



February 11, 2014

Alliance Consulting Engineers, Inc.
Post Office Box 8147
Columbia, South Carolina 29202-8147

Reference: **Protected Species Assessment**
Northeastern Commerce Center
Dillon County, South Carolina
S&ME Project No. 4263-14-006

S&ME, Inc. (S&ME) is pleased to submit this report detailing our Protected Species Assessment for the above-referenced site located in Dillon County, South Carolina. This work was performed in general accordance with S&ME Proposal No. 1634-0484-13r1, dated November 1, 2013, and the Master Services Agreement between S&ME and Alliance Consulting Engineers, Inc., dated July 23, 2013. This report and the on-site pedestrian survey have been conducted to assess the potential for the presence of federally protected species at the subject site, in preparation for the proposed future commerce center.

The subject property is comprised of a tract land totaling approximately 252 acres, located northwest of and adjacent to the intersection of Interstate 95 and Highway 34, in Dillon County, South Carolina. The site is identified on a portion of the USGS 7.5-minute Dillon West, S.C. topographic quadrangle map, dated 1980 (Figure 2).

1.0 SITE/HABITAT DESCRIPTIONS

The site is located within the Upper Coastal Plain Physiographic Province of South Carolina, and is comprised of approximately 210 acres of agricultural fields and roads, and 42 acres of dense wooded areas (see Figure 3). The surrounding properties consist of wooded land, agricultural fields, and commercial/industrial properties.

2.0 PROTECTED SPECIES

The U.S. Fish & Wildlife Service (USF&WS) *South Carolina List of Endangered, Threatened and Candidate Species* (dated October 23, 2013), The South Carolina Department of Natural Resources (SCDNR) *Rare, Threatened, and Endangered Species and Communities Known to Occur in Dillon County South Carolina* (dated March 13, 2012), and the SCDNR Heritage Trust Program (SCDNR HTP) *Rare, Threatened & Endangered Species Inventory Species Inventory, Dillon West, S.C. Quadrangle Map* (updated on January 17, 2006) were consulted regarding currently listed federally protected species within Dillon County. There were no federally listed species noted on the Dillon West Quadrangle Map. The information was reviewed prior to conducting the site visit, to determine if known locations of protected species were located on or near the subject property. The USF&WS database has four federally protected species listed for Dillon County, South Carolina. These species include:

Common Name	Scientific Name	Status*
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA
Red-cockaded woodpecker	<i>Picooides borealis</i>	E
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	E
Atlantic sturgeon	<i>Acipenser oxyrinchus</i>	E

*E = Endangered, BGEPA = Bald and Golden Eagle Protection Act

The USF&WS has also listed five species that are considered At-Risk Species (ARS) that are known to occur in Dillon County. ARS are species that the USF&WS has petitioned to list and for which a positive 90-day finding has been issued (listing may be warranted); information is provided only for conservation actions as no Federal protections currently exist. The species include:

Common Name	Scientific Name	Status*
American eel	<i>Anguilla rostrata</i>	ARS
Blueback herring	<i>Alosa aestivalis</i>	ARS
Robust redhorse	<i>Moxostoma robustum</i>	ARS
Carolina-birds-in-a-nest	<i>Macbridea carolinana</i>	ARS
Spotted turtle	<i>Clemmys guttata</i>	ARS

A pedestrian field review was performed for protected species and suitable habitats to support protected species on February 1, 2014, by Mr. Charles Oates, of S&ME. Charles Oates has over eleven years of conducting protected species and critical habitat assessments. The results of the pedestrian field review are included in the following sections of this report, as well as a discussion of the above species, where applicable.

Plants:

No Effect

There are no federally protected plant species listed for Dillon County, South Carolina.

Carolina-birds-in-a-nest inhabits open, sunny bogs and marshes in the coastal plain of South Carolina and North Carolina. No suitable habitat was observed on the subject property.

