disposal area	35.5270309	-82.8262367
School			
53	school corner	35.5256888	-82.8252021
54	school corner	35.5258389	-82.8251662
55	school corner	35.5256812	-82.8253016
56	school corner	35.5256446	-82.8253021
57	school corner	35.5256647	-82.8253699
58	school corner	35.5256995	-82.8253564
60	school corner	35.5257074	-82.8254555
62	school corner	35.5255695	-82.8255371
63	school corner	35.5255061	-82.8256217
64	school corner	35.5254303	-82.8255556
65	school corner	35.5254754	-82.8258079

**Appendix B
GPS Coordinates**

Point	Point Name	NAD83 and WGS84 (degrees)	
		Latitude	Longitude
66	school corner	35.5256580	-82.8257645
67	school corner	35.5256537	-82.8257460
68	school corner	35.5257537	-82.8257213
69	school corner	35.5257927	-82.8259631
71	school corner	35.5259449	-82.8259292
72	school corner	35.5258900	-82.8256131
73	school corner	35.5259021	-82.8256045
74	school corner	35.5258826	-82.8254923
75	school corner	35.5258934	-82.8254913
Shack (a.k.a., Shed)			
117	shack corner	35.5270293	-82.8264405
118	shack corner	35.5270306	-82.8264246
119	shack corner	35.5270579	-82.8263856
120	shack corner	35.5270551	-82.8264449
Shed			
121	shed corner	35.5270668	-82.8264910
122	shed corner	35.5270972	-82.8265201
124	shed corner	35.5271141	-82.8264592
125	shed corner	35.5271300	-82.8264964
Water Line (Marked by Locator; Later Informed by Town of Canton Water and Sewer Department that Incorrectly Marked)			
84	water line mark	35.5260878	-82.8260750
85	water line mark	35.5260873	-82.8260203
86	water line mark	35.5260894	-82.8259551
87	water line mark	35.5260807	-82.8258458
88	water line mark	35.5260770	-82.8257737
89	water line mark	35.5260764	-82.8257030
90	water line mark	35.5260713	-82.8256186
91	water line mark	35.5260766	-82.8255277
92	water line mark	35.5260825	-82.8254393
93	water line mark	35.5260845	-82.8253444
94	water line mark	35.5260902	-82.8252229
95	water line mark	35.5260929	-82.8251137
96	water line mark	35.5260996	-82.8249593
97	water line mark	35.5261009	-82.8248447
98	water line mark	35.5261023	-82.8247163
99	water line mark	35.5261115	-82.8246057

Appendix B
GPS Coordinates

Point	Point Name	NAD83 and WGS84 (degrees)	
		Latitude	Longitude
100	water line mark	35.5261085	-82.8244954
101	water line mark	35.5261147	-82.8243746
102	water line mark	35.5261175	-82.8242883
103	water line mark	35.5261229	-82.8242147
104	water line mark	35.5261272	-82.8241516
77	hydrant	35.5260708	-82.8257050
Sewer Line			
106	sewer line mark	35.5261216	-82.8259730
107	sewer line mark	35.5261599	-82.8259780
108	sewer line mark	35.5261991	-82.8259898
109	sewer line mark	35.5262303	-82.8260005
110	sewer line mark	35.5262619	-82.8260064
59	man hole	35.5256936	-82.8254239
82	man hole	35.5260994	-82.8259754
116	man hole	35.5268247	-82.8262777
185	man hole	35.5269010	-82.8250306
646	man hole	35.5267599	-82.8261385
Drainage Pipes			
83	drainage pipe outlet	35.5259967	-82.8260237
150	drainage pipe outlet	35.5267876	-82.8264863
640	drainage pipe outlet	35.5265808	-82.8261133
641	drainage pipe	35.5266011	-82.8260503
642	drainage pipe	35.5265951	-82.8260134
Seep and Depression (Containing Some Water During Site Recon)			
149	seep outlet	35.5267959	-82.8265495
111	depression W	35.5265439	-82.8258503
112	depression N	35.5265509	-82.8258142
113	depression E	35.5265399	-82.8257903
114	depression S	35.5265126	-82.8258198
Unnamed Tributary of Pigeon River			
126	stream centerline	35.5268356	-82.8270734
127	stream centerline	35.5268656	-82.8270339
128	stream centerline	35.5267946	-82.8270186
129	stream centerline	35.5267779	-82.8269955
130	stream centerline	35.5267554	-82.8269671
131	stream centerline	35.5267829	-82.8269307
132	stream centerline	35.5267713	-82.8269041

Appendix B
GPS Coordinates

Point	Point Name	NAD83 and WGS84 (degrees)	
		Latitude	Longitude
133	stream centerline	35.5267806	-82.8268724
639	stream centerline	35.5265861	-82.8261157
643	stream centerline	35.5265746	-82.8261316
644	stream centerline	35.5265736	-82.8261991
645	stream centerline	35.5266228	-82.8262950
134	stream	35.5267844	-82.8268335
135	stream	35.5267829	-82.8267958
136	stream	35.5268018	-82.8267717
137	stream	35.5268104	-82.8267464
138	stream	35.5268133	-82.8267213
139	stream	35.5268263	-82.8266927
140	stream	35.5268105	-82.8266803
141	stream	35.5267978	-82.8266615
142	stream	35.5267872	-82.8266204
143	stream	35.5267735	-82.8266265
144	stream	35.5267748	-82.8266156
145	stream	35.5267805	-82.8265987
146	stream	35.5267867	-82.8265785
147	stream	35.5267793	-82.8265420
148	stream	35.5267757	-82.8265325
151	stream	35.5267469	-82.8265164
152	stream	35.5267075	-82.8265360
153	stream	35.5266897	-82.8265085
154	stream	35.5266793	-82.8265020
155	stream	35.5266680	-82.8264830
156	stream	35.5266777	-82.8264563
157	stream	35.5267022	-82.8264141
158	stream	35.5266956	-82.8263780
159	stream	35.5266714	-82.8263416
629	stream	35.5245482	-82.8280067
630	stream	35.5245291	-82.8279720
631	stream	35.5245256	-82.8279260
632	stream	35.5245179	-82.8278744
633	stream	35.5245027	-82.8278443
634	stream	35.5244949	-82.8277904
635	stream	35.5244939	-82.8277565
636	stream	35.5244942	-82.8277365

Appendix B
GPS Coordinates

Point	Point Name	NAD83 and WGS84 (degrees)	
		Latitude	Longitude
637	stream	35.5244838	-82.8277072
638	stream	35.5244692	-82.8276712
Lake			
544	lake	35.5246174	-82.8280364
545	lake	35.5246561	-82.8280685
546	lake	35.5247003	-82.8280929
547	lake	35.5247338	-82.8281345
548	lake	35.5247618	-82.8281824
549	lake	35.5247867	-82.8282336
550	lake	35.5248024	-82.8282826
551	lake	35.5248202	-82.8283355
552	lake	35.5248385	-82.8283765
553	lake	35.5248680	-82.8284094
554	lake	35.5248947	-82.8284550
555	lake	35.5249231	-82.8285024
556	lake	35.5249453	-82.8285490
557	lake	35.5249691	-82.8285973
558	lake	35.5249911	-82.8286381
559	lake	35.5250184	-82.8286869
560	lake	35.5250416	-82.8287370
561	lake	35.5250654	-82.8287847
562	lake	35.5250858	-82.8288314
563	lake	35.5251052	-82.8288686
564	lake	35.5251285	-82.8289077
565	lake	35.5251481	-82.8289525
566	lake	35.5251695	-82.8289986
567	lake	35.5251910	-82.8290420
568	lake	35.5252064	-82.8290857
569	lake	35.5252162	-82.8291369
570	lake	35.5252286	-82.8291897
571	lake	35.5252379	-82.8292342
572	lake	35.5252547	-82.8293049
573	lake	35.5252707	-82.8293471
574	lake	35.5252814	-82.8294003
575	lake	35.5252968	-82.8294524
576	lake	35.5253102	-82.8294989
577	lake	35.5253321	-82.8295458

Appendix B
GPS Coordinates

Point	Point Name	NAD83 and WGS84 (degrees)	
		Latitude	Longitude
578	lake	35.5253492	-82.8295830
579	lake	35.5253607	-82.8296232
580	lake	35.5253759	-82.8296703
581	lake	35.5253827	-82.8297228
582	lake	35.5253774	-82.8297714
583	lake	35.5253564	-82.8298292
584	lake	35.5253308	-82.8298787
585	lake	35.5253142	-82.8299179
586	lake	35.5252799	-82.8299628
587	lake	35.5252239	-82.8299887
588	lake	35.5251811	-82.8300165
589	lake	35.5251351	-82.8300267
590	lake	35.5250924	-82.8300336
591	lake	35.5250451	-82.8300254
592	lake	35.5250164	-82.8300197
593	lake	35.5249729	-82.8299967
594	lake	35.5249393	-82.8299792
595	lake	35.5249143	-82.8299647
596	lake	35.5248772	-82.8299378
597	lake	35.5248375	-82.8299144
598	lake	35.5248055	-82.8298720
599	lake	35.5247703	-82.8298311
600	lake	35.5247385	-82.8297992
601	lake	35.5247112	-82.8297581
602	lake	35.5246755	-82.8297166
603	lake	35.5246525	-82.8296848
604	lake	35.5246164	-82.8296545
605	lake	35.5245964	-82.8296215
606	lake	35.5245840	-82.8295767
607	lake	35.5245580	-82.8295335
608	lake	35.5245529	-82.8294733
609	lake	35.5245532	-82.8294203
610	lake	35.5245522	-82.8293426
611	lake	35.5245498	-82.8292777
612	lake	35.5245550	-82.8292249
613	lake	35.5245788	-82.8291510
614	lake	35.5245846	-82.8290879

Appendix B
GPS Coordinates

Point	Point Name	NAD83 and WGS84 (degrees)	
		Latitude	Longitude
615	lake	35.5245988	-82.8290152
616	lake	35.5246219	-82.8289857
617	lake	35.5246313	-82.8289278
618	lake	35.5246297	-82.8288676
619	lake	35.5246412	-82.8287892
620	lake	35.5245960	-82.8287400
621	lake	35.5245663	-82.8286809
622	lake	35.5245556	-82.8286011
623	lake	35.5245516	-82.8285294
624	lake	35.5245505	-82.8283997
625	lake	35.5245427	-82.8283450
626	lake	35.5245503	-82.8282382
627	lake	35.5245439	-82.8281891
628	lake	35.5245356	-82.8281098
Abandoned Water Supply Well			
647	concrete well pad corner	35.5259934	-82.8243242
648	concrete well pad corner	35.5259907	-82.8242928
649	concrete well pad corner	35.5259671	-82.8243098
650	concrete well pad corner	35.5259788	-82.8243352
651	abandoned WSW	35.5259808	-82.8243119
Potential Underground Utility Cutoffs			
527	potential underground utility cutoff	35.5267673	-82.8263690
528	potential underground utility cutoff	35.5267681	-82.8263512
Tree Line			
161	tree line	35.5261580	-82.8241757
162	tree line	35.5261624	-82.8242444
163	tree line	35.5261813	-82.8243263
164	tree line	35.5261964	-82.8243875
165	tree line	35.5262228	-82.8244802
166	tree line	35.5262746	-82.8245532
167	tree line	35.5262984	-82.8245839
168	tree line	35.5262797	-82.8246409
169	tree line	35.5262832	-82.8247083
170	tree line	35.5262987	-82.8247929
171	tree line	35.5263250	-82.8248964
172	tree line	35.5263327	-82.8249773
173	tree line	35.5263347	-82.8250365

Appendix B
GPS Coordinates

Point	Point Name	NAD83 and WGS84 (degrees)	
		Latitude	Longitude
174	tree line	35.5263886	-82.8250884
175	tree line	35.5264246	-82.8251170
176	tree line	35.5264799	-82.8251049
177	tree line	35.5265340	-82.8251093
178	tree line	35.5265673	-82.8251403
179	tree line	35.5266210	-82.8251243
180	tree line	35.5266831	-82.8251057
181	tree line	35.5267429	-82.8250564
182	tree line	35.5268068	-82.8250371
183	tree line	35.5268561	-82.8250099
184	tree line	35.5268812	-82.8250437
186	tree line	35.5268757	-82.8250460
187	tree line	35.5268440	-82.8250849
188	tree line	35.5267997	-82.8251110
475	tree line	35.5266693	-82.8254140
476	tree line	35.5266439	-82.8254416
477	tree line	35.5266144	-82.8254641
489	tree line	35.5265200	-82.8258879
490	tree line	35.5265257	-82.8259217
505	tree line	35.5257030	-82.8261630
506	tree line	35.5256416	-82.8261454
507	tree line	35.5255978	-82.8261262
508	tree line	35.5255352	-82.8260769
509	tree line	35.5254770	-82.8260515
510	tree line	35.5254515	-82.8259923
511	tree line	35.5254369	-82.8258991
512	tree line	35.5253866	-82.8258626
513	tree line	35.5253746	-82.8257937
520	tree line	35.5254985	-82.8251929
Underbrush Line			
470	underbrush line	35.5267516	-82.8251894
471	underbrush line	35.5267205	-82.8252218
472	underbrush line	35.5266981	-82.8252590
473	underbrush line	35.5266749	-82.8253073
474	underbrush line	35.5266695	-82.8253898
478	underbrush line	35.5265929	-82.8254982
479	underbrush line	35.5265678	-82.8255501

Appendix B
GPS Coordinates

Point	Point Name	NAD83 and WGS84 (degrees)	
		Latitude	Longitude
480	underbrush line	35.5265420	-82.8256423
481	underbrush line	35.5265100	-82.8256959
485	underbrush line	35.5264969	-82.8257319
486	underbrush line	35.5264644	-82.8257685
487	underbrush line	35.5264640	-82.8258389
488	underbrush line	35.5265014	-82.8258853
491	underbrush line	35.5264742	-82.8259382
492	underbrush line	35.5264214	-82.8259629
493	underbrush line	35.5263683	-82.8259826
494	underbrush line	35.5263040	-82.8260149
495	underbrush line	35.5262392	-82.8260543
496	underbrush line	35.5261779	-82.8260481
497	underbrush line	35.5261272	-82.8260668
498	underbrush line	35.5260799	-82.8261102
499	underbrush line	35.5260178	-82.8261599
500	underbrush line	35.5259494	-82.8261823
501	underbrush line	35.5259042	-82.8262089
502	underbrush line	35.5258642	-82.8261918
503	underbrush line	35.5258015	-82.8261755
504	underbrush line	35.5257462	-82.8261572
514	underbrush line	35.5253583	-82.8256997
515	underbrush line	35.5253966	-82.8256583
516	underbrush line	35.5254686	-82.8254981
517	underbrush line	35.5255098	-82.8254260
518	underbrush line	35.5255247	-82.8253446
519	underbrush line	35.5255153	-82.8252720
Miscellaneous			
61	light pole	35.5255655	-82.8255264
76	power pole transformer	35.5254777	-82.8250452
70	fireplace	35.5256732	-82.8262105
105	concrete and pipe	35.5259610	-82.8243124

NAD83 - North American Datum of 1983.

WGS84 - World Geodetic System of 1984.

APPENDIX C
GEOPHYSICAL STUDY REPORT



April 28, 2016

Ms. Nora Zirps, P.E.
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409

Reference: **REPORT ON GEOPHYSICAL STUDIES FOR LATERAL EXTENT
OF WASTE
Reynold's School Road
Canton, Haywood County, North Carolina**

Dear Ms. Zirps:

ESP Associates, P.A. (ESP) is pleased to provide this report on geophysical studies at the subject site. This work was performed in accordance with your Statement of Work (SOW) and our proposal for this work dated March 23, 2016. The purpose of the planned work was to estimate the lateral extent of the waste.

1.0 METHODOLOGY

The field work was performed on April 14, 2016 by Dillon Nance, Staff Geophysicist for ESP. The work consisted of collecting conductivity (quadrature) and in-phase data using a Geonics EM31 terrain conductivity meter operated in the vertical dipole mode and recorded using an Archer field computer. The data were collected continuously along lines spaced approximately 50 feet apart that were cleared by other ESP personnel.

Real-time Differential Global Positioning System (DGPS) positioning of the EM31 data points was provided using a Hemisphere GPS system integrated with the Archer field computer and connected to an external antenna on a backpack pole. A maximum Positional Dilution of Precision (PDOP) of 4.0 was used for locating the EM31 data points; DGPS positions with a higher PDOP were deleted in the data processing.

Site conditions ranged from lightly wooded to thick vines and briars. Topography ranged from gently sloping to very steep. Some of the very steep areas by the creek had exposed debris including rusted metal objects, glass bottles, and tires. In addition to collecting the EM31 data, we also recorded the DGPS locations of site features such as culverts, metal objects, and drainage features in the waste area.

2.0 DATA ANALYSIS

We performed quality control reviews of the data in the field and saved the data for later analysis. Initial processing of the EM31 data was performed using the program Trackmaker31, which assigns interpolated horizontal coordinates to each data point and outputs an XYZ data file. The XYZ data file was imported into the program Surfer for gridding and contouring. The data were gridded using a search radius of 75 feet and a grid interval of 5 feet. Grid points outside of the data areas were blanked (zeroed out) in Surfer.

3.0 DISCUSSION OF RESULTS

The contoured EM31 conductivity and in-phase responses are shown on Figures 1 and 2, respectively, using the NC State Plane Feet coordinate system. Figure 1 shows the interpreted background conductivity range of zero to 10.0 milli-Siemens per meter (mS/m) in a grey color. Higher conductivity values shown in blue to red to yellow are interpreted to represent more conductive materials such as buried waste. Negative values in green to purple probably indicate a response from metal objects. The conductivity data shows a distinct area of higher conductivity centered in the study area. Also, there is a conductivity anomaly that is not fully defined in the southwest corner of the study area that may indicate additional buried waste outside the main area. During the field study, this was attributed to a pile of reinforced concrete pipe. Subsequent review in the office indicated that the location of the concrete pipes does not correspond to this conductivity anomaly.

Figure 2 shows the interpreted background in-phase range of -5.0 to +2.0 parts per thousand (ppt) in a grey color. Higher and lower in-phase values shown in green to magenta indicate the response from metal objects. The in-phase response shows the presence of metal in isolated locations primarily in the north half of the study area.

Figure 3 shows the interpreted lateral extent of the waste area based on the combination of the EM31 conductivity and in-phase responses. Some isolated EM31 in-phase responses were not included within these lateral limits, as they are interpreted to represent scattered, surficial metallic objects outside of the buried waste areas. Please note that this interpretation is limited by the

location and spacing of the EM31 data collection lines. The actual waste limits may vary from this interpretation.

Figure 4 shows the combined EM31 conductivity and in-phase responses with background levels removed superimposed on a Google Earth aerial image. The interpreted lateral extent of the waste area is also indicated.

4.0 SUMMARY

ESP performed an EM31 study at the Reynold's School Road site to help determine the lateral extent of the waste at this site. The combined results of the EM31 study and visual observations indicate that the main buried waste area is an area of approximately 1.4 acres in the middle of the study area. A second area of possible buried waste is located in the southwest corner of the study area; this area was not fully defined by the EM31 study. Coordinates for the interpreted lateral extent of waste in decimal degrees are provided in Table 1.

We appreciate the opportunity to have provided this service. Please contact us if you have any questions about this report or need additional information.

Sincerely,

ESP Associates, P.A.



