



December 17, 2009

BP Barber & Associates, Inc.
Post Office Box 1116
Columbia, South Carolina 29202-1116

Attention: Mr. Brad Sanderson, P.E.

Reference: **Protected Species Assessment**
Thomason II Industrial Site – 113 Acres
Clinton, Laurens County, South Carolina
S&ME Project No. 1614-09-430

Dear Mr. Sanderson:

S&ME, Inc. (S&ME) is pleased to submit our Protected Species Assessment for the above-referenced site located in Laurens County, South Carolina. This work was performed in general accordance with S&ME Proposal No. 1616-7181-09, dated November 19, 2009 and our Agreement for Services (Form AS-071).

1.0 PROJECT BACKGROUND

The site consists of a 113-acre tract located southwest of the intersection of a CSX railroad and Charlotte's Road in Clinton, Laurens County, South Carolina (Figure 1 in Appendix A). The site is identified on a portion of the Clinton USGS 7.5-minute topographic quadrangle map, dated 1971 (Figure 2 in Appendix A). This Protected Species Assessment has been conducted to assess the potential for the presence of protected species within the site in preparation for future light to medium industrial facilities with associated parking and stormwater detention areas.

2.0 SITE/HABITAT DESCRIPTIONS

The site is located in east-central Laurens County within the Southern Outer Piedmont ecoregion of South Carolina. A majority of the site is forestland. The properties adjacent to the site consist of forestland, single-family residences, and a large industrial facility (Sterilite) to the east.

The site primarily consists of two habitat types: open field and pine mixed-hardwood forestland. Refer to the Aerial Map (Figure 3) and site photographs in Appendix A for the locations and depictions of the various habitats.

Field (Photograph 1)

A small field was observed on the eastern portion of the site adjacent Charlotte's Road. Species observed in the pastureland include a mix of grasses and weedy herbaceous vegetation dominated by fescue (*Festuca* spp.).

Pine-Mixed Hardwood Forestland (Photographs 2-4)

Pine-mixed hardwood forest was observed on a majority of the site. Canopy and subcanopy species observed included loblolly pine (*Pinus taeda*), water oak (*Quercus nigra*), post oak (*Q. stellata*), white oak (*Q. alba*), tulip poplar (*Liriodendron tulipifera*), sweet-gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), eastern red cedar (*Juniperus virginiana*), flowering dogwood (*Cornus florida*). Shrub, woody vine and herbaceous species included American holly (*Ilex opaca*), yellow jessamine (*Gelsemium sempervirens*), Japanese honeysuckle (*Lonicera japonica*), muscadine (*Vitis rotundifolia*), greenbrier (*Smilax rotundifolia*), and ebony spleenwort (*Asplenium platyneuron*).

Streams and Wetlands (Photographs 5-6)

Several streams and small adjacent wetlands were observed on the site. Species observed in the wetlands included American elm (*Ulmus americana*), sweet-gum, red maple, Chinese privet (*Ligustrum sinense*), switchcane (*Arundinaria gigantea*), and greenbrier.

3.0 METHODOLOGY

The South Carolina Department of Natural Resources (SCDNR) Rare, Threatened, and Endangered Species Inventory and the U.S. Fish and Wildlife Service (USFWS) websites were reviewed regarding current federal and state listed species known to occur in Laurens County. The purpose of the database search was to identify current and historic documented occurrences of federally protected species located within this county. Additionally, S&ME personnel reviewed available supporting information including the USGS Clinton Topographic Quadrangle and applicable soil survey sheets. The purpose of reviewing this supporting information was to identify drainage features and soil types in the study area. During the field reconnaissance, S&ME personnel integrated the information obtained from this supporting documentation with the field evaluation for the presence of protected species or potential protected species habitat. Portions of the site that matched descriptions of preferred habitat for protected species listed in Table 1 were considered to be potential habitat for the respective protected species. These areas were subsequently field reviewed to confirm the presence/absence of the respective species.