Vertebrates:

No Effect

Birds:

Even though the bald eagle (*Haliaeetus leucocephalus*) was recently taken off of the threatened species list, it is still offered protection under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940. The bald eagle requires mature trees for nesting that are in close proximity to large bodies of water to feed. There are no large open bodies of water on or directly adjacent to the subject property, and the site does not contain suitable habitat to support the species.

The red-cockaded woodpecker requires mature longleaf pines (*Pinus palustris*) or loblolly pine (*P. taeda*) with an open understory that does not exceed 15' in height, and evenly spaced trees with an open, park like stand. There was no habitat encountered on, or adjacent to, the subject property sufficient to support Red-cockaded woodpecker nesting or foraging trees.

Reptiles & Amphibians:

There are no federally protected species of reptile or amphibians listed in Dillon County.

Spotted turtles are aquatic omnivores that inhabit a variety of semi-aquatic or in other words, shallow, fresh-water areas such as flooded forests, marshes, wet meadows, bogs and woodland streams. No suitable habitat for this species was observed on the subject property.

Fish and Marine Species:

The Atlantic and shortnose sturgeon inhabits river mouths, lakes, estuaries, bays, and some near-shore benthic areas. The subject property does not contain waters that would be considered suitable habitat for the Atlantic or shortnose sturgeon.

Suitable habitat for the American eel, blueback herring, or robust redhorse was not observed on or adjacent to the subject property.

Mammals:

There are no federally protected species of mammals listed for Dillon County.

Invertebrate:

No Effect

Freshwater Mussels:

There are no federally protected species of freshwater mussel listed in Dillon County.

3.0 METHODOLOGY

S&ME reviewed the SCDNR HTP and the USF&WS databases for records of federally protected species known to occur within Dillon County, S.C. The purpose of the search was to identify current and historic documented occurrences of protected species located within this county. Additionally, S&ME personnel reviewed available supporting information including the USGS Dillon West, S.C. Topographic Quadrangles and applicable soil survey data. The purpose of reviewing this supporting information was to identify drainage features and soil types in the site area that may be suitable habitat for protected species. During field reconnaissance, S&ME personnel integrated the information obtained from this supporting documentation with field evaluation for the presence of protected species or potential protected species habitat.

4.0 SUMMARY AND CONCLUSIONS

Based on the literature review, habitat assessment, and pedestrian field review of the site, it is our opinion that development of the subject property will have no effect on federally listed protected species for Dillon County.

5.0 CLOSURE

S&ME appreciates the opportunity to be of service to you by performing this Protected Species Assessment for the site. Please contact us at (843) 347-7800, with questions regarding this report, or if you require additional information.

Sincerely,
S&ME, Inc.



