#### Supplemental Environmental Assessment

#### Proposed New Airport Traffic Control Tower (ATCT) Construction – Sites H and 12

Greenville-Spartanburg Airport (GSP)

Greer, Spartanburg, South Carolina

December 13, 2023

#### Prepared for:

#### U.S. Department of Transportation (US DOT)

Federal Aviation Administration (FAA)

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# Introduction

The FAA is proposing the construction of a replacement Airport Traffic Control Tower (ATCT) with associated parking to serve the Greenville-Spartanburg International Airport (GSP) in Greer, Spartanburg County, South Carolina. This Supplemental Environmental Assessment (Supplemental EA) has been conducted in accordance with the National Environmental Policy Act (NEPA) and implementing regulations promulgated by the Council on Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) Parts 1500-1508, FAA Order 1050.1F, Environmental Impact: Policies and Procedures (dated July 16, 2015) and other applicable environmental laws, regulation, executive orders, and policies. This Supplemental EA includes the evaluation of environmental consequences or effects of the Proposed Action and No Action alternatives.

# Background

GSP is located approximately 11 miles east of the City of Greenville, SC; approximately 17 miles west of the City of Spartanburg, SC; and approximately 3 miles south of the City of Greer, SC. It is the second busiest airport in South Carolina with about 2.61 million passengers in 2019. Opened in October of 1962, the airport consists of a single runway 4/22 consisting of grooved asphalt and concrete in good condition. The current ATCT at GSP was constructed along with the airport in October of 1962. The FAA took ownership of the tower in October 1988. It is located at the north end of the apron.

The original EA dated May 2021 (2021 EA) for this project evaluated the proposed action at 11 sites and had site J as its preferred site. It was later discovered that the preferred Site J lies within the South Carolina Department of Transportation right of way and is not a viable site. This EA goes into further detail on sites H and 12 as alternative preferred sites.



Figure 1: Greenville-Spartanburg International Airport

# **Proposed Action**

The Proposed Action would involve the construction of a new replacement ATCT, base building, and parking spaces to serve GSP. Two candidate locations have been advanced for the location of the ATCT, Sites H and 12. Alternative locations for the ATCT are discussed below.

The Proposed Action would include the construction of an approximately 190-foot high ATCT with a maximum Tower radius of 60 ft, a 16,000 sq. ft. base building, and an associated parking lot adjacent to the tower with 55 parking spaces. The proposed construction would have no change on the number of aircraft operations or type of aircraft operating at GSP. The construction would involve the disturbance of the surrounding ground for trenching for utilities and the demolition and removal of the old ATCT.

# Purpose and Need of Proposed Action

The current ATCT does not meet the current seismic criteria, ASCE standard 7-16, and the cost to upgrade the ATCT would involve significant structural changes and improvements that would exceed the cost of a new tower. The new ATCT would modernize the facility at GSP and improve functional efficiency at the airport.

# Alternatives

# ATCT Alternative Sites Considered

The FAA and representatives of the Eastern Service Area (ESA) and GSP participated in ATCT siting activities per the FAA Siting Order 6480.4, Air Traffic Control Siting Process, and AFTIL Procedures to determine the viable/preferred ATCT sites. There were a total of 11 sites (Sites A-J and 12) assessed and two sites were identified as potentially viable: Sites H and 12, which are described in more detail below. 9 sites were deemed non-viable due to several issues: either the height of the tower would enter flying space; the height of the tower would be excessive and not reasonably constructible; or the placement of the tower would infringe on the right of way of other landowners in the vicinity. See 2021 EA for analysis of non-viable sites. Below are analysis of site H and 12.

Site H (Alternative Site Considered): Site H is located northeast of the airport at latitude 34°53'46.4989" N, longitude 82°12'42.8683" W (Figure 2). Site H consists of approximately 5-acres of undeveloped, wooded land associated with GSP. Topography on Site H slopes from west to east (Figure 3). GSP Drive is located along the western property boundary. Additionally, a power-line easement and unimproved access road transects the east side of the site. Site H has a possible view blockage of Taxiway L8 caused by a proposed building. The airport sponsor agreed to slope the building to mitigate the possible blockage if the tower was built in this location. There is a concern with the North Cargo Area Hangar blocking the view to the entrance of a taxiway. Although a non-movement area, a remote camera system was suggested to preclude a blockage of taxiways. In addition, Site H did not allow for positive control of aircraft and/or vehicles operating on a portion of one of the taxiways of the airport (Taxiway L9). This site will require additional air traffic change in procedures and would require additional equipment to mitigate risk for this site.

<u>Site 12 (Preferred Site)</u>: Site 12 is located northeast of the airport at latitude 34°53'50.1480" N, longitude 82°12'39.9758" W (Figure 2). Site 12 consists of approximately 5-acres of undeveloped, wooded land associated with GSP. Topography on Site 12 slopes from west to east (Figure 3). GSP Drive is located along the western property boundary. Additionally, a power-line easement and unimproved access road transects the east side of the site. As with Site H, Site 12 will also have a possible view blockage of Taxiway L8 caused by a proposed building and a concern with the North Cargo Area Hangar blocking the view to the entrance of a taxiway. Air Traffic would need to develop procedures for this concern.

#### No Action Alternative

With the No Action Alternative, a new ATCT facility would not be constructed at GSP. The existing ATCT facility would continue to be used. This alternative does not meet the needs of the ongoing mission of the FAA, as the current tower does not meet ASCE standard 7-16, the current seismic criteria followed by the FAA.

# Affected Environment/Environmental Consequences

The Preferred Site has been identified as Site 12, and the Alternative Site Considered is Site H. This Supplemental Environmental Assessment evaluates the Affected Environment and Environmental Consequences that were noted for additional review in the 2021 EA. The 2021 EA analyzed fourteen (14) Affected Environments. The analysis showed Site H and 12 had no environmental consequences anticipated in Air Quality; Climate; Coastal Resources; Farmlands; Hazardous Materials, Solid Waste, and Pollution Prevention; Land Use; Natural Resources and Energy Supply; Noise and Noise Compatible Land Use; Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks; and Visual Effects. The Federal Aviation Administration contracted S&ME to conduct studies for Biological Resources, Archeological Resources and Wetlands resources.

# **Biological Resources**

Biological Resources provide intrinsic, aesthetic, economic, and recreational value to an area. Biological resources include fish, wildlife, plants, and their respective habitats. Airport projects have the potential to disrupt or negatively impact these habitats. The 2021 EA completed an analysis of the biological effects of proposed site H and 12 and concluded that both had a potential for the Dwarf Flower Heartleaf, a Federally Listed Threatened Species. A re-evaluation was conducted by S&ME for the biological effect for both site H and 12 (see Appendix 1).

# General Fish, Wildlife, and Vegetation

# *Affected Environment Site H*

S&ME conducted field reconnaissance on 17 May 2023. Site H is a 4.19 acre lot located within the larger GSA property in Greer, Spartanburg County, South Carolina. The site ranges from 940 ft above mean sea level (msl) to 8863 msl with a general topographic relief from northwest to southeast. The site is primarily forested with powerline right of ways. The study divided the project area into 5 major habitats due to its different landscapes.

Habitat 1 is a mixed hardwood forest. The canopy of this habitat is composed of Sweetgum (*Liquidambar styraciflua*), Water oak (*Quercus nigra*), Yellow poplar (*Liriodendron tulipifera*), American holly (*Ilex opaca*) and Green ash (*Fraxinus pennsylvanica*). The understory of this habitat consisted primarily of juvenile trees of the canopy species.

Habitat 2 consists of the power line easements. The powerline easements are located across the site. The dominant plant species in the powerline easement were Tall fescue (*Festuca arundinacea*), Blackberry (*Rubus sp.*) and Tall goldenrod (*Solidago altissima*).

Habitat 3 is a road and maintained right of way. The right of way is maintained Tall fescue (*F. arundinacea*) with a row of planted Pin oak (*Q. palustris*) trees.

Habitat 4 are jurisdictional wetlands. The dominant species in this habitat was Netted chain fern (*Woodwardia areolata*), Brome-like sedge (*Carex bromides*.), New York Fern (Th*elypteris noveboracensis*), and Jack-in-the-pulpit (*Arisaema triphyllum*).

Habitat 5 are jurisdictional streams. The streams on site were located in drainage features that exhibited an ordinary high-water mark.

The affected environment does not differ substantially from the findings in the original field reconnaissance from the original EA.

# <u>Site 12</u>

S&ME conducted field reconnaissance on 17 May 2023. Site 12 is a 4.19 acre lot located within the larger GSA property in Greer, Spartanburg County, South Carolina. The site ranges from 944 msl to 905 msl, with a general topographic relief from northwest to southeast. The site has a large section that has recently been clear cut. The remaining area is forested with a large rock outcropping and powerline right of way. Site 12 does not contain any jurisdictional water features. This site was divided into 4 major habitats.

Habitat 1 is a mixed hardwood pine forest. The dominant species in this habitat are Loblolly pine (*Pinus taeda*) with Red oak (*Quercus falcata*) and Yellow poplar (*Liriodendron tulipifera*).

Habitat 2 is a recently clearcut area. The habitat has been recently clearcut with much of the woody debris mulched across the area. No overstory vegetation was noted within the area.

Habitat 3 is a power line easement. The powerline easement is located across the site. The dominant plant species in the powerline easement are Tall fescue *Festuca arundinacea*), Blackberry (*Rubus sp.*) and Tall Goldenrod (*Solidago altissima*).

Habitat 4 is a road and maintained right of way. The right of way is maintained Tall fescue (*F. arundinacea*) with a row of planted Pin oak (*Q. palustris*) trees.

The affected environment does not differ substantially from the findings in the original field reconnaissance from the original EA.

# Environmental Consequences

# <u>Site H</u>

S&ME Identified two jurisdictional Streams and two Jurisdictional Wetlands on site. Based on concurrence with the USFWS and SCDNR, there are no potential critical habitats. Tree clearing not exceeding the 5 acre footprint of the site location would be required for the proposed action, which would be considered summer roost habitat for the Tricolored Bat (*Perimyotis subflavus*). At this time, there is no federal protection, and no additional consultation with the USFWS was performed.

# <u>Site 12</u>

S&ME did not identify any jurisdictional streams or wetlands at this site. Other environmental consequences are identical to those found at the description for Site H.

# Listed Threatened and Endangered Species

The 1973 Endangered Species Act (ESA) provides for the conservation of ecosystems upon which threatened and endangered fish, animal and plant species depend. Relative to administration of this Federal statute, endangered indicates that the species is in danger of extinction; threatened indicates

that the species is likely to become endangered within the foreseeable future. Included on the list but not federally-protected are At Risk species for which information is provided only for conservation purposes.

#### Affected Environment **Site H**

S&ME conducted a site visit on 17 May 2023. Site H consists of undeveloped wooded land gently sloping from west to east. A power line easement and unimproved access road is on the eastern portion of the site. Two jurisdictional wetlands and two jurisdictional streams were identified in the eastern portion of the site. There are no new or different findings from the site visit for the original EA with respect to the affected environment.

# <u>Site 12</u>

S&ME conducted a site visit on 17 May 2023. Site 12 consists of undeveloped wooded land gently sloping from west to east. The site has the same power line easement and unimproved access road in its eastern portion. There are no new or different findings from the site visit for the original EA with respect to the affected environment.

# Site H and Site 12

The most-current postings in the public domain published on-line by the Information for Planning and Consultation (IPaC) website report were obtained for the site. The Official Species List contained one Threatened species, the Dwarf-flowered Heartleaf (Hexastylis naniflora). The Monarch butterfly (Danaus plexippus) was also listed as a Candidate (C) species. Candidate species do not receive federal protection; therefore, the Monarch butterfly was not included in the assessment. The Tricolored Bat (Perimyotis subflavus) is listed as Proposed Endangered and is not protected; however, it was included as part of the species and habitat evaluation due to its upcoming listing. For the purposes of this assessment, the Bald eagle (Haliaeetus leucocephalus) has also been included considering its protection under the Bald and Gold Eagle Protection Act (BGEPA).

An inquiry was made to the SCDNR Heritage Trust Program regarding known and recorded occurrence(s) of federally-protected species on or within a one-mile radius from the site. No federally-protected species were found within, or one-mile of the site. The acquired information for the three species was reviewed for field reference purposes. Portions of the site that matched the description of optimal/preferred habitats were considered to be potential habitats for those species and were noted during the habitat assessment.

# Species/Habitat Description

#### Bald Eagle

**Description**: Distinguished by a white head and white tail feathers, Bald Eagles are powerful, brown birds that may weigh 14 pounds and have a wingspan of eight feet. Male eagles are smaller, weighing as much as ten pounds and have a wingspan of six feet. Sometimes confused with Golden eagles, Bald eagles are mostly dark brown until they are four to five years old and acquire their characteristic coloring.

**Habitat**: Bald Eagles live near rivers, lakes, and marshes where they can find fish, their staple food. Bald eagles will also feed on waterfowl, turtles, rabbits, snakes, and other small animals and carrion. Bald eagles require a good food base, perching areas, and nesting sites. Their habitat includes estuaries, large lakes, reservoirs, rivers, and some seacoasts. In winter, the birds congregate near open water in tall trees for spotting prey and night roosts for sheltering. Habitat destruction and degradation, illegal shooting, and the contamination of its food source, largely as a consequence of the insecticide DDT, decimated the eagle population.

#### Tricolored Bat

**Description**: The Tricolored Bat has an average body length of 3 to 3.5 inches, with a wingspan of nine inches. The tricolored bat is distinguished by its unique tricolored fur that appears dark at the base, lighter in the middle and dark at the tip. Tricolored bats often appear yellowish, varying from pale yellow to nearly orange, but may also appear silvery-gray, chocolate brown or black. Newly flying young are much darker and grayer than adults.

**Habitat**: During the spring, summer, and fall - collectively referred to as the non-hibernating seasons - tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. In the southern and northern portions of the range, tricolored bats will also roost in Spanish moss (*Tillandsia usneoides*) and Bony beard lichen (*Usnea trichodea*), respectively. In addition, tricolored bats have been observed roosting during summer among pine needles, eastern red cedar (*Juniperus virginiana*), within artificial roosts like barns, beneath porch roofs, bridges, concrete bunkers, and rarely within caves. Female tricolored bats exhibit high site fidelity, returning year after year to the same summer roosting locations. Female tricolored bats form maternity colonies and switch roost trees regularly. Males roost singly.

During the winter, tricolored bats hibernate in caves and mines; although, in the southern United States, where caves are sparse, tricolored bats often hibernate in road-associated culverts, as well as sometimes in tree cavities and abandoned water wells.

#### Dwarf-flowered Heartleaf

**Description**: The Dwarf-flowered heartleaf is a low-growing, evergreen perennial plant. It has heartshape leaves that are dark green and leathery, supported by long, thin leaf stems connecting it to an underground stem. The jug-shaped flowers are usually beige to dark brown or purple and appear from mid-March to early June. The flowers are small and inconspicuous and are found near the base of the leaf stems, often buried beneath the leaf litter.

**Habitat**: Dwarf-flowered heartleaf grows in acidic soils along bluffs and adjacent slopes, in boggy areas next to streams and creek heads, and along the slopes of nearby hillsides and ravines. The greatest threat to Dwarf-flowered heartleaf is conversion of habitat to agricultural, residential, commercial, and industrial uses. Habitat may also be eliminated through the construction of reservoirs, which floods habitat.

Environmental Consequences <u>Site H and 12</u> Consultation with the US Fish and Wildlife Service did not indicate that the proposed action would be likely to jeopardize the continued existence of any federally-listed threatened or endangered species. Field reconnaissance performed on March 27, 2023 combined with that consultation did not show the action would result in the destruction or adverse modification of any federally-designated critical habitat. The listed species evaluated for impact include:

- Bald Eagle (H. Leucocephalus) Protected under the BGEPA
- Dwarf-flowered Heartleaf (H. naniflora) Threatened

The FAA has not established a significance threshold for non-listed species. It is anticipated that the Tricolored bat will be listed late 2023 or early 2024. However, if tree clearing is not completed prior to its anticipated listing, reconsultation with the USFWS would be performed to maintain compliance with the ESA.

#### Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements the United States' commitment to international conventions with Canada, Japan, Mexico, and Russia that protect birds that migrate across international borders. This Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests (i.e., taking) except as authorized under a valid permit. The MBTA also authorizes and directs the Secretary of the Interior to determine if, and by what means, the taking of migratory birds should be allowed and to adopt suitable regulations permitting and governing such taking (e.g., hunting seasons for ducks and geese). The MBTA and its implementing regulations provide authority for the conservation of bald eagles and protect against their taking if the ESA protections are removed.

# Affected Environment

#### <u>Site H</u>

Engineering Consulting Services (ECS) performed a site visit on September 16, 2019 and December 2, 2020. The site consists of undeveloped, wooded land gently sloping from west to east. Additionally, a power-line easement and unimproved access road transects the eastern portion of the site. Potential wetland features and rock outcroppings were observed on the eastern portion of the site. No nests for migratory birds were observed or are known to be on or within a one half mile spatial buffer around the subject site. Additionally, ECS did not identify migratory birds' species during the site reconnaissance.