Edward D. (Ned) Billington
Senior Geophysicist

DMN/EDB

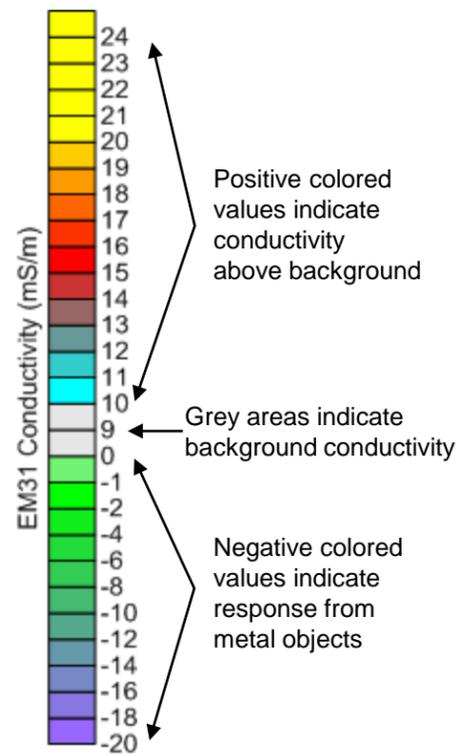
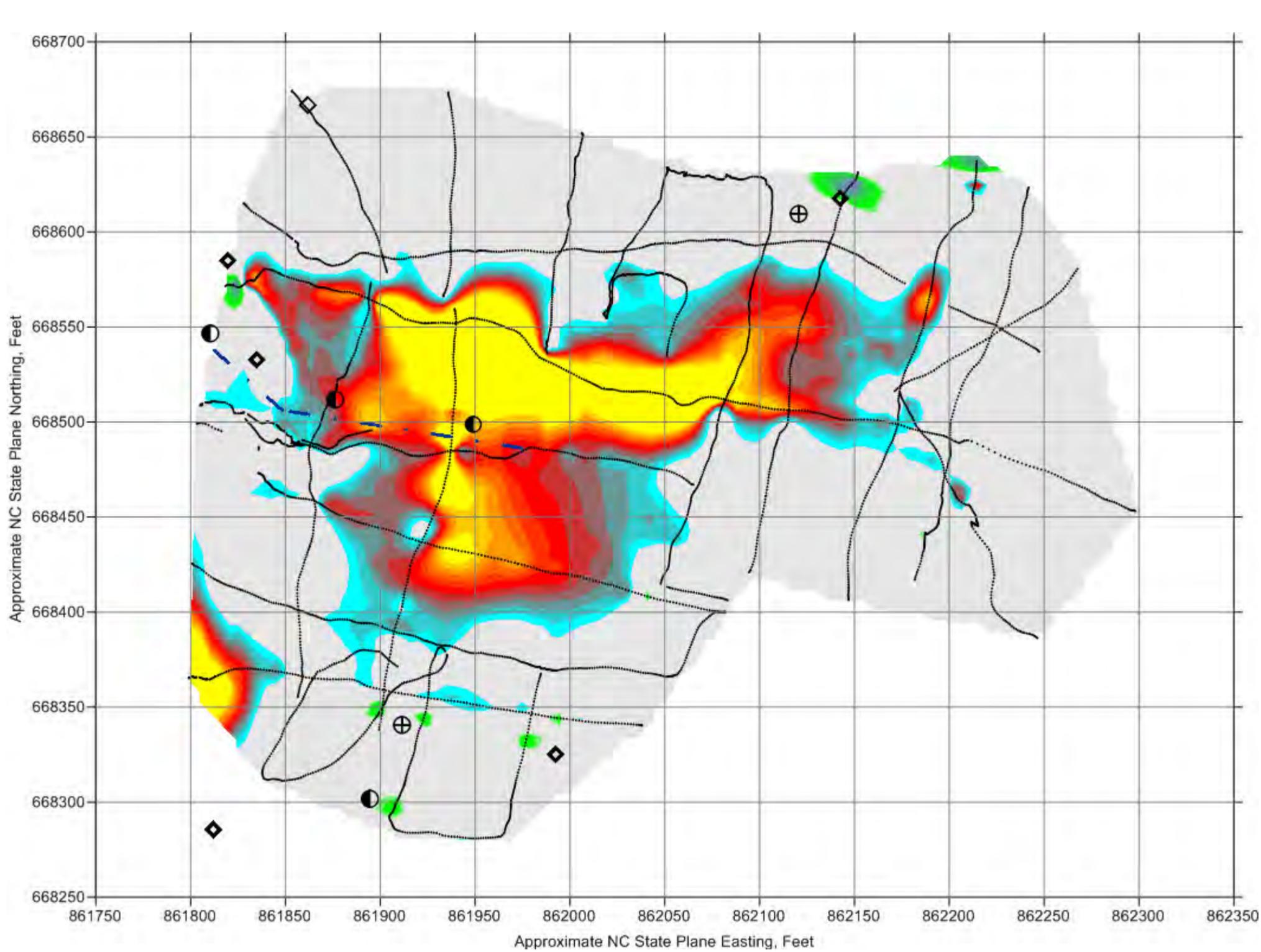
Attachments:

Table 1

Figures 1 - 4

TABLE 1
COORDINATES OF INTEPRETED LATERAL EXTENT OF WASTE AREAS

MAIN WASTE AREA		SW WASTE AREA (PARTIAL)	
Latitude	Longitude	Latitude	Longitude
35.52684	-82.82541	35.52635	-82.82634
35.52683	-82.82533	35.52631	-82.82633
35.52681	-82.82524	35.52626	-82.82629
35.52676	-82.82517	35.52625	-82.82627
35.52682	-82.82507	35.52606	-82.82627
35.52680	-82.82503	35.52616	-82.82622
35.52676	-82.82503	35.52617	-82.82619
35.52672	-82.82505	35.52619	-82.82619
35.52667	-82.82508	35.52639	-82.82636
35.52661	-82.82507		
35.52651	-82.82499		
35.52648	-82.82497		
35.52644	-82.82498		
35.52645	-82.82503		
35.52651	-82.82509		
35.52652	-82.82520		
35.52653	-82.82538		
35.52652	-82.82544		
35.52650	-82.82547		
35.52640	-82.82548		
35.52633	-82.82555		
35.52626	-82.82562		
35.52619	-82.82570		
35.52612	-82.82577		
35.52615	-82.82599		
35.52616	-82.82605		
35.52626	-82.82612		
35.52634	-82.82615		
35.52643	-82.82624		
35.52656	-82.82635		
35.52675	-82.82633		
35.52680	-82.82625		
35.52677	-82.82614		
35.52680	-82.82608		
35.52680	-82.82600		
35.52675	-82.82592		
35.52679	-82.82587		
35.52679	-82.82579		
35.52677	-82.82572		
35.52684	-82.82541		



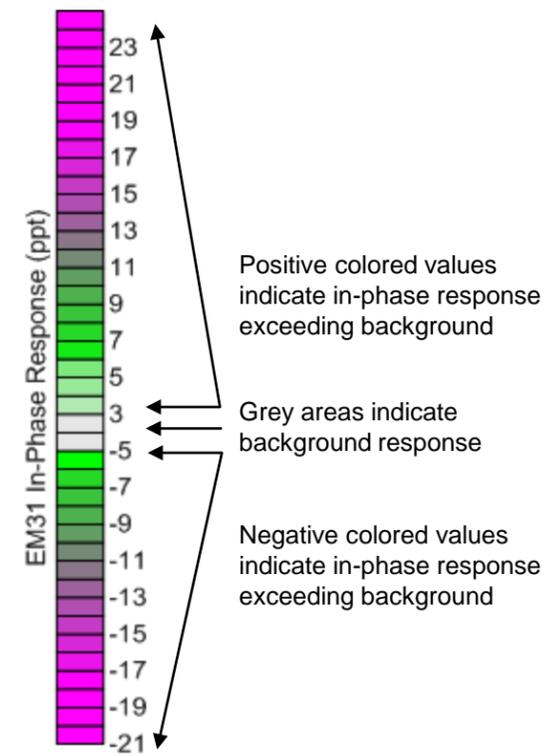
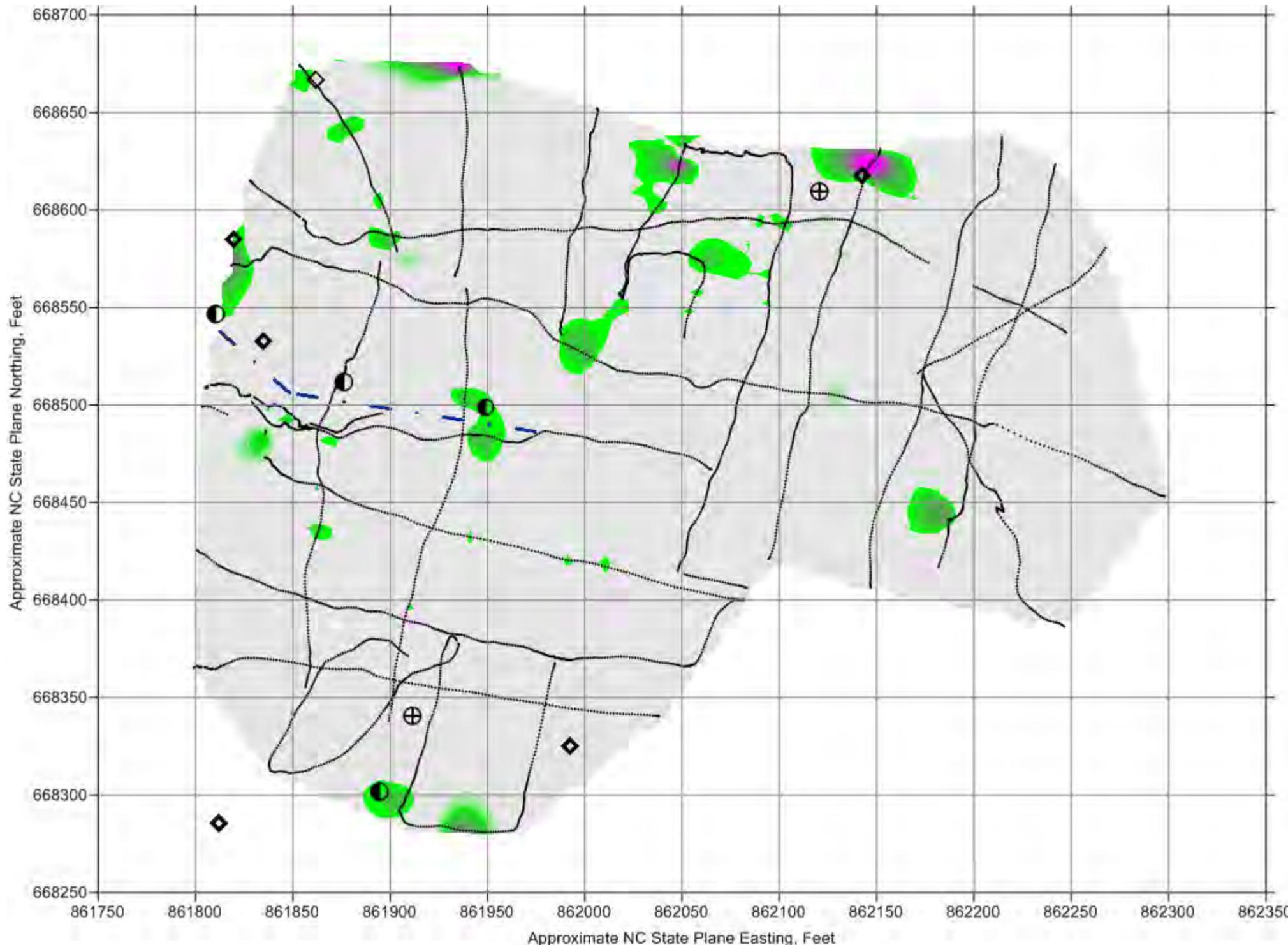
EXPLANATION	
◆	Metallic object or debris at ground surface
⊕	Sewer manhole
●	Culvert (creek)
- - -	Approximate Location of Drainage Features
⋯	EM31 Data Locations

Note: The locations of the EM31 data points and selected site features such as roads, drainages, and waste areas were recorded using a sub-meter differential GPS system. As such, the locations of the EM31 data and site features are considered approximate; the actual locations may vary from those shown.

PROJECT NO.	BN12.614.002
SCALE	AS SHOWN
DATE	4/20/16
BY	DMN

FIGURE 1
EM31 CONDUCTIVITY RESPONSE MAP
REYNOLD'S SCHOOL ROAD
CANTON, HAYWOOD COUNTY, NORTH CAROLINA

7011 Albert Pick Rd.,
Suite E
Greensboro, NC 27409
336.334.7724
www.espassociates.com



EXPLANATION	
◆	Metallic object or debris at ground surface
⊕	Sewer manhole
●	Culvert (creek)
— · —	Approximate Location of Drainage Features
⋯	EM31 Data Locations

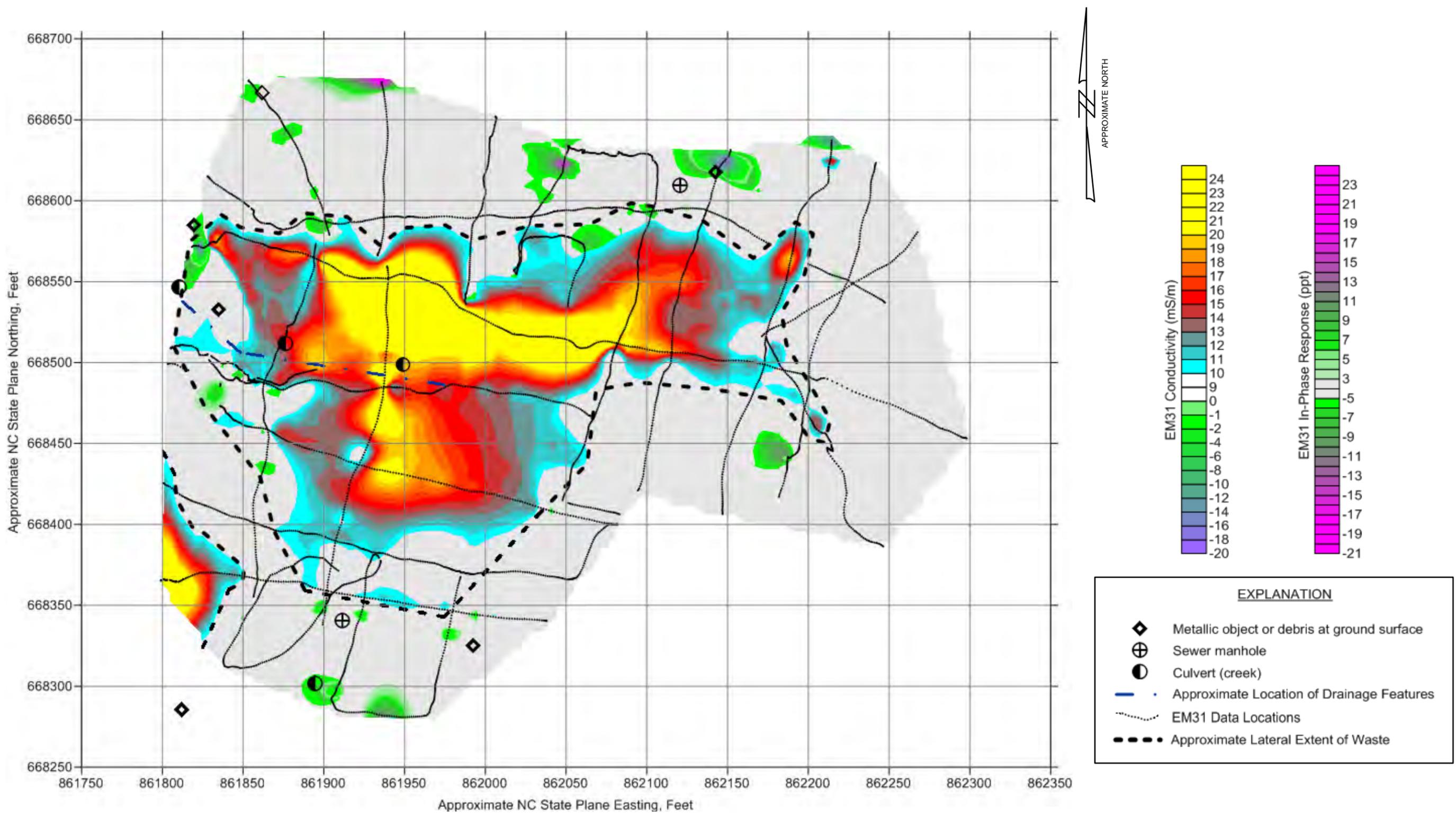
Note: The locations of the EM31 data points and selected site features such as roads, drainages, and waste areas were recorded using a sub-meter differential GPS system. As such, the locations of the EM31 data and site features are considered approximate; the actual locations may vary from those shown.

PROJECT NO.	BN12.614.002
SCALE	AS SHOWN
DATE	4/20/16
BY	DMN

FIGURE 2
EM31 IN-PHASE RESPONSE MAP
REYNOLD'S SCHOOL ROAD
CANTON, HAYWOOD COUNTY, NORTH CAROLINA



7011 Albert Pick Rd.,
Suite E
Greensboro, NC 27409
336.334.7724
www.espassociates.com



EXPLANATION

- ◆ Metallic object or debris at ground surface
- ⊕ Sewer manhole
- Culvert (creek)
- Approximate Location of Drainage Features
- ⋯ EM31 Data Locations
- - - Approximate Lateral Extent of Waste

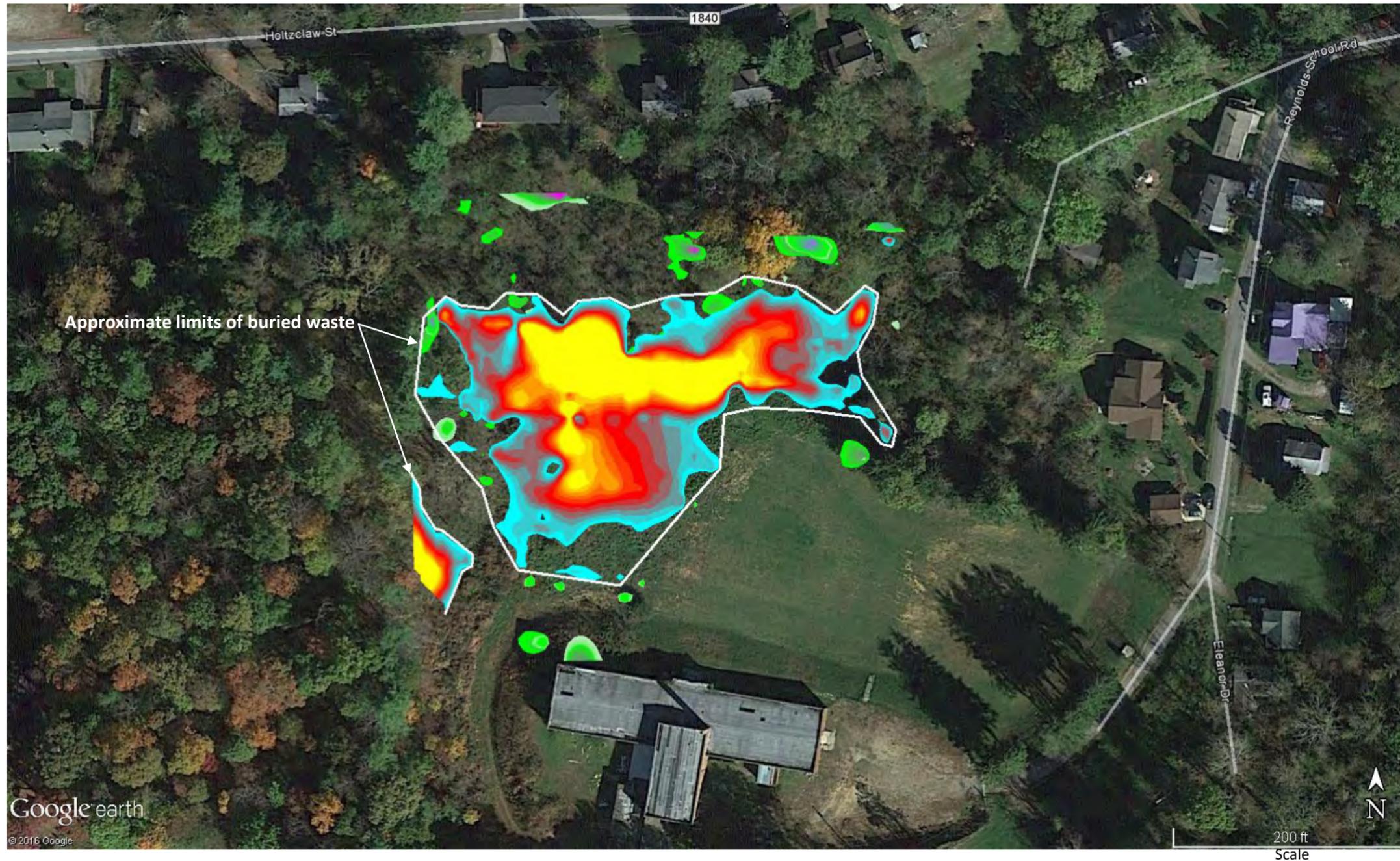
Note: The locations of the EM31 data points and selected site features such as roads, drainages, and waste areas were recorded using a sub-meter differential GPS system. As such, the locations of the EM31 data and site features are considered approximate; the actual locations may vary from those shown.