Charles C. Oates, Jr.
Project Manager



Thomas Behnke, P.G., CHMM
Senior Reviewer

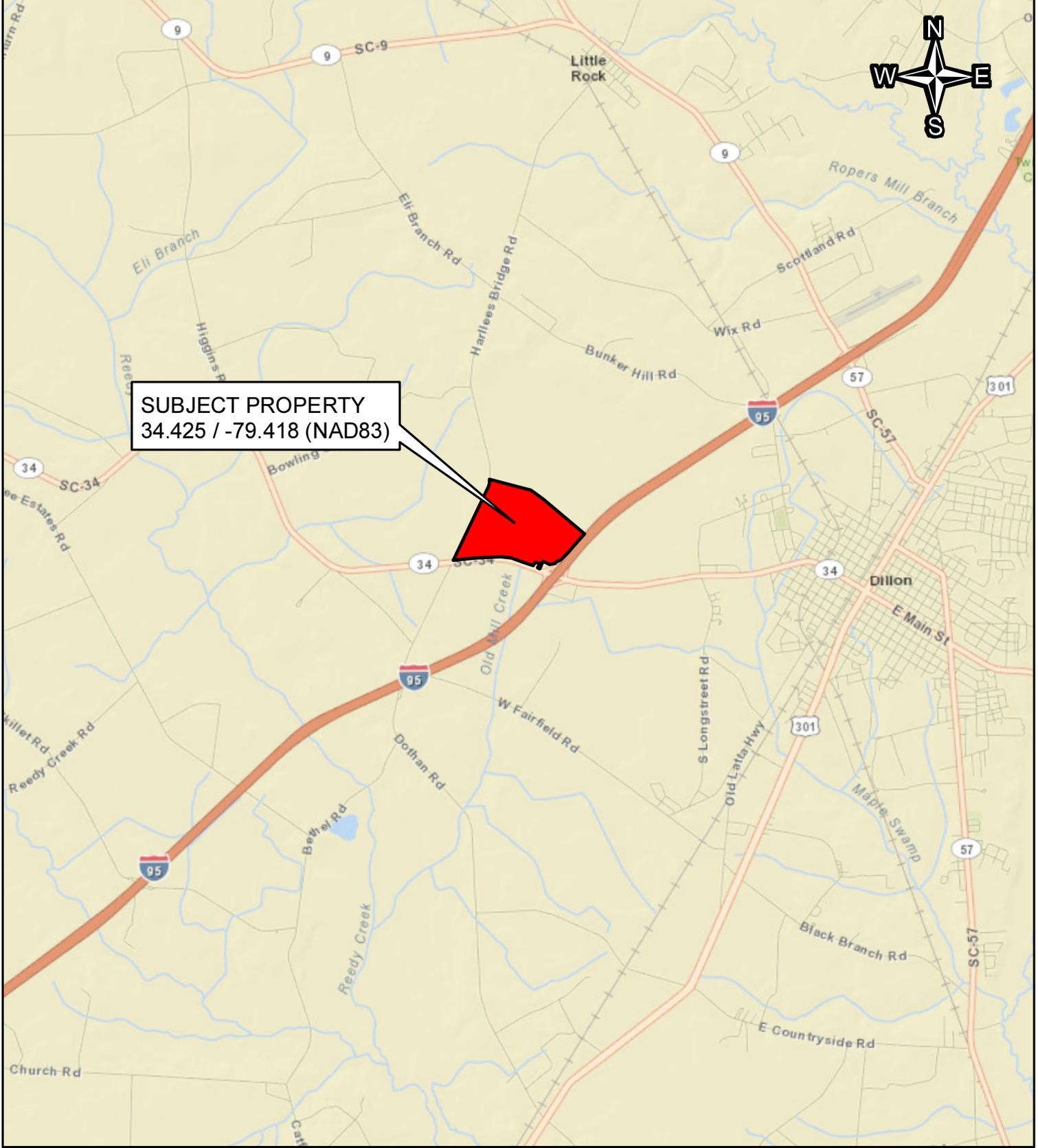
Attachments: **Figure 1:** Site Vicinity Map.
Figure 2: Site Topographic Map.
Figure 3: Site Aerial Photograph.
Figure 4: Site Soil Survey Map.

Site Photographs

USF&WS *South Carolina List of At-Risk, Candidate, Endangered, Threatened Species-Dillon County*, dated October 23, 2013.

Rare, Threatened, and Endangered Species and Communities Known to Occur in Dillon County South Carolina, dated March 13, 2012.

*ALL BOUNDARIES DEPICTED ON THIS SKETCH ARE APPROXIMATE AND INTENDED FOR ILLUSTRATIVE PURPOSES ONLY.



SUBJECT PROPERTY
34.425 / -79.418 (NAD83)



SCALE:	1"= 1 MILE
SOURCE:	ESRI
SOURCE DATE:	2010
DATE:	JANUARY 2014

SITE VICINITY MAP
NORTHEASTERN COMMERCE CENTER
DILLON COUNTY, SOUTH CAROLINA

S & ME PROJECT # 4263-14-006

S&ME
 WWW.SMEINC.COM

FIGURE #
1

*ALL BOUNDARIES DEPICTED ON THIS SKETCH ARE APPROXIMATE AND INTENDED FOR ILLUSTRATIVE PURPOSES ONLY.