S&ME conducted a site visit on 17 May 2023. The details of this site visit can be found in the Affected Environment Section for General Fish, Wildlife, and Vegetation for a full description. The site visit did not make new or different findings from the original EA.

#### <u>Site 12</u>

ECS performed a site visit on September 16, 2019 and December 2, 2020. The site consists of undeveloped, wooded land gently sloping from west to east. Similarly, to Site H, potential wetland features and rock outcroppings were observed on the eastern portion of the site and a power-line easement and unimproved access road transects the eastern portion of the site. No nests for migratory

birds were observed or are known to be on or within a one-half mile spatial buffer around the subject site. Additionally, ECS did not identify migratory birds' species during the site reconnaissance.

S&ME conducted a site visit on 17 May 2023. The details of this site visit can be found in the Affected Environment Section for General Fish, Wildlife, and Vegetation for a full description. The site visit did not make new or different findings from the original EA.

#### Environmental Consequences Site H and Site 12

ECS reviewed the list for migratory birds within the project area. Except for the Bald Eagle, the remainder of the species were listed as Birds of Conservation Concern Range wide (BCC) or throughout their range anywhere in the United States. Additionally, ECS did not identify migratory birds' species during the site reconnaissance. As such, no environmental consequences are anticipated regarding migratory birds.

# Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) was enacted in 1940 and has been amended several times. This Act prohibits the taking of bald and golden eagles without a permit issued by the Secretary of the Interior. Taking includes their parts, nests, or eggs by pursuing, shooting/shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing. Further, disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.

The Act also covers impacts that result from anthropogenic alterations initiated near a previously-used nesting site, during a time when eagles are not present. Such alterations are prohibited if, upon an eagle's return to the nest, such alterations agitate or bother the eagle to a degree that normal breeding, feeding, or sheltering habits are interrupted or interfered; thereby, resulting in injury, death, or nest abandonment.

#### Affected Environment Site H

ECS performed a site visit on September 16, 2019 and December 2, 2020. The details of these site visits can be found in the Affected Environment Section for the Migratory Bird Treaty.

S&ME conducted a site visit on 17 May 2023. The details of this site visit can be found in the Affected Environment Section for General Fish, Wildlife, and Vegetation for a full description. No large waterbodies exist on or adjacent to the site that would provide a suitable food supply for the Bald Eagle. Additionally, no nests or individuals were observed and there are no known Bald Eagle nests within a one-mile radius of the site as indicated in the SCDNR Consultation. The site visit did not make new or different findings from the original EA.

#### <u>Site 12</u>

ECS performed a site visit on September 16, 2019 and December 2, 2020. The details of these site visits can be found in the Affected Environment Section for the Migratory Bird Treaty.

S&ME conducted a site visit on 17 May 2023. The details of this site visit can be found in the Affected Environment Section for General Fish, Wildlife, and Vegetation for a full description. The site visit did not make new or different findings from the original EA.

#### Site H and Site 12

#### Bald Eagle

A description of the bald eagle and its Affected Environment can be found in the Threatened and Endangered Species section above.

#### Environmental Consequences

#### <u>Site H and 12</u>

Due to the lack of presence of the Bald Eagle, it was determined that the proposed action would have no effect on the Bald Eagle.

#### Invasive Species Affected Environment Site H

ECS performed a site visit on September 16, 2019 and December 2, 2020. The details of these site visits can be found in the Affected Environment Section for the Migratory Bird Treaty. ECS performed a site visit and did not observe large stands of dominant invasive plant species or invasive animal species.

S&ME conducted a site visit on 17 May 2023. The details of this site visit can be found in the Affected Environment Section for General Fish, Wildlife, and Vegetation for a full description. The site visit did not make new or different findings from the original EA.

#### <u>Site 12</u>

ECS performed a site visit on September 16, 2019 and December 2, 2020. The details of these site visits can be found in the Affected Environment Section for the Migratory Bird Treaty. ECS performed a site visit and did not observe large stands of dominant invasive plant species or invasive animal species.

S&ME conducted a site visit on 17 May 2023. The details of this site visit can be found in the Affected Environment Section for General Fish, Wildlife, and Vegetation for a full description. The site visit did not make new or different findings from the original EA.

#### Environmental Consequences

#### Site H and Site 12

No environmental consequences are anticipated regarding invasive plant species.

# Historical, Architectural, Archaeological, and Cultural Resources

Historical, architectural, archeological, and cultural resources include past and present expressions of human culture and history such as prehistoric and historic archaeological sites, structures, objects, and

districts which are considered important to a culture or a community. Section 106 of the National Historic Preservation Act (NHPA) requires that federal agencies consider the effects of the Proposed Action on historic properties through consultation with the State Historical Preservation Officer (SHPO). From the original EA, a letter was received from the South Carolina SHPO indicating that both site H and 12 have no documented historical properties eligible for listing in the National Register of Historical Places. However, it was also indicated that if the subjected site were to require state permits or federal permits, licenses, funds, loans, grants or assistance for development, the SHPO would recommend to the federal or state agency or agencies that "A phased investigation of the project area's potential to contain historic properties, beginning with archival research on the history of the project area and a reconnaissance-level survey be conducted." A phased investigation involves an initial assessment, with further analysis and assessments following in phases if initial assessments reveal potential to contain historic properties. S&ME was contracted to conduct those assessments.

It is the responsibility of the FAA to define the Area of Potential Effects (APE). The APE is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. [The APE] is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." In this supplemental EA, the APE will be defined for each alternative under consideration.

# Affected Environment

# <u>Site H</u>

ECS performed the initial analysis of the affected environment for Site H. This analysis included a review of publicly available data and consultations with the state and tribal historic preservation offices. As a result of these consultations, the original EA suggested that phased investigations be conducted at this site due to the project area's proximity to water, known archaeological sites, and well-drained soils.

S&ME conducted it's phased investigation, beginning with archival research on the history of Site H on 10 April 2023. Fieldwork was performed on 18 May 2023. Fieldwork consisted of shovel testing and photo documentation of the site. The phased investigation did not observe any historically significant structures.

For Site H, the APE would include the boundaries of Site H itself for ground disturbance and vibration during construction, and the nearby area for visual effects due to the height of the tower.

# <u>Site 12</u>

ECS performed an initial analysis of the affected environment for Site 12. The actions taken were identical to those performed at Site H, and they can be found above. As a result of those actions, the original EA suggested that phased investigations be conducted at this site due to the site's proximity to water, known archaeological sites, and well-drained soil.

S&ME performed archival research on the history of Site H on 10 April 2023. Fieldwork was performed on 18 May 2023. Fieldwork consisted of shovel testing and photo documentation of the site.

For Site 12, the APE would include the boundaries of site 12 itself for ground disturbance and vibration during construction, and the nearby area for visual effects due to the height of the tower.

#### Environmental Consequences

#### Site H and 12

No historical structures or archaeological sites are located at these sites; therefore, a finding of No Historic Properties Affected is appropriate.

#### Water Resources

Water resources are surface waters and groundwater that are important in providing drinking water and in supporting recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems. Surface water, groundwater, floodplains, and wetlands do not function as separate and isolated components of the watershed, but rather as a single, integrated natural system. Disruption of any one part of this system can have consequences to the functioning of the entire system.

The original EA provided an analysis for each of the impacts to floodplains, groundwater, and wild and scenic rivers, and concluded that no environmental consequences exist for these categories of water resources. The original EA determined that should sites H and 12 be developed, there existed the potential for impacts to both wetlands and surface waters. As such, further analysis for these categories has been included in this supplemental EA.

# Wetlands

Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. In the original EA, a wetlands review was performed on Sites H and 12 by ECS personnel. Reviews of both sites identified the potential presence of Wetlands or WOUS potentially present on the sites.

#### Affected Environment

# <u>Site H</u>

ECS performed a review of available data, including the USGS Topographic Map, USDA-NRCS Soil Survey, the USDA NRCS 2015 National Hydric Soils List, the FEMA Floodplain Maps, USFWS NWI Wetlands Mapper, available aerial photography, and available watershed information. On September 16, 2019 and December 3, 2020, ECS conducted a field investigation for evidence of Waters of the United States (WOTUS). The ECS investigation found that Wetlands or WOTUS were potentially present within the site.

S&ME reviewed supporting information, including the USGS Topographic Maps, USDA-NRCS Soil Survey, USFWS NWI Wetlands Mapper, and aerial imagery. Field reconnaissance was also conducted at site H on May 17 and 25, 2023, by S&ME. New findings from this evaluation and reconnaissance include the delineation of two streams and two wetlands at the site. Stream 1 flows for approximately 445 linear feet (LF) before flowing off site in the southeast corner. Stream 2 originates on site within a drainage feature. Stream 2 flows for approximately 40 LF before flowing into Stream 1. The two wetlands developed abutting Stream 1. The exact locations of the streams and wetlands can be found in Appendix 3.

# <u>Site 12</u>

ECS performed a review of available data, including the USGS Topographic Map, USDA-NRCS Soil Survey, the USDA NRCS 2015 National Hydric Soils List, the FEMA Floodplain Maps, USFWS NWI Wetlands

Mapper, available aerial photography, and available watershed information. On September 16, 2019 and December 3, 2020, ECS conducted a field investigation for evidence of Waters of the United States (WOTUS). The ECS investigation found that Wetlands or WOTUS were potentially present within the site.

S&ME reviewed supporting information, including the USGS Topographic Maps, USDA-NRCS Soil Survey, USFWS NWI Wetlands Mapper, and aerial imagery. Field reconnaissance was also conducted at site H on May 17 and 25, 2023, by S&ME. New findings from this review found that although there are wet areas with hydrophytic vegetation, the soils lack hydric soil indicators, and the site does not contain wetlands.

#### Environmental Consequences

#### <u>Site H</u>

Construction at Site H would have the possibility of impacts to jurisdictional wetlands. Construction activity may include the introduction of fill which would alter the hydrology of the area and the introduction of impervious areas which may reduce the ability to retain floodwaters or storm runoff. The two streams and two wetlands indicated in the report by S&ME are likely regulated by the U.S. Army Corps of Engineers. Final jurisdictional determination for the site waters would be made by the USACE. If the waters are impacted, notification to the USACE and SC Department of Health and Environmental Control may be required.

#### <u>Site 12</u>

Wetlands and other waters are not located on site; therefore, impacts to jurisdictional wetlands and other waters are not anticipated at this time.

# Surface Waters

# Affected Environment

#### <u>Site H</u>

The affected environment for Site H for surface waters is identical to the affected environment for wetlands described above.

# <u>Site 12</u>

The affected environment for Site 12 for surface waters is identical to the affected environment for wetlands described above.

#### Environmental Consequences

#### <u>Site H</u>

The proposed action at Site H would have the possibility of impacts to surface waters. New impervious areas would result in increased runoff, and construction activities, including fill and excavation, would have the potential to affect the nearby surface waters present on site. The proposed action would not involve releases of contaminants, and would be unlikely to exceed water quality standards or contaminate public drinking water. As such, these impacts are not considered significant with respect to surface waters.

# <u>Site 12</u>

Surface waters are not located at Site 12. Therefore, impacts to surface waters are not anticipated at this time.

# Public Outreach

Public comment for the original EA was completed June, 2021. No comments were received. As part of the planning process, in accordance with the requirements for the FAA, the DRAFT EA will be made publicly available for review. A notice of Public Availability (NOA) of the Draft EA will be published in the Greenville News newspaper for local circulation. The EA will be made available for review by agencies and the public for 30 days at the Notice/Decision website <u>https://www.faa.gov/air\_traffic/atf</u>.

# Appendices

- Appendix 1 Protected Species Assessment Reports
- Appendix 2 Cultural Resources Reconnaissance Surveys
- Appendix 3 Jurisdictional Water Assessment Reports

Appendix 1 - Protected Species Assessment Reports



June 2, 2023

Federal Aviation Administration 2711 Highway 75 Blountville, Tennessee 37617

Attention: Ms. Karen Yeung

Reference: Federally-Protected Species and Habitat Assessment Report GSP Traffic Control Tower Site 12 Greer, Spartanburg County, South Carolina S&ME Project No. 23600247

Dear Ms. Yeung:

The following report documents findings associated with the federally-protected Species and Habitat Assessment Study conducted by S&ME, Inc. (S&ME). The assessment evaluated the potential for federally-protected species to exist within a site located at the Greenville Spartanburg International Airport (GSA) in Greer, Spartanburg County, South Carolina. This Report defines the area evaluated, describes the methodology used and presents the results and conclusions. The work was performed in accordance with Proposal No. 23600247C, dated April 10, 2023.

# Site Description

The assessment was performed at a site known as Site 12 (4.19-acre) located within the larger GSA property in Greer, Spartanburg County, South Carolina. The larger GSA property is identified on the Spartanburg County Tax Map as Parcel No. 5-23-00-008.00 (1,541.51- acres). Site 12 is being evaluated as one possible location for a new GSA Airport Traffic Control Tower. A map of the assessment area is shown on **Attachment I, Exhibit 1 – Site Location Map**.

The topographic elevations of the site range from 944 feet above mean sea level (msl) along GSP Drive to 905 msl near the south corner of the site (**Attachment I, Exhibit 2 – Site Topographic Map**). The general topographic relief is from northwest to southeast. The center of the site is located at 34.897147, -82.210945 decimal degrees.

Aerial imagery depicting the site is shown on **Attachment I, Exhibit 3 – Aerial Imagery**. A large section of the site has recently been cleared cut. The remaining areas are forested with a large rock outcropping and a power line easement.



# Protected Species and Habitat Assessment Report

GSP Traffic Control Tower Site 12 Greer, Spartanburg County, South Carolin S&ME Project No. 23600247

# Federally-Protected Species Assessment

# **Regulatory Basis**

# **Endangered Species Act of 1973**

The 1973 Endangered Species Act (ESA) provides for the conservation of ecosystems upon which threatened and endangered fish, animal and plant species depend. Relative to administration of this Federal statute, endangered indicates that the species is in danger of extinction; threatened indicates that the species is likely to become endangered within the foreseeable future. Included on the list but not federally-protected are *At Risk* species for which information is provided only for conservation purposes.

# Bald and Golden Eagle Protection Act of 1940

The Bald and Golden Eagle Protection Act (BGEPA) was enacted in 1940 and has been amended several times. This Act prohibits the taking of bald and golden eagles without a permit issued by the Secretary of the Interior. Taking includes their parts, nests or eggs by pursuing, shooting/shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing. Further, disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.

The Act also covers impacts that result from anthropogenic alterations initiated near a previously-used nesting site, during a time when eagles are not present. Such alterations are prohibited if, upon an eagle's return to the nest, such alterations agitate or bother the eagle to a degree that normal breeding, feeding or sheltering habits are interrupted or interfered; thereby, resulting in injury, death, or nest abandonment.

# **Migratory Bird Treaty Act of 1918**

The Migratory Bird Treaty Act (MBTA) implements the United States' commitment to international conventions with Canada, Japan, Mexico, and Russia that protect birds that migrate across international borders. This Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests (i.e., taking) except as authorized under a valid permit. The MBTA also authorizes and directs the Secretary of the Interior to determine if, and by what means, the taking of migratory birds should be allowed and to adopt suitable regulations permitting and governing such taking (e.g., hunting seasons for ducks and geese). The MBTA and its implementing regulations provide authority for the conservation of bald eagles and protect against their taking if the ESA protections are removed.

# Nongame and Endangered Species Conservation Act of 1973 (State)

Relative to administration of this State statute, *endangered* is defined as any species or subspecies of wildlife whose prospects of survival or recruitment within the State are in jeopardy or are likely within the foreseeable future to become so; *threatened* is defined as a species that is likely to become endangered and in need of



#### **Protected Species and Habitat Assessment Report**

GSP Traffic Control Tower Site 12 Greer, Spartanburg County, South Carolin S&ME Project No. 23600247

management. Legal protection under this statute is prescribed in the South Carolina Nongame and Endangered Species Conservation Act, Section 50.15-40(c) and addresses the taking, transporting and selling of species designated as endangered or threatened for remunerative purposes. Species and communities on the State Listing that are neither federally-protected nor state-listed are considered either rare or in need of further study. These species and communities have no legal protection under the Federal or State statutes and are tracked by the Heritage Trust Program at the request of South Carolina Department of Natural Resources (SCDNR) biologists.

# Methodology

# **Review of Protected Species Databases**

# USFWS Information for Planning and Consultation

The most-current postings in the public domain published on-line by the Information for Planning and Consultation (IPaC) website report were obtained for the site. The Official Species List contained one Threatened species, the Dwarf-flowered Heartleaf (*Hexastylis naniflora*). The Monarch butterfly (*Danaus plexippus*) was also listed as a Candidate (C) species. Candidate species do not receive federal protection; therefore, the Monarch butterfly was not included in the assessment. The Tricolored Bat (*Perimyotis subflavus*) is listed as Proposed Endangered and is not protected; however, it was included as part of this evaluation due to its upcoming listing. For the purposes of this report the Bald eagle (*Haliaeetus leucocephalus*) has also been included considering its protection under the BGEPA.