PROJECT NO.	BN12.614.002
SCALE	AS SHOWN
DATE	4/20/16
BY	DMN

FIGURE 3
GEOPHYSICAL RESULTS MAP
REYNOLD'S SCHOOL ROAD
CANTON, HAYWOOD COUNTY, NORTH CAROLINA



7011 Albert Pick Rd.,
Suite E
Greensboro, NC 27409
336.334.7724
www.espassociates.com



Google earth
© 2016 Google

200 ft
Scale

Note: The locations of the EM31 data points and selected site features such as roads, drainages, and waste areas were recorded using a sub-meter differential GPS system. As such, the locations of the EM31 data and site features are considered approximate; the actual locations may vary from those shown.

PROJECT NO.	BN12.614.002
SCALE	AS SHOWN
DATE	4/20/16
BY	DMN

**FIGURE 4 - GEOPHYSICAL RESULTS
SUPERIMPOSED ON AERIAL IMAGE**

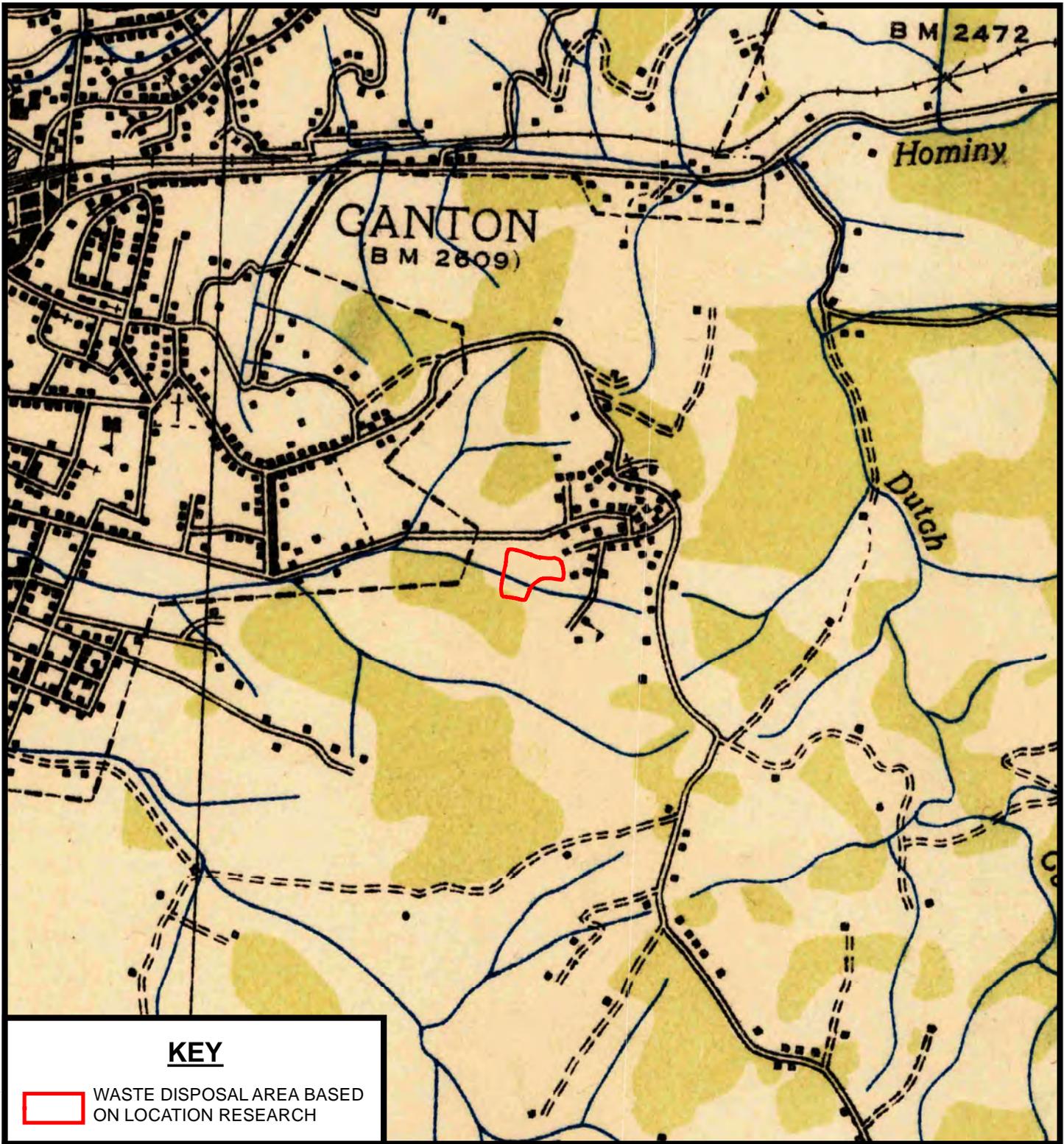
**REYNOLD'S SCHOOL ROAD
CANTON, HAYWOOD COUNTY, NORTH CAROLINA**



7011 Albert Pick Rd.,
Suite E
Greensboro, NC 27409

336.334.7724
www.espassociates.com

APPENDIX D
HISTORICAL TOPOGRAPHIC MAP



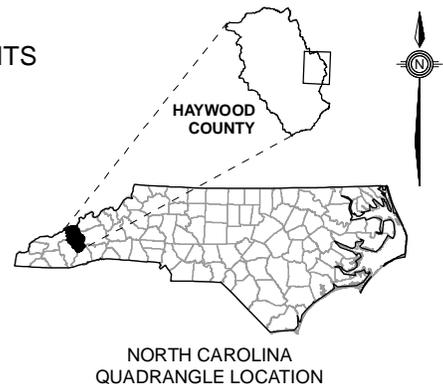
T:\GIS Data\Projects\NCDENR\NCUL - Old Unlined Landfills\Maps\NCUL245 - Reynolds School Road\NCUL245 HTC.mxd

KEY

 WASTE DISPOSAL AREA BASED ON LOCATION RESEARCH

1935

NCDENR/OLD UNLINED LANDFILL ASSESSMENTS
REYNOLDS SCHOOL ROAD
 STATE ID UNASSIGNED
 CANTON, HAYWOOD COUNTY,
 NORTH CAROLINA



SOURCE:
 - USGS Historical Topographic Map Collection
 Canton, NC 1935

PROJECT NO.: NCUL245
 DATE: 5/6/2014

**HISTORICAL
 TOPOGRAPHIC MAP**

NORTH CAROLINA
 QUADRANGLE LOCATION

APPENDIX E
COMMUNICATION RECORDS REGARDING WATER SUPPLY WELLS
AND UNDERGROUND UTILITIES

Nora Zirps

From: Mcguire, Sean <sean.mcguire@ncdenr.gov>
Sent: Monday, April 25, 2016 11:29 AM
To: Nora Zirps
Subject: RE: Reynold's School Road, Canton, NC - Public Water Supply Search

Hi Nora,

There are no regulated public drinking water sources within 1000 feet of the project perimeter. For future searches, we have just published an updated version of our SWAPInfo web mapping application you may find useful at:

<http://www.ncwater.org/swap-map>

Thanks,

Sean McGuire

Sean McGuire, GISP
GIS Specialist
NCDEQ - Division of Water Resources
Public Water Supply Section
Drinking Water Protection Program

<http://www.ncwater.org/?page=63>

Mailing Address:
1634 Mail Service Center
Raleigh NC 27699-1634

Physical Address:
512 North Salisbury Street
Room 1342G
Raleigh NC 27604-1170

Office Phone: 919-707-9104

E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Nora Zirps [<mailto:nzirps@espassociates.com>]
Sent: Monday, April 25, 2016 9:52 AM
To: Mcguire, Sean <sean.mcguire@ncdenr.gov>
Subject: Reynold's School Road, Canton, NC - Public Water Supply Search

Sean,

I appreciate your assistance in identifying public drinking water sources (water supply wells, springs, surface water

intakes) within 1,000 feet of the Reynold's School Road landfill perimeter in Canton, NC. Attached please find a GIS shape file for the landfill perimeter as well as a USGS map showing the landfill location. Again, thank you for your assistance.

Nora

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@essassociates.com

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Nora Zirps

From: Nora Zirps
Sent: Monday, April 25, 2016 9:52 AM
To: sean.mcguire@ncdenr.gov
Subject: Reynold's School Road, Canton, NC - Public Water Supply Search
Attachments: Geophysical waste limits.cpg; Geophysical waste limits.dbf; Geophysical waste limits.prj; Geophysical waste limits.shp; Geophysical waste limits.shx; Reynold's School Road, Canton, NC - topo map.pdf

Sean,

I appreciate your assistance in identifying public drinking water sources (water supply wells, springs, surface water intakes) within 1,000 feet of the Reynold's School Road landfill perimeter in Canton, NC. Attached please find a GIS shape file for the landfill perimeter as well as a USGS map showing the landfill location. Again, thank you for your assistance.

Nora

Nora A. Zirps, PE
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Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@espassociates.com



COMMUNICATION RECORD

Program Name: NCDENR Pre-regulatory Landfills

Site Name: Reynold's School Road Landfill

Project No.: BN12.614.002

Name of Person Interviewed: Richard Hodge

Title: Water and Sewer Department Head

Organization: Canton Water and Sewer

Address: 58 Park Street, Canton, NC 28716

Phone: 828 – 646 – 3407

Alt. Phone:

ESP Interviewer: Frank Newsom

Date: 4/21/2016

Time: 1440

Method of Communication (e.g., phone, in-person): Phone

Mr. Hodge was interviewed on April 21, 2016 regarding the Town of Canton's knowledge about water/sewer lines and wells around the waste disposal area. Mr. Hodge reported that all water and sewer lines he knows of should have been marked prior to our April 12th site recon and has no knowledge of any old sewer line; however, he reported that all sewer lines encountered are likely to be active. Mr. Hodge reported that he does not know the year the water or sewer lines were installed; however, he reported that an estimation of installation year can be gained from the installation date on the on-site fire hydrant. Mr. Hodge reported he has no knowledge of any water supply or irrigation wells within the surround area of the waste disposal area.



COMMUNICATION RECORD

Program Name: NCDEQ Pre-regulatory Landfills

Site Name: Reynold's School Road

Project No.: BN12.614.002

Name of Person Interviewed: Richard Hodge

Title: Water and Sewer Department Head

Organization: Canton Water and Sewer

Address: 58 Park Street, Canton, NC 28716

Phone: 828 – 646 – 3407

Alt. Phone:

ESP Interviewer: Frank Newsom

Date: 4/29/2016

Time: 1320

Method of Communication (e.g., phone, in-person): Phone

Mr. Hodge was again interviewed on April 29, 2016 regarding the Town of Canton's knowledge about water/sewer lines and wells around the waste disposal area. Mr. Hodge reported that the marked water line running west to east does not exist, instead there is a north to south line from Holtzclaw Road that ends at the on-site fire hydrant. He reported that the sewer line follows the creek and connects with the marked sewer line heading towards the Old Reynolds School. He reported that the sewer line consists of a 6" terracotta pipe.



COMMUNICATION RECORD

Program Name: NCDEQ Pre-regulatory Landfills

Site Name: Reynold's School Road

Project No.: BN12.614.002

Name of Person Interviewed: Jeff Fields

Title: Supervisor

Organization: USIC Locating Services, Inc.

Address:

Phone: 800-778-9140

Alt. Phone:

ESP Interviewer: Frank Newsom

Date: 4/29/2016

Time: 1300

Method of Communication (e.g., phone, in-person): Phone

Mr. Fields was interviewed on April 29, 2016 regarding his knowledge of underground cable and telephone lines along Holtzclaw Road, specifically at on-site residences. Mr. Fields reported there are no underground lines along Holtzclaw Road.

Nora Zirps

From: William Bradner
Sent: Monday, April 11, 2016 1:55 PM
To: Nora Zirps
Subject: FW: NCOC EMLCFM 2016/04/11 #03495 A160971286-00A NORM RESP LR

Reynolds School Road utility locate 1 of 4.

From: North Carolina 811 [<mailto:automated@nc811.org>]
Sent: Monday, April 11, 2016 1:31 PM
To: William Bradner
Subject: NCOC EMLCFM 2016/04/11 #03495 A160971286-00A NORM RESP LR

EMLCFM 03495 NCOCa 04/11/16 13:31:12 A160971286-00A NORM RESP GRID LR

Thank you for calling North Carolina 811!
This is an automatically generated response from the utilities who received your notice of excavation. For your safety, please respect and protect the marks, and excavate carefully around the marked utility lines.

This email comes from an automated program that is NOT MONITORED.
DO NOT REPLY BACK TO THIS EMAIL.

Ticket : A160971286 Rev: 00A Taken: 04/06/16 10:54 AM

State: NC Cnty: HAYWOOD Place: CANTON
Address : HOLTZCLAW RD
Work date: 04/12/16 12:00 AM
Good thru: 04/27/16 11:59 PM Update by: 04/22/16 11:59 PM

Member Code	Description	Response
ATT333*	ATT/D (DISTRIBUTION) PHONE - COPPER OR FIBER	04/11/16 01:30 PM 10 No conflict, utility is outside of stated work area
ATV01*	CHARTER CABLE TV	04/11/16 01:30 PM 10 No conflict, utility is outside of stated work area
CAN01	TOWN OF CANTON WATER AND SEWER	04/08/16 02:44 PM 20 Marked
CPL20*	DUKE ENERGY POWER	04/11/16 01:31 PM 10 No conflict, utility is outside of stated work area

Member	Type	Contact	Phone
ATT333*	Field	DISPATCH	800-778-9140
	Damage	ATT REPRESENTATIVE	877-737-2478
ATV01*	Field	USIC LOCATING SERVICES, INC.	800-778-9140
	Damage	Not available	
CAN01	Field	LISA STINNETT	828-648-2363
	Damage	CANTON POLICE DEPARTMENT	828-648-2363

CPL20*	Field	DISPATCH	800-778-9140
	Damage	DUKE ENERGY REPRESENTATIVE	800-452-2777

If any damage involves a release of product or injury, please call 911 before contacting the owner.

Water, sewer and storm drain lines are marked within the right of way or to the meter, and not on private property. Lines from the right of way or meter to the residence or business are private lines and you will need to contact a private line locator to have these lines located. Member facility owners are not responsible for marking private lines. For a listing of private line locators, please visit our website, www.nc811.org. You must contact any non-member facility owners not listed on your location request directly to request their facilities to be located and marked.

Nora Zirps

From: William Bradner
Sent: Monday, April 11, 2016 1:55 PM
To: Nora Zirps
Subject: FW: NCOC EMLCFM 2016/04/11 #03496 A160971180-00A NORM RESP LR

Reynolds School Road utility locate 2 of 4.

From: North Carolina 811 [<mailto:automated@nc811.org>]
Sent: Monday, April 11, 2016 1:31 PM
To: William Bradner
Subject: NCOC EMLCFM 2016/04/11 #03496 A160971180-00A NORM RESP LR

EMLCFM 03496 NCOCa 04/11/16 13:31:13 A160971180-00A NORM RESP GRID LR

Thank you for calling North Carolina 811!
This is an automatically generated response from the utilities who received your notice of excavation. For your safety, please respect and protect the marks, and excavate carefully around the marked utility lines.

This email comes from an automated program that is NOT MONITORED.
DO NOT REPLY BACK TO THIS EMAIL.

Ticket : A160971180 Rev: 00A Taken: 04/06/16 10:35 AM

State: NC Cnty: HAYWOOD Place: CANTON
Address : HOLTZCLAW RD
Work date: 04/12/16 12:00 AM
Good thru: 04/27/16 11:59 PM Update by: 04/22/16 11:59 PM

Member Code	Description	Response
ATT333*	ATT/D (DISTRIBUTION) PHONE - COPPER OR FIBER	04/11/16 01:31 PM 10 No conflict, utility is outside of stated work area
ATV01*	CHARTER CABLE TV	04/11/16 01:31 PM 10 No conflict, utility is outside of stated work area
CAN01	TOWN OF CANTON WATER AND SEWER	04/08/16 02:44 PM 20 Marked
CPL20*	DUKE ENERGY POWER	04/11/16 01:31 PM 10 No conflict, utility is outside of stated work area

Member	Type	Contact	Phone
ATT333*	Field	DISPATCH	800-778-9140
	Damage	ATT REPRESENTATIVE	877-737-2478
ATV01*	Field	USIC LOCATING SERVICES, INC.	800-778-9140
	Damage	Not available	
CAN01	Field	LISA STINNETT	828-648-2363

CPL20*	Damage	CANTON POLICE DEPARTMENT	828-648-2363
	Field	DISPATCH	800-778-9140
	Damage	DUKE ENERGY REPRESENTATIVE	800-452-2777

If any damage involves a release of product or injury, please call 911 before contacting the owner.

Water, sewer and storm drain lines are marked within the right of way or to the meter, and not on private property. Lines from the right of way or meter to the residence or business are private lines and you will need to contact a private line locator to have these lines located. Member facility owners are not responsible for marking private lines. For a listing of private line locators, please visit our website, www.nc811.org. You must contact any non-member facility owners not listed on your location request directly to request their facilities to be located and marked.

Nora Zirps

From: William Bradner
Sent: Monday, April 11, 2016 1:56 PM
To: Nora Zirps
Subject: FW: NCOC EMLCFM 2016/04/11 #03687 A160971211-00A NORM RESP LR

Reynolds School Road utility locate 3 of 4.

From: North Carolina 811 [<mailto:automated@nc811.org>]
Sent: Monday, April 11, 2016 1:52 PM
To: William Bradner
Subject: NCOC EMLCFM 2016/04/11 #03687 A160971211-00A NORM RESP LR

EMLCFM 03687 NCOCa 04/11/16 13:52:00 A160971211-00A NORM RESP GRID LR

Thank you for calling North Carolina 811!
This is an automatically generated response from the utilities who received your notice of excavation. For your safety, please respect and protect the marks, and excavate carefully around the marked utility lines.

This email comes from an automated program that is NOT MONITORED.
DO NOT REPLY BACK TO THIS EMAIL.