PORTION OF THE USGS 7.5-MIN. DILLON WEST, S.C. TOPOGRAPHIC QUADRANGLE



SCALE:	1"= 1,000'
SOURCE:	USGS
SOURCE DATE:	1980
DATE:	JANUARY 2014

**SITE TOPOGRAPHIC MAP
NORTHEASTERN COMMERCE CENTER
DILLON COUNTY, SOUTH CAROLINA**

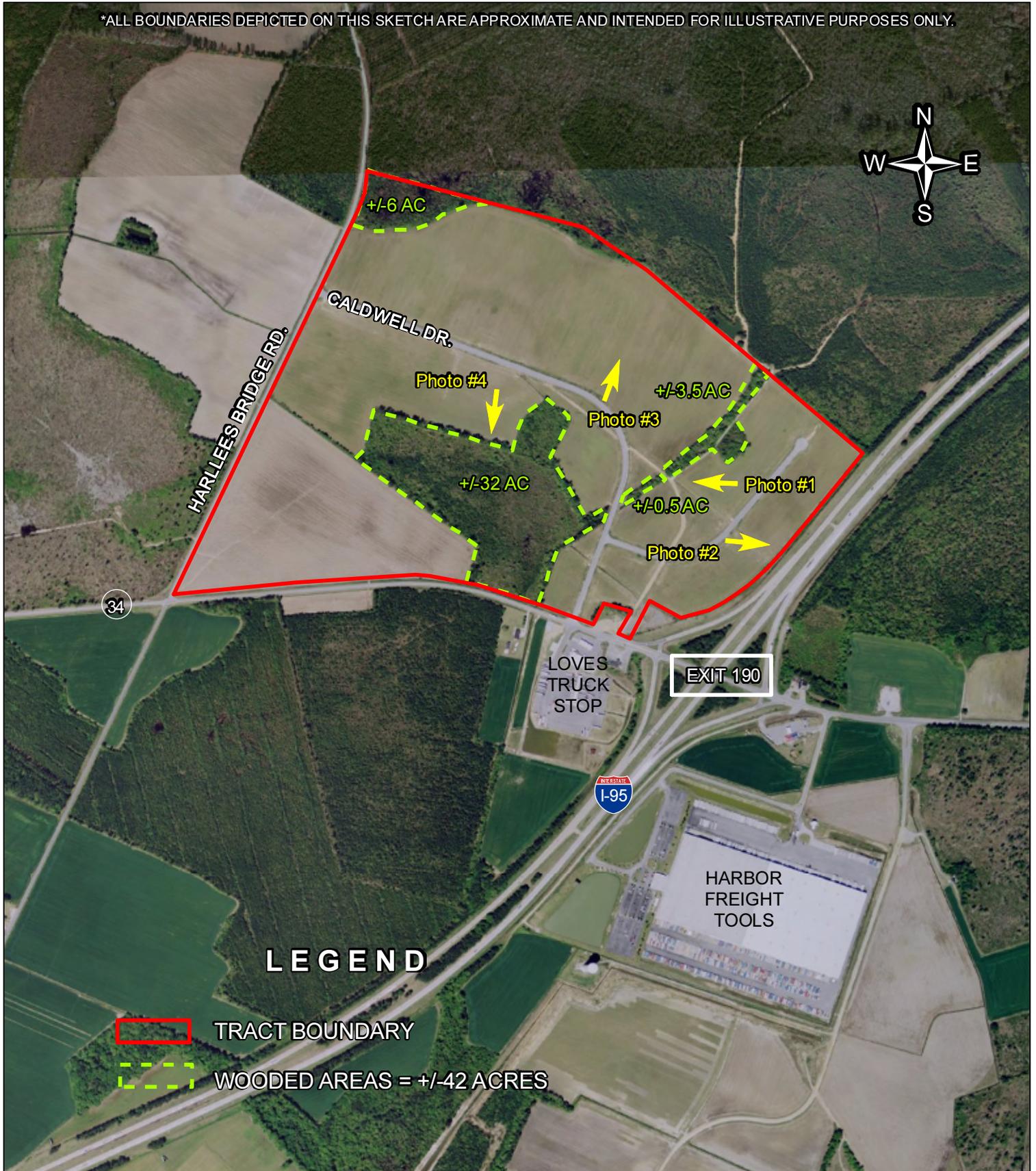
S & ME PROJECT # 4263-14-006



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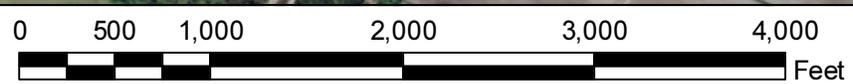
FIGURE #
2

*ALL BOUNDARIES DEPICTED ON THIS SKETCH ARE APPROXIMATE AND INTENDED FOR ILLUSTRATIVE PURPOSES ONLY.