# SCDNR Heritage Trust Program Inquiry

An inquiry was made to the SCDNR Heritage Trust Program regarding known and recorded occurrence(s) of federally-protected species on or within a one-mile radius from the site. No federally-protected species were found within, or one-mile of the site.

The acquired information for the three species was reviewed for field reference purposes. Portions of the site that matched the description of optimal/preferred habitats were considered to be potential habitats for those species and were noted during the habitat assessment.

The IPaC and SCDNR reports for the site are provided in Attachment II.

# **Pre-Field Review of Site Soil Associations**

The Web Soil Survey (Spartanburg County) conducted for the site indicated the site soil associations include:

- Cecil Sandy Loam, 2 to 6 percent slopes (CcB)
- Udorthents loamy, 6 to 20 percent slopes (UaE)
- Urban Land-Cecil complex, 2 to 10 percent slopes (UcC)



S&ME Project No. 23600247

The soil associations are depicted on Exhibit 4 – NRCS Soil Associations, Attachment I.

# Pre-Field Review of Federally-Protected and State-Listed Species Databases

One species, a vascular plant, is listed on the Official Species List as currently federally-protected (**Attachment II**). As previously noted, the proposed Endangered Tricolored Bat (*P. subflavus*) and the Bald Eagle (*H. Leucocephalus*) have been included.

# Vertebrate Fauna

- Bald Eagle (*H. Leucocephalus*) Protected under the BGEPA
- Tricolored Bat (P. subflavus) Proposed Endangered

#### Vascular Flora

• Dwarf-flowered Heartleaf (H. naniflora) – Threatened

Brief descriptions of the three species and their preferred habitats have been abstracted from USFWS databases and are provided below:

# Bald Eagle

Distinguished by a white head and white tail feathers, Bald Eagles are powerful, brown birds that may weigh 14 pounds and have a wingspan of eight feet. Male eagles are smaller, weighing as much as ten pounds and have a wingspan of six feet. Sometimes confused with Golden eagles, Bald eagles are mostly dark brown until they are four to five years old and acquire their characteristic coloring.

Bald Eagles live near rivers, lakes, and marshes where they can find fish, their staple food. Bald eagles will also feed on waterfowl, turtles, rabbits, snakes, and other small animals and carrion. Bald eagles require a good food base, perching areas, and nesting sites. Their habitat includes estuaries, large lakes, reservoirs, rivers, and some seacoasts. In winter, the birds congregate near open water in tall trees for spotting prey and night roosts for sheltering. Habitat destruction and degradation, illegal shooting, and the contamination of its food source, largely as a consequence of DDT, decimated the eagle population.

# Tricolored Bat

The Tricolored Bat has an average body length of 3 to 3.5 inches, with a wingspan of nine inches. The tricolored bat is distinguished by its unique tricolored fur that appears dark at the base, lighter in the middle and dark at the tip. Tricolored bats often appear yellowish, varying from pale yellow to nearly orange, but may also appear silvery-gray, chocolate brown or black. Newly flying young are much darker and grayer than adults.

During the spring, summer, and fall - collectively referred to as the non-hibernating seasons - tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. In the southern and northern portions of the range, tricolored bats will also roost in Spanish moss (*Tillandsia usneoides*)



#### **Protected Species and Habitat Assessment Report**

GSP Traffic Control Tower Site 12 Greer, Spartanburg County, South Carolin S&ME Project No. 23600247

and Bony beard lichen (*Usnea trichodea*), respectively. In addition, tricolored bats have been observed roosting during summer among pine needles, eastern red cedar (Juniperus virginiana), within artificial roosts like barns, beneath porch roofs, bridges, concrete bunkers, and rarely within caves. Female tricolored bats exhibit high site fidelity, returning year after year to the same summer roosting locations. Female tricolored bats form maternity colonies and switch roost trees regularly. Males roost singly.

During the winter, tricolored bats hibernate in caves and mines; although, in the southern United States, where caves are sparse, tricolored bats often hibernate in road-associated culverts, as well as sometimes in tree cavities and abandoned water wells. Tricolored bats exhibit high site fidelity with many individuals returning year after year to the same hibernaculum.

# Dwarf-flowered Heartleaf

The Dwarf-flowered heartleaf is a low-growing, evergreen perennial plant. It has heart-shape leaves that are dark green and leathery, supported by long, thin leaf stems connecting it to an underground stem. The jug-shaped flowers are usually beige to dark brown or purple and appear from mid-March to early June. The flowers are small and inconspicuous and are found near the base of the leaf stems, often buried beneath the leaf litter. Dwarf-flowered heartleaf grows in acidic soils along bluffs and adjacent slopes, in boggy areas next to streams and creek heads, and along the slopes of nearby hillsides and ravines. The greatest threat to Dwarf-flowered heartleaf is conversion of habitat to agricultural, residential, commercial, and industrial uses. Habitat may also be eliminated through the construction of reservoirs, which floods habitat.

# **Field Reconnaissance**

The field reconnaissance was conducted on May 17, 2023, by S&ME scientists Andrew Hook and Ronald Walker. The reconnaissance was conducted beginning along the southwest property line and proceeded across the site. The assessment included observations for suitable habitat of the target species as discussed below, as well as the general habitat observed on the site. Representative site photographs were obtained during the assessment and provided in **Attachment I – Photo Log**. Photograph locations are indexed in **Attachment I**, **Exhibit 5 – Habitat Types**.

# Site Habitat Descriptions

Four major habitats were observed on the site as depicted in **Attachment I, Exhibit 5 – Habitat Types** and described below:

**Habitat 1 (Approximately 2.55 acres)** is a mixed hardwood pine forest. The dominant species in this habitat are Loblolly pine (*Pinus taeda*) with Red oak (*Quercus falcata*) and Yellow poplar (*Liriodendron tulipifera*).

 <u>Habitat 2 (Approximately 0.89 acre)</u> is a recent clearcut area. The habitat has been recently clearcut with much of the woody debris mulched across the area. No overstory vegetation was noted within the area.



GSP Traffic Control Tower Site 12 Greer, Spartanburg County, South Carolin S&ME Project No. 23600247

<u>Habitat 3 (Approximately 0.50 acre)</u> is a power line easement. The powerline easement is located across the site. The dominant plant species in the powerline easement were Tall fescue (*Festuca arundinacea*), Blackberry (*Rubus sp.*) and Tall goldenrod (*Solidago altissima*).

**<u>Habitat 4 (Approximately 0.25 acre)</u>** is a road and maintained right of way. The right of way is maintained Tall fescue (*F. arundinacea*) with a row of planted Pin oak (*Q. palustris*) trees.

# **Federally-Protected Species**

# Bald Eagle (Protected under the BGEPA)

No large waterbodies exist on or adjacent to the site that would provide a suitable food supply for the Bald Eagle. Additionally, no nests or individuals were observed and there are no known Bald Eagle nests within a one-mile radius of the site as indicated in the SCDNR Consultation. The project will have no effect on the Bald Eagle.

#### **Biological Opinion: No Effect**

# Tricolored Bat (Proposed Endangered)

The SCDNR report did not identify any known occurrences of the tri-colored bat on site, or within one mile of the site. However, trees on site would be considered summer roost habitat for the Tri-colored bat. Until this species is listed as Endangered it is not federally protected, accordingly, site tree clearing (removal of habitat) would need no additional consultation with the USFWS.

It is anticipated that the Tricolored bat will be listed late 2023 or early 2024. If site tree clearing is not completed prior to the anticipated listing, we recommend revisiting this species for an effect determination based on new USFWS guidelines associated with the species.

# Dwarf-flowered Heartleaf (Threatened)

Habitat for the Dwarf-flowered heartleaf was not present on the site. In addition, there was no record of this species within a one-mile radius of the site according to the SCDNR Consultation. The project will have no effect on the Dwarf-flowered heartleaf.

#### **Biological Opinion: No Effect**

# Summary

Based on review of species-specific data in the public domain for federally-protected species and on information acquired from the field reconnaissance performed on March 27, 2023, the proposed site development will have **no effect** on the following species:

- Bald Eagle (H. Leucocephalus) Protected under the BGEPA
- Dwarf-flowered Heartleaf (Hexastylis naniflora) Threatened



#### **Protected Species and Habitat Assessment Report**

GSP Traffic Control Tower Site 12 Greer, Spartanburg County, South Carolin S&ME Project No. 23600247

It is anticipated that the Tricolored bat will be listed late 2023 or early 2024. If site tree clearing is not completed prior to the anticipated listing, we recommend revisiting this species for an effect determination based on new USFWS guidelines associated with the species. Until that time the site will qualify for the USFWS Clearance Letter for Species and Habitat Assessments (**Attachment III**).

# Conclusion

The recommendations provided above for federally-protected species should be followed prior to, and during site development. We appreciate the opportunity to support the Federal Aviation Administration (FAA) with this project. If you have any questions regarding the information contained in this report, please contact Mr. Ronald Walker at (864) 297-9944.

Sincerely,

S&ME, Inc.

Ronallhalte

Ronald Walker Senior Scientist <u>rwalker@smeinc.com</u>

Mark Augspurger Principal Scientist/ Senior Reviewer <u>maugspurger@smeinc.com</u>

Attachments: Attachment I – Exhibits 1 – 5 and Photo Log Attachment II – IPaC Official Species List and SCDNR Consultation Report Attachment III – USFWS Clearance Letter Attachments

Attachment I – Exhibits 1 – 5 and Photo Log





REFERENCE:   This Exhibit Was Developed Using INFORMATION AND DATA FROM   1 = Seli WorkD IMAGERY - 2022   - Same GPS DATA   - Site 12 LOCATION PROVIDED BY THE FAA   PLEASE NOTE THIS EXHIBIT IS FOR INFORMATIONAL PURPOSES ONLY.   IT IS NOT MEANT FOR DESIGN, LEGAL, OR ANY OTHER USES. THERE   ARE NO GUARANTEES REGARDING ACCURACY. Same, INC. ASSUMES   NO RESPONSIBILITY FOR ANY DECISION MADE OR ANY ACTIONS TAKEN BY   100 50 0   100 Feet				
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	Aerial Imagery	Scale: 1 " = 100 '	Exhibit No.	
	GSP Traffic Control Tower Site 12	Date: 5/30/2023	3	
	Federal Aviation Administration	Project Number	_	
1	Greer, Spartanburg County, South Carolina	23000241		





Site Photographs GSP Traffic Control Tower Site 12 Greer, Spartanburg County, South Carolina S&ME Project No. 23600247





Example of Habitat 3 – Rock Outcropping in Power Line 3 Easement





Example of Habitat 3 – Power Line Easement

# Attachment II – IPaC Official Species List and SCDNR Consultation Report


# United States Department of the Interior

FISH AND WILDLIFE SERVICE South Carolina Ecological Services 176 Croghan Spur Road, Suite 200 Charleston, SC 29407-7558 Phone: (843) 727-4707 Fax: (843) 727-4218



In Reply Refer To: Project Code: 2023-0082095 Project Name: GSP Site 12 May 16, 2023

# Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

#### http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

**Migratory Birds**: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/ executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

# Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

# **OFFICIAL SPECIES LIST**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

#### South Carolina Ecological Services

176 Croghan Spur Road, Suite 200 Charleston, SC 29407-7558 (843) 727-4707

# **PROJECT SUMMARY**

Project Code:2023-0082095Project Name:GSP Site 12Project Type:Airport - Maintenance/ModificationProject Description:New BuildingProject Location:Versite Construction

The approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@34.89718485,-82.21101258027676,14z</u>



Counties: Spartanburg County, South Carolina

# **ENDANGERED SPECIES ACT SPECIES**

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

# MAMMALS

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/10515</u>	Proposed Endangered
INSECTS NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9743</u>	Candidate
FLOWERING PLANTS NAME	STATUS
Dwarf-flowered Heartleaf <i>Hexastylis naniflora</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/2458</u>	Threatened

# **CRITICAL HABITATS**

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

# **MIGRATORY BIRDS**

Certain birds are protected under the Migratory Bird Treaty  $Act^{1}$  and the Bald and Golden Eagle Protection  $Act^{2}$ .

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described <u>below</u>.

- 1. The Migratory Birds Treaty Act of 1918.
- 2. The <u>Bald and Golden Eagle Protection Act</u> of 1940.
- 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9399</u>	Breeds May 15 to Oct 10

NAME	BREEDING SEASON
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

# **PROBABILITY OF PRESENCE SUMMARY**

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### **Probability of Presence** (

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- 3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

### Breeding Season (=)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

### No Data (-)

A week is marked as having no data if there were no survey events for that week.

### **Survey Timeframe**

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

				prob	ability of	f presenc	e 📕 br	eeding se	eason	survey e	effort -	– no data
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Bald Eagle Non-BCC Vulnerable		<del>╎</del> ╎╇╎	++++			++++	++++	++++		<b> </b>	┼╪┼┼	++++
Black-billed Cuckoo	++++	++++	++++	+++#	+ $+$ $+$ $+$ $+$ $+$ $+$	++++	++++	++++	++++	<mark>┼┼</mark> ┼┼	++++	++++

BCC Rangewide (CON) Chimney Swift BCC Rangewide (CON) Eastern Whip-poor-┼┼┼┼╶┼┼╪┼╶┼┼╪┼╴<mark>╞</mark>╋┼┼╶┼┼┼┼ will BCC Rangewide (CON) Kentucky Warbler ++++ ++++ ++++ <mark>┼┼┼</mark>┼ ┼┼┼┼ ┼┼┼┼ ┼┼┼┼ ┼┼┼┼ ++++++++BCC Rangewide (CON) Prairie Warbler ┼┼┼┼╶┼┼┼┼╶┼┼┼┼╴╪╪┼┤ ┼┼┼┉┼┼┼┉┼┼┼┼┼┼┼┼┼┼ BCC Rangewide (CON) Prothonotary ++++ ++++ +++++ +++++ Warbler BCC Rangewide (CON) Red-headed ┼┼┼┼ ┼┼┼┼ ┼┼┼┼ ┼╪┼╪ ╪<mark>┼┼</mark>╢ <mark>╫┼║</mark>┉┉┼┼╶┼┉┼┼╶┼┼┼┼ ++++Woodpecker BCC Rangewide (CON) Rusty Blackbird ┼┼┼╫╶┼╪┼╪╶┼┼┼┼╶╢┼┼┼╴┼┼┼┼╴┼┼┼┼╴┼┼┼┼╴┼┼┼┼╴┼┼┼╢┼╶┼┼┼┼ BCC - BCR Wood Thrush +++# +#++ +++++ +++++ ┼┼┼┼┼┼┼┼┼┼┼╇┼╪╪╋┼╋╋ BCC Rangewide (CON)

Additional information can be found using the following links:

- Birds of Conservation Concern <u>https://www.fws.gov/program/migratory-birds/species</u>
- Measures for avoiding and minimizing impacts to birds <u>https://www.fws.gov/library/</u> <u>collections/avoiding-and-minimizing-incidental-take-migratory-birds</u>
- Nationwide conservation measures for birds <u>https://www.fws.gov/sites/default/files/</u> <u>documents/nationwide-standard-conservation-measures.pdf</u>

# **MIGRATORY BIRDS FAQ**

# Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

<u>Nationwide Conservation Measures</u> describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. <u>Additional measures</u> or <u>permits</u> may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

# What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern</u> (<u>BCC</u>) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian</u> <u>Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information</u> <u>Locator (RAIL) Tool</u>.

# What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey, banding, and citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the <u>RAIL Tool</u> and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

#### What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);

- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

#### Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the <u>Northeast Ocean Data Portal</u>. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the <u>NOAA NCCOS Integrative Statistical</u> <u>Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic</u> <u>Outer Continental Shelf</u> project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

#### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

#### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities,

should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

# WETLANDS

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of</u> <u>Engineers District</u>.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

# **IPAC USER CONTACT INFORMATION**

Agency: Federal Aviation Administration

Name: Ronald Walker

Address: 48 Brookfield Oaks Drive, Suite F

City: Greenville

State: SC

Zip: 29607

Email rwalker@smeinc.com

Phone: 8645903569

# LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Aviation Administration



# South Carolina Department of Natural Resources

Robert H. Boyles, Jr. Director

Emily C. Cope Deputy Director for Wildlife and Freshwater Fisheries

PO Box 167 Columbia, SC 29202 (803) 734-1396 speciesreview@dnr.sc.gov

Requested on Tuesday, May 16, 2023 by Ronald Walker.