The SCDNR database records did not identify the presence of known federally protected species (threatened or endangered) occurrences on or immediately adjacent to the site. A field survey was performed for the protected species in suitable habitats within the site on December 2, 2009. S&ME biologists Chris Daves and Amanda White performed the field survey.

4.0 PROTECTED SPECIES

Descriptions of the species and their respective federal and state status are identified in Table 1 and in Appendix B. The SCDNR and USFWS websites identified the following federally listed species for Laurens County:

TABLE 1: PROTECTED FLORA & FAUNA SUMMARY THOMASON II INDUSTRIAL SITE – LAURENS COUNTY		
Species	Federal Status	Habitat Description
Red-Cockaded Woodpecker <i>Picoides borealis</i>	E	Open pine stands with minimum age of 60 years; Nests in live pines with red-heart disease.

T = Threatened

E = Endangered

Red-Cockaded Woodpecker – Federally Listed Endangered, State Listed Endangered

BIOLOGICAL OPINION: NO EFFECT

The red-cockaded woodpecker is a black and white bird measuring approximately seven inches long. The bird displays black and white horizontal stripes on its back. The cheeks and underparts are white and the sides are streaked in black. The cap and stripe on the throat and neck of the bird are black. Male individuals of the species have a small red spot on each side of the black cap and display a red crown patch after the first post-fledgling molt.

The red-cockaded woodpecker's range is closely linked to the distribution of southern pines. Loblolly and longleaf pines that are 60-plus years old are generally selected for nesting sites. However, other species of southern pines are occasionally used for nesting. The woodpecker usually excavates nest cavities in trees infected with a fungus that produces red-heart disease. Preferred nesting sites generally include relatively open, mature pine stands with an undeveloped or low understory layer. Foraging habitat is frequently limited to pine or pine-hardwood stands that are 30 years or older, with a preference for pine trees with a diameter of 10 inches or larger. The USFWS indicates that the maximum foraging range for the red-cockaded woodpecker is approximately one-half mile.

The site does not contain suitable nesting habitat for the red-cockaded woodpecker. There are no relatively open pine stands of proper age to be considered suitable habitat for the red-cockaded woodpecker located within the site. Accordingly, future development of the site is not expected to impact this species.

5.0 QUALIFICATIONS

The field survey was lead by Chris Daves of S&ME. Mr. Daves is a biologist and natural resources project manager with over eight years experience in environmental consulting. Mr. Daves is proficient in conducting wetland delineations, environmental permitting activities, and habitat assessments, including protected species surveys. He is a Professional Wetland Scientist (PWS) and holds a B.S. degree in Biology from Wofford College and a Master's degree in Earth & Environmental Resources Management from the University of South Carolina.

6.0 REFERENCES CITED

Cummings, Candace J. and G.K. Yarrow. 1996. A Guide to South Carolina's Endangered and Threatened Species – EC 693. Clemson Extension Service.

South Carolina Department of Natural Resources. 2006. Rare, Threatened, and Endangered Species Inventory, Species Found in Laurens County. Current On-Line Edition - https://www.dnr.sc.gov/pls/heritage/county_species.list?pcounty=Laurens.

South Carolina Heritage Trust. 2006. Geographic Database of Rare and Endangered Species. Current On-Line Edition - <https://www.dnr.sc.gov:4443/pls/heritage/species.login>.

U.S. Fish and Wildlife Service. 1993. Endangered Species and Threatened Species of the Southeastern United States (The Red Book). Red-cockaded Woodpecker (*Picoides borealis*).

U.S. Fish and Wildlife Service. 2009. Listed Endangered Species in South Carolina - <http://www.fws.gov/charleston/countyLists.html#Listed%20Species%20in%20Laurens%20County>.

U.S. Department of Agriculture. Soil Survey of Laurens & Union Counties. 1975. Sheets 79-80.

7.0 SUMMARY AND CONCLUSIONS

Based on the literature review, habitat assessment, and pedestrian field review of the site, it is our opinion that the site does not provide suitable habitat for listed protected species with documented populations in Laurens County. No further action is recommended at this time. This Protected Species Assessment will be forwarded to the USFWS for review and comment. The USFWS comments will be provided to you as soon as S&ME receives them.