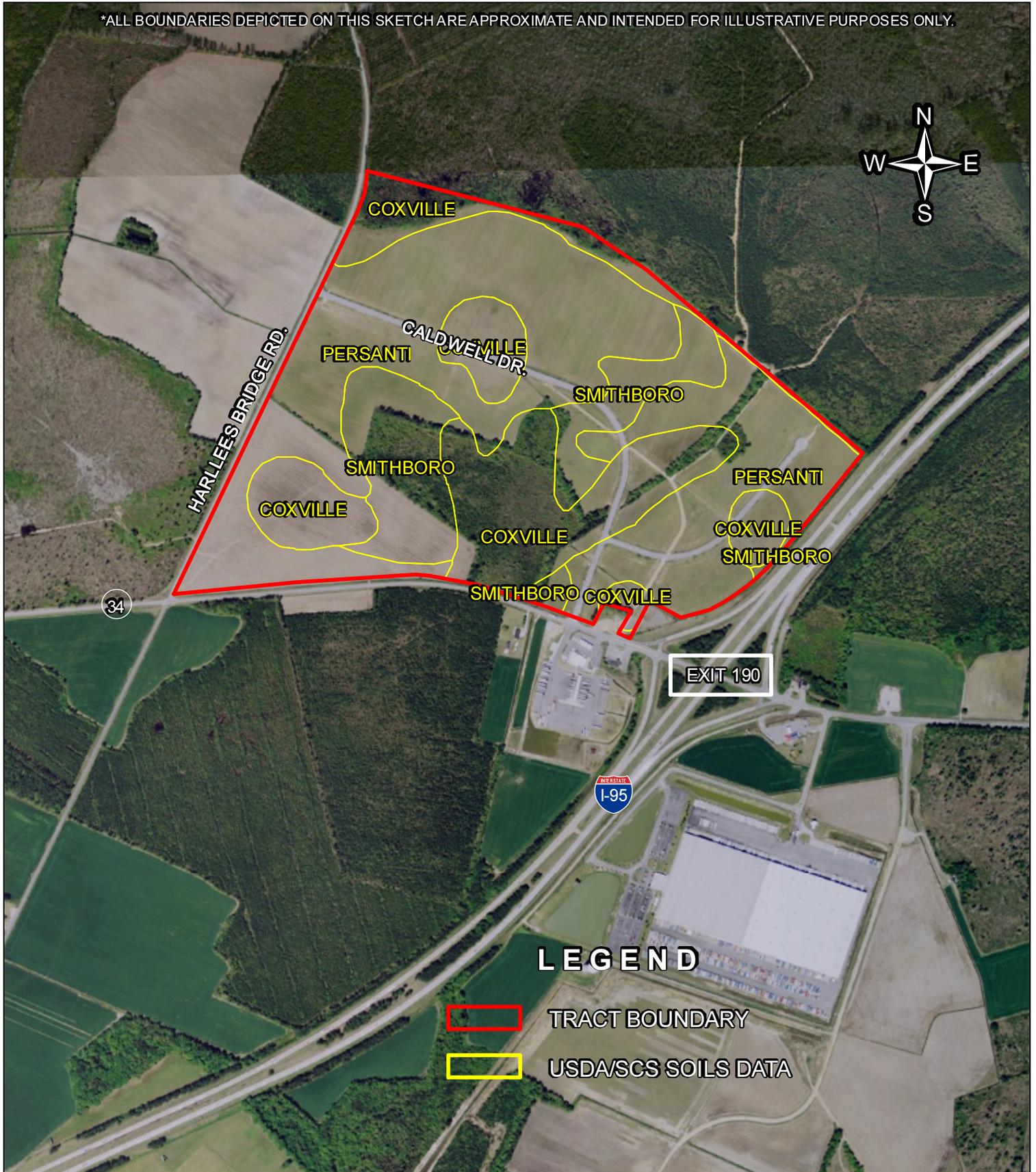
LEGEND

- TRACT BOUNDARY
- WOODED AREAS = +/-42 ACRES



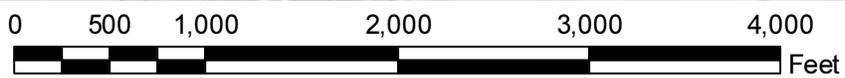
SCALE:	1"= 1,000'	SITE AERIAL PHOTOGRAPH NORTHEASTERN COMMERCE CENTER DILLON COUNTY, SOUTH CAROLINA	S&ME	FIGURE #
SOURCE:	ESRI			3
SOURCE DATE:	2010	S & ME PROJECT # 4263-14-006	WWW.SMEINC.COM	
DATE:	JANUARY 2014			

*ALL BOUNDARIES DEPICTED ON THIS SKETCH ARE APPROXIMATE AND INTENDED FOR ILLUSTRATIVE PURPOSES ONLY.