Re: Request for Threatened and Endangered Species Consultation S&ME Inc. - GSP Site 12 - Development (Commercial/Residential) - Spartanburg County, South Carolina

The South Carolina Department of Natural Resources (SCDNR) has received your request for threatened and endangered species consultation of the above named project in Spartanburg County, South Carolina. The following map depicts the project area and a 1 mile buffer surrounding:



Live Life Outdoors

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# South Carolina Department of Natural Resources



Robert H. Boyles, Jr. Director Emily C. Cope Deputy Director for Wildlife and Freshwater Fisheries

- This report includes the following items:
- A A report for species which intersect the project area
- B A report for species which intersect the buffer around the project area
- C A list of best management practices relevant to species near to or within the project area
- D A list of best management practices relevant to the project type
- E A list of state & federally listed species within the county of the project area
- F Instructions to submit new species observation records to the SC Natural Heritage Program

Please be advised:

The contents of this report, including all tables, maps, recommendations, and various other text, are produced as a direct result of the information a user provides at the time of submission. The SCDNR assumes that all information submitted by the user represents the project scope as proposed, and recommends that additional reports be requested should the scope deviate from how the project was initially represented to the SCDNR.

The technical comments outlined in this report are submitted to speak to the general impacts of the activities as described through inquiry by parties outside the South Carolina Department of Natural Resources. These technical comments are submitted as guidance to be considered and are not submitted as final agency comments that might be related to any unspecified local, state or federal permit, certification or license applications that may be needed by any applicant or their contractors, consultants or agents presently under review or not yet made available for public review. In accordance with its policy 600.01, Comments on Projects Under Department Review, the South Carolina Department of Natural Resources, reserves the right to comment on any permit, certification or license application that may be published by any regulatory agency which may incorporate, directly or by reference, these technical comments.

Interested parties are to understand that SCDNR may provide a final agency position to regulatory agencies if any local, state or federal permit, certification or license applications may be needed by any applicant or their contractors, consultants or agents. For further information regarding comments and input from SCDNR on your project, please contact our Office of Environmental Programs by emailing environmental@dnr.sc.gov or by visiting www.dnr.sc.gov/environmental. Pursuant to Section 7 of the Endangered Species Act, requests for formal letters of concurrence with regards to federally listed species should be directed to the USFWS.

Should you have any questions or need more information, please do not hesitate to contact our office by email at speciesreview@dnr.sc.gov or by phone at 803-734-1396.

Sincerely,

Joseph Lemeris, Jr. Heritage Trust Program SC Department of Natural Resources

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# A. Project Area - Species Report

There are 1 tracked species records found within the project foot print. The following table outlines occurrences found within the project footprint (if any), sorted by listing status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found on site may be listed in this table but are not represented on the map. Please contact speciesreview@dnr.sc.gov should you have further questions related to sensitive species found within the project area.





Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user

Scientific Name	Common Name	Federal Protection Status	State Protection Status	G Rank	S Rank	Last Obs. Date	Туре
Helianthus porteri	Confederate Daisy	Not Applicable	Not Applicable	G4	S1	1972-09-22	Botanical

# B. Buffer Area - Species Report

The following table outlines rare, threatened or endangered species found within 1 miles of the project footprint, arranged in order of protection status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found within the buffer area may be listed in this table but are not represented on the map.





Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, NASA, NGA, USGS, FEMA, City of Greenville, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

Scientific Name	Common Name	Federal Protection Status	State Protection Status	G Rank	S Rank	Last Obs. Date	Туре
Geocarpon uniflorum	Godfrey's Stitchwort	Not Applicable	Not Applicable	G4	S3	1970-05-01	Botanical
Helianthus porteri	Confederate Daisy	Not Applicable	Not Applicable	G4	S1	1972-09-22	Botanical
Isoetes piedmontana	Piedmont Quillwort	Not Applicable	Not Applicable	G4	S2	1980-05-01	Botanical
Juncus georgianus	Georgia Rush, Flatrock Rush	Not Applicable	Not Applicable	G4	S2	1979-09-01	Botanical

# C. Species Best Management Practices (1 of 1)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to species of concern which may be found on or near to the project area. Please contact speciesreview@dnr.sc.gov should you have further questions with regard to survey methods, consultation, or other species-related concerns.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user



Cavity- and tree-roosting bat species including the federally endangered northern long-eared bat (Myotis septentrionalis), stateendangered Rafinesque's big-eared bat (Corynorhinus rafinesquii), and the federally at-risk tricolored bat (Perimyotis subflavus) have been known to occur in the county of the proposed site. As a conservation measure, it is recommended that any tree clearing activities be conducted during the inactive season for Northern long-eared bat (November 15th through March 31st) to avoid negative impacts to the species. If any of the above species are found on-site, please contact the USFWS and SCDNR.

In the interest of preserving plant diversity, the South Carolina Plant Conservation Alliance performs native plant rescues in order to protect and preserve our diversity of native plants. If you are interested in assisting with this important endeavor please contact Mrs. April Punsalan at (843) 727-4707 ext. 218, or by email: scpca@lists.fws.gov before any development occurs onsite. There may be plants of interest on the project site that the Alliance would like to preserve.

Species in the above table with SWAP priorities of High, Highest or Moderate are designated as having conservation priority under the South Carolina State Wildlife Action Plan (SWAP). SWAP species are those species of greatest conservation need not traditionally covered under any federal funded programs. Species are listed in the SWAP because they are rare or designated as at-risk due to knowledge deficiencies; species common in South Carolina but listed rare or declining elsewhere; or species that serve as indicators of detrimental environmental conditions. SCDNR recommends that appropriate measures should be taken to minimize or avoid impacts to the aforementioned species of concern.

This project falls within an area that supports black bear (Ursus americanus) populations, a moderate SWAP conservation priority species that requires fire-dependent habitats. The SCDNR recommends that any project area be developed with that in mind. Black bears are attracted to human foods, food waste and packaging (e.g. trash cans, litter, outdoor grills, bird feeders, etc.) and other scented substances and may become habituated to the presence of such attractants if they are obtained. Therefore, the development should be designed in a manner that will substantially minimize the availability of unnatural bear attractants. For example, any exterior trash receptacles must be designed and operated to be 'bear proof' and storage areas should be appropriately secured to prevent access by bears, etc. Some helpful bear-wise tactics can be found at https://bearwise.org/six-bearwise-basics/.

# D. Project Best Management Practices (1 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user



- All necessary measures must be taken to prevent oil, tar, trash and other pollutants from entering the adjacent offsite areas/wetlands/ water.
- Once the project is initiated, it must be carried to completion in an expeditious manner to minimize the period of disturbance to the environment.
- Upon project completion, all disturbed areas must be permanently stabilized with vegetative cover (preferable), riprap or other erosion control methods as appropriate.
- The project must be in compliance with any applicable floodplain, stormwater, land disturbance, shoreline management guidance or riparian buffer ordinances.
- Prior to beginning any land disturbing activity, appropriate erosion and siltation control measures (e.g. silt fences or barriers) must be in place and maintained in a functioning capacity until the area is permanently stabilized.
- Materials used for erosion control (e.g., hay bales or straw mulch) will be certified as weed free by the supplier.
- Inspecting and ensuring the maintenance of temporary erosion control measures at least:
  - a. on a daily basis in areas of active construction or equipment operation;
    - b. on a weekly basis in areas with no construction or equipment operation; and
  - c. within 24 hours of each 0.5 inch of rainfall.
- Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts.
- Land disturbing activities must avoid encroachment into any wetland areas (outside the permitted impact area). Wetlands that are unavoidably impacted must be appropriately mitigated.
- Your project may require a Stormwater Permit from the SC Department of Health & Environmental Control, please visit https://www.scdhec.gov/environment/water-quality/stormwater

# D. Project Best Management Practices (2 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user



• Residential and commercial development has grown exponentially in recent years. Activities associated with these developments can have detrimental impacts on wildlife and aquatic resources such as habitat fragmentation, loss of available habitats and pollution, especially stormwater pollution. The result of these impacts causes the displacement of species and increases wildlife and human interactions. However, properly planned and sited development activities may allow for economic expansion with minimal negative impacts.

- Where appropriate, particularly adjacent to wetlands and water bodies, drainage plans and construction measures for residential and commercial development should be designed to control erosion and sedimentation, water quality degradation and other negative impacts on adjacent water and wetlands utilizing the best available design research. Developers proposing development activities should contact and work closely with local community development planning entities.
- Developments should be planned where growth is most compatible with natural resources utilizing residential and commercial cluster development methods, maximizing green spaces which can both be beneficial to protect natural resources and provide recreational opportunities for outdoor enthusiasts.
- Developments should be designed and constructed to avoid impact to wetland and stream areas whenever possible and to minimize unavoidable wetland and stream impacts to the maximum extent possible. Aquatic habitats and other sensitive natural areas should be identified in the initial planning stages of the project and incorporated in their natural state into the overall development plan.
- Developments should be designed to maintain the integrity and contiguity of wetland and stream systems and their associated riparian corridors, including the establishment of protective upland buffers around and between undisturbed aquatic systems whenever possible. Projects should be designed to minimize habitat fragmentation, including the construction of a limited number of road and utility crossings through streams and wetlands.
- The SCDNR recommends that the applicant incorporate vegetated bioswales, catch basins and/or bioretention cells/rain gardens into development plans beyond the regulatory requirements of the Stormwater Permitting requirements to add additional features to aid in capturing and filtering runoff from hardened surfaces. These structures can protect water quality and prevent oil, gas and other pollutants from directly entering nearby waterways. In addition, the SCDNR strongly recommends the use of permeable or porous pavement surfaces when possible. Permeable surfaces allow for rainfall to filter through the soil which aids in flood control and improves water quality.
- The following resources are available from Clemson Extension to assist:
  - · https://hgic.clemson.edu/factsheet/an-introduction-to-bioswales/
  - · https://hgic.clemson.edu/factsheet/rain-garden-plants-introduction/
  - · https://hgic.clemson.edu/factsheet/bioretention-cells-a-guide-for-your-residents/
  - https://hgic.clemson.edu/factsheet/an-introduction-to-porous-pavement/
  - · https://hgic.clemson.edu/factsheet/trees-for-stormwater-management/

# E. State & Federally Listed Species in Spartanburg County

The South Carolina Department of Natural Resources' Heritage Trust Program organizes a database that captures and tracks element of occurrence data for rare, threatened and endangered species, both federal and state. Please keep in mind that this information included within this report is derived from existing databases, and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. If your project requires the assessment of potential threatened or endangered species that could be within the project area, the SCDNR asks that you include a review of the state listed species within the county or watershed in addition to those that may be within the report as being within the project footprint or within 1-mile of the proposed project area. Consideration should be given to the occurrence of suitable habitat onsite, species movement and connectivity of habitat when assessing the likelihood of a state listed species on the project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user



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County	Scientific Name	Common Name	G Rank	S Rank	Federal Protection Status	State Protection Status	Group Type
Spartanburg	Cambarus spicatus	Broad River Spiny Crayfish	G3	S2	ARS: At-Risk Species	Not Applicable	Zoological
Spartanburg	Eurycea chamberlaini	Chamberlain's Dwarf Salamander	G4	S3	ARS: At-Risk Species	Not Applicable	Zoological
Spartanburg	Haliaeetus leucocephalus	Bald Eagle	G5	S3B,S3N	Bald & Golden Eagle Protection Act	ST: State Threatened	Zoological
Spartanburg	Perimyotis subflavus	Tricolored Bat	G3G4	S1S2	LEP: Federally Endangered (Proposed)	Not Applicable	Zoological
Spartanburg	Thryomanes bewickii	Bewick's Wren	G5	S1	MBTA: Migratory Bird Treaty Act	SE: State Endangered	Zoological
Spartanburg	Hexastylis naniflora	Dwarf-flower Heartleaf	G3	S3	LT: Federally Threatened	Not Applicable	Botanical
Spartanburg	Sagittaria fasciculata	Bunched Arrowhead	G2	S2	LE: Federally Endangered	Not Applicable	Botanical

# F. Instructions for Submitting Species Observations

The SC Natural Heritage Dataset relies on continuous monitoring and surveying for species of concern throughout the state. Any records of species of concern found within this project area would greatly benefit the quality and comprehensiveness of the statewide dataset for rare, threatened and endangered species. Below are instructions for how to download the SC Natural Heritage Occurrence Reporting Form through the Survey123 App.

Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user



# **Conservation Ranks & SWAP Priority Status**

The SC Natural Heritage Program assigns S Ranks for species tracked within the state of South Carolina based on ranking methodology developed by NatureServe and its state program network. For information conservation rank definitions, please visit https://explorer.natureserve.org/AboutTheData/Statuses

The SCDNR maintains and updates it's State Wildlife Action Plan (SWAP) every 10 years. This plan categorizes species of concern by Moderate, High, and Highest Priority. Please visit https://www.dnr.sc.gov/swap/index.html for more information about the SC SWAP.

# **Important Information Regarding Element Occurrence Data:**

The South Carolina Department of Natural Resources' Heritage Trust Program organizes a database that captures and tracks element of occurrence data for rare, threatened and endangered species, both federal and state. Please keep in mind that this information included within this report is derived from existing databases, and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. If your project requires the assessment of potential threatened or endangered species that could be within the project area, the SCDNR asks that you include a review of the state listed species within the county or watershed in addition to those that may be within the report as being within the project footprint or within 1-mile of the proposed project area. Consideration should be given to the occurrence of suitable habitat onsite, species movement and connectivity of habitat when assessing the likelihood of a state listed species on the project area. To view these lists please visit our county and watershed dashboards at our website: https://schtportal.dnr.sc.gov/portal/apps/sites/#track

# Instructions for accessing the SC Natural Heritage Occurrence Reporting Form

For use in a browser (on your desktop/PC):

- 1) Follow https://bit.ly/scht-reporting-form
- 2) Select 'Open in browser'
- 3) The form will open and you can begin entering data!

This method of access will also work on a browser on a mobile device, but only when connected to the internet. To use the form in the field without relying on data/internet access, follow the steps below.

For use on a smartphone or tablet using the field app:

1) Download the Survey123 App from the Google Play store or the Apple Store. This app is free to download. Allow the app to use your location.

2) Use the camera app (or other QR Reader app) to scan the QR code on this page from your smartphone or tablet. Click on the 'Open in the Survey123 field app'. This will prompt a window to allow Survey123 to download the SC Natural Heritage Occurrence Reporting Form. Select 'Open.'

3) The form will automatically open in Survey123, and you can begin entering data! This form will stay loaded in the app on your

begin entering data! This form will stay loaded in the app on your device until you manually delete it, and you can submit as many records as you like.



**Attachment III – USFWS Clearance Letter** 



# United States Department of the Interior FISH AND WILDLIFE SERVICE

176 Croghan Spur Road, Suite 200 Charleston, South Carolina 29407



# U.S. Fish and Wildlife Service Clearance Letter for Species and Habitat Assessments

Updated: January 3, 2023

The U.S. Fish and Wildlife Service (Service) is one of two lead Federal Agencies mandated with the protection and conservation of Federal trust resources, including threatened and endangered (T&E) species and designated critical habitat as listed under the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*) (ESA). Development of lands in South Carolina have the potential to impact federally protected species. Accordingly, obligations under the ESA, National Environmental Policy Act (NEPA), Clean Water Act (CWA), Federal Power Act (FPA), and other laws, require project proponents to perform an environmental impact review prior to performing work on the site. These projects may include a wide variety of activities including, but not limited to, residential or commercial developments, energy production, power transmission, transportation, infrastructure repair, maintenance, or reconstruction of existing facilities on previously developed land.

Project applicants, or their designated representatives, may perform initial species assessments in advance of specific development proposals to determine the presence of T&E species and designated critical habitat that are protected under the ESA. These reviews are purposely speculative and do not include specific project or site development plans. Many of these speculative proposals are for previously developed or disturbed lands such as pasture lands, agricultural fields, or abandoned industrial facilities. Due to historical uses and existing conditions, these sites often do not contain suitable habitat to support T&E species. Therefore, an assessment may conclude that any future development of the site would have no effect to T&E species or adversely modify designated critical habitat. If the applicant, or their designee, determines there is <u>no effect or impact</u> to federally protected species or designated critical habitat, no further action is required under the ESA.

# **Clearance to Proceed**

For all sites with potential projects that <u>have no effect or impact</u> upon federally protected species or designated critical habitat, no further coordination with the Service is necessary at this time. This letter may be downloaded and serve as the Service's concurrence or agreement to the conclusions of the species assessment. <u>Any protected species survey or assessment conducted</u> for the property should be included with this letter when submitting the project to Federal <u>permitting agencies</u>. Due to obligations under the ESA potential impacts must be reconsidered if: (1) new information reveals impacts of this identified action may affect any listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner which was not considered in this assessment; or (3) a new species is listed or critical habitat is designated that may be affected by the identified action.

### Please note this Clearance Letter applies only to assessments in South Carolina and may not be used to satisfy section 7 requirements for projects that have already been completed or currently under construction.

If suitable habitat for T&E species or designated critical habitat occurs on, or nearby, the project site, a determination of no effect/impact may not be appropriate. In these cases, direct consultation requests with the Service should be initiated by the Federal action agency. Additional coordination with the Service may also be required if the potential project requires an evaluation under another resource law such as, but not limited to, NEPA, CWA, FPA, and the Coastal Zone Management Act.

The Service appreciates your cooperation in the protection of federally listed species and their habitats in South Carolina.