S&ME appreciates the opportunity to be of service to you by performing this Protected Species Assessment for the site. Please contact us at (803) 561-9024 with questions regarding this report or if you require any additional information.

Sincerely,

S&ME, Inc.



Amanda White
Biologist



Chris Daves, P.W.S.
Biologist



Tom Behnke, P.G.
Environmental Department Manager

Appendix A – Figures & Site Photographs

Appendix B – County Species Lists from USFWS and SCDNR

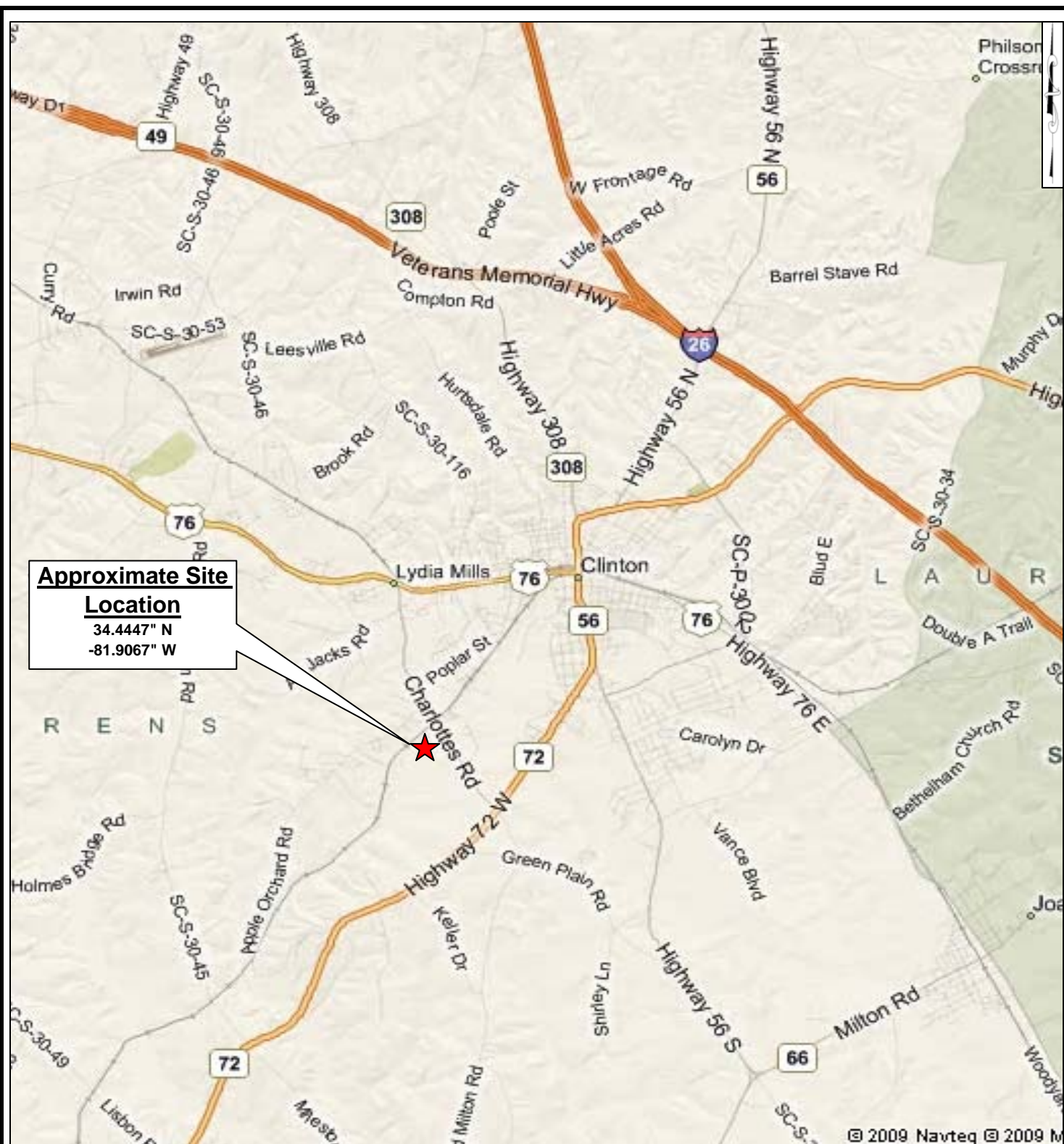
APPENDIX A

Figure 1 – Vicinity Map

Figure 2 – USGS Topographic Map

Figure 3 – Aerial Map

Site Photographs



SOURCE: www.bing.com/maps

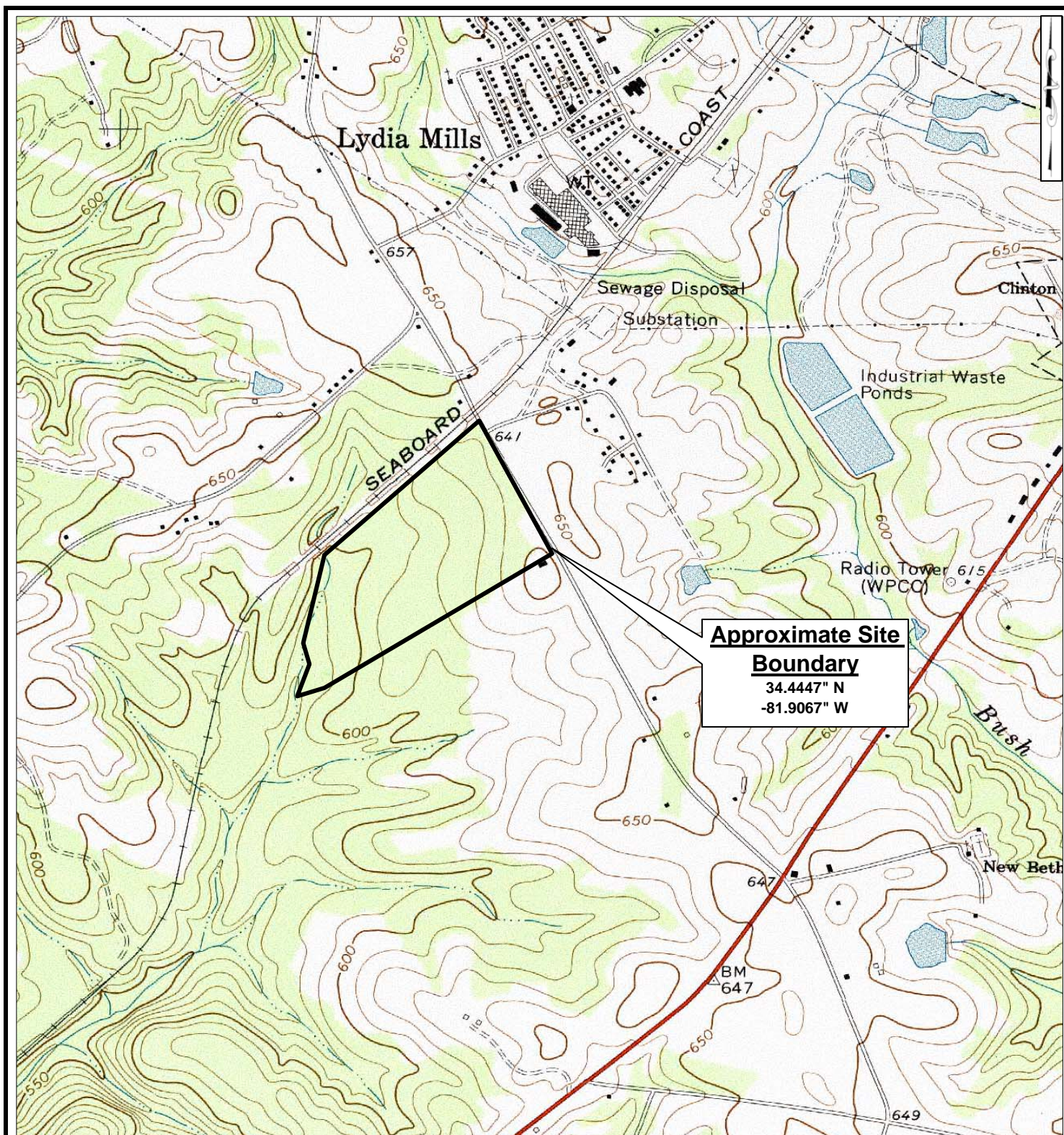
SCALE:	NTS
CHECKED BY:	TB
DRAWN BY:	WCD
DATE:	12/18/2009