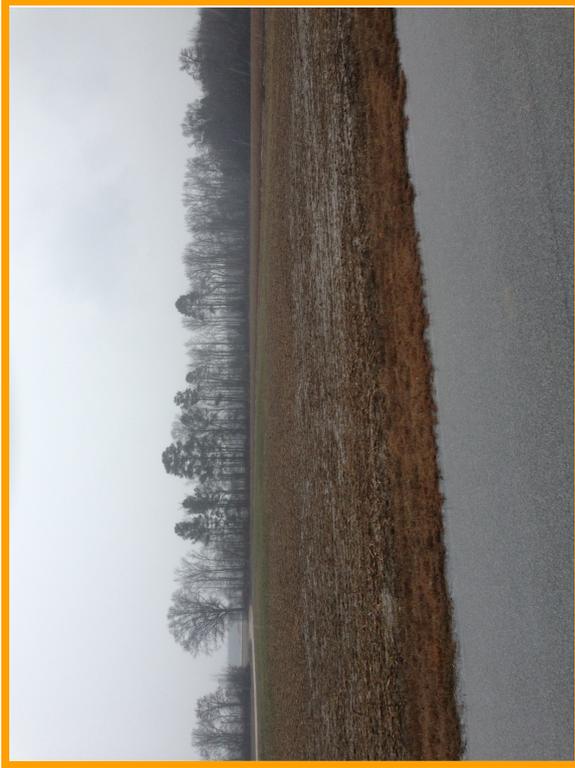


LEGEND

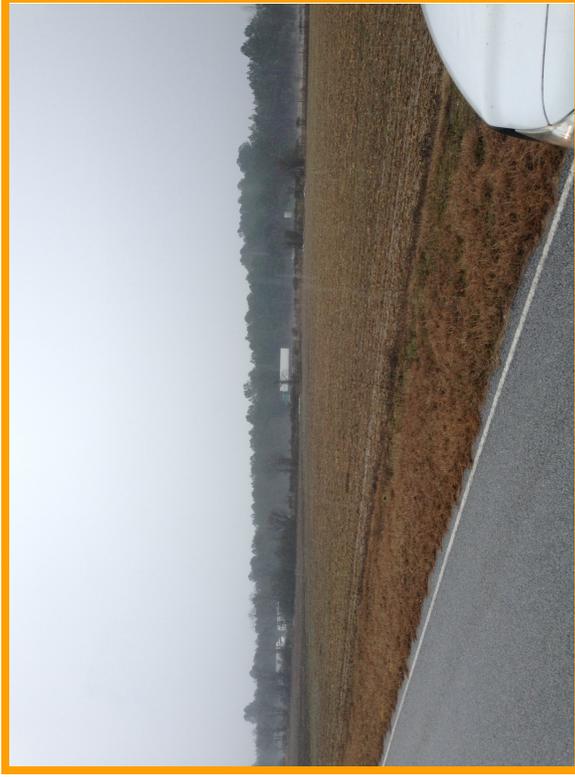
- TRACT BOUNDARY
- USDA/SCS SOILS DATA



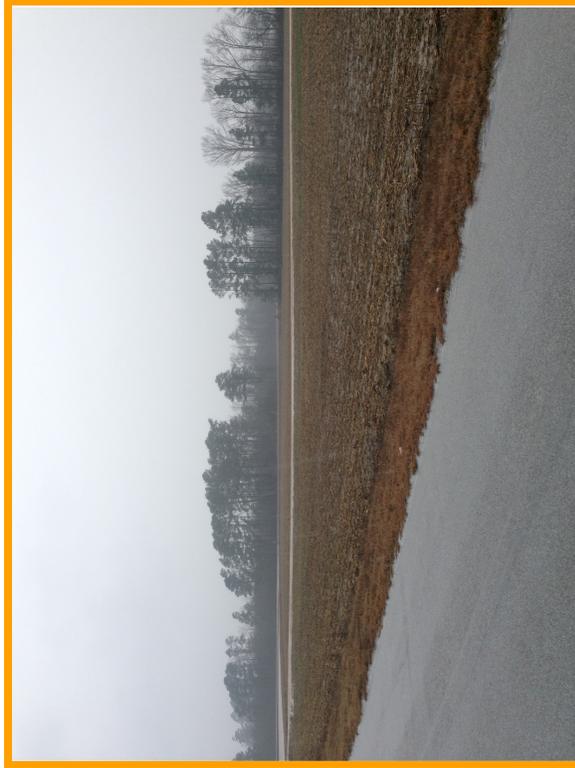
SCALE:	1"= 1,000'	SITE SOIL SURVEY MAP NORTHEASTERN COMMERCE CENTER