Sincerely,

Thomas D. McCoy

Thomas D. McCoy Field Supervisor



June 2, 2023

Federal Aviation Administration 2711 Highway 75 Blountville, Tennessee 37617

Attention: Ms. Karen Yeung

Reference: Federally-Protected Species and Habitat Assessment Report GSP Traffic Control Tower Site H Greer, Spartanburg County, South Carolina S&ME Project No. 23600247

Dear Ms. Yeung:

The following report documents findings associated with the federally-protected Species and Habitat Assessment Study conducted by S&ME, Inc. (S&ME). The assessment evaluated the potential for federally-protected species to exist within a site located at the Greenville Spartanburg International Airport (GSA) in Greer, Spartanburg County, South Carolina. This Report defines the area evaluated, describes the methodology used and presents the results and conclusions. The work was performed in accordance with Proposal No. 23600247F, dated April 10, 2023.

# Site Description

The assessment was performed at a site known as Site H (4.19-acre) located within the larger GSA property in Greer, Spartanburg County, South Carolina. The larger GSA property is identified on the Spartanburg County Tax Map as Parcel No. 5-23-00-008.00 (1,541.51-acres). Site H is being evaluated as one possible location for a new GSA Airport Traffic Control Tower. A map of the assessment area is shown on **Attachment I, Exhibit 1 – Site Location Map**.

The topographic elevations of the site range from 940 feet above mean sea level (msl) along GSP Drive to 886 msl near the south corner of the site (**Attachment I, Exhibit 2 – Site Topographic Map**). The general topographic relief is from northwest to southeast. The center of the site is located at 34.897147, -82.210945 decimal degrees.

Aerial imagery depicting the site is shown on **Attachment I, Exhibit 3 – Aerial Imagery**. The site is primarily forested with powerline right of ways.



GSP Traffic Control Tower Site H Greer, Spartanburg County, South Carolin S&ME Project No. 23600247

# Federally-Protected Species Assessment

# **Regulatory Basis**

# **Endangered Species Act of 1973**

The 1973 Endangered Species Act (ESA) provides for the conservation of ecosystems upon which threatened and endangered fish, animal and plant species depend. Relative to administration of this Federal statute, endangered indicates that the species is in danger of extinction; threatened indicates that the species is likely to become endangered within the foreseeable future. Included on the list but not federally-protected are *At Risk* species for which information is provided only for conservation purposes.

# Bald and Golden Eagle Protection Act of 1940

The Bald and Golden Eagle Protection Act (BGEPA) was enacted in 1940 and has been amended several times. This Act prohibits the taking of bald and golden eagles without a permit issued by the Secretary of the Interior. Taking includes their parts, nests or eggs by pursuing, shooting/shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing. Further, disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.

The Act also covers impacts that result from anthropogenic alterations initiated near a previously-used nesting site, during a time when eagles are not present. Such alterations are prohibited if, upon an eagle's return to the nest, such alterations agitate or bother the eagle to a degree that normal breeding, feeding or sheltering habits are interrupted or interfered; thereby, resulting in injury, death, or nest abandonment.

# **Migratory Bird Treaty Act of 1918**

The Migratory Bird Treaty Act (MBTA) implements the United States' commitment to international conventions with Canada, Japan, Mexico, and Russia that protect birds that migrate across international borders. This Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests (i.e., taking) except as authorized under a valid permit. The MBTA also authorizes and directs the Secretary of the Interior to determine if, and by what means, the taking of migratory birds should be allowed and to adopt suitable regulations permitting and governing such taking (e.g., hunting seasons for ducks and geese). The MBTA and its implementing regulations provide authority for the conservation of bald eagles and protect against their taking if the ESA protections are removed.

# Nongame and Endangered Species Conservation Act of 1973 (State)

Relative to administration of this State statute, *endangered* is defined as any species or subspecies of wildlife whose prospects of survival or recruitment within the State are in jeopardy or are likely within the foreseeable future to become so; *threatened* is defined as a species that is likely to become endangered and in need of



GSP Traffic Control Tower Site H Greer, Spartanburg County, South Carolin S&ME Project No. 23600247

management. Legal protection under this statute is prescribed in the South Carolina Nongame and Endangered Species Conservation Act, Section 50.15-40(c) and addresses the taking, transporting and selling of species designated as endangered or threatened for remunerative purposes. Species and communities on the State Listing that are neither federally-protected nor state-listed are considered either rare or in need of further study. These species and communities have no legal protection under the Federal or State statutes and are tracked by the Heritage Trust Program at the request of South Carolina Department of Natural Resources (SCDNR) biologists.

# Methodology

### **Review of Protected Species Databases**

### USFWS Information for Planning and Consultation

The most-current postings in the public domain published on-line by the Information for Planning and Consultation (IPaC) website report were obtained for the site. The Official Species List contained one Threatened species, the Dwarf-flowered Heartleaf (*Hexastylis naniflora*). The Monarch butterfly (*Danaus plexippus*) was also listed as a Candidate (C) species. Candidate species do not receive federal protection; therefore, the Monarch butterfly was not included in the assessment. The Tricolored Bat (*Perimyotis subflavus*) is listed as Proposed Endangered and is not protected; however, it was included as part of this evaluation due to its upcoming listing. For the purposes of this report the Bald eagle (*Haliaeetus leucocephalus*) has also been included considering its protection under the BGEPA.

# SCDNR Heritage Trust Program Inquiry

An inquiry was made to the SCDNR Heritage Trust Program regarding known and recorded occurrence(s) of federally-protected species on or within a one-mile radius from the site. No federally-protected species were found within, or one-mile of the site.

The acquired information for the three species was reviewed for field reference purposes. Portions of the site that matched the description of optimal/preferred habitats were considered to be potential habitats for those species and were noted during the habitat assessment.

The IPaC and SCDNR reports for the site are provided in Attachment II.

# **Pre-Field Review of Site Soil Associations**

The Web Soil Survey (Spartanburg County) conducted for the site indicated the site soil associations include:

- Cecil Sandy Loam, 2 to 6 percent slopes (CcB)
- Cecil Sandy Loam, 6 to 10 percent slopes (CcC)
- Udorthents loamy, 6 to 20 percent slopes (UaE)
- Urban Land-Cecil complex, 2 to 10 percent slopes (UcC)



# Protected Species and Habitat Assessment Report GSP Traffic Control Tower Site H

Greer, Spartanburg County, South Carolin S&ME Project No. 23600247

The soil associations are depicted on Exhibit 4 – NRCS Soil Associations, Attachment I.

### Pre-Field Review of Federally-Protected and State-Listed Species Databases

One species, a vascular plant, is listed on the Official Species List as currently federally-protected (**Attachment II**). As previously noted, the proposed Endangered Tricolored Bat (*P. subflavus*) and the Bald Eagle (*H. Leucocephalus*) have been included.

### Vertebrate Fauna

Bald Eagle (*H. Leucocephalus*) – Protected under the BGEPA Tricolored Bat (*P. subflavus*) – Proposed Endangered

#### Vascular Flora

Dwarf-flowered Heartleaf (H. naniflora) - Threatened

Brief descriptions of the three species and their preferred habitats have been abstracted from USFWS databases and are provided below:

### Bald Eagle

Distinguished by a white head and white tail feathers, Bald Eagles are powerful, brown birds that may weigh 14 pounds and have a wingspan of eight feet. Male eagles are smaller, weighing as much as ten pounds and have a wingspan of six feet. Sometimes confused with Golden eagles, Bald eagles are mostly dark brown until they are four to five years old and acquire their characteristic coloring.

Bald Eagles live near rivers, lakes, and marshes where they can find fish, their staple food. Bald eagles will also feed on waterfowl, turtles, rabbits, snakes, and other small animals and carrion. Bald eagles require a good food base, perching areas, and nesting sites. Their habitat includes estuaries, large lakes, reservoirs, rivers, and some seacoasts. In winter, the birds congregate near open water in tall trees for spotting prey and night roosts for sheltering. Habitat destruction and degradation, illegal shooting, and the contamination of its food source, largely as a consequence of DDT, decimated the eagle population.

### Tricolored Bat

The Tricolored Bat has an average body length of 3 to 3.5 inches, with a wingspan of nine inches. The tricolored bat is distinguished by its unique tricolored fur that appears dark at the base, lighter in the middle and dark at the tip. Tricolored bats often appear yellowish, varying from pale yellow to nearly orange, but may also appear silvery-gray, chocolate brown or black. Newly flying young are much darker and grayer than adults.

During the spring, summer, and fall - collectively referred to as the non-hibernating seasons - tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. In the southern and northern portions of the range, tricolored bats will also roost in Spanish moss (*Tillandsia usneoides*) and Bony beard lichen (*Usnea trichodea*), respectively. In addition, tricolored bats have been observed roosting



GSP Traffic Control Tower Site H Greer, Spartanburg County, South Carolin S&ME Project No. 23600247

during summer among pine needles, eastern red cedar (Juniperus virginiana), within artificial roosts like barns, beneath porch roofs, bridges, concrete bunkers, and rarely within caves. Female tricolored bats exhibit high site fidelity, returning year after year to the same summer roosting locations. Female tricolored bats form maternity colonies and switch roost trees regularly. Males roost singly.

During the winter, tricolored bats hibernate in caves and mines; although, in the southern United States, where caves are sparse, tricolored bats often hibernate in road-associated culverts, as well as sometimes in tree cavities and abandoned water wells. Tricolored bats exhibit high site fidelity with many individuals returning year after year to the same hibernaculum.

### Dwarf-flowered Heartleaf

The Dwarf-flowered heartleaf is a low-growing, evergreen perennial plant. It has heart-shape leaves that are dark green and leathery, supported by long, thin leaf stems connecting it to an underground stem. The jug-shaped flowers are usually beige to dark brown or purple and appear from mid-March to early June. The flowers are small and inconspicuous and are found near the base of the leaf stems, often buried beneath the leaf litter. Dwarf-flowered heartleaf grows in acidic soils along bluffs and adjacent slopes, in boggy areas next to streams and creek heads, and along the slopes of nearby hillsides and ravines. The greatest threat to Dwarf-flowered heartleaf is conversion of habitat to agricultural, residential, commercial, and industrial uses. Habitat may also be eliminated through the construction of reservoirs, which floods habitat.

### **Field Reconnaissance**

The field reconnaissance was conducted on May 17, 2023, by S&ME scientists Andrew Hook and Ronald Walker. The reconnaissance was conducted beginning along the southwest property line and proceeded across the site. The assessment included observations for suitable habitat of the target species as discussed below, as well as the general habitat observed on the site. Representative site photographs were obtained during the assessment and provided in **Attachment I – Photo Log**. Photograph locations are indexed in **Attachment I**, **Exhibit 5 – Habitat Types**.

# Site Habitat Descriptions

Five major habitats were observed on the site as depicted in **Attachment I, Exhibit 5 – Habitat Types** and described below:

<u>Habitat 1 (Approximately 3.49 acres)</u> is a mixed hardwood forest. The canopy of this habitat was composed of Sweetgum (*Liquidambar styraciflua*), Water oak (*Quercus nigra*), Yellow poplar (*Liriodendron tulipifera*), American holly (*Ilex opaca*) and Green ash (*Fraxinus pennsylvanica*). The understory of this habitat consisted primarily of juvenile trees of the canopy species.

<u>Habitat 2 (Approximately 0.65 acre)</u> are power line easements. The powerline easements are located across the site. The dominant plant species in the powerline easement were Tall fescue (*Festuca arundinacea*), Blackberry (*Rubus sp.*) and Tall goldenrod (*Solidago altissima*).



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**Habitat 3 (Approximately 0.35 acre)** is a road and maintained right of way. The right of way is maintained Tall fescue (*F. arundinacea*) with a row of planted Pin oak (*Q. palustris*) trees.

<u>Habitat 4 (Approximately 0.16 acre)</u> are jurisdictional wetlands. The dominant species in this habitat was Netted chain fern (*Woodwardia areolata*), Brome-like sedge (*Carex bromides*.), New York Fern (*Thelypteris noveboracensis*) and Jack-in-the-pulpit (*Arisaema triphyllum*).

<u>Habitat 5 (Approximately 0.09 acre)</u> are jurisdictional streams. The streams on site were located in drainage features that exhibited an ordinary high-water mark.

# **Federally-Protected Species**

### Bald Eagle (Protected under the BGEPA)

No large waterbodies exist on or adjacent to the site that would provide a suitable food supply for the Bald Eagle. Additionally, no nests or individuals were observed and there are no known Bald Eagle nests within a one-mile radius of the site as indicated in the SCDNR Consultation. The project will have no effect on the Bald Eagle.

#### **Biological Opinion: No Effect**

### Tricolored Bat (Proposed Endangered)

The SCDNR report did not identify any known occurrences of the tri-colored bat on site, or within one mile of the site. However, trees on site would be considered summer roost habitat for the Tri-colored bat. Until this species is listed as Endangered it is not federally protected, accordingly, site tree clearing (removal of habitat) would need no additional consultation with the USFWS.

It is anticipated that the Tricolored bat will be listed late 2023 or early 2024. If site tree clearing is not completed prior to the anticipated listing, we recommend revisiting this species for an effect determination based on new USFWS guidelines associated with the species.

#### Dwarf-flowered Heartleaf (Threatened)

Habitat for the Dwarf-flowered heartleaf was present on the site along the streams and wetland areas. The stream banks and wetland areas were evaluated and no Hexastylis species were observed. In addition, there was no record of this species within a one-mile radius of the site according to the SCDNR Consultation. The project will have no effect on the Dwarf-flowered heartleaf.

#### **Biological Opinion: No Effect**

&

GSP Traffic Control Tower Site H Greer, Spartanburg County, South Carolin S&ME Project No. 23600247

# Summary

Based on review of species-specific data in the public domain for federally-protected Species and on information acquired from the field reconnaissance performed on March 27, 2023, the proposed site development will have **no effect** on the following species:

- Bald Eagle (H. Leucocephalus) Protected under the BGEPA
- Dwarf-flowered Heartleaf (H. naniflora) Threatened

It is anticipated that the Tricolored bat will be listed late 2023 or early 2024. If site tree clearing is not completed prior to the anticipated listing, we recommend revisiting this species for an effect determination based on new USFWS guidelines associated with the species. Until that time the site will qualify for the USFWS Clearance Letter for Species and Habitat Assessments (**Attachment III**).

# Conclusion

The recommendations provided above for federally-protected species should be followed prior to, and during site development. We appreciate the opportunity to support the Federal Aviation Administration (FAA) with this project. If you have any questions regarding the information contained in this report, please contact Mr. Ronald Walker at (864) 297-9944.

Sincerely,

S&ME, Inc.

Ronallhalk

Ronald Walker Senior Scientist rwalker@smeinc.com

Mark Augspurger Principal Scientist/ Senior Reviewer maugspurger@smeinc.com

Attachments: Attachment I – Exhibits 1 – 5 and Photo Log Attachment II – IPaC Official Species List and SCDNR Consultation Report Attachment III – USFWS Clearance Letter Attachments
Attachment I – Exhibits 1 – 5 and Photo Log











Site Photographs GSP Traffic Control Tower Site H Greer, Spartanburg County, South Carolina S&ME Project No. 23600247





**3** Example of Habitats 1 and 4 – Wetland within Mixed Hardwood Forest



Example of Habitats I and 2 – Mixed Hardwood Forest and Power Line Easement



Example of Habitats 1 and 5 – Stream within Mixed Hardwood Forest

2

# Attachment II – IPaC Official Species List and SCDNR Consultation Report



## United States Department of the Interior

FISH AND WILDLIFE SERVICE South Carolina Ecological Services 176 Croghan Spur Road, Suite 200 Charleston, SC 29407-7558 Phone: (843) 727-4707 Fax: (843) 727-4218



In Reply Refer To: Project Code: 2023-0082095 Project Name: GSP Site 12 May 16, 2023

# Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

#### http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

**Migratory Birds**: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/ executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

### Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

# **OFFICIAL SPECIES LIST**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

#### South Carolina Ecological Services

176 Croghan Spur Road, Suite 200 Charleston, SC 29407-7558 (843) 727-4707

### **PROJECT SUMMARY**

Project Code:2023-0082095Project Name:GSP Site 12Project Type:Airport - Maintenance/ModificationProject Description:New BuildingProject Location:Versite Construction

The approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/@34.89718485,-82.21101258027676,14z</u>



Counties: Spartanburg County, South Carolina

### **ENDANGERED SPECIES ACT SPECIES**

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

#### MAMMALS

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/10515</u>	Proposed Endangered
INSECTS NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9743</u>	Candidate
FLOWERING PLANTS NAME	STATUS
Dwarf-flowered Heartleaf <i>Hexastylis naniflora</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/2458</u>	Threatened

#### **CRITICAL HABITATS**

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

# **MIGRATORY BIRDS**

Certain birds are protected under the Migratory Bird Treaty  $Act^{1}$  and the Bald and Golden Eagle Protection  $Act^{2}$ .

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described <u>below</u>.