VICINITY MAP	
Thomason II Industrial Site ~ 113 Acres	
Clinton, Laurens County, South Carolina	
S&ME PROJECT NO.	1614-09-430

FIGURE NO.

1



SOURCE: USGS 7.5 - Minute Quadrangle Map
Clinton, SC - 1971

SCALE: NTS
CHECKED BY: TB
DRAWN BY: WCD
DATE: 12/18/2009



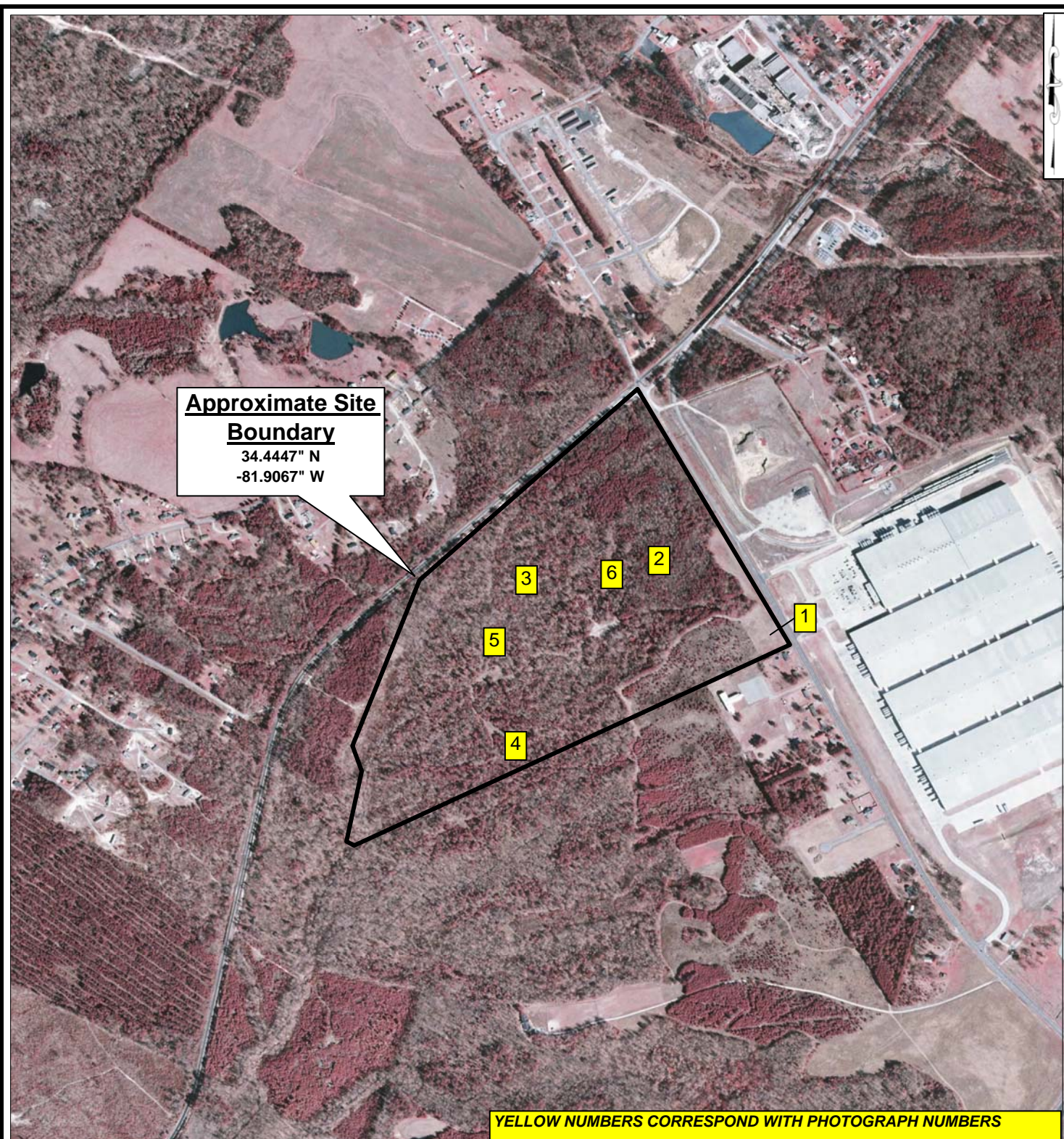
TOPOGRAPHIC MAP

Thomason II Industrial Site ~ 113 Acres
Clinton, Laurens County, South Carolina

S&ME PROJECT NO. 1614-09-430

FIGURE NO.

2



YELLOW NUMBERS CORRESPOND WITH PHOTOGRAPH NUMBERS

SOURCE: NAPP Aerial Photograph - 2006

SCALE:	NTS
CHECKED BY:	TB
DRAWN BY:	WCD
DATE:	12/18/2009



AERIAL MAP Thomason II Industrial Site ~ 113 Acres Clinton, Laurens County, South Carolina	
S&ME PROJECT NO.	1614-09-430

FIGURE NO.

3



Photo #1 Field on eastern portion of site facing north.



Photo #2 Pine-mixed hardwoods on eastern portion of site.



Photo #3 Mixed hardwoods on central portion of site.



Photo #4 Mixed hardwoods on southern portion of site.



Photo #5 Stream flowing northeast to southwest across central portion of the site.



Photo #6 Small wetland on east-central portion of site.

APPENDIX B

County Species Lists from USFWS and SCDNR For Laurens County

USFWS LIST

Listed Species in Laurens County				
Species	Federal Status	State Status	Habitat	Threats
Birds				