Ticket : A160971211 Rev: 00A Taken: 04/06/16 10:36 AM

State: NC Cnty: HAYWOOD Place: CANTON
Address : REYNOLDS SCHOOL RD
Work date: 04/12/16 12:00 AM
Good thru: 04/27/16 11:59 PM Update by: 04/22/16 11:59 PM

Member Code	Description	Response
ATT333*	ATT/D (DISTRIBUTION) PHONE - COPPER OR FIBER	04/11/16 01:51 PM 10 No conflict, utility is outside of stated work area
ATV01*	CHARTER CABLE TV	04/11/16 01:51 PM 10 No conflict, utility is outside of stated work area
CAN01	TOWN OF CANTON WATER AND SEWER	04/08/16 02:44 PM 20 Marked
CPL20*	DUKE ENERGY POWER	04/11/16 01:51 PM 10 No conflict, utility is outside of stated work area

Member	Type	Contact	Phone
ATT333*	Field	DISPATCH	800-778-9140
	Damage	ATT REPRESENTATIVE	877-737-2478
ATV01*	Field	USIC LOCATING SERVICES, INC.	800-778-9140
	Damage	Not available	
CAN01	Field	LISA STINNETT	828-648-2363

CPL20*	Damage	CANTON POLICE DEPARTMENT	828-648-2363
	Field	DISPATCH	800-778-9140
	Damage	DUKE ENERGY REPRESENTATIVE	800-452-2777

If any damage involves a release of product or injury, please call 911 before contacting the owner.

Water, sewer and storm drain lines are marked within the right of way or to the meter, and not on private property. Lines from the right of way or meter to the residence or business are private lines and you will need to contact a private line locator to have these lines located. Member facility owners are not responsible for marking private lines. For a listing of private line locators, please visit our website, www.nc811.org. You must contact any non-member facility owners not listed on your location request directly to request their facilities to be located and marked.

Nora Zirps

From: William Bradner
Sent: Monday, April 11, 2016 1:56 PM
To: Nora Zirps
Subject: FW: NCOC EMLCFM 2016/04/11 #03689 A160971255-00A NORM RESP LR

Reynolds School Road utility locate 4 of 4.

From: North Carolina 811 [<mailto:automated@nc811.org>]
Sent: Monday, April 11, 2016 1:52 PM
To: William Bradner
Subject: NCOC EMLCFM 2016/04/11 #03689 A160971255-00A NORM RESP LR

EMLCFM 03689 NCOCa 04/11/16 13:52:01 A160971255-00A NORM RESP GRID LR

Thank you for calling North Carolina 811!
This is an automatically generated response from the utilities who received your notice of excavation. For your safety, please respect and protect the marks, and excavate carefully around the marked utility lines.

This email comes from an automated program that is NOT MONITORED.
DO NOT REPLY BACK TO THIS EMAIL.

Ticket : A160971255 Rev: 00A Taken: 04/06/16 10:45 AM

State: NC Cnty: HAYWOOD Place: CANTON
Address : REYNOLDS SCHOOL RD
Work date: 04/12/16 12:00 AM
Good thru: 04/27/16 11:59 PM Update by: 04/22/16 11:59 PM

Member Code	Description	Response
ATT333*	ATT/D (DISTRIBUTION) PHONE - COPPER OR FIBER	04/11/16 01:51 PM 10 No conflict, utility is outside of stated work area
ATV01*	CHARTER CABLE TV	04/11/16 01:51 PM 10 No conflict, utility is outside of stated work area
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CPL20*	DUKE ENERGY POWER	04/11/16 01:51 PM 10 No conflict, utility is outside of stated work area

Member	Type	Contact	Phone
ATT333*	Field	DISPATCH	800-778-9140
	Damage	ATT REPRESENTATIVE	877-737-2478
ATV01*	Field	USIC LOCATING SERVICES, INC.	800-778-9140
	Damage	Not available	
CAN01	Field	LISA STINNETT	828-648-2363

CPL20*	Damage	CANTON POLICE DEPARTMENT	828-648-2363
	Field	DISPATCH	800-778-9140
	Damage	DUKE ENERGY REPRESENTATIVE	800-452-2777

If any damage involves a release of product or injury, please call 911 before contacting the owner.

Water, sewer and storm drain lines are marked within the right of way or to the meter, and not on private property. Lines from the right of way or meter to the residence or business are private lines and you will need to contact a private line locator to have these lines located. Member facility owners are not responsible for marking private lines. For a listing of private line locators, please visit our website, www.nc811.org. You must contact any non-member facility owners not listed on your location request directly to request their facilities to be located and marked.

APPENDIX F
SENSITIVE ENVIRONMENT CORRESPONDENCE

Nora Zirps

From: Nora Zirps
Sent: Friday, April 08, 2016 1:27 PM
To: Ratcliffe, Judith (judith.ratcliffe@ncdenr.gov)
Subject: Reynold's School Road - Sensitive Environment Survey
Attachments: Reynold's Street Road - Sensitive Environment Letter - NCDNCR Natural Heritage Program.pdf

Ms. Ratcliffe:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@espassociates.com



Date: April 8, 2016

To: Judith Ratcliffe
NCDNCR Natural Heritage Program

Subject: Reynold's School Road, NONCD0000813
End of Reynolds School Road, Canton, Haywood County, NC
ESP Project BN12.614.002

Dear Ms. Ratcliffe:

Our client, the North Carolina Department of Environmental Quality (NCDEQ), through its Pre-Regulatory Landfill Program, will be conducting environmental investigation and remediation activities at the above referenced landfill. The Reynold's School Road landfill is located at the end of Reynolds School Road in Canton, NC, approximately 500 feet west of its intersection with Eleanor Drive. A map illustrating the location of the Reynold's School Road landfill is attached for reference. The coordinates at the site entrance are 35.52683 latitude and -82.82497 longitude.

As part of the required assessment, an evaluation of the site property and adjacent properties is being conducted for the existence of environmentally sensitive areas. Specifically, we are contacting the NCDEQ Natural Heritage Program to determine whether any of the following are present on or adjacent to the landfill:

- State parks.
- Areas important to maintenance of unique natural communities.
- Sensitive areas identified under the national estuary program.
- Designated state natural areas.
- State seashore, lakeshore, and river recreational areas.
- Rare species (state and federal – threatened and endangered).
- Sensitive aquatic habitat.
- State wild and scenic rivers.

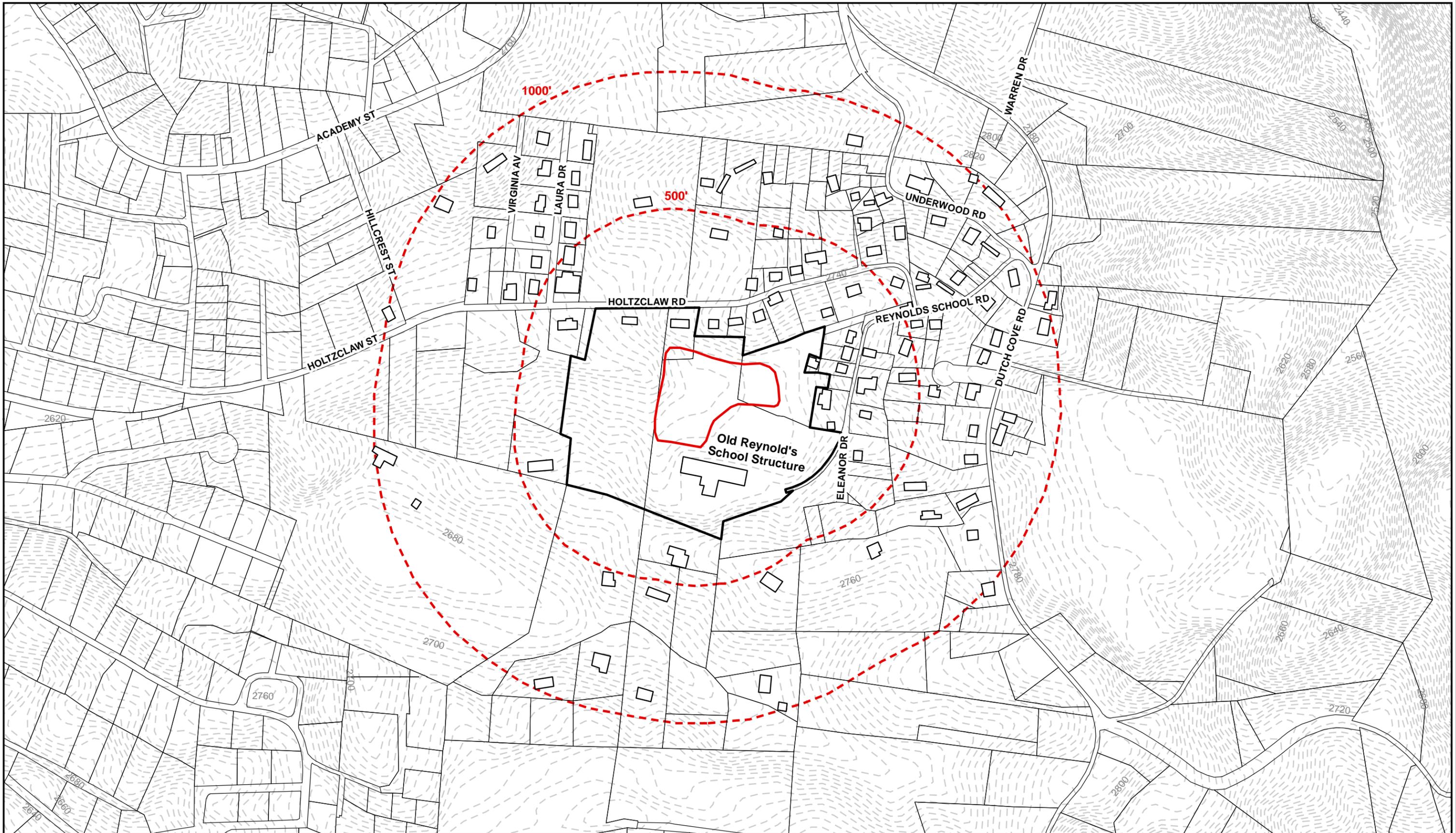
A written response from your agency is requested within 10 business days of receipt of this letter. Please email your response to nzirps@essassociates.com. If you have any questions, please contact me at (336) 232-5213.

Sincerely,
ESP ASSOCIATES, P.A.

A handwritten signature in black ink that reads "Nora A. Zirps". The signature is written in a cursive, flowing style.

Nora A. Zirps, PE
Project Manager

Attachment: Site Map



 Estimated Waste Disposal Area	 Parcel
 Site Parcel Boundaries	 500' and 1000' Buffers
 Structure	 4 Foot LIDAR Contour Elevation Interval

SHEET TITLE: **Figure 1**
 Site Vicinity Map

Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD000813

0 75 150 300 450
 Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

N

DATE: April 8, 2016

PROJECT NO.: BN12.614

SCALE: As Shown

DRAWN BY: FN

CHECKED BY: CW



ESP Associates, P.A.
 P.O. Box 7030
 Charlotte NC, 28241
www.espassociates.com
 Phone: 803-802-2440

Nora Zirps

From: Ratcliffe, Judith <judith.ratcliffe@ncdcr.gov>
Sent: Wednesday, April 13, 2016 3:13 PM
To: Nora Zirps
Subject: RE: Reynold's School Road - Sensitive Environment Survey
Attachments: project_report_reynolds_school_road_landfill_hayw_3215.pdf

Thank you for contacting the North Carolina Natural Heritage Program (NCNHP). Attached please find a report letter regarding the Reynold's School Road – Sensitive Environment Survey. This letter contains information on records for rare species, natural communities, managed areas, and natural areas that may occur in or within a mile of your project area. This information may assist you with natural resources permitting requirements associated with your projects. Please note that NCNHP is a non-regulatory agency and as such, we cannot assess impacts or determine mitigation measures. Contact me directly if you have questions, or if I can be of further assistance.

Subscriptions to our Natural Heritage Data Explorer (NHDE) (<https://ncnhde.natureserve.org/content/map>) enable you to submit your own projects for review. When a project is submitted to the NHDE, it generates a custom report that summarizes natural heritage resources on and with 1 mile of project the area. Attendance to one of our training sessions is required for access to custom report functionality. Please visit the NHDE Home page for details and the bottom of the Help page for training dates (<https://ncnhde.natureserve.org/content/help>).

In the next few weeks, the Natural Heritage Program will implement fees to defray costs associated with online access to natural heritage data, project review, environmental services, and field surveys, as authorized by § 113A-164.12. Fees collected will allow NCNHP to continue to provide these services and operate the Natural Heritage Data Explorer (NHDE). We will post more information to our website as soon as the fees are approved. If you have immediate questions, please contact Misty Buchanan at 919-707-8107 or misty.buchanan@ncdenr.gov.

Judith Ratcliffe, Freshwater Ecologist
Natural Heritage Program
Division of Land and Water Stewardship
North Carolina Department of Natural and Cultural Resources

919-707-8628 office
judith.ratcliffe@ncdcr.gov PLEASE NOTE NEW EMAIL ADDRESS effective 11 April 2016
www.ncnhp.org

121 West Jones Street
1651 Mail Service Center
Raleigh, North Carolina 27699-1651



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

[Facebook](#) [Twitter](#) [Instagram](#) [YouTube](#)

From: Nora Zirps [<mailto:nzirps@espassociates.com>]
Sent: Friday, April 08, 2016 1:27 PM
To: Ratcliffe, Judith <judith.ratcliffe@ncdenr.gov>
Subject: Reynold's School Road - Sensitive Environment Survey

Ms. Ratcliffe:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@espassociates.com

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NORTH CAROLINA DEPARTMENT OF NATURAL AND CULTURAL RESOURCES

Pat McCrory
Governor

Bryan Gossage
Executive Director
Clean Water Management Trust Fund

Susan Kluttz
Secretary

NCNHDE-1489

April 13, 2016

Nora Zirps
ESP Associates, P.A.
7011 Albert Pick Road, Suite E
Greensboro, NC 27409
nzirps@espassociates.com

RE: Reynold's School Road landfill, Haywood County, NC; ESP Project BN12.614.002

Dear Ms. Zirps:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources from our database that have been compiled for the project referenced above.

A query of the NCNHP database, based on the project area mapped with your request, indicates that there are no records for rare species, important natural communities, natural areas, or conservation/managed areas within the proposed project boundary. Please note that although there may be no documentation of natural heritage elements within the project boundary, it does not imply or confirm their absence; the area may not have been surveyed. The results of this query should not be substituted for site-specific surveys where suitable habitat exists. In the event that rare species are found within the project area, please contact the NCNHP so that we may update our records.

The attached 'Potential Occurrences' table summarizes rare species and natural communities that have been documented within a one-mile radius of the property boundary. The proximity of these records suggests that these natural heritage elements may potentially be present in the project area if suitable habitat exists and is included for reference.

Tables of natural areas and conservation/managed area within a one-mile radius of the project area, if any, are also included in this report. The location of the natural areas and conservation/managed areas can be viewed online on the Natural Heritage Data Explorer found at: <https://ncnhde.natureserve.org/>.

Please note that natural heritage element data are maintained for the purposes of conservation planning, project review, and scientific research, and are not intended for use as the primary criteria for regulatory decisions. Information provided by the NCNHP database may not be published without prior written notification to the NCNHP, and the NCNHP must be credited as an information source in these publications. Maps of NCNHP data may not be redistributed without permission.

The NC Natural Heritage Program may follow this letter with additional correspondence if a Dedicated Nature Preserve (DNP), Registered Heritage Area (RHA), or Federally-listed species are documented near the project area.

If you have questions regarding the information provided in this letter or need additional assistance, please contact John Finnegan at john.finnegan@ncdcr.gov or 919.707.8630.

Sincerely,
NC Natural Heritage Program

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
Reynold's School Road landfill, Haywood County, NC
Project No. ESP Project BN12.614.002
April 13, 2016
NCNHDE-1489

Element Occurrences Documented Within a One-mile Radius of the Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Status	Accuracy	Federal Status	State Status	Global Rank	State Rank
Freshwater Bivalve	13495	Alasmidonta raveneliana	Appalachian Elktoe	2012-05-18	Current	3-Medium	Endangered	Endangered	G1	S1
Freshwater Bivalve	23485	Lampsilis fasciola	Wavyrayed Lampmussel	2013-05-18	Current	3-Medium	---	Special Concern	G5	S2
Freshwater Fish	26671	Percina squamata	Olive Darter	2010-08-03	Current	3-Medium	Species of Concern	Special Concern	G3	S2
Mayfly	34623	Tsalia beneri	a mayfly	1999-12-15	Current	3-Medium	---	Significantly Rare	G4	S3
Vascular Plant	23933	Hackelia virginiana	Virginia Stickseed	1968-PRE	Historical	5-Very Low	---	Significantly Rare Peripheral	G5	S2
Vascular Plant	23969	Orbexilum onobrychis	Lanceleaf Scurfpea	1891-07-17	Historical	5-Very Low	---	Special Concern Historical	G5	SH

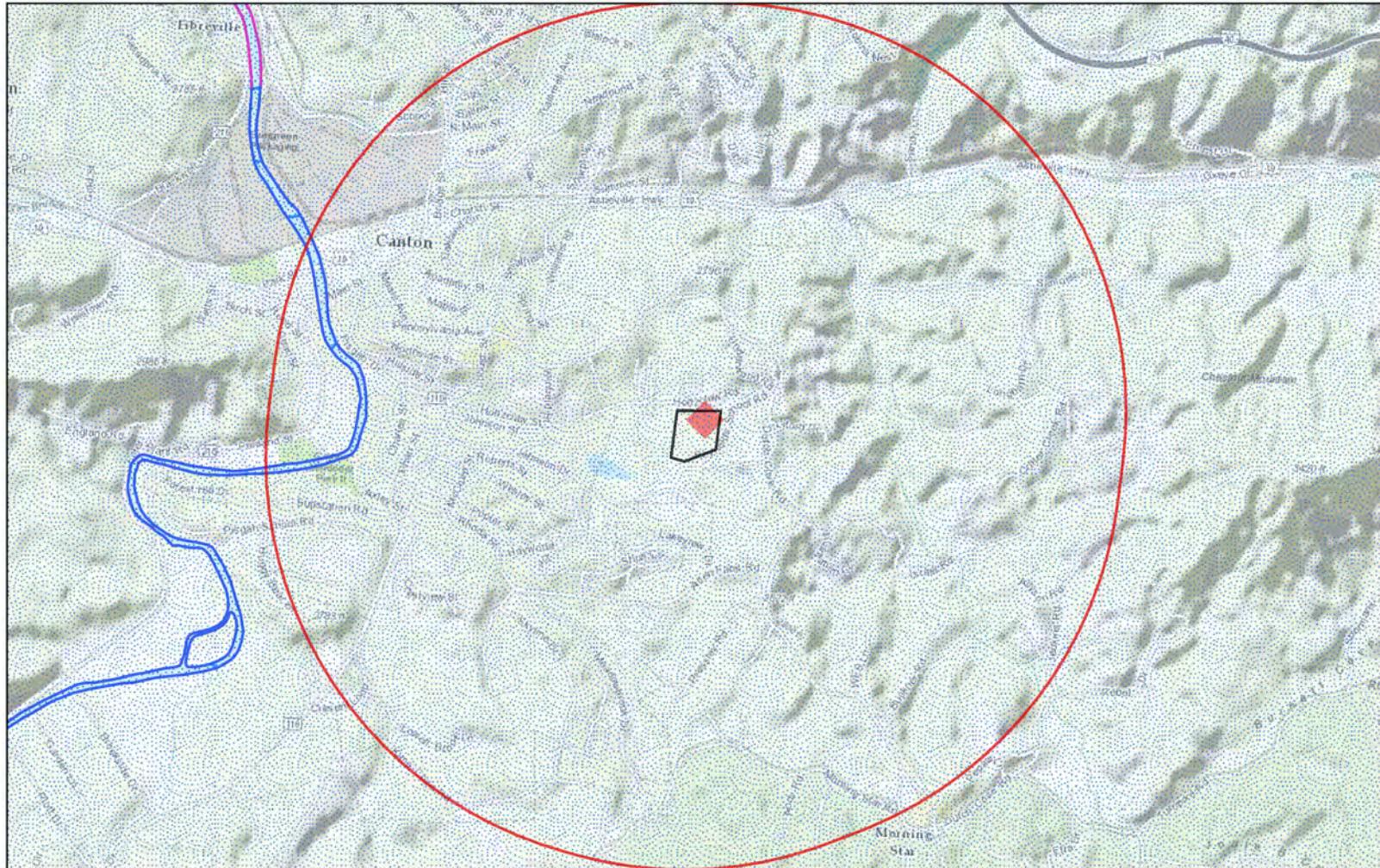
Natural Areas Documented Within a One-mile Radius of the Project Area

Site Name	Representational Rating	Collective Rating
FRB/Pigeon River Aquatic Habitat	n/a (Not Applicable)	C3 (High)

No Managed Areas are Documented Within a One-mile Radius of the Project Area

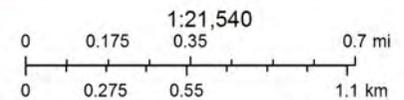
Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/content/help>. Data query generated on April 13, 2016; source: NCNHP, Q4 October 2015. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

NCNHDE-1489: Reynold's School Road landfill, Haywood County, NC



April 13, 2016

-  Project Boundary
-  Buffered Project Boundary
-  Natural Heritage Element Occurrence (NHEO)
-  NHP Natural Area (NHNA)



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey,

Nora Zirps

From: Nora Zirps
Sent: Friday, April 08, 2016 1:28 PM
To: Anita_barnett@nps.gov
Subject: Reynold's School Road - Sensitive Environment Survey
Attachments: Reynold's Street Road - Sensitive Environment Letter - National Park Service.pdf

Ms. Barnette:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@esspassociates.com



Date: April 8, 2016

To: Anita Barnett
National Park Service

Subject: Reynold's School Road, NONCD0000813
End of Reynolds School Road, Canton, Haywood County, NC
ESP Project BN12.614.002

Dear Ms. Barnett:

Our client, the North Carolina Department of Environmental Quality (NCDEQ), through its Pre-Regulatory Landfill Program, will be conducting environmental investigation and remediation activities at the above referenced landfill. The Reynold's School Road landfill is located at the end of Reynolds School Road in Canton, NC, approximately 500 feet west of its intersection with Eleanor Drive. A map illustrating the location of the Reynold's School Road landfill is attached for reference. The coordinates at the site entrance are 35.52683 latitude and -82.82497 longitude.