DILLON COUNTY, SOUTH CAROLINA	S&ME	FIGURE #
SOURCE:	SCDNR GIS SITE			S & ME PROJECT # 4263-14-006
SOURCE DATE:	1976		WWW.SMEINC.COM	
DATE:	JANUARY 2014			



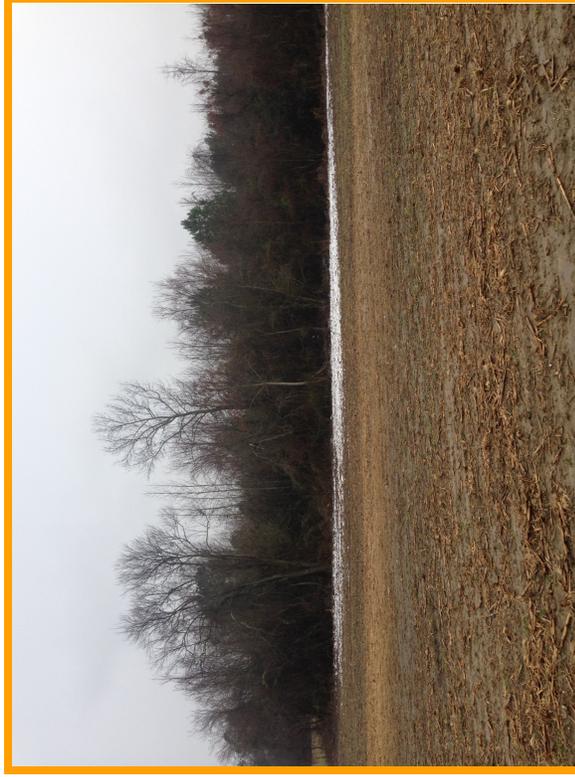
1 Subject property facing west/northwest.