- 1. The Migratory Birds Treaty Act of 1918.
- 2. The <u>Bald and Golden Eagle Protection Act</u> of 1940.
- 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>https://ecos.fws.gov/ecp/species/9399</u>	Breeds May 15 to Oct 10

NAME	BREEDING SEASON
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

### **PROBABILITY OF PRESENCE SUMMARY**

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

#### **Probability of Presence** (

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- 3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

#### Breeding Season (=)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

#### Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

#### No Data (-)

A week is marked as having no data if there were no survey events for that week.

#### **Survey Timeframe**

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

				probability of presence					eason	survey effort — no data		
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Bald Eagle Non-BCC Vulnerable		<del>╎</del> ╎╇╎	++++	++++		++++	++++	++++	++++	<b> </b>	┼╪┼┼	++++
Black-billed Cuckoo	++++	++++	++++	+++#	+ $+$ $+$ $+$	++++	++++	++++		<mark>┼┼</mark> ┼┼	++++	++++

BCC Rangewide (CON) Chimney Swift BCC Rangewide (CON) Eastern Whip-poor-┼┼┼┼╶┼┼╪┼╶┼┼╪┼╴<mark>╞</mark>╋┼┼╶┼┼┼┼ will BCC Rangewide (CON) Kentucky Warbler ++++ ++++ ++++ <mark>┼┼┼</mark>┼ ┼┼┼┼ ┼┼┼┼ ┼┼┼┼ ┼┼┼┼ ++++++++BCC Rangewide (CON) Prairie Warbler ┼┼┼┼╶┼┼┼┼╶┼┾┼┼╴╪╪┼┤ ┼┼┼┉┼┼┼┉┼┼┼┼┼┼┼┼┼┼ BCC Rangewide (CON) Prothonotary ++++ ++++ +++++ +++++ Warbler BCC Rangewide (CON) Red-headed ┼┼┼┼ ┼┼┼┼ ┼┼┼┼ ┼╪┼╪ ╪<mark>┼┼</mark>╢ <mark>╫┼║</mark>┉┉┼┼╶┼┉┼┼╶┼┼┼┼ ++++Woodpecker BCC Rangewide (CON) Rusty Blackbird ┼┼┼╫╶┼╪┼╪╶┼┼┼┼╶╢┼┼┼╴┼┼┼┼╴┼┼┼┼╴┼┼┼┼╴┼┼┼┼╴┼┼┼╢┼╶┼┼┼┼ BCC - BCR Wood Thrush ┼┼┼┼┼┼┼┼┼┼┼╇┼╪╪╋┼╋╋ BCC Rangewide (CON)

Additional information can be found using the following links:

- Birds of Conservation Concern <u>https://www.fws.gov/program/migratory-birds/species</u>
- Measures for avoiding and minimizing impacts to birds <u>https://www.fws.gov/library/</u> <u>collections/avoiding-and-minimizing-incidental-take-migratory-birds</u>
- Nationwide conservation measures for birds <u>https://www.fws.gov/sites/default/files/</u> <u>documents/nationwide-standard-conservation-measures.pdf</u>

### **MIGRATORY BIRDS FAQ**

# Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

<u>Nationwide Conservation Measures</u> describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. <u>Additional measures</u> or <u>permits</u> may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

# What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern</u> (<u>BCC</u>) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian</u> <u>Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>Rapid Avian Information</u> <u>Locator (RAIL) Tool</u>.

# What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey, banding, and citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

#### How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the <u>RAIL Tool</u> and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

#### What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);

- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

#### Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the <u>Northeast Ocean Data Portal</u>. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the <u>NOAA NCCOS Integrative Statistical</u> <u>Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic</u> <u>Outer Continental Shelf</u> project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

#### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

#### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities,

should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

# WETLANDS

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of</u> <u>Engineers District</u>.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

### **IPAC USER CONTACT INFORMATION**

Agency: Federal Aviation Administration

Name: Ronald Walker

Address: 48 Brookfield Oaks Drive, Suite F

City: Greenville

State: SC

Zip: 29607

Email rwalker@smeinc.com

Phone: 8645903569

### LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Aviation Administration



## South Carolina Department of Natural Resources

Robert H. Boyles, Jr. Director

Emily C. Cope Deputy Director for Wildlife and Freshwater Fisheries

PO Box 167 Columbia, SC 29202 (803) 734-1396 speciesreview@dnr.sc.gov

Requested on Tuesday, May 16, 2023 by Ronald Walker.

Re: Request for Threatened and Endangered Species Consultation S&ME Inc. - GSP Site H - Development (Commercial/Residential) - Spartanburg County, South Carolina

The South Carolina Department of Natural Resources (SCDNR) has received your request for threatened and endangered species consultation of the above named project in Spartanburg County, South Carolina. The following map depicts the project area and a 1 mile buffer surrounding:



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## South Carolina Department of Natural Resources



Robert H. Boyles, Jr. Director Emily C. Cope Deputy Director for Wildlife and Freshwater Fisheries

- This report includes the following items:
- A A report for species which intersect the project area
- B A report for species which intersect the buffer around the project area
- C A list of best management practices relevant to species near to or within the project area
- D A list of best management practices relevant to the project type
- E A list of state & federally listed species within the county of the project area
- F Instructions to submit new species observation records to the SC Natural Heritage Program

Please be advised:

The contents of this report, including all tables, maps, recommendations, and various other text, are produced as a direct result of the information a user provides at the time of submission. The SCDNR assumes that all information submitted by the user represents the project scope as proposed, and recommends that additional reports be requested should the scope deviate from how the project was initially represented to the SCDNR.

The technical comments outlined in this report are submitted to speak to the general impacts of the activities as described through inquiry by parties outside the South Carolina Department of Natural Resources. These technical comments are submitted as guidance to be considered and are not submitted as final agency comments that might be related to any unspecified local, state or federal permit, certification or license applications that may be needed by any applicant or their contractors, consultants or agents presently under review or not yet made available for public review. In accordance with its policy 600.01, Comments on Projects Under Department Review, the South Carolina Department of Natural Resources, reserves the right to comment on any permit, certification or license application that may be published by any regulatory agency which may incorporate, directly or by reference, these technical comments.

Interested parties are to understand that SCDNR may provide a final agency position to regulatory agencies if any local, state or federal permit, certification or license applications may be needed by any applicant or their contractors, consultants or agents. For further information regarding comments and input from SCDNR on your project, please contact our Office of Environmental Programs by emailing environmental@dnr.sc.gov or by visiting www.dnr.sc.gov/environmental. Pursuant to Section 7 of the Endangered Species Act, requests for formal letters of concurrence with regards to federally listed species should be directed to the USFWS.

Should you have any questions or need more information, please do not hesitate to contact our office by email at speciesreview@dnr.sc.gov or by phone at 803-734-1396.

Sincerely,

Joseph Lemeris, Jr. Heritage Trust Program SC Department of Natural Resources

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## A. Project Area - Species Report

There are 1 tracked species records found within the project foot print. The following table outlines occurrences found within the project footprint (if any), sorted by listing status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found on site may be listed in this table but are not represented on the map. Please contact speciesreview@dnr.sc.gov should you have further questions related to sensitive species found within the project area.





Man Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user

Scientific Name	Common Name	Federal Protection Status	State Protection Status	G Rank	S Rank	Last Obs. Date	Туре
Helianthus porteri	Confederate Daisy	Not Applicable	Not Applicable	G4	S1	1972-09-22	Botanical

## B. Buffer Area - Species Report

The following table outlines rare, threatened or endangered species found within 1 miles of the project footprint, arranged in order of protection status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found within the buffer area may be listed in this table but are not represented on the map.





Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, NASA, NGA, USGS, FEMA, City of Greenville, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

Scientific Name	Common Name	Federal Protection Status	State Protection Status	G Rank	S Rank	Last Obs. Date	Туре
Geocarpon uniflorum	Godfrey's Stitchwort	Not Applicable	Not Applicable	G4	S3	1970-05-01	Botanical
Helianthus porteri	Confederate Daisy	Not Applicable	Not Applicable	G4	S1	1972-09-22	Botanical
Isoetes piedmontana	Piedmont Quillwort	Not Applicable	Not Applicable	G4	S2	1980-05-01	Botanical
Juncus georgianus	Georgia Rush, Flatrock Rush	Not Applicable	Not Applicable	G4	S2	1979-09-01	Botanical

### C. Species Best Management Practices (1 of 1)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to species of concern which may be found on or near to the project area. Please contact speciesreview@dnr.sc.gov should you have further questions with regard to survey methods, consultation, or other species-related concerns.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user



Cavity- and tree-roosting bat species including the federally endangered northern long-eared bat (Myotis septentrionalis), stateendangered Rafinesque's big-eared bat (Corynorhinus rafinesquii), and the federally at-risk tricolored bat (Perimyotis subflavus) have been known to occur in the county of the proposed site. As a conservation measure, it is recommended that any tree clearing activities be conducted during the inactive season for Northern long-eared bat (November 15th through March 31st) to avoid negative impacts to the species. If any of the above species are found on-site, please contact the USFWS and SCDNR.

In the interest of preserving plant diversity, the South Carolina Plant Conservation Alliance performs native plant rescues in order to protect and preserve our diversity of native plants. If you are interested in assisting with this important endeavor please contact Mrs. April Punsalan at (843) 727-4707 ext. 218, or by email: scpca@lists.fws.gov before any development occurs onsite. There may be plants of interest on the project site that the Alliance would like to preserve.

Species in the above table with SWAP priorities of High, Highest or Moderate are designated as having conservation priority under the South Carolina State Wildlife Action Plan (SWAP). SWAP species are those species of greatest conservation need not traditionally covered under any federal funded programs. Species are listed in the SWAP because they are rare or designated as at-risk due to knowledge deficiencies; species common in South Carolina but listed rare or declining elsewhere; or species that serve as indicators of detrimental environmental conditions. SCDNR recommends that appropriate measures should be taken to minimize or avoid impacts to the aforementioned species of concern.

This project falls within an area that supports black bear (Ursus americanus) populations, a moderate SWAP conservation priority species that requires fire-dependent habitats. The SCDNR recommends that any project area be developed with that in mind. Black bears are attracted to human foods, food waste and packaging (e.g. trash cans, litter, outdoor grills, bird feeders, etc.) and other scented substances and may become habituated to the presence of such attractants if they are obtained. Therefore, the development should be designed in a manner that will substantially minimize the availability of unnatural bear attractants. For example, any exterior trash receptacles must be designed and operated to be 'bear proof' and storage areas should be appropriately secured to prevent access by bears, etc. Some helpful bear-wise tactics can be found at https://bearwise.org/six-bearwise-basics/.

### D. Project Best Management Practices (1 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user



- All necessary measures must be taken to prevent oil, tar, trash and other pollutants from entering the adjacent offsite areas/wetlands/ water.
- Once the project is initiated, it must be carried to completion in an expeditious manner to minimize the period of disturbance to the environment.
- Upon project completion, all disturbed areas must be permanently stabilized with vegetative cover (preferable), riprap or other erosion control methods as appropriate.
- The project must be in compliance with any applicable floodplain, stormwater, land disturbance, shoreline management guidance or riparian buffer ordinances.
- Prior to beginning any land disturbing activity, appropriate erosion and siltation control measures (e.g. silt fences or barriers) must be in place and maintained in a functioning capacity until the area is permanently stabilized.
- Materials used for erosion control (e.g., hay bales or straw mulch) will be certified as weed free by the supplier.
- Inspecting and ensuring the maintenance of temporary erosion control measures at least:
  - a. on a daily basis in areas of active construction or equipment operation;
    - b. on a weekly basis in areas with no construction or equipment operation; and
  - c. within 24 hours of each 0.5 inch of rainfall.
- Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts.
- Land disturbing activities must avoid encroachment into any wetland areas (outside the permitted impact area). Wetlands that are unavoidably impacted must be appropriately mitigated.
- Your project may require a Stormwater Permit from the SC Department of Health & Environmental Control, please visit https://www.scdhec.gov/environment/water-quality/stormwater

### D. Project Best Management Practices (2 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user



• Residential and commercial development has grown exponentially in recent years. Activities associated with these developments can have detrimental impacts on wildlife and aquatic resources such as habitat fragmentation, loss of available habitats and pollution, especially stormwater pollution. The result of these impacts causes the displacement of species and increases wildlife and human interactions. However, properly planned and sited development activities may allow for economic expansion with minimal negative impacts.

- Where appropriate, particularly adjacent to wetlands and water bodies, drainage plans and construction measures for residential and commercial development should be designed to control erosion and sedimentation, water quality degradation and other negative impacts on adjacent water and wetlands utilizing the best available design research. Developers proposing development activities should contact and work closely with local community development planning entities.
- Developments should be planned where growth is most compatible with natural resources utilizing residential and commercial cluster development methods, maximizing green spaces which can both be beneficial to protect natural resources and provide recreational opportunities for outdoor enthusiasts.
- Developments should be designed and constructed to avoid impact to wetland and stream areas whenever possible and to minimize unavoidable wetland and stream impacts to the maximum extent possible. Aquatic habitats and other sensitive natural areas should be identified in the initial planning stages of the project and incorporated in their natural state into the overall development plan.
- Developments should be designed to maintain the integrity and contiguity of wetland and stream systems and their associated riparian corridors, including the establishment of protective upland buffers around and between undisturbed aquatic systems whenever possible. Projects should be designed to minimize habitat fragmentation, including the construction of a limited number of road and utility crossings through streams and wetlands.
- The SCDNR recommends that the applicant incorporate vegetated bioswales, catch basins and/or bioretention cells/rain gardens into development plans beyond the regulatory requirements of the Stormwater Permitting requirements to add additional features to aid in capturing and filtering runoff from hardened surfaces. These structures can protect water quality and prevent oil, gas and other pollutants from directly entering nearby waterways. In addition, the SCDNR strongly recommends the use of permeable or porous pavement surfaces when possible. Permeable surfaces allow for rainfall to filter through the soil which aids in flood control and improves water quality.
- The following resources are available from Clemson Extension to assist:
  - · https://hgic.clemson.edu/factsheet/an-introduction-to-bioswales/
  - · https://hgic.clemson.edu/factsheet/rain-garden-plants-introduction/
  - · https://hgic.clemson.edu/factsheet/bioretention-cells-a-guide-for-your-residents/
  - https://hgic.clemson.edu/factsheet/an-introduction-to-porous-pavement/
  - · https://hgic.clemson.edu/factsheet/trees-for-stormwater-management/

# E. State & Federally Listed Species in Spartanburg County

The South Carolina Department of Natural Resources' Heritage Trust Program organizes a database that captures and tracks element of occurrence data for rare, threatened and endangered species, both federal and state. Please keep in mind that this information included within this report is derived from existing databases, and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. If your project requires the assessment of potential threatened or endangered species that could be within the project area, the SCDNR asks that you include a review of the state listed species within the county or watershed in addition to those that may be within the report as being within the project footprint or within 1-mile of the proposed project area. Consideration should be given to the occurrence of suitable habitat onsite, species movement and connectivity of habitat when assessing the likelihood of a state listed species on the project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user



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County	Scientific Name	Common Name	G Rank	S Rank	Federal Protection Status	State Protection Status	Group Type
Spartanburg	Cambarus spicatus	Broad River Spiny Crayfish	G3	S2	ARS: At-Risk Species	Not Applicable	Zoological
Spartanburg	Eurycea chamberlaini	Chamberlain's Dwarf Salamander	G4	S3	ARS: At-Risk Species	Not Applicable	Zoological
Spartanburg	Haliaeetus leucocephalus	Bald Eagle	G5	S3B,S3N	Bald & Golden Eagle Protection Act	ST: State Threatened	Zoological
Spartanburg	Perimyotis subflavus	Tricolored Bat	G3G4	S1S2	LEP: Federally Endangered (Proposed)	Not Applicable	Zoological
Spartanburg	Thryomanes bewickii	Bewick's Wren	G5	S1	MBTA: Migratory Bird Treaty Act	SE: State Endangered	Zoological
Spartanburg	Hexastylis naniflora	Dwarf-flower Heartleaf	G3	S3	LT: Federally Threatened	Not Applicable	Botanical
Spartanburg	Sagittaria fasciculata	Bunched Arrowhead	G2	S2	LE: Federally Endangered	Not Applicable	Botanical

# F. Instructions for Submitting Species Observations

The SC Natural Heritage Dataset relies on continuous monitoring and surveying for species of concern throughout the state. Any records of species of concern found within this project area would greatly benefit the quality and comprehensiveness of the statewide dataset for rare, threatened and endangered species. Below are instructions for how to download the SC Natural Heritage Occurrence Reporting Form through the Survey123 App.

Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user



### **Conservation Ranks & SWAP Priority Status**

The SC Natural Heritage Program assigns S Ranks for species tracked within the state of South Carolina based on ranking methodology developed by NatureServe and its state program network. For information conservation rank definitions, please visit https://explorer.natureserve.org/AboutTheData/Statuses

The SCDNR maintains and updates it's State Wildlife Action Plan (SWAP) every 10 years. This plan categorizes species of concern by Moderate, High, and Highest Priority. Please visit https://www.dnr.sc.gov/swap/index.html for more information about the SC SWAP.