As part of the required assessment, an evaluation of the site property and adjacent properties is being conducted for the existence of environmentally sensitive areas. Specifically, we are contacting the National Park Service to determine whether any of the following are present on or adjacent to the landfill:

- National seashore, lakeshore, and river recreational areas.
- National parks or monuments.
- Federal designated wild and scenic rivers.

A written response from your agency is requested within 10 business days of receipt of this letter. Please email your response to nzirps@espassociates.com. If you have any questions, please contact me at (336) 232-5213.

Sincerely,

ESP ASSOCIATES, P.A.

A handwritten signature in black ink that reads "Nora A. Zirps".

Nora A. Zirps, PE
Project Manager

Attachment: Site Map



 Estimated Waste Disposal Area	 Parcel
 Site Parcel Boundaries	 500' and 1000' Buffers
 Structure	 4 Foot LIDAR Contour Elevation Interval

SHEET TITLE: **Figure 1**
 Site Vicinity Map

Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD000813

0 75 150 300 450 Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

N

DATE: April 8, 2016

PROJECT NO.: BN12.614

SCALE: As Shown

DRAWN BY: FN

CHECKED BY: CW



ESP Associates, P.A.
 P.O. Box 7030
 Charlotte NC, 28241
www.espassociates.com
 Phone: 803-802-2440

Nora Zirps

From: Barnett, Anita <anita_barnett@nps.gov>
Sent: Monday, May 02, 2016 7:32 AM
To: Nora Zirps
Subject: Re: Reynold's School Road - Sensitive Environment Survey

Ms. Zirps:

The National Park Service has reviewed your request for sensitive environment survey for a facility located at Reynolds school road landfill which is at the end of Reynolds School Road in Canton, Haywood County, North Carolina. The location is not within or adjacent to a unit of the National Park Service or its affiliated sites, therefore we have no comments.

If you have any questions please contact Anita Barnett at 404-507-5706. Thank you for the opportunity to review and provide comments.

Anita Barnett

On Fri, Apr 8, 2016 at 1:28 PM, Nora Zirps <nzirps@espassociates.com> wrote:

Ms. Barnette:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE

ESP Associates, P.A.

7011 Albert Pick Rd., Suite E

Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)

336-420-6979 (Mobile)

nzirps@espassociates.com

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--

Anita Barnett
Environmental Protection Specialist
Planning and Compliance Division
National Park Service
Southeast Region
404-507-5706
678-899-9507

Nora Zirps

From: Nora Zirps
Sent: Friday, April 08, 2016 1:30 PM
To: hluczak@fs.fed.us
Subject: Reynold's School Road, Sensitive Environment Survey
Attachments: Reynold's Street Road - Sensitive Environment Letter - US Forest Service.pdf

Ms. Luczak:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@esspassociates.com



Date: April 8, 2016

To: Heather Luczak
US Forest Service

Subject: Reynold's School Road, NONCD0000813
End of Reynolds School Road, Canton, Haywood County, NC
ESP Project BN12.614.002

Dear Ms. Luczak:

Our client, the North Carolina Department of Environmental Quality (NCDEQ), through its Pre-Regulatory Landfill Program, will be conducting environmental investigation and remediation activities at the above referenced landfill. The Reynold's School Road landfill is located at the end of Reynolds School Road in Canton, NC, approximately 500 feet west of its intersection with Eleanor Drive. A map illustrating the location of the Reynold's School Road landfill is attached for reference. The coordinates at the site entrance are 35.52683 latitude and -82.82497 longitude.

As part of the required assessment, an evaluation of the site property and adjacent properties is being conducted for the existence of environmentally sensitive areas. Specifically, we are contacting the US Forest Service to determine whether any of the following are present on or adjacent to the landfill:

- Designated or proposed federal wilderness and natural areas.
- National preserves and forests.
- Federal land designated for the protection of natural ecosystems.

A written response from your agency is requested within 10 business days of receipt of this letter. Please email your response to nzirps@espassociates.com. If you have any questions, please contact me at (336) 232-5213.

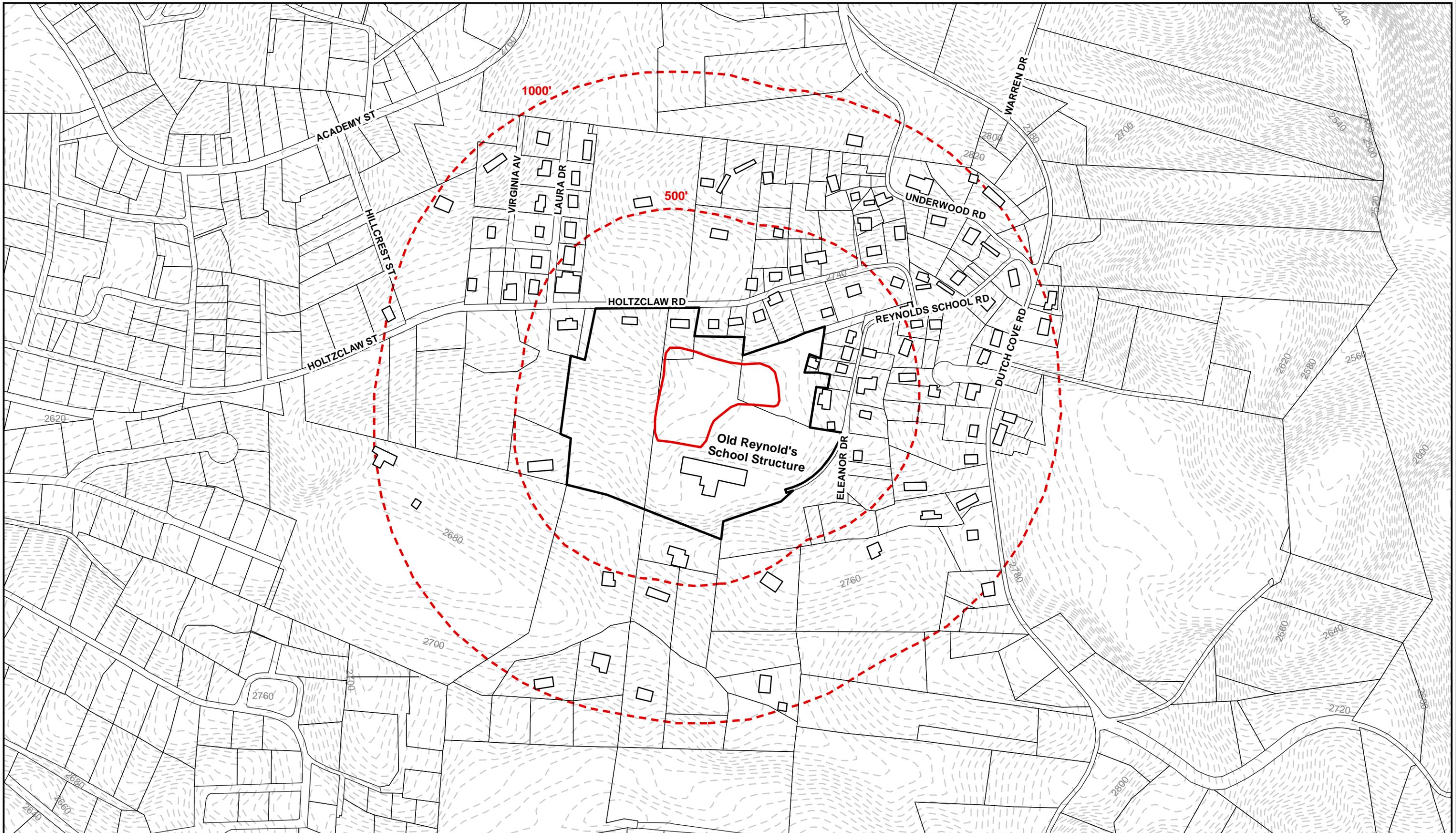
Sincerely,

ESP ASSOCIATES, P.A.

A handwritten signature in black ink that reads "Nora A. Zirps".

Nora A. Zirps, PE
Project Manager

Attachment: Site Map



 Estimated Waste Disposal Area	 Parcel
 Site Parcel Boundaries	 500' and 1000' Buffers
 Structure	 4 Foot LIDAR Contour Elevation Interval

SHEET TITLE: **Figure 1**
 Site Vicinity Map

Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD000813

0 75 150 300 450 Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

N

DATE: April 8, 2016

PROJECT NO.:	BN12.614
SCALE:	As Shown
DRAWN BY:	FN
CHECKED BY:	CW

 ESP Associates, P.A.
 P.O. Box 7030
 Charlotte NC, 28241
www.espassociates.com
 Phone: 803-802-2440

Nora Zirps

From: Luczak, Heather L -FS <hluczak@fs.fed.us>
Sent: Friday, April 08, 2016 3:09 PM
To: Nora Zirps
Subject: RE: Reynold's School Road, Sensitive Environment Survey

Ms. Zirps,

There are no any Designated and Proposed Federal Wilderness and Natural Areas, National Preserves and Forests, or Federal Land Designated for the Protection of Natural Ecosystems within 1000 feet of the site located at Reynolds School Road in Canton, North Carolina.

Have a nice day!

Heather Luczak
Forest NEPA Coordinator

Forest Service
National Forests in NC

p: 828-257-4817

f: 828-259-0567

hluczak@fs.fed.us

160 Zillicoa St. Suite A
Asheville, NC 28805

www.fs.fed.us



Caring for the land and serving people

From: Nora Zirps [<mailto:nzirps@espassociates.com>]
Sent: Friday, April 08, 2016 1:30 PM
To: Luczak, Heather L -FS <hluczak@fs.fed.us>
Subject: Reynold's School Road, Sensitive Environment Survey

Ms. Luczak:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@espassociates.com

Nora Zirps

From: Nora Zirps
Sent: Friday, April 08, 2016 1:33 PM
To: melanie.williams@ncdenr.gov
Subject: Reynold's School Road - Sensitive Environment Survey
Attachments: Reynold's Street Road - Sensitive Environment Letter - NCDEQ Division of Water Resources.pdf

Ms. Williams:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@espassociates.com



Date: April 8, 2016

To: Melanie Williams
NCDEQ Division of Water Resources

Subject: Reynold's School Road, NONCD0000813
End of Reynolds School Road, Canton, Haywood County, NC
ESP Project BN12.614.002

Dear Ms. Williams:

Our client, the North Carolina Department of Environmental Quality (NCDEQ), through its Pre-Regulatory Landfill Program, will be conducting environmental investigation and remediation activities at the above referenced landfill. The Reynold's School Road landfill is located at the end of Reynolds School Road in Canton, NC, approximately 500 feet west of its intersection with Eleanor Drive. A map illustrating the location of the Reynold's School Road landfill is attached for reference. The coordinates at the site entrance are 35.52683 latitude and -82.82497 longitude.

As part of the required assessment, an evaluation of the site property and adjacent properties is being conducted for the existence of environmentally sensitive areas. Specifically, we are contacting the NCDEQ Division of Water Resources to determine whether there are any state designated areas for protection or maintenance of aquatic life on or adjacent to the landfill.

A written response from your agency (Clean Water Act 305b report) is requested within 10 business days of receipt of this letter. Please email your response to nzirps@espassociates.com. If you have any questions, please contact me at (336) 232-5213.

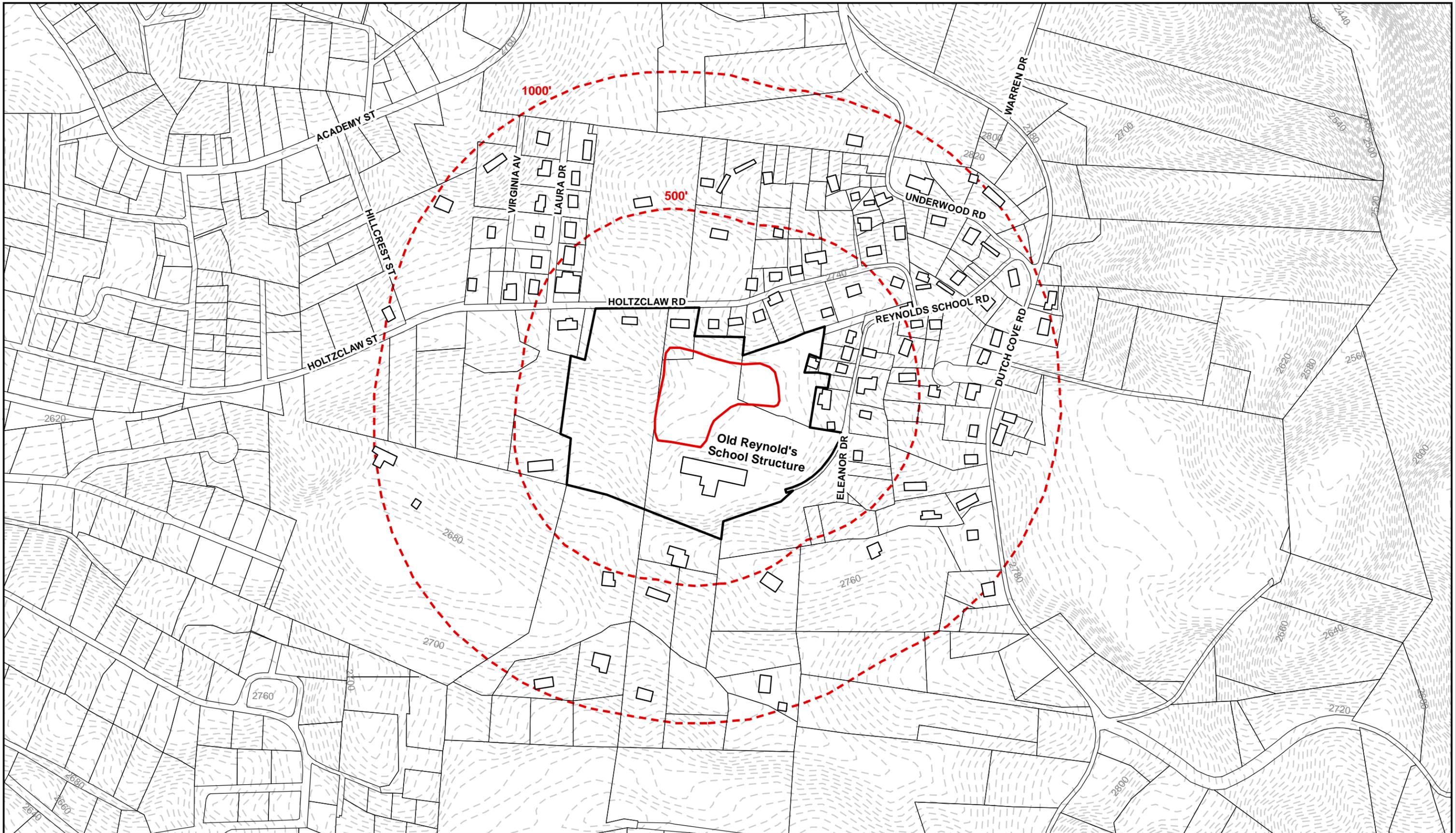
Sincerely,

ESP ASSOCIATES, P.A.

A handwritten signature in black ink that reads "Nora A. Zirps".

Nora A. Zirps, PE
Project Manager

Attachment: Site Map



 Estimated Waste Disposal Area	 Parcel
 Site Parcel Boundaries	 500' and 1000' Buffers
 Structure	 4 Foot LIDAR Contour Elevation Interval

SHEET TITLE: **Figure 1**
 Site Vicinity Map

Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD000813

0 75 150 300 450 Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

N

▲

DATE: April 8, 2016

PROJECT NO.: BN12.614

SCALE: As Shown

DRAWN BY: FN

CHECKED BY: CW



ESP Associates, P.A.
 P.O. Box 7030
 Charlotte NC, 28241
www.espassociates.com
 Phone: 803-802-2440

Nora Zirps

From: Raquet, Michelle M <michelle.raquet@ncdenr.gov>
Sent: Friday, April 15, 2016 11:41 AM
To: Nora Zirps
Cc: Williams, Melanie
Subject: Reynold's School Road - Environmental Sensitivity Request
Attachments: EvtalSentStudyResponseCanton042016.pdf

Please find attached my response to the environmental sensitivity request for ESP Project BN12.614.002 – Reynold's School Road, Canton. Please let me know if you have any additional questions or concerns, and thank you for the opportunity to provide comments.

Michelle

Michelle Raquet
Environmental Specialist
Basin Planning Branch
NCDEQ – Division of Water Resources
Main [919.707.9000](tel:919.707.9000)
Direct [919.707.9006](tel:919.707.9006)
Fax [919.733.3558](tel:919.733.3558)

512 N. Salisbury St.
1617 Mail Service Center
Raleigh, NC 27699-1617



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PAT MCCRORY

Governor

DONALD R. VAN DER VAART

Secretary

S. JAY ZIMMERMAN

Director

DATE: April 15, 2016

TO: Ms. Nora A. Zirps, PE
Project Manager, ESP Associates, P.A.
7011 Albert Pick Road, Suite E
Greensboro, NC 27409

RE: Request for Information Related to Potentially Environmentally Sensitive Areas
Reynold's School Road NONCD0000813
ESP Project BN12.614.002

Dear Ms. Zirps:

After reviewing available water resource information for the property located near the intersection of Reynold's School Road and Eleanor Drive in Canton, Haywood County, North Carolina, it has been determined that the site is located within an environmentally sensitive area.