Red-cockaded woodpecker <i>Picoides borealis</i>	E	E	Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands > 30 years of age, preferably > 10" dbh	Reduction of older age pine stands and to encroachment of hardwood midstory in older age pine stands due to fire suppression

<http://www.fws.gov/charleston/countyLists.html#Listed%20Species%20in%20Laurens%20County>

SCDNR Rare, Threatened, & Endangered Species Inventory Species Found In Laurens County Data Last Updated January 17th, 2006

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK	LEGAL STATUS
ASTER GEORGIANUS	GEORGIA ASTER	G2G3	S?	SC
COLONIAL WATERBIRD		G?	S?	SC
DIRCA PALUSTRIS	EASTERN LEATHERWOOD	G4	S?	SC
ELLIPTIO LANCEOLATA	YELLOW LANCE	G2G3	S?	SC
FRASERA CAROLINIENSIS	COLUMBO	G5	S1	RC
HETERANTHERA RENIFORMIS	KIDNEYLEAF MUD-PLANTAIN	G5	S?	SC
LONICERA FLAVA	YELLOW HONEYSUCKLE	G5?	S2	SC
MICROTUS PENNSYLVANICUS	MEADOW VOLE	G5	S?	SC
MINUARTIA UNIFLORA	ONE-FLOWER STITCHWORT	G4	S?	SC
OROBANCHE UNIFLORA	ONE-FLOWERED BROOMRAPE	G5	S?	SC
PANAX QUINQUEFOLIUS	AMERICAN GINSENG	G3G4	S2S3	RC
RHODODENDRON EASTMANII	MAY WHITE	G2	S2	SC
TRILLIUM RUGELII	SOUTHERN NODDING TRILLIUM	G3	S?	SC
TYTO ALBA	BARN-OWL	G5	S4	SC
VIOLA TRIPARTITA VAR TRIPARTITA	THREE-PARTED VIOLET	G5T3?	S?	SC

Source: https://www.dnr.sc.gov/pls/heritage/county_species.list?pcounty=laurens