### **Important Information Regarding Element Occurrence Data:**

The South Carolina Department of Natural Resources' Heritage Trust Program organizes a database that captures and tracks element of occurrence data for rare, threatened and endangered species, both federal and state. Please keep in mind that this information included within this report is derived from existing databases, and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. If your project requires the assessment of potential threatened or endangered species that could be within the project area, the SCDNR asks that you include a review of the state listed species within the county or watershed in addition to those that may be within the report as being within the project footprint or within 1-mile of the proposed project area. Consideration should be given to the occurrence of suitable habitat onsite, species movement and connectivity of habitat when assessing the likelihood of a state listed species on the project area. To view these lists please visit our county and watershed dashboards at our website: https://schtportal.dnr.sc.gov/portal/apps/sites/#track

### Instructions for accessing the SC Natural Heritage Occurrence Reporting Form

For use in a browser (on your desktop/PC):

- 1) Follow https://bit.ly/scht-reporting-form
- 2) Select 'Open in browser'
- 3) The form will open and you can begin entering data!

This method of access will also work on a browser on a mobile device, but only when connected to the internet. To use the form in the field without relying on data/internet access, follow the steps below.

For use on a smartphone or tablet using the field app:

1) Download the Survey123 App from the Google Play store or the Apple Store. This app is free to download. Allow the app to use your location.

2) Use the camera app (or other QR Reader app) to scan the QR code on this page from your smartphone or tablet. Click on the 'Open in the Survey123 field app'. This will prompt a window to allow Survey123 to download the SC Natural Heritage Occurrence Reporting Form. Select 'Open.'

3) The form will automatically open in Survey123, and you can begin entering data! This form will stay loaded in the app on your.

begin entering data! This form will stay loaded in the app on your device until you manually delete it, and you can submit as many records as you like.



**Attachment III – USFWS Clearance Letter** 



### United States Department of the Interior FISH AND WILDLIFE SERVICE

176 Croghan Spur Road, Suite 200 Charleston, South Carolina 29407



### U.S. Fish and Wildlife Service Clearance Letter for Species and Habitat Assessments

Updated: January 3, 2023

The U.S. Fish and Wildlife Service (Service) is one of two lead Federal Agencies mandated with the protection and conservation of Federal trust resources, including threatened and endangered (T&E) species and designated critical habitat as listed under the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*) (ESA). Development of lands in South Carolina have the potential to impact federally protected species. Accordingly, obligations under the ESA, National Environmental Policy Act (NEPA), Clean Water Act (CWA), Federal Power Act (FPA), and other laws, require project proponents to perform an environmental impact review prior to performing work on the site. These projects may include a wide variety of activities including, but not limited to, residential or commercial developments, energy production, power transmission, transportation, infrastructure repair, maintenance, or reconstruction of existing facilities on previously developed land.

Project applicants, or their designated representatives, may perform initial species assessments in advance of specific development proposals to determine the presence of T&E species and designated critical habitat that are protected under the ESA. These reviews are purposely speculative and do not include specific project or site development plans. Many of these speculative proposals are for previously developed or disturbed lands such as pasture lands, agricultural fields, or abandoned industrial facilities. Due to historical uses and existing conditions, these sites often do not contain suitable habitat to support T&E species. Therefore, an assessment may conclude that any future development of the site would have no effect to T&E species or adversely modify designated critical habitat. If the applicant, or their designee, determines there is <u>no effect or impact</u> to federally protected species or designated critical habitat, no further action is required under the ESA.

#### **Clearance to Proceed**

For all sites with potential projects that <u>have no effect or impact</u> upon federally protected species or designated critical habitat, no further coordination with the Service is necessary at this time. This letter may be downloaded and serve as the Service's concurrence or agreement to the conclusions of the species assessment. <u>Any protected species survey or assessment conducted</u> for the property should be included with this letter when submitting the project to Federal permitting agencies. Due to obligations under the ESA potential impacts must be reconsidered if: (1) new information reveals impacts of this identified action may affect any listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner which was not considered in this assessment; or (3) a new species is listed or critical habitat is designated that may be affected by the identified action.

#### Please note this Clearance Letter applies only to assessments in South Carolina and may not be used to satisfy section 7 requirements for projects that have already been completed or currently under construction.

If suitable habitat for T&E species or designated critical habitat occurs on, or nearby, the project site, a determination of no effect/impact may not be appropriate. In these cases, direct consultation requests with the Service should be initiated by the Federal action agency. Additional coordination with the Service may also be required if the potential project requires an evaluation under another resource law such as, but not limited to, NEPA, CWA, FPA, and the Coastal Zone Management Act.

The Service appreciates your cooperation in the protection of federally listed species and their habitats in South Carolina.

Sincerely,

Thomas D. McCoy

Thomas D. McCoy Field Supervisor
Appendix 2 - Cultural Resources Reconnaissance Surveys

# 

Cultural Resources Reconnaissance Survey GSP Traffic Control Tower Site H Spartanburg County, South Carolina S&ME Project No. 23600247D SHPO Project NO. 20-JS0534

#### PREPARED FOR

Federal Aviation Administration 2711 Highway 75 Blountville, Tennessee 37617

#### PREPARED BY:

S&ME, Inc. 134 Suber Road Columbia, SC 29210

May 2023



# Cultural Resources Reconnaissance Survey GSP Traffic Control Tower Site H Spartanburg County, South Carolina

Prepared for:

Federal Aviation Administration 2711 Highway 75 Blountville, Tennessee 37617

Prepared by:

S&ME, Inc. 134 Suber Road Columbia, South Carolina 29210

S&ME Project No. 23600247D SHPO Project No. 20-JS0534

Kim Nagle

Kimberly Nagle, M.S., RPA Principal Investigator

Authors: Clayton Moss, B.A. and Heather Carpini, M.A

May 2023

**Cultural Resources Reconnaissance Survey GSP Traffic Control Tower Site H** Spartanburg County, South Carolina S&ME Project No. 23600247D; SHPO Project No. 20-JS0534

# **Management Summary**

On behalf of the Federal Aviation Administration (FAA), S&ME, Inc. (S&ME) has completed a cultural resources reconnaissance survey of the approximately five-acre project area associated with the Greenville Spartanburg International Airport (GSP) Traffic Control Tower Site H project in Spartanburg County, South Carolina (Figures 1.1 and 1.2). The project area is located southeast of GSP Drive and roughly 2.7 miles south of the city center of Greer.

The purpose of the current survey was to assess the project area's potential for containing significant cultural resources and to make recommendations regarding additional work that may be required under Section 106 of the National Historic Preservation Act, as amended, and other pertinent federal, state, or local laws. In a letter dated January 21, 2021, the South Carolina State Historic Preservation Office (SHPO) requested a phased investigation of the project area's potential to contain historic properties, beginning with archival research on the history of the project area and a reconnaissance level survey. If the archival research and reconnaissance survey indicate a high probability for historic properties to exist within the project area, an intensive survey would be recommended (Appendix A). This work was carried out in general accordance with S&ME Proposal Number 23600247D, dated April 10, 2023.

Fieldwork for the project was conducted on May 18, 2023. This work included the excavation of five shovel tests and the photo documentation of the project area. The APE for direct effects is limited to the project footprint, while the APE for indirect effects includes resources that are within or visible from the project area. As a result of the investigations, no archaeological sites or above ground resources were identified during the survey (Figures 1.1 and 1.2).

Despite approximately 72.1 percent (3.6 acers) of the project area being recommended as being high probability based on the probability model presented in Chapter 3, Section 3.4, the survey results revealed a lack of intact soil deposits, a lack of cultural material, and disturbances within the project area. It is the opinion of S&ME that the project area has a low potential for containing significant cultural resources and no additional cultural resource work is recommended.

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# 1.0 Introduction

On behalf of the FAA, S&ME has completed a cultural resources reconnaissance survey of the approximately fiveacre project area associated with the GSP Traffic Control Tower Site H project in Spartanburg County, South Carolina (Figures 1.1 and 1.2). The project area is located southeast of GSP Drive and roughly 2.7 miles south of the city center of Greer.

S&ME carried out background research and field investigation tasks in May 2023. The fieldwork was conducted by Crew Chiefs Clayton Moss, B.A. and Amber Wellings, B.A., under the supervision of Principal Archaeologist Kimberly Nagle, M.S., RPA, and consisted of excavating shovel tests and photo documenting the project area. Graphics, GIS maps, and photographs were prepared and the report was written by Mr. Moss. The historic context and architectural information was provided by Principal Architectural Historian Heather Carpini, M.A. The report was senior reviewed by Ms. Nagle.





**Cultural Resources Reconnaissance Survey GSP Traffic Control Tower Site H** Spartanburg County, South Carolina S&ME Project No. 23600247D; SHPO Project No. 20-JS0534

# 2.0 Environmental Setting

#### 2.1 Location

The project area is in Spartanburg County roughly 0.6-miles east of the Spartanburg and Greenville county line, and approximately 2.7 miles southeast of the city center of Greer, South Carolina. The project area is located at the GSP, southeast of GSP Drive.

## 2.2 Geology and Topography

The project area is located in the Piedmont physiographic province of South Carolina (Kovacik and Winberry 1989). Topography in the project area ranges from 273 ft above mean sea level (AMSL) in the southern portion of the project area, to 285 ft AMSL, the northwestern portion of the project area (Figure 1.1).

## 2.3 Hydrology

The project area is located within the Santee River drainage basin. The closest permanent water source is Dillard Creek which is roughly 130 meters southeast of the project area (Figures 1.1 and 1.2). Dillard Creek flows south joining the Enoree River roughly four miles south of the project area. The Enoree River flows southeast into the Broad River.

## 2.4 Soils

There are three specific soil types located within the project area (Figure 2.1); their descriptions can be found in Table 2.1 (United States Department of Agriculture [USDA] Web Soil Survey, Accessed May 17, 2023).

Soil Name	Туре	Drainage	Location	Slope	% Project Area
Cecil	Sandy loam	Well drained	Interfluves	2–10%	72.1%
Udorthents	Loamy	Well drained	Interfluves	6–20%	23.9%
Urban Land-Cecil Complex		Well drained	Hillslopes	2–10%	4.0%

#### Table 2.1. Specific soil types within the project area.

## 2.5 Climate and Vegetation

The climate of Spartanburg County is characterized by long, hot summers and moderately short, cool winters. The average daily temperatures range from 27° Fahrenheit (F) in winter to 89° F in summer. Precipitation is moderate throughout the year and sustained droughts are uncommon. Rainfall is roughly 49 inches per year, and because of the mild winter snowfall is light, averaging about three inches annually (USDA 1965:1). Vegetation within the project area consists of wooded areas and secondary growth (Figures 2.2 to 2.4); disturbances consist of a powerline corridor, buried utilities, a sewer corridor, a paved road (GSP Drive) along the northwestern border of the project area, and a dirt road (Figures 2.5 through 2.9); a creek runs through the central portion of the project area (Figure 2.10); sections within the project area contain slope greater than 15 percent and rock outcrops (Figures 2.11 and 2.12).





Figure 2.2. Typical wooded area within the project area, facing east.



Figure 2.3. Flagged wetland area within the project area, facing southwest.

# Cultural Resources Reconnaissance Survey

**GSP Traffic Control Tower Site H** 



Figure 2.4. Typical secondary growth within the project area, facing southeast.



Figure 2.5. Powerline corridor within the project area, facing north.

# Cultural Resources Reconnaissance Survey

## **GSP Traffic Control Tower Site H**



Figure 2.6. Typical buried utilities within the project area, facing southeast.



Figure 2.7. Sewer corridor within the project area, facing northwest.

Spartanburg County, South Carolina S&ME Project No. 23600247D; SHPO Project No. 20-JS0534



Figure 2.8. GSP Drive along the northwestern border of the project area, facing southwest.



Figure 2.9. A dirt road within the project area, facing northeast.



Figure 2.10. Creek within the project area, facing southeast.



Figure 2.11. Typical steep slope within the project area, facing northwest.



Figure 2.12. Typical rock outcrop within the project area, facing south.

Spartanburg County, South Carolina S&ME Project No. 23600247D; SHPO Project No. 20-JS0534

# 3.0 Cultural Context

The cultural context of the region is reviewed below for two purposes: first, to outline previous research in the region and the nature of historic and prehistoric resources that might be expected in the project area and second, to provide a comparative framework in which to place resources identified within the project area and APE in order to better understand their potential significance and NRHP eligibility. The cultural context of the project area, for the purposes of the Cultural Resources Survey, includes the prehistoric record and the historic past, which are discussed in this section of the report.

## 3.1 Prehistoric Context

Over the last three decades there has been much debate over when humans first arrived in the New World. The traditional interpretation is that humans first arrived in North America via the Bering land bridge that connected Alaska to Siberia at the end of the Pleistocene, approximately 13,500 years ago. From Alaska and northern Canada, these migrants may have moved southward through an ice-free corridor separating the Cordilleran and Laurentide ice sheets to eventually settle in North and South America.

Some researchers have suggested that initial colonization of the New World began well before Clovis, with some dates going back more than 35,000 years (Dillehay and Collins 1988; Goodyear 2005). Evidence for pre-Clovis occupations are posited for the Meadowcroft Rock shelter in Pennsylvania, the Cactus Hill and Saltville sites in Virginia, and the Topper site in South Carolina, although this evidence is not widely accepted and has not been validated (Adovasio and Pedler 1996; Dillehay and Collins 1988; Goodyear 2005). A number of sites providing better evidence for a presence in the New World dating between 15,000 and 13,500 years ago have been discovered. Although far from numerous, these sites are scattered across North and South America, including Alaska, Florida, Missouri, Oregon, Tennessee, Texas, Wisconsin, and southern Chile. Despite this, the earliest definitive evidence for occupation in the Southeastern United States is at the end of the Pleistocene, approximately 13,000 years ago (Anderson and O'Steen 1992; Bense 1994).

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

Unfortunately, most information about Paleoindian lifeways in the Southeast comes from surface finds of projectile points rather than from controlled excavations. The limited information we have for the Paleoindian Period suggests the earliest Native Americans had a mixed subsistence strategy based on the hunting (or scavenging) of the megafauna and smaller game combined with the foraging of wild plant foods. Groups are thought to have consisted of small, highly transient bands made up of several nuclear and/or extended families. Paleoindian artifacts have been found in both riverine and inter-riverine contexts (Charles and Michie 1992:193). Paleoindian projectile points appear to be concentrated along major rivers near the Fall Line and in the Coastal Plain, although it is almost certain that many additional sites along the coast have been inundated by the rise of sea level that has occurred since that time (Anderson et al. 1992; Anderson and Sassaman 1996).

Paleoindian tools are typically well-made and manufactured from high-quality, cryptocrystalline rock such as Coastal Plain and Ridge and Valley chert, as well as Piedmont metavolcanics such as rhyolite (Goodyear 1979). Paleoindians traveled long distances to acquire these desirable raw materials, and it is likely that particularly favored quarries were included in seasonal rounds, allowing them to replenish their stock of raw material on an annual basis.

Spartanburg County, South Carolina S&ME Project No. 23600247D; SHPO Project No. 20-JS0534

The most readily recognizable artifact from the early Paleoindian Period is the Clovis point, which is a fluted, lanceolate-shaped spear point. Clovis points, first identified from a site in New Mexico, have been found across the nation, although they tend to be clustered in the eastern United States (Anderson and Sassaman 1996:222). Paleoindian artifact assemblages typically consist of diagnostic lanceolate projectile points, scrapers, gravers, unifacial and bifacial knives, and burins. Projectile point types include fluted and unfluted forms, such as Clovis, Cumberland, Suwanee, Quad, and Dalton (Anderson et al. 1992; Justice 1987:17–43).

In South Carolina, the Clovis sub-period is generally thought to date from 11,500 to 11,000 B.P. (Sassaman et al. 1990:8). Fairly recent radiocarbon data indicate that a more accurate time for the Clovis period in North America may be 11,050 to 10,800 B.P. (Waters and Stafford 2007); however, this has yet to gain widespread acceptance. Suwanee points, which are slightly smaller than Clovis points, date from 11,000 to 10,500 B.P. This is followed by Dalton points, which are found throughout the Southeast from about 10,500 to 9900 B.P.

## 3.1.2 Archaic Period (ca. 10,000–3000 B.P.)

Major environmental changes at the terminal end of the Pleistocene led to changes in human settlement patterns, subsistence strategies, and technology. As the climate warmed and the megafauna became extinct, population size increased and there was a simultaneous decrease in territory size and settlement range. Much of the Southeast during the early part of this period consisted of a mixed oak-hickory forest. Later, during the Hypsithermal interval, between 8000 and 4000 B.P., southern pine communities became more prevalent in the interriverine uplands and extensive riverine swamps were formed (Anderson et al. 1996a; Delcourt and Delcourt 1985).