The site is located in the headwaters of the Pigeon River Watershed and drains to an unnamed tributary. A portion of the Pigeon River [AU# 5-(7)b], just downstream of where the unnamed tributary converges with the Pigeon River, is impaired for biological integrity. It is listed on the North Carolina 2014 303(d) list of impaired waters. This segment of the river has been sampled 13 times since 1984, and in 2008, there was fish kill event. The event was attributed to low flow, low dissolved oxygen (DO) and high water temperatures brought on by ongoing drought conditions. Color, turbidity, hardness and dioxins are also identified as concerns within the watershed.

Being that this property is located in the headwaters of the Pigeon River watershed, it is suggested that any activity on this property include precautions to protect the watershed from further impacts. The unnamed tributary and the Pigeon River [AU# 5-(7)b] are currently considered to be in an environmentally sensitive area for the protection and maintenance of aquatic life.

Additional information about the watershed can be found in [Chapter 2](#) of the 2011 French Broad River Basin Water Quality Plan. Please let me know if you have any additional questions or concerns, and thank you for the opportunity to provide comments on ESP Project BN12.614.002.

Michelle Raquet
Environmental Specialist/Basin Planner
NCDEQ DWR Planning Section
Phone: 919.707.9006
Email: michelle.raquet@ncdenr.gov

Nora Zirps

From: Brower, Connie <connie.brower@ncdenr.gov>
Sent: Friday, April 15, 2016 2:13 PM
To: Nora Zirps; Raquet, Michelle M
Subject: RE: Reynold's School Road - Environmental Sensitivity Request

Correct!

Good to hear from you, Nora!

Regards,
Connie

Connie U. Brower

Water Quality Standards Coordinator
Classifications and Standards/ Rules Review Branch
Water Planning Section, Division of Water Resources
Department of Environmental Quality

919 807 6416 office
919 707 9000 main office

Connie.Brower@ncdenr.gov

Physical Address: 512 North Salisbury St., Raleigh, NC, 27604
Mailing Address: 1611 Mail Service Center, Raleigh, NC, 27699-1611



Nothing Compares

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Nora Zirps [mailto:nzirps@espassociates.com]
Sent: Friday, April 15, 2016 2:00 PM
To: Raquet, Michelle M <michelle.raquet@ncdenr.gov>
Cc: Brower, Connie <connie.brower@ncdenr.gov>
Subject: RE: Reynold's School Road - Environmental Sensitivity Request

Michelle – Thank you for the follow-up call and this email.

Connie – Would that be the more stringent of the freshwater aquatic and the human health for Class C waters?

From: Raquet, Michelle M [<mailto:michelle.raquet@ncdenr.gov>]
Sent: Friday, April 15, 2016 1:50 PM
To: Nora Zirps
Cc: Brower, Connie
Subject: RE: Reynold's School Road - Environmental Sensitivity Request

Nora...

Just wanted to follow-up on our conversation. Nora Deamer and I contacted Connie shortly after we got off the phone with you to verify that the more stringent standard would need to be met. And the answer was the more stringent standards would need to be met. There is also a more updated table available on the website. It can be found here: <http://deq.nc.gov/document/nc-stdstable-epa-2014-c>. Thanks you for the questions! And it was good to speak with you.

Michelle

Michelle Raquet
Environmental Specialist
Basin Planning Branch
NCDEQ – Division of Water Resources
Main [919.707.9000](tel:919.707.9000)
Direct [919.707.9006](tel:919.707.9006)
Fax [919.733.3558](tel:919.733.3558)

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1617 Mail Service Center
Raleigh, NC 27699-1617



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From: Nora Zirps [<mailto:nzirps@espassociates.com>]
Sent: Friday, April 15, 2016 1:22 PM
To: Raquet, Michelle M <michelle.raquet@ncdenr.gov>
Cc: Williams, Melanie <melanie.williams@ncdenr.gov>
Subject: RE: Reynold's School Road - Environmental Sensitivity Request

From: Raquet, Michelle M [<mailto:michelle.raquet@ncdenr.gov>]
Sent: Friday, April 15, 2016 1:09 PM
To: Nora Zirps
Cc: Williams, Melanie
Subject: RE: Reynold's School Road - Environmental Sensitivity Request

Nora...

The portion of the Pigeon River (and the unnamed tributary) that the Reynold's School Road site is draining to is Class C waters. The water quality standards identified in North Carolina Administrative Code Section 15A NCAC 2B .0211 are what are required for Class C surface waters. Water quality standards for toxic substances and temperature are in 15A NCAC 2B .0208.

Please let me know if this answers your question.

Michelle

Michelle Raquet
Environmental Specialist
Basin Planning Branch
NCDEQ – Division of Water Resources
Main [919.707.9000](tel:919.707.9000)
Direct [919.707.9006](tel:919.707.9006)
Fax [919.733.3558](tel:919.733.3558)

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Raleigh, NC 27699-1617



E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Nora Zirps [<mailto:nzirps@espassociates.com>]
Sent: Friday, April 15, 2016 11:58 AM
To: Raquet, Michelle M <michelle.raquet@ncdenr.gov>
Cc: Williams, Melanie <melanie.williams@ncdenr.gov>
Subject: RE: Reynold's School Road - Environmental Sensitivity Request

Michelle,

Thank you for your response.

With regard to surface water screening 2B criteria, which ones would we use for comparison based on the surface water discharge to the Pigeon River?

Nora

From: Raquet, Michelle M [<mailto:michelle.raquet@ncdenr.gov>]
Sent: Friday, April 15, 2016 11:41 AM
To: Nora Zirps

Cc: Williams, Melanie

Subject: Reynold's School Road - Environmental Sensitivity Request

Please find attached my response to the environmental sensitivity request for ESP Project BN12.614.002 – Reynold's School Road, Canton. Please let me know if you have any additional questions or concerns, and thank you for the opportunity to provide comments.

Michelle

Michelle Raquet
Environmental Specialist
Basin Planning Branch
NCDEQ – Division of Water Resources
Main [919.707.9000](tel:919.707.9000)
Direct [919.707.9006](tel:919.707.9006)
Fax [919.733.3558](tel:919.733.3558)

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Nora Zirps

From: Nora Zirps
Sent: Friday, April 08, 2016 1:34 PM
To: 'frances.jones@ncagr.gov'
Subject: Reynold's School Road - Sensitive Environment Survey
Attachments: Reynold's Street Road - Sensitive Environment Letter - NC Forest Service.pdf

Ms. Jones:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@espassociates.com



Date: April 8, 2016

To: Frances Jones
NC Forest Service

Subject: Reynold's School Road, NONCD0000813
End of Reynolds School Road, Canton, Haywood County, NC
ESP Project BN12.614.002

Dear Ms. Jones:

Our client, the North Carolina Department of Environmental Quality (NCDEQ), through its Pre-Regulatory Landfill Program, will be conducting environmental investigation and remediation activities at the above referenced landfill. The Reynold's School Road landfill is located at the end of Reynolds School Road in Canton, NC, approximately 500 feet west of its intersection with Eleanor Drive. A map illustrating the location of the Reynold's School Road landfill is attached for reference. The coordinates at the site entrance are 35.52683 latitude and -82.82497 longitude.

As part of the required assessment, an evaluation of the site property and adjacent properties is being conducted for the existence of environmentally sensitive areas. Specifically, we are contacting the NC Division of Forest Resources to determine whether there are any state preserves or forests on or adjacent to the landfill.

A written response from your agency is requested within 10 business days of receipt of this letter. Please email your response to nzirps@espassociates.com. If you have any questions, please contact me at (336) 232-5213.

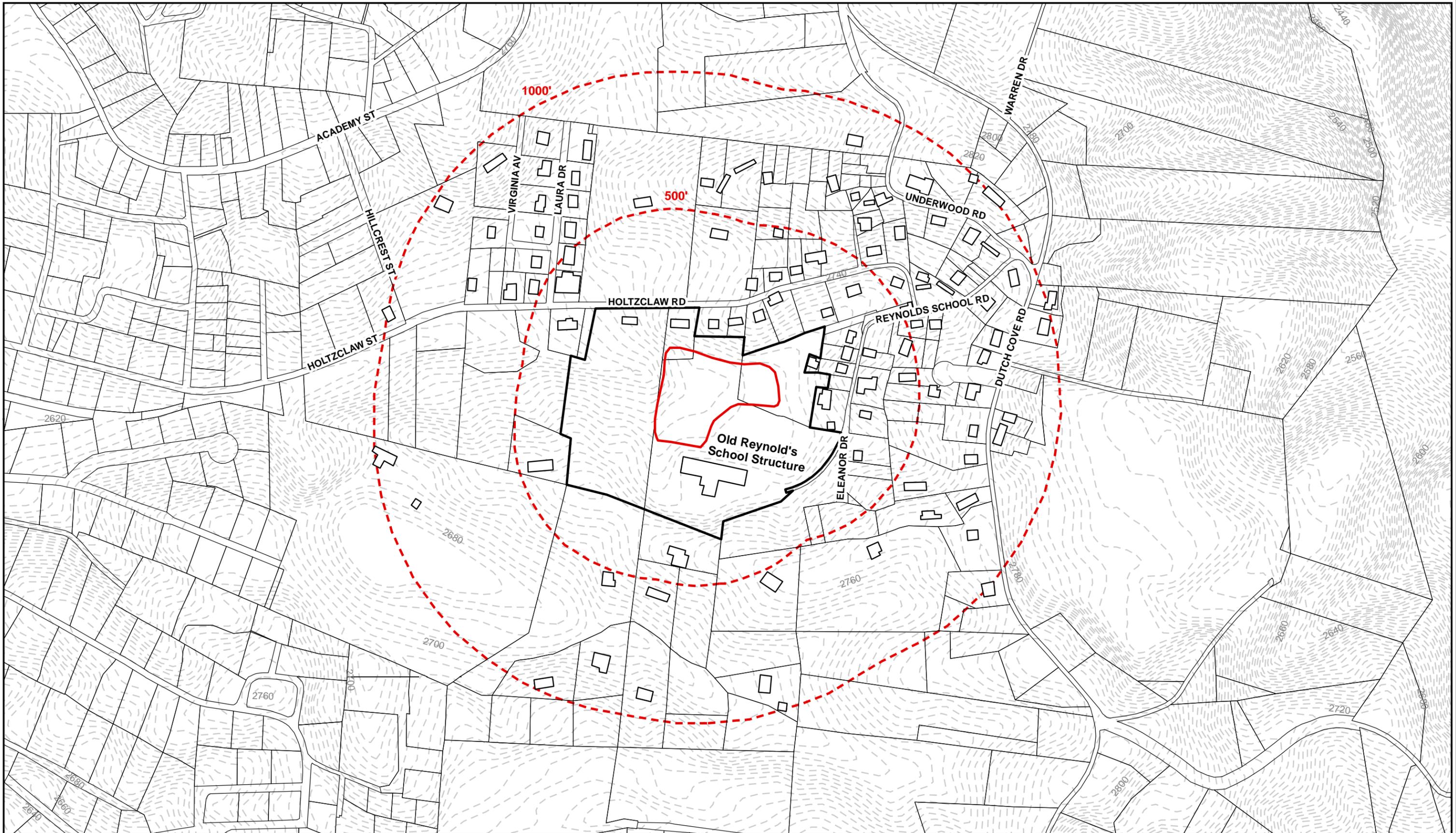
Sincerely,

ESP ASSOCIATES, P.A.

A handwritten signature in black ink that reads "Nora A. Zirps".

Nora A. Zirps, PE
Project Manager

Attachment: Site Map



	Estimated Waste Disposal Area		Parcel
	Site Parcel Boundaries		500' and 1000' Buffers
	Structure		4 Foot LIDAR Contour Elevation Interval

SHEET TITLE:

Figure 1
Site Vicinity Map

Reynold's School Road
Canton, Haywood County, North Carolina
ID# NONCD000813

0 75 150 300 450
Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

N



DATE: April 8, 2016

PROJECT NO.:	BN12.614
SCALE:	As Shown
DRAWN BY:	FN
CHECKED BY:	CW



ESP Associates, P.A.
P.O. Box 7030
Charlotte NC, 28241
www.espassociates.com
Phone: 803-802-2440

Nora Zirps

From: Jones, Frances <frances.jones@ncagr.gov>
Sent: Tuesday, April 19, 2016 4:54 PM
To: Nora Zirps
Cc: Jones, Frances
Subject: FW: Reynold's School Road - Sensitive Environment Survey

Please see below reply from our Haywood County Ranger. If we can be of further assistance please do not hesitate to ask.

From: Hooper, Matthew D
Sent: Friday, April 08, 2016 4:50 PM
To: Jones, Frances <frances.jones@ncagr.gov>
Subject: RE: Reynold's School Road - Sensitive Environment Survey

Francis, I have looked at the area and we have no lands near this area. Anything I can do to help please let me know.

*Thank you,
Matthew Hooper
Haywood County Ranger
North Carolina Forest Service
88 Ed Green Rd
Clyde, NC 28721
(828)627-6551 Office
(828)507-8930 Cell*

NOTICE: E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Jones, Frances
Sent: Friday, April 08, 2016 2:34 PM
To: Hooper, Matthew D <matthew.hooper@ncagr.gov>
Cc: Jones, Frances <frances.jones@ncagr.gov>
Subject: FW: Reynold's School Road - Sensitive Environment Survey

Please take a look at the attached document and let me know if we have any state lands on or adjacent to the subject area. Thank you

From: Nora Zirps [<mailto:nzirps@espassociates.com>]
Sent: Friday, April 08, 2016 1:34 PM
To: Jones, Frances <frances.jones@ncagr.gov>
Subject: Reynold's School Road - Sensitive Environment Survey

Ms. Jones:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
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Nora Zirps

From: Nora Zirps
Sent: Friday, April 08, 2016 1:36 PM
To: allen_ratzlaff@fws.gov
Subject: Reynold's School Road - Sensitive Environment Survey
Attachments: Reynold's Street Road - Sensitive Environment Letter - USFWS.pdf

Mr. Ratzlaff:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@esspassociates.com



Date: April 8, 2016

To: Allen Ratzlaff
US Fish & Wildlife Service (USFWS)

Subject: Reynold's School Road, NONCD0000813
End of Reynolds School Road, Canton, Haywood County, NC
ESP Project BN12.614.002

Dear Mr. Ratzlaff:

Our client, the North Carolina Department of Environmental Quality (NCDEQ), through its Pre-Regulatory Landfill Program, will be conducting environmental investigation and remediation activities at the above referenced landfill. The Reynold's School Road landfill is located at the end of Reynolds School Road in Canton, NC, approximately 500 feet west of its intersection with Eleanor Drive. A map illustrating the location of the Reynold's School Road landfill is attached for reference. The coordinates at the site entrance are 35.52683 latitude and -82.82497 longitude.

As part of the required assessment, an evaluation of the site property and adjacent properties is being conducted for the existence of environmentally sensitive areas. Specifically, we are contacting the USFWS to determine whether there are any endangered species or critical habitats on or adjacent to the landfill.

A written response from your agency is requested within 10 business days of receipt of this letter. Please email your response to nzirps@essassociates.com. If you have any questions, please contact me at (336) 232-5213.

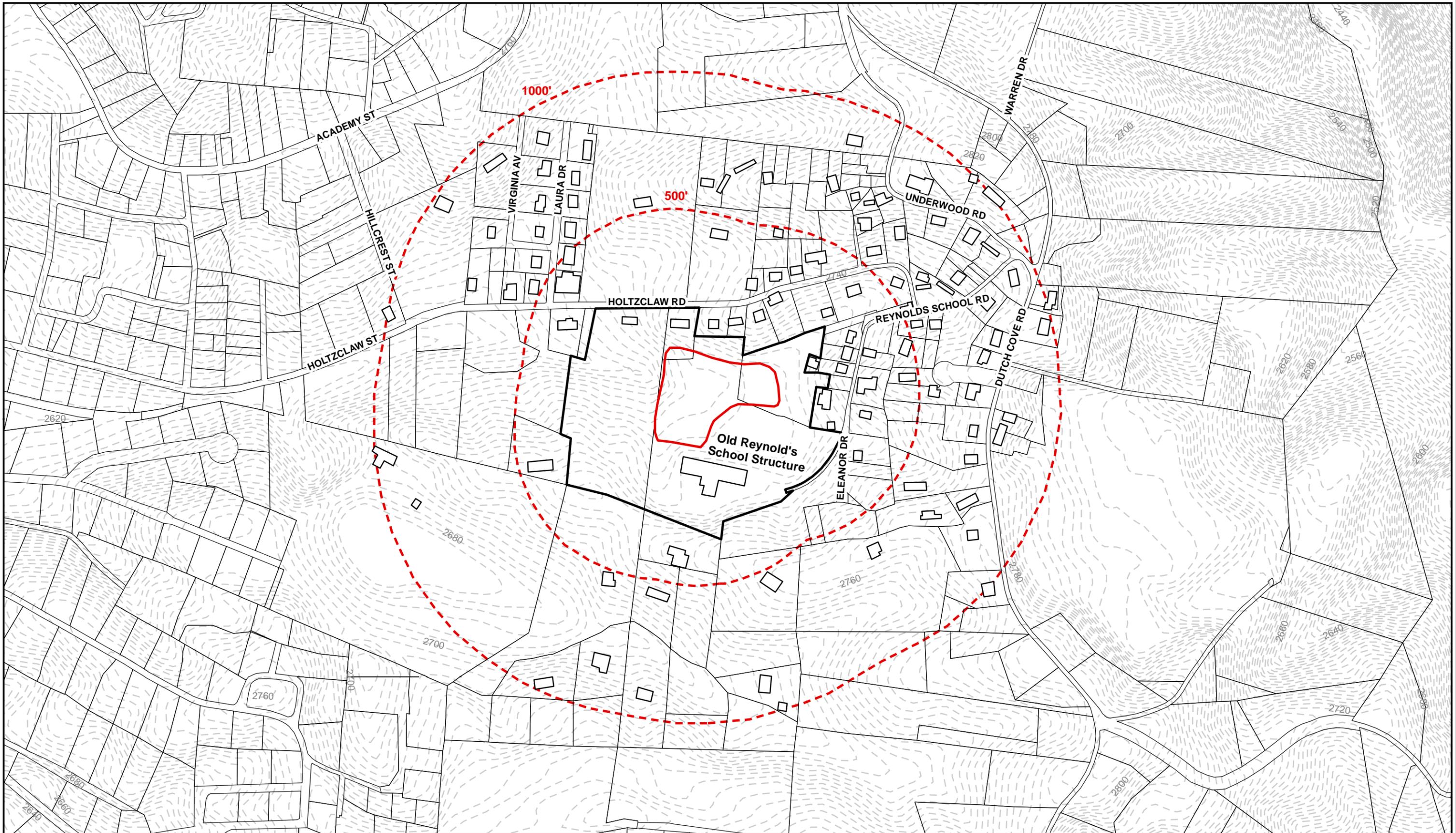
Sincerely,

ESP ASSOCIATES, P.A.

A handwritten signature in black ink that reads "Nora A. Zirps".