2 Subject property facing east, Interstate 95 in the background.



3 Subject property facing north.



4 Dense wooded area located in the southern portion of the site, facing south.



Site Photographs Northeastern Commerce Center

S&ME Project No.: 4263-14-006

Taken by: CO

Date Taken: 2/1/14

South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species - Dillon County

- * Contact National Marine Fisheries Service (NMFS) for more information on this species
- ** The U.S. Fish and Wildlife Service (FWS) and NMFS share jurisdiction of this species
- ARS At-Risk Species - Species that the FWS has been petitioned to list and for which a positive 90-day finding has been issued (listing may be warranted); information is provided only for conservation actions as no Federal protections currently exist.
- BGEPA Federally protected under the Bald and Golden Eagle Protection Act
- C FWS or NMFS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list these species
- CH Critical Habitat
- E Federally Endangered
- P or P - CH Proposed for listing or critical habitat in the Federal Register
- S/A Federally protected due to similarity of appearance to a listed species
- T Federally Threatened

COUNTY	CATEGORY	COMMON NAME	SCIENTIFIC NAME	STATUS
Dillon	Amphibian	None Found		
	Bird	Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA
	Bird	Red-cockaded woodpecker	<i>Picoides borealis</i>	E
	Crustacean	None Found		
	Fish	American eel	<i>Anguilla rostrata</i>	ARS
	Fish	Atlantic Sturgeon*	<i>Acipenser oxyrinchus*</i>	E
	Fish	Blueback herring	<i>Alosa aestivalis</i>	ARS
	Fish	Robust redhorse	<i>Moxostoma robustum</i>	ARS
	Fish	Shortnose sturgeon*	<i>Acipenser brevirostrum*</i>	E
	Insect	None Found		
	Mammal	None Found		
	Mollusk	None Found		
	Plant	Carolina-birds-in-a-nest	<i>Macbridea caroliniana</i>	ARS
	Reptile	Spotted turtle	<i>Clemmys guttata</i>	ARS

These lists should be used only as a guideline, not as the final authority. The lists include known occurrences and areas where the species has a high possibility of occurring. Records are updated as deemed necessary and may differ from earlier lists.

For a list of State endangered, threatened, and species of concern, please visit <https://www.dnr.sc.gov/species/index.html>.

Rare, Threatened, and Endangered Species and Communities Known to Occur in Dillon County, South Carolina
 March 13, 2012

Scientific Name	Common Name	USES Designation	State Protection	Global Rank	State Rank
<u>Vertebrate Animals</u>					
<i>Clemmys guttata</i>	Spotted Turtle		ST: Threatened	G5	S5
<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared Bat		SE: Endangered	G3G4	S2?
<i>Haliaeetus leucocephalus</i>	Bald Eagle		ST: Threatened	G5	S2
<i>Picoides borealis</i>	Red-cockaded Woodpecker	LE: Endangered	SE: Endangered	G3	S2
<u>Vascular Plants</u>					
<i>Eupatorium resinotum</i>	Pine Barrens Boneset			G3	S1
<i>Isoetes riparia</i>	River Bank Quillwort			G5?	S2
<i>Lachnocaulon beyrichianum</i>	Southern Bog-button			G4	S2
<i>Macbridea caroliniana</i>	Carolina Bird-in-a-nest			G2G3	S3
<i>Pteroglossaspis ecristata</i>	Crestless Plume Orchid			G2G3	S2
<i>Xyris flabelliformis</i>	Savannah Yellow-eyed Grass			G4	S1
<u>Communities</u>					
Bald cypress - tupelo gum swamp				G5	S4
Bay forest				G3G4	S3
Oak - hickory forest				G5	S5
Pond pine woodland				G4G5	S3
Xeric sandhill scrub				G5	S3
<u>Ecological</u>					
Carolina bay				GNR	SNR