Nora A. Zirps, PE
Project Manager

Attachment: Site Map



	Estimated Waste Disposal Area		Parcel
	Site Parcel Boundaries		500' and 1000' Buffers
	Structure		4 Foot LIDAR Contour Elevation Interval

SHEET TITLE: **Figure 1**
 Site Vicinity Map

Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD000813

0 75 150 300 450
 Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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▲

DATE: April 8, 2016

PROJECT NO.:	BN12.614
SCALE:	As Shown
DRAWN BY:	FN
CHECKED BY:	CW



ESP Associates, P.A.
 P.O. Box 7030
 Charlotte NC, 28241
www.espassociates.com
 Phone: 803-802-2440

Nora Zirps

From: Ratzlaff, Allen <allen_ratzlaff@fws.gov>
Sent: Monday, May 09, 2016 1:30 PM
To: Nora Zirps
Subject: 16-386 Reynold's School Road Site Assessment
Attachments: 16-386 Reynolds School Road Landfill Site Assessment.pdf

Attached are comments from the U.S. Fish and Wildlife Service.

--

Allen Ratzlaff
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
160 Zillicoa Street
Asheville, NC 28801

828-258-3939. x229



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

May 9, 2016

Ms. Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Road, Ste. E
Greensboro, NC 27409

Dear Ms. Zirps:

Subject: Site Assessment of Reynolds School Road Landfill, Canton, Haywood County, North Carolina (ESP Project BN12.614.002)

In your letter of April 8, 2016 (received via email on that same date), you requested our comments about the subject project. The following comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. § 4321 et seq.) and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

We have no concerns with the proposed project and, according to our records and a review of the information you provided, no federally listed species or their habitats occur on the subject site. Therefore, we believe the requirements under section 7 of the Act are fulfilled. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of these identified actions that may affect listed species or critical habitat in a manner not previously considered, (2) these actions are subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified actions.

Thank you for allowing us to comment on this project. Please contact Mr. Allen Ratzlaff of our staff at 828/258-3939, Ext. 229, if you have any questions. In any future correspondence concerning this project, please reference our Log Number 4-2-16-386.

Sincerely,

- - original *signed* - -

Janet Mizzi
Field Supervisor

Nora Zirps

From: Nora Zirps
Sent: Friday, April 08, 2016 2:11 PM
To: Environmental.Review@ncdcr.gov
Subject: Reynold's School Road - Sensitive Environment Survey
Attachments: Reynold's Street Road - Sensitive Environment Letter - NC Dept of Natural and Cultural Resources.pdf

Ms. Gledhill-Early:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@espassociates.com



Date: April 8, 2016

To: Renee Gledhill-Early
North Carolina Department of Natural and Cultural Resources

Subject: Reynold's School Road, NONCD0000813
End of Reynolds School Road, Canton, Haywood County, NC
ESP Project BN12.614.002

Dear Ms. Gledhill-Early:

Our client, the North Carolina Department of Environmental Quality (NCDEQ), through its Pre-Regulatory Landfill Program, will be conducting environmental investigation and remediation activities at the above referenced landfill. An evaluation of the site property and adjacent properties is being conducted for the existence of environmentally sensitive areas. Specifically, we are contacting the NC Department of Natural and Cultural Resources to determine whether there are any national or state historical sites on or adjacent to the landfill.

Project Name: Reynold's School Road

Project Location: The Reynold's School Road landfill is located at the end of Reynolds School Road in Canton, NC, approximately 500 feet west of its intersection with Eleanor Drive. A map illustrating the location of the Reynold's School Road landfill is attached for reference. The coordinates at the site entrance are 35.52683 latitude and -82.82497 longitude.

Project Contact Information: Nora Zirps; ESP Associates, P.A.; 7011 Albert Pick Road, Suite E; Greensboro, NC 27409; 336-232-5213; nzirps@esspassociates.com.

Project Description: This approximately 2.27-acre landfill will be investigated and remediated as warranted. There are no structures on the landfill.

Project Area Map: A vicinity map and USGS map are attached.

Site Photographs: No site photographs are attached.

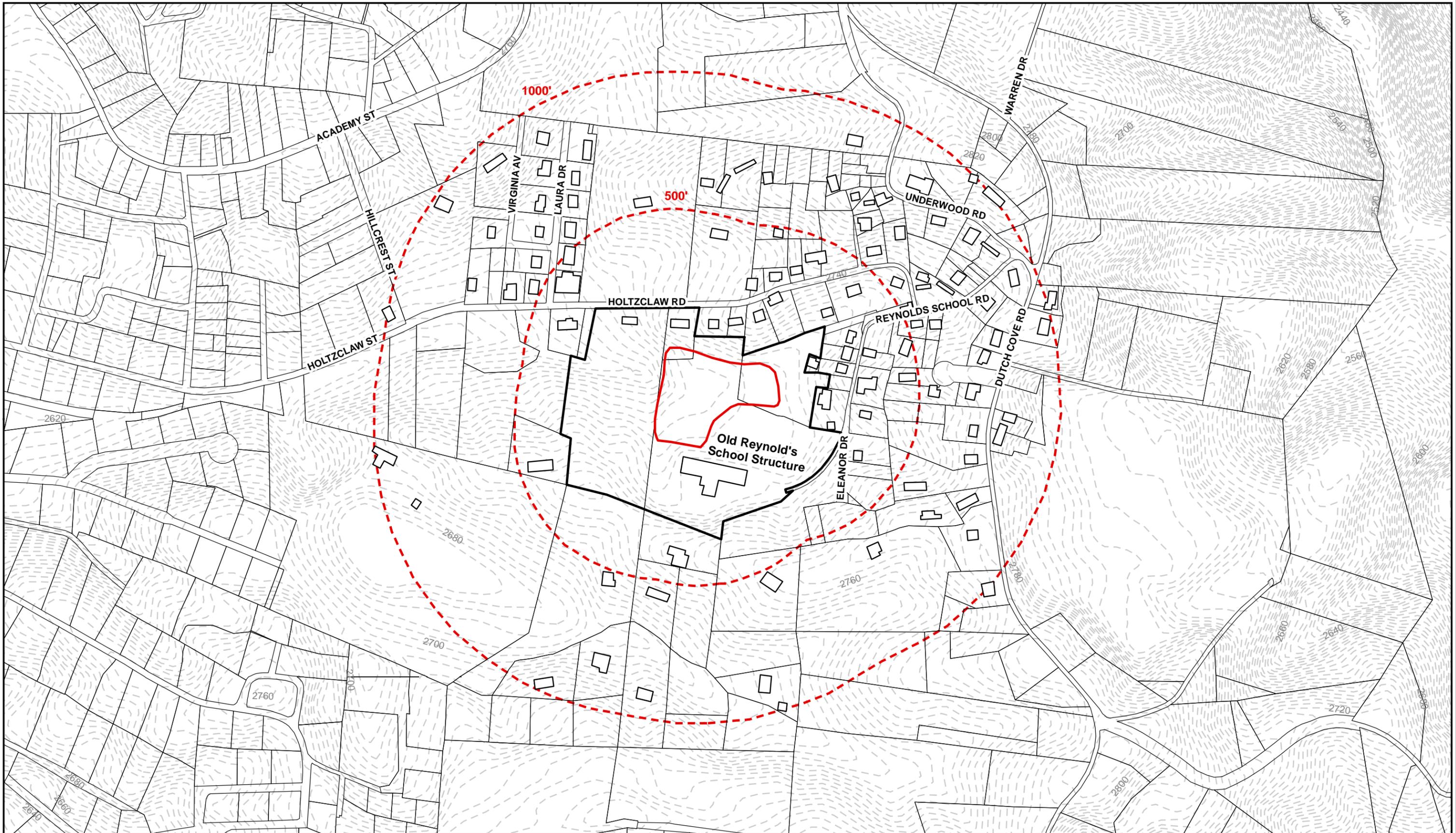
Please email your written response to nzirps@esspassociates.com. If you have any questions, please contact me at (336) 232-5213.

Sincerely,

ESP ASSOCIATES, P.A.

A handwritten signature in black ink that reads "Nora A. Zirps". The signature is written in a cursive style.

Nora A. Zirps, PE
Project Manager



	Estimated Waste Disposal Area		Parcel
	Site Parcel Boundaries		500' and 1000' Buffers
	Structure		4 Foot LIDAR Contour Elevation Interval

SHEET TITLE:

Figure 1
Site Vicinity Map

Reynold's School Road
Canton, Haywood County, North Carolina
ID# NONCD000813

0 75 150 300 450
Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

N

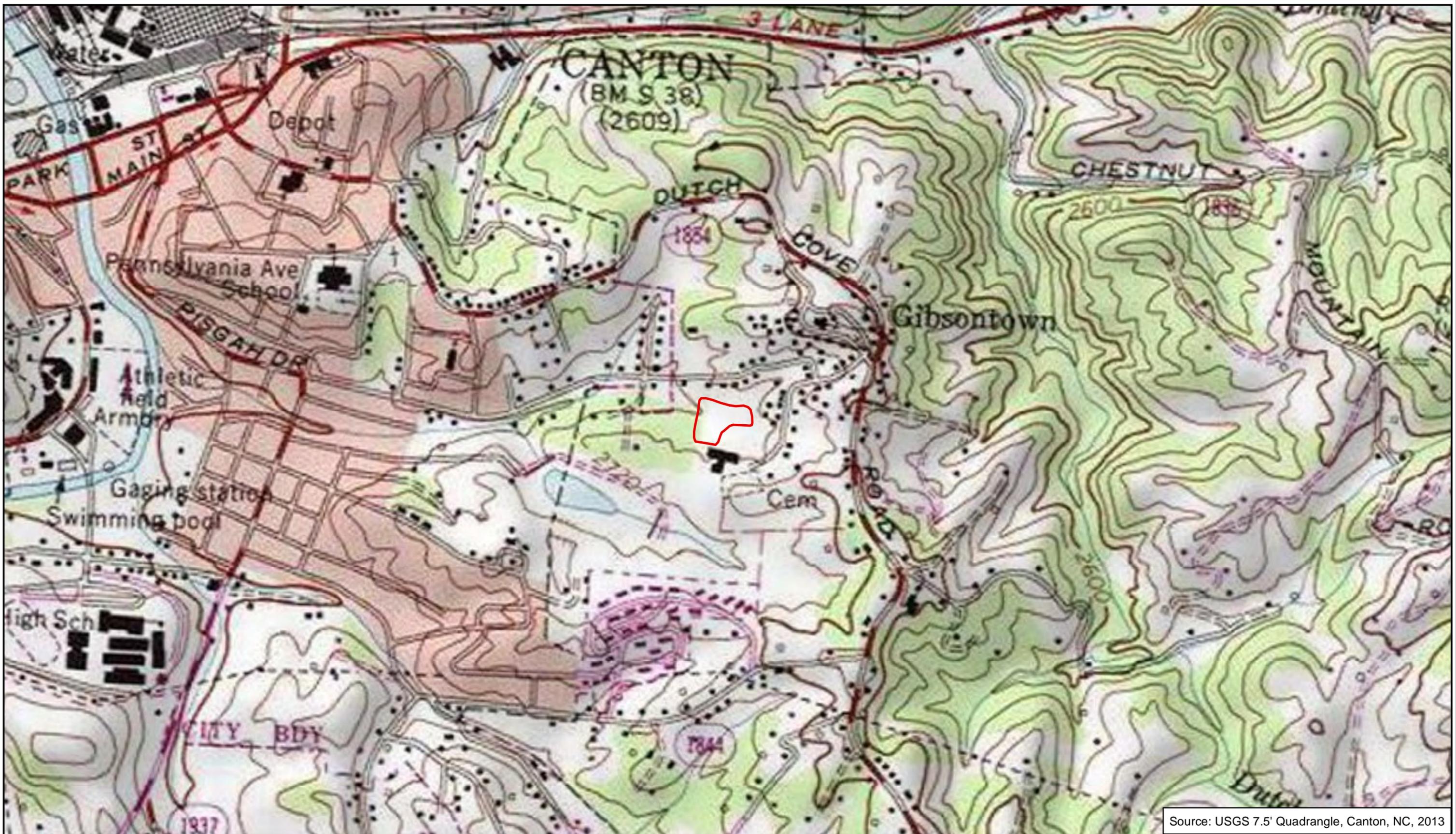


DATE: April 8, 2016

PROJECT NO.:	BN12.614
SCALE:	As Shown
DRAWN BY:	FN
CHECKED BY:	CW



ESP Associates, P.A.
P.O. Box 7030
Charlotte NC, 28241
www.espassociates.com
Phone: 803-802-2440

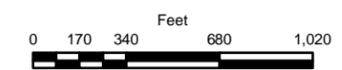


Source: USGS 7.5' Quadrangle, Canton, NC, 2013

 Estimated Waste Disposal Area

SHEET TITLE:
Figure 2
 USGS Topo Map

Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD000813



N

 DATE: April 8, 2016

PROJECT NO.: BN12.614
 SCALE: As Shown
 DRAWN BY: FN
 CHECKED BY: CW


 ESP Associates, P.A.
 P.O. Box 7030
 Charlotte NC, 28241
www.espassociates.com
 Phone: 803-802-2440

Nora Zirps

From: DCR - Environmental_Review <Environmental.Review@ncdcr.gov>
Sent: Thursday, May 05, 2016 4:48 PM
To: Nora Zirps
Subject: RE: Reynold's School Road - Sensitive Environment Survey
Attachments: ER 16-0638.pdf

Our response is attached. Thank you.

Renee Shearin

Environmental Review Technician, State Historic Preservation Office
North Carolina Department of Natural and Cultural Resources

(919) 807-6584 Office
renee.shearin@ncdcr.gov

109 East Jones Street
4617 Mail Service Center
Raleigh NC 27699-4617



Opinions expressed in the message may not represent the policy of this agency. E-mail to and from me, in connection with the transaction of public business, is subject to the North Carolina Public Records Law and may be disclosed to third parties by an authorized state official.

Please see http://www.hpo.ncdcr.gov/er/er_email_submittal.html for guidelines on submitting projects for environmental review.

Environmental Review projects may be submitted to environmental.review@ncdcr.gov.

Please do not send .zip, .tif files, downloads, or links to websites as we are not able to process these types of items. The message size, including all attachments, should be NO larger than 10 megabytes.

Please only one project per email. Please allow at least 30 days for our review. We try hard to complete the reviews in fewer days, but under state and federal regulations we have a mandatory 30 days.

From: Nora Zirps [<mailto:nzirps@espassociates.com>]
Sent: Friday, April 08, 2016 2:11 PM
To: DCR - Environmental_Review <Environmental.Review@ncdcr.gov>
Subject: Reynold's School Road - Sensitive Environment Survey

Ms. Gledhill-Early:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@essassociates.com

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North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Pat McCrory
Secretary Susan Kluttz

Office of Archives and History
Deputy Secretary Kevin Cherry

May 5, 2016

Nora Zirps
ESP Associates, PA
7011 Albert Pick Road, Suite E
Greensboro, NC 27409

Re: Reynolds School Road Landfill Remediation, Reynold School Road, Canton, ESP BN12.614.002,
Haywood County, ER 16-0638

Dear Ms. Zirps:

Thank you for your letter of April 8, 2016, concerning the above project.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

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 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

A handwritten signature in blue ink that reads "Renee Gledhill-Earley".

for Ramona M. Bartos

Nora Zirps

From: Nora Zirps
Sent: Friday, April 08, 2016 1:37 PM
To: doug.huggett@ncdenr.gov
Subject: Reynold's School Road - Sensitive Environment Survey
Attachments: Reynold's Street Road - Sensitive Environment Letter - NCDEQ Div of Coastal Management.pdf

Mr. Huggett:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@espassociates.com



Date: April 8, 2016

To: Doug Huggett
NCDEQ Division of Coastal Management

Subject: Reynold's School Road, NONCD0000813
End of Reynolds School Road, Canton, Haywood County, NC
ESP Project BN12.614.002

Dear Mr. Huggett:

Our client, the North Carolina Department of Environmental Quality (NCDEQ), through its Pre-Regulatory Landfill Program, will be conducting environmental investigation and remediation activities at the above referenced landfill. The Reynold's School Road landfill is located at the end of Reynolds School Road in Canton, NC, approximately 500 feet west of its intersection with Eleanor Drive. A map illustrating the location of the Reynold's School Road landfill is attached for reference. The coordinates at the site entrance are 35.52683 latitude and -82.82497 longitude.

As part of the required assessment, an evaluation of the site property and adjacent properties is being conducted for the existence of environmentally sensitive areas. Specifically, we are contacting the NCDEQ Division of Coastal Management to determine whether any of the following are present on or adjacent to the landfill:

- Areas identified under coastal protection legislation.
- Coastal barriers or units of a coastal barrier resources system.

A written response from your agency is requested within 10 business days of receipt of this letter. Please email your response to nzirps@essassociates.com. If you have any questions, please contact me at (336) 232-5213.

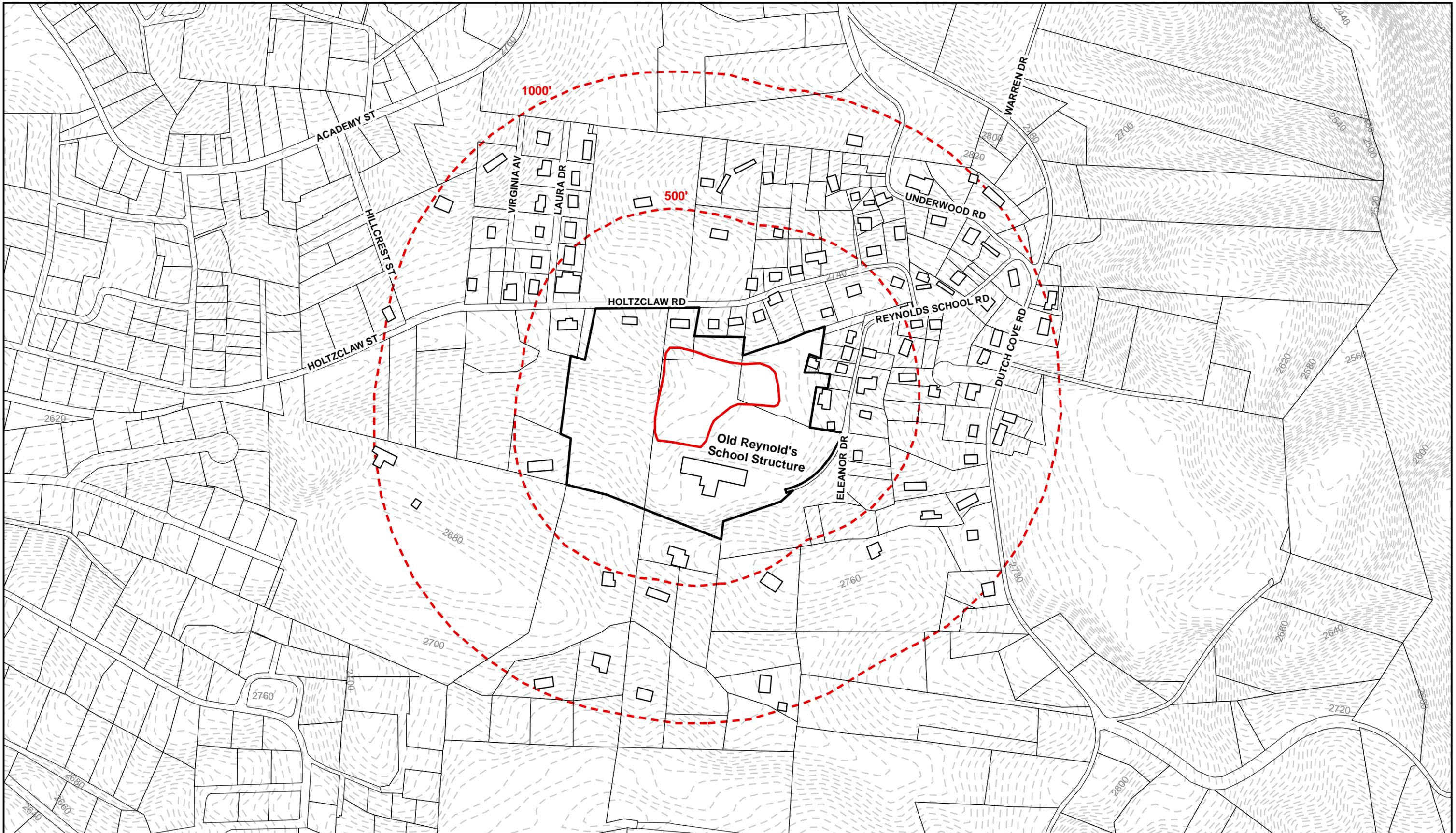
Sincerely,

ESP ASSOCIATES, P.A.

A handwritten signature in black ink that reads "Nora A. Zirps".

Nora A. Zirps, PE
Project Manager

Attachment: Site Map



 Estimated Waste Disposal Area	 Parcel
 Site Parcel Boundaries	 500' and 1000' Buffers
 Structure	 4 Foot LIDAR Contour Elevation Interval

SHEET TITLE: **Figure 1**
 Site Vicinity Map

Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD000813

0 75 150 300 450 Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

N

DATE: April 8, 2016

PROJECT NO.: BN12.614

SCALE: As Shown

DRAWN BY: FN

CHECKED BY: CW



ESP Associates, P.A.
 P.O. Box 7030
 Charlotte NC, 28241
www.espassociates.com
 Phone: 803-802-2440

Nora Zirps

From: Huggett, Doug <doug.huggett@ncdenr.gov>
Sent: Friday, April 08, 2016 3:20 PM
To: Nora Zirps
Subject: RE: Reynold's School Road - Sensitive Environment Survey

Ms. Zipps,

The Division of Coastal Management would be happy to help you out on your request.

I can confirm that, based on the information that you provided, there appear to be no areas subject to jurisdiction under the any authorities or coastal resource protection legislation that are administered by the Division of Coastal Management at or near the proposed project site, nor are there any coastal barriers or units of a coastal barrier resource system at or near the project area..

I hope that this response will satisfy your needs. If you have any additional questions about this or any other project, please don't hesitate to let me know.

Sincerely,

Doug Huggett

Doug Huggett
Manager, Major Permits and Federal Consistency Section
North Carolina Division of Coastal Management
doug.huggett@ncdenr.gov
(252) 808-2808 ext. 212

From: Nora Zirps [<mailto:nzirps@espassociates.com>]
Sent: Friday, April 08, 2016 1:37 PM
To: Huggett, Doug <doug.huggett@ncdenr.gov>
Subject: Reynold's School Road - Sensitive Environment Survey

Mr. Huggett:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E

Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@espassociates.com

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Nora Zirps

From: Nora Zirps
Sent: Friday, April 08, 2016 1:39 PM
To: david.cox@ncwildlife.org
Subject: Reynold's School Road - Sensitive Environment Survey
Attachments: Reynold's Street Road - Sensitive Environment Letters - NC Wildlife Resources Commission.pdf

Mr. Cox:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@espassociates.com



Date: April 8, 2016

To: David Cox
North Carolina Wildlife Resources Commission

Subject: Reynold's School Road, NONCD0000813
End of Reynolds School Road, Canton, Haywood County, NC
ESP Project BN12.614.002

Dear Mr. Cox:

Our client, the North Carolina Department of Environmental Quality (NCDEQ), through its Pre-Regulatory Landfill Program, will be conducting environmental investigation and remediation activities at the above referenced landfill. The Reynold's School Road landfill is located at the end of Reynolds School Road in Canton, NC, approximately 500 feet west of its intersection with Eleanor Drive. A map illustrating the location of the Reynold's School Road landfill is attached for reference. The coordinates at the site entrance are 35.52683 latitude and -82.82497 longitude.

As part of the required assessment, an evaluation of the site property and adjacent properties is being conducted for the existence of environmentally sensitive areas. Specifically, we are contacting the NC Wildlife Resources Commission to determine whether any of the following are present on or adjacent to the landfill:

- National or state wildlife refuges.
- State lands designated for wildlife or game management.
- Migratory pathways and feeding areas critical for maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which such fish spend extended periods of time.
- Spawning areas critical for the maintenance of fish/shellfish species within river, lake, or coastal tidal waters.

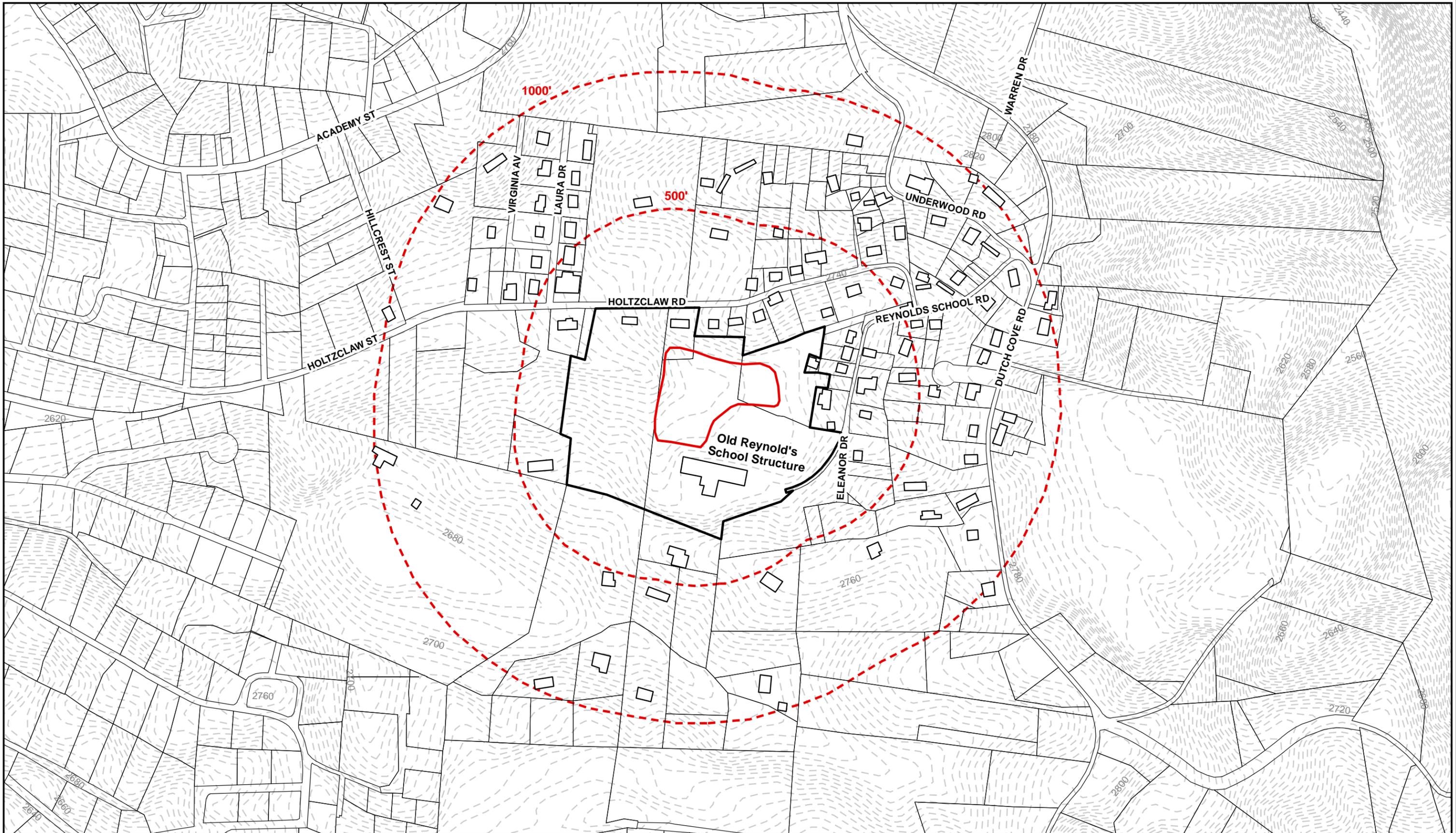
A written response from your agency is requested within 10 business days of receipt of this letter. Please email your response to nzirps@essassociates.com. If you have any questions, please contact me at (336) 232-5213.

Sincerely,
ESP ASSOCIATES, P.A.

A handwritten signature in black ink that reads "Nora A. Zirps". The signature is written in a cursive, flowing style.

Nora A. Zirps, PE
Project Manager

Attachment: Site Map



 Estimated Waste Disposal Area	 Parcel
 Site Parcel Boundaries	 500' and 1000' Buffers
 Structure	 4 Foot LIDAR Contour Elevation Interval

SHEET TITLE: **Figure 1**
 Site Vicinity Map

Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD000813

0 75 150 300 450
 Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

N



DATE: April 8, 2016

PROJECT NO.:	BN12.614
SCALE:	As Shown
DRAWN BY:	FN
CHECKED BY:	CW



ESP Associates, P.A.
 P.O. Box 7030
 Charlotte NC, 28241
www.espassociates.com
 Phone: 803-802-2440

Nora Zirps

From: Leslie, Andrea J <andrea.leslie@ncwildlife.org>
Sent: Monday, April 25, 2016 3:07 PM
To: Nora Zirps
Subject: Reynold's School Road Landfill - NCWRC comments
Attachments: ReynoldsSchoolRoadLandfillInvestigation_Haywood_WRCCComments.pdf

Hi Ms. Zirps,

Attached is NCWRC's response to your request for information on the Reynold's School Road site.

Andrea

Andrea Leslie
Mountain Habitat Conservation Coordinator
NC Wildlife Resources Commission
20830 Great Smoky Mountain Expressway
Waynesville, NC 28786
828-558-6011; 828-400-4223 (cell)
www.ncwildlife.org



Get [NC Wildlife Update](#) delivered to your inbox from the N.C. Wildlife Resources Commission.

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☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

April 25, 2016

Ms. Nora Zirps
ESP Associates
7011 Albert Pick Road, Suite E
Greensboro, NC 27409

SUBJECT: Scoping information for Reynold's School Road, NONCD0000813
Haywood County

Dear Ms. Zirps:

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) received your April 8, 2016 letter about the Reynold's School Road landfill investigation. You requested records relating to national or state wildlife refuges, state lands designated for wildlife or game management, anadromous fish habitat, and spawning areas for fish or shellfish. Our comments are offered for your consideration under provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d) and the National Environmental Policy Act (42 U.S.C. 4332 (2)(c)).

Although we are familiar with the habitat areas of the area, we have not been on site and do not have site-specific information. However, the site drains to the Pigeon River, which is part of the Pigeon River Aquatic Habitat, a natural area designated by the NC Natural Heritage Program due to the richness of rare species it contains, including the Appalachian Elktoe [*Alasmidonta raveneliana*, US Endangered (E), NC E], Olive Darter [*Percina squamata*, US Federal Species of Concern, NC Special Concern (SC)], and Wavyrayed Lampmussel (*Lampsilis fasciola*, NC SC).

Thank you for the opportunity to review and comment on this project. Please contact me at (828) 558-6011 if you have any questions.

Sincerely,

Andrea Leslie
Mountain Region Coordinator, Habitat Conservation Program

Nora Zirps

From: Nora Zirps
Sent: Friday, April 08, 2016 1:40 PM
To: 'david.w.brown@usace.army.mil'
Subject: Reynold's School Road - Sensitive Environment Survey
Attachments: Reynold's Street Road - Sensitive Environment Letter - USACE.pdf

Mr. Brown:

ESP Associates, P.A. is conducting a survey to determine environmentally sensitive areas near a former landfill located in Haywood County, NC. Please see the attached letter containing the project information, site details, and a site map for additional reference.

Should you require additional information or have any questions, please feel free to contact me at (336) 232-5213.

Thank you,

Nora A. Zirps, PE
ESP Associates, P.A.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336-334-7724, ext.324 (Office)
336-232-5213 (Direct)
336-420-6979 (Mobile)
nzirps@esspassociates.com



Date: April 8, 2016

To: David Brown
US Army Corps of Engineers

Subject: Reynold's School Road, NONCD0000813
End of Reynolds School Road, Canton, Haywood County, NC
ESP Project BN12.614.002

Dear Mr. Brown:

Our client, the North Carolina Department of Environmental Quality (NCDEQ), through its Pre-Regulatory Landfill Program, will be conducting environmental investigation and remediation activities at the above referenced landfill. The Reynold's School Road landfill is located at the end of Reynolds School Road in Canton, NC, approximately 500 feet west of its intersection with Eleanor Drive. A map illustrating the location of the Reynold's School Road landfill is attached for reference. The coordinates at the site entrance are 35.52683 latitude and -82.82497 longitude.

As part of the required assessment, an evaluation of the site property and adjacent properties is being conducted for the existence of environmentally sensitive areas. Specifically, we are contacting the US Army Corps of Engineers to determine whether there are any wetlands on or adjacent to the landfill.

A written response from your agency is requested within 10 business days of receipt of this letter. Please email your response to nzirps@espassociates.com. If you have any questions, please contact me at (336) 232-5213.

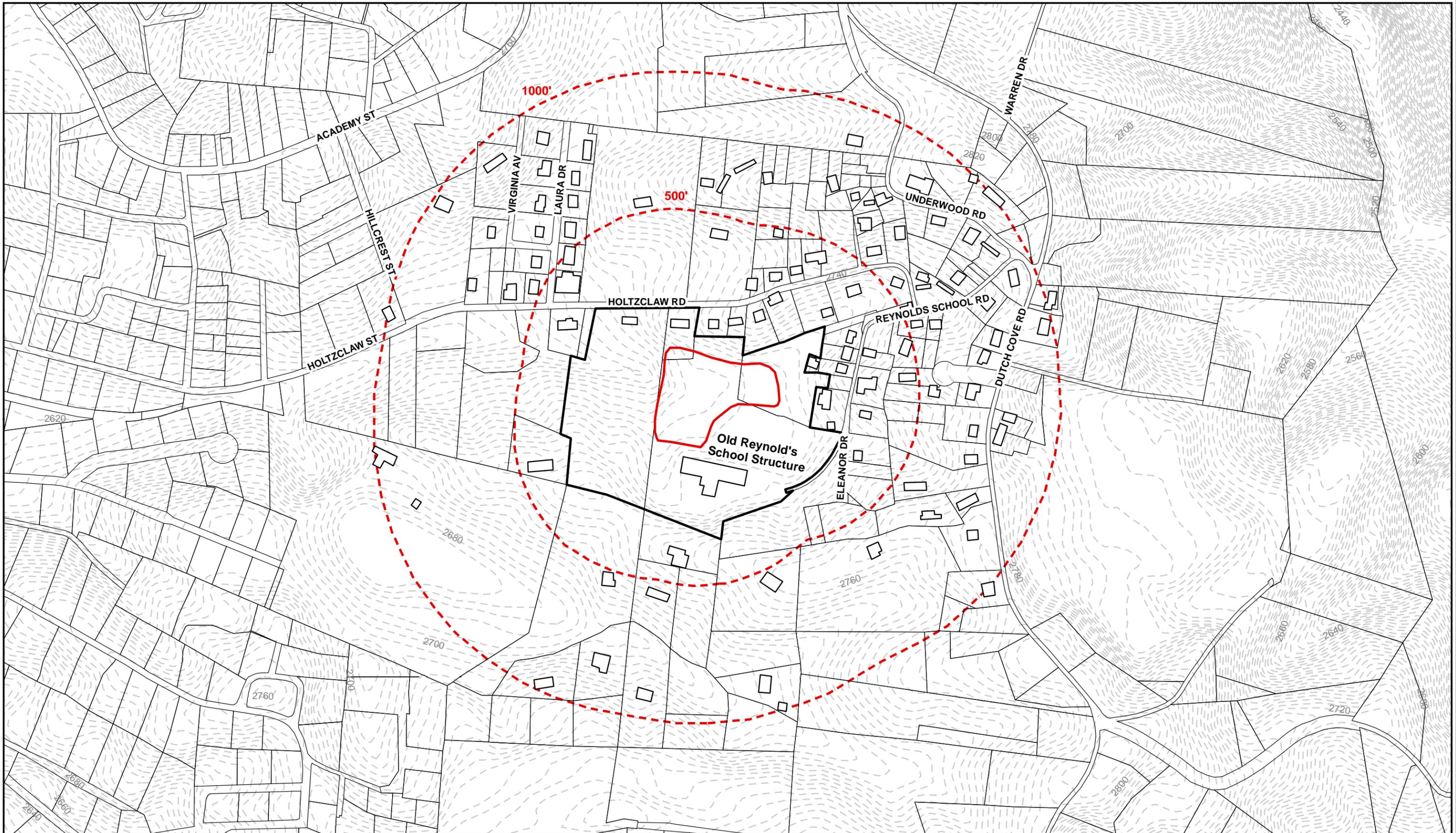
Sincerely,

ESP ASSOCIATES, P.A.

A handwritten signature in black ink that reads "Nora A. Zirps".

Nora A. Zirps, PE
Project Manager

Attachment: Site Map



	Estimated Waste Disposal Area		Parcel
	Site Parcel Boundaries		500' and 1000' Buffers
	Structure		4 Foot LIDAR Contour Elevation Interval

SHEET TITLE: **Figure 1**
 Site Vicinity Map

Reynold's School Road
 Canton, Haywood County, North Carolina
 ID# NONCD000813

0 75 150 300 450
 Feet

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

N



DATE: April 8, 2016

PROJECT NO.:	BN12.614
SCALE:	As Shown
DRAWN BY:	FN
CHECKED BY:	CW



ESP Associates, P.A.
 P.O. Box 7030
 Charlotte NC, 28241
www.espassociates.com
 Phone: 803-802-2440



DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
151 PATTON AVENUE
ROOM 208
ASHEVILLE, NORTH CAROLINA 28801-5006

May 10, 2016

Regulatory Division

ESP Associates, P.A.
Ms. Nora Zirps
7011 Albert Pick Road, Suite E
Greensboro, North Carolina 27409

Dear Ms. Zirps:

Reference is made to your letter of April 8, 2016, with submitted map and details, requesting an evaluation of environmentally sensitive areas at the Reynolds School Road landfill located at the end of Reynolds School Road in Canton, Haywood County, North Carolina. Coordinates are 35.52614 N, 82.82589 W. This request was submitted as part of the background assessment requirements for the North Carolina Department of Environmental Quality - Pre-Regulatory Landfill Program and ESP's Associates remedial investigation of the site.

The Corps' evaluation is based upon review of the documents submitted with your request, available aerial photos, USGS topographic maps, Corps' project database, and an on-site cursory visual inspection of the site. The evaluation is limited to noting the potential presence of waters of the United States (WoUS) and is not an approved jurisdictional determination (JD) of WoUS located at the site.

Based upon the Corps' evaluation, an unnamed tributary (UT) of the Pigeon River is in the west portion of the site. The UT starts along seeps/springs in the west portion the site, merge into a single channel, and flow west to northwest off the site. This UT and the seeps/springs where it beings are WoUS.

A topographic low area exist in the east central portion of the estimated waste disposal area. This area supports surface hydrology for a portion of the year, has hydric soils indicators, and hydrophytic vegetation is present. These characteristics suggest this area is a wetland and could be WoUS. Further information would need to be gathered about this feature in order to determine if it is WoUS.

If an approved JD of WoUS at the site is needed, then the Corps will need submittal of a JD request (see enclosures). Should you have any further questions related to this evaluation, please contact me at 828-271-7980, extension 232.

Sincerely,

A handwritten signature in black ink, appearing to read "David Brown", with a long horizontal line extending to the right.

David Brown, P.G.
Regulatory Specialist