The Archaic Period typically has been divided into three subperiods: Early Archaic (10,000–8000 B.P.), Middle Archaic (8000–5000 B.P.), and Late Archaic (5000–3000 B.P.). Each of these subperiods appears to have been lengthy, and the inhabitants of each were successful in adapting contemporary technology to prevailing climatic and environmental conditions of the time. Settlement patterns are presumed to reflect a fairly high degree of mobility, making use of seasonally available resources in the changing environment across different areas of the Southeast. The people relied on large animals and wild plant resources for food. Group size gradually increased during this period, culminating in a fairly complex and populous society in the Late Archaic.

## Early Archaic (10,000-8000 B.P.)

During the Early Archaic, there was a continuation of the semi-nomadic hunting and gathering lifestyle seen during the Paleoindian Period; however, there was a focus on modern game species rather than on the megafauna, which had become extinct by that time. During this time there also appears to have been a gradual, but steady increase in population and a shift in settlement patterns. In the Carolinas and Georgia, various models of Early Archaic social organization and settlement have been proposed (Anderson et al. 1992; Anderson and Hanson 1988). In general, these models hypothesize that Early Archaic societies were organized into small, band-sized communities of 25 to 50 people whose main territory surrounded a portion of a major river (Anderson and Hanson 1988: Figure 2). During the early spring, groups would forage in the lower Coastal Plain and then move inland to temporary camps in the Piedmont and mountains during the summer and early fall. In the late fall and winter, these bands would aggregate into larger, logistically provisioned base camps in the upper Coastal Plain, near the Fall Line. It is believed that group movements would have been circumscribed within major river drainages, and that movement across drainages into other band territories was limited. At a higher level of organization, bands were believed to be organized into larger "macrobands" of 500 to 1,500 people that

Spartanburg County, South Carolina S&ME Project No. 23600247D; SHPO Project No. 20-JS0534

periodically gathered at strategic locations near the Fall Line for communal food harvesting, rituals, and the exchange of mates and information.

Daniel (1998, 2001) has argued that access to high quality lithic material has been an under-appreciated component of Early Archaic settlement strategies. He presents compelling evidence that groups were moving between major drainages just as easily as they were moving along them. In contrast to earlier models, group movements were tethered to stone quarries rather than to specific drainages. Regardless of which model is correct, settlement patterns generally reflect a relatively high degree of mobility, making use of seasonally available resources such as nuts, migratory waterfowl, and white-tailed deer.

Diagnostic markers of the Early Archaic include a variety of side and corner notched projectile point types such as Hardaway, Kirk, Palmer, Taylor, and Big Sandy, and bifurcated point types such as Lecroy, McCorkle, and St. Albans. Other than projectile points, tools of the Early Archaic subperiod include end scrapers, side scrapers, gravers, microliths, and adzes (Sassaman et al. 2002), and likely perishable items such as traps, snares, nets, and basketry. Direct evidence of Early Archaic basketry and woven fiber bags was found at the Icehouse Bottom site in Tennessee (Chapman and Adovasio 1977).

## Middle Archaic (8,000-5000 B.P.)

The Middle Archaic subperiod coincides with the start of the Altithermal (a.k.a. Hypsithermal), a significant warming trend where pine forests replaced the oak-hickory dominated forests of the preceding periods. By approximately 6000 B.P., extensive riverine and coastal swamps were formed by rising water tables as the sea level approached modern elevations (Whitehead 1972). It was during this subperiod that river and estuary systems took their modern configurations. The relationship between climatic, environmental, and cultural changes during this period, however, is still poorly understood (Sassaman and Anderson 1995:5–14). It is assumed that population density increased during the Middle Archaic, but small hunting and gathering bands probably still formed the primary social and economic units. Larger and more intensively occupied sites tend to occur near rivers and numerous small, upland lithic scatters dot the interriverine landscape. Subsistence was presumably based on a variety of resources such as white-tail deer, nuts, fish, and migratory birds; however, shellfish do not seem to have been an important resource at this time.

During the Middle Archaic, ground stone tools such as axes, atlatl weights, and grinding stones became more common, while flaked stone tools became less diverse and tend to be made of locally available raw materials (Blanton and Sassaman 1989). Middle Archaic tools tend to be expediently manufactured and have a more rudimentary appearance than those found during the preceding Paleoindian and Early Archaic periods. The most common point type of this subperiod is the ubiquitous Morrow Mountain, but others such as Stanly, Guilford, and Halifax also occur, as well as transitional Middle Archaic-Late Archaic forms such as Brier Creek and Allendale/MALA (an acronym for Middle Archaic Late Archaic) (Blanton and Sassaman 1989; Coe 1964). The major difference in the artifact assemblage of the Stanly Phase seems to be the addition of stone atlatl weights. The Morrow Mountain and Guilford phases also appear during the Middle Archaic, but Coe (1964) considers these phases to be without local precedent and views them as western intrusions.

## Late Archaic (5000-3000 B.P.)

The Late Archaic is marked by a number of key developments. There was an increased focus on riverine locations and resources (e.g., shellfish), small-scale horticulture was adopted, and ceramic and soapstone vessel technology

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was introduced. These changes allowed humans to occupy strategic locations for longer periods of time. In the spring and summer, Late Archaic people gathered large amounts of shellfish. It is not known why this productive resource was not exploited earlier, but one explanation is that the environmental conditions conducive to the formation of shellfish beds were not in place until the Late Archaic. Other resources that would have been exploited in the spring and summer months include fish, white-tailed deer, small mammals, birds, and turtles (House and Ballenger 1976; Stoltman 1974). During the late fall and winter, populations likely subsisted on white-tailed deer, turkey, and nuts such as hickory and acorn. It is also possible that plants such as *cucurbita* (squash and gourds), sunflower, sump weed, and chenopod, were being cultivated on a small-scale basis.

The most common diagnostic biface of this subperiod is the Savannah River Stemmed projectile point (Coe 1964), a broad-bladed stemmed point found under a variety of names from Florida to Canada. There are also smaller variants of Savannah River points, including Otarre Stemmed and Small Savannah River points that date to the transitional Late Archaic/Early Woodland. Other artifacts include soapstone cooking discs and net sinkers, shell tools, grooved axes, and worked bone.

The earliest pottery in the New World comes from the Savannah River Valley and coastal regions of South Carolina and Georgia. Both Stallings Island and Thom's Creek pottery date from about 4500–3000 B.P. and have a wide variety of surface treatments including plain, punctuated, and incised designs (Sassaman et al. 1990). For a long time, it was believed that fiber-tempered Stallings Island pottery was the oldest pottery in the region (perhaps in the New World), and that sand-tempered Thom's Creek wares appeared a few centuries later (Sassaman 1993). Work at several shell ring sites on the coast, however, has demonstrated that the two types are contemporaneous, with Thom's Creek possibly even predating Stallings Island along the coast (Heide and Russo 2003; Russo and Heide 2003; Saunders and Russo 2002).

## 3.1.3 Woodland Period (ca. 3000–1000 B.P.)

Like the preceding Archaic Period, the Woodland is traditionally divided into three subperiods—Early Woodland (3000–2300 B.P.), Middle Woodland (2300–1500 B.P.), and Late Woodland (1500–1000 B.P.)— based on technological and social advances and population increase. Among the changes that occurred during this period were a widespread adoption of ceramic technology, an increased reliance on native plant horticulture, and a more sedentary lifestyle. There is also an increase in sociopolitical and religious interactions as evidenced by an increased use of burial mounds, increased ceremonialism, and expanded trade networks (Anderson and Mainfort 2002). In addition, ceramics became more refined and regionally differentiated, especially with regard to temper.

## Early Woodland (3000-2300 B.P.)

The Early Woodland subperiod is generally marked by the intensification of horticulture, an increased use of ceramics in association with a semisedentary lifeway, and the introduction of the bow and arrow. The earliest expression of the Early Woodland subperiod in the Piedmont is the Badin phase (Ward and Davis 1999). Representative cultural material includes sand-tempered cord marked or fabric-impressed ceramics and large, crude triangular projectile points (Ward and Davis 1999). Differences between the southern and northern Piedmont traditions became more pronounced through time and by the Late Woodland subperiod ceramics were quite diversified (Ward 1983).

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## Middle Woodland (2300–1500 B.P.)

In some areas of the Piedmont, the Middle Woodland subperiod is characterized by the Yadkin phase, whose ceramics are similar to the previous Badin type except they are tempered with crushed quartz rather than sand (Ward and Davis 1999). However, as Webb and Leigh (1995:29) point out, there is no clear, linear relationship between the development of the two phases. In some areas, Yadkin may represent the earliest ceramics, whereas in other areas Badin may be the earliest type. The Yadkin Large Triangular Point is the diagnostic point of the Early and Middle Woodland subperiods throughout much of North and South Carolina. Although substantial regional differences appear during this time, the Piedmont region was relatively unaffected by the elaborate Hopewell and Swift Creek cultures.

## Late Woodland (1500-1000 B.P.)

The Late Woodland subperiod is one of the least understood prehistoric subperiods, both in the South Carolina Piedmont and in the Southeast as a whole. Few diagnostic artifacts are known that can definitively date occupations to this subperiod. The few diagnostic artifacts associated with the Late Woodland subperiod in the South Carolina Piedmont include small triangular and pentagonal projectile points, as well as Swift Creek, Napier, and Woodstock ceramics (Benson 2006:53–54).

## 3.1.4 Mississippian Period (ca. 1000–350 B.P.)

The Mississippian Period saw dramatic changes across most of the Southeast. Mississippian societies were complex sociopolitical entities that were based at mound centers, usually located in the floodplains along major river systems. The flat-topped platform mounds served as both the literal and symbolic manifestation of a complex sociopolitical and religious system that linked chiefdoms across a broad network stretching from the Southeastern Atlantic Coast to Oklahoma (Spiro Mounds) in the west, to as far north as Wisconsin (Aztalan). Mound centers were surrounded by outlying villages that usually were built along major rivers to take advantage of the rich floodplain soils. Smaller hamlets and farmsteads dotted the landscape around villages and provided food, tribute, and services to the chief in return for protection and inclusion in the sociopolitical system. While Mississippian subsistence was focused to a large extent on intensive maize agriculture, the hunting and gathering of aquatic and terrestrial resources supplemented Mississippian diets (Anderson 1994).

Mound centers have been found along most major river systems in the Southeast, and South Carolina is no exception. Major Mississippian mounds in the area include the Belmont and Mulberry sites along the Wateree River in central South Carolina; Santee/Fort Watson/Scotts Lake on the Santee River; the Irene site near Savannah; Hollywood, Lawton, Red Lake, and Mason's Plantation in the central Savannah River Valley; and Town Creek along the Pee Dee River in North Carolina (Anderson 1994).

Diagnostic artifacts of the Mississippian Period include small triangular projectile points and sand-tempered Lamar, Savannah, and Etowah pottery types (Anderson and Joseph 1988; Elliot 1995). These types are primarily identified by their complicated stamped designs, although simple stamped, check stamped, cord marked, and other surface treatments also occur. Various ceremonial items made from stone, bone, shell, copper, and mica were used as symbolic markers of chiefly power and status.

There is increasing evidence that territorial boundaries between chiefdoms were closely maintained during the Mississippian Period. Within the South Carolina Piedmont, Judge (2003, see also DePratter and Judge 1990) has

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identified six phases of Mississippian occupation within the Wateree Valley: Belmont Neck (A.D. 1200–1250), Adamson (A.D. 1250–1300), Town Creek (A.D. 1300–1350), McDowell (A.D.1350–1450), Mulberry (A.D. 1450–1550), and Daniels (A.D. 1550–1675). Cable (2000) adds a Savannah phase (A.D.1200–1300) to this list, between the Belmont Neck phase (which he puts at A.D. 1100–1200) and Adamson phase (which he places between A.D. 1300– 1350). Meanwhile, groups living in the southern part of the North Carolina Piedmont were part of the Pee Dee culture, which includes the Teal (A.D. 950–1200), Town Creek (A.D. 1200–1400), and Leak (A.D. 1400–1600) phases (Ward and Davis 1999:123–134).

## 3.2 Historic Context

The project area is located roughly 2.7 miles south of the city center of Greer, South Carolina in Spartanburg County.

## 3.2.1 Early Settlement

Although settlers of European descent began arriving in South Carolina's backcountry during the mid-eighteenth century, the area containing the project corridor was on the edge of the colony border and Cherokee land, as established in 1766. However, there were still a handful of white families living northwest of the Indian land boundary in the mid-1700s (Huff 1995:10). During the early years of the colony, this region was considered the backcountry and it was sparsely settled. The area was distinctly different from the Lowcountry, where the plantation system had already developed to produce rice and indigo as cash crops (Klein 1981:662). Geographically, the northwestern portion of South Carolina is part of the Piedmont, which did not provide the soils or rainfall needed to produce these early staple crops, thus delaying the adoption of the plantation system in this region (Kovacik and Winberry 1989:41).

As early as the 1500s, Spanish explorers traveled through the inland regions of the Southeast in their quest for land and gold (Edgar 1998:23). Other Europeans had ventured into the Piedmont throughout the 1700s, seeking to trade with the local Indians, with at least four traders living among the Cherokee by 1714. However, these men did not establish permanent settlements in the area (Huff 1995:7). Although Governor Robert Johnson instituted a plan in 1730 to encourage settlement in the backcountry as a protective buffer for Lowcountry plantations. None of the original townships established by Governor Johnson's plan was located near the Cherokee and colony boundary line, although Boonesborough was established to the southeast in 1762 as a township for Irish immigrants.

During the mid-eighteenth century, some Lowcountry South Carolina residents did migrate to the backcountry, lured there by the large unclaimed expanses of land. However, the majority of the earliest white settlers came from more northern areas, including Pennsylvania, Virginia, and North Carolina. By the 1760s and 1770s, some of these colonists had begun to push their settlements past the boundary of the Cherokee lands (Revels and Sherrer 2002).

Land claims in these areas during the 1700s tended to be small, encompassing much less area than the massive Lowcountry plantations, although some early grants to Indian traders were extensive. One of the earliest settlers in the area was Elijah Clarke. Clarke was followed by the Bobo, Rhodes, and Wofford families, who immigrated from Virginia and claimed land on the Enoree River and Two Mile Creek during the 1760s, along with the Anderson, Bomer, Moore, and Montgomery families, who established settlements near present day Duncan during the 1770s (Landrum 1900).

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## 3.2.2 Eighteenth Century Conflicts

The second half of the eighteenth century was a period of unrest in the South Carolina backcountry, including the Spartanburg County area. The beginnings of the instability occurred during the 1750s, as the Cherokee became frustrated by the unfulfilled promises of the British colonies and began attacking settlements along the Carolina frontiers. The attacks increased and grew continually worse, eventually inaugurating the French and Indian War, which is generally recognized as lasting from 1754 to 1763 (Edgar 1998:205–206). During this period, settlers in the backcountry established small forts for protection, which were essentially stockades where families in the area could go in times of imminent danger. In the vicinity of the project area, a handful of these forts appeared, although the locations of most of them are unknown. A description of Fort Prince in Spartanburg County gives an idea of their construction details. John Prince's fort was "circular and about 150 feet in diameter—with upright timbers 12 to 15 feet high. Around the perimeter was a ditch...beyond the ditch was an abatis of heavy timbers. In the stockade itself were portholes for the use of the riflemen inside" (Huff 1995:19).

The most brutal of the attacks in the South Carolina backcountry came in early 1760. In February, a wagon train of refugees was massacred at Long Cane Creek, along the western edge of the colony. The French and Indian War ended in 1763 with the Treaty of Paris, but by 1761 the Cherokee had already been vanquished and had signed a treaty, essentially ending the Indian attacks on inland South Carolina settlements (Edgar 1998:206-207). From 1761 to 1776, through discussions and treaties, the Boundary Line between Indian lands and colonial territory was established (Weir 1997:275).

The end of the Cherokee threat did not restore order to the backcountry, however. With a growing population, backcountry residents felt that the Charleston government was neglecting their needs. Settlers who had sought shelter within the forts during the Cherokee conflict had been victims of greed and extortion from the private fort owners. At the same time, the militiamen who were supposed to be protecting their property were raiding and squatting at the abandoned homesteads (Edgar 1998:206).

The treaty with the Cherokee and the subsequent end to the Indian threat did little to alleviate the situation. During the mid-1760s, gangs of bandits swept through the nearby Congaree and Saluda river basins, "burning and looting, torturing victims presumed to have items of value, raping wives and daughters, making off with horses, furniture and household goods" and generally terrorizing residents of established settlements (Edgar 1998:212). A lack of response from the colonial government in Charleston compelled the victims to band together and pursue vigilante justice in an attempt to protect themselves. This group of backcountry landowners became known as the Regulators, a movement which "united frontiersmen in an effort to make their region safe for planting and property [as] they struggled to establish a particular type of order consistent with the needs of hardworking farmers and rising slave owners" (Klein 1981:668). The issues of the 1760s were not limited to the conflict between gang members and the vigilante Regulators. The colonial government resented both the Regulators' tactics and their demands for backcountry equality. As a result, Regulators were arrested and tried for their actions just as often as bandits were. Ultimately, order was reestablished in the backcountry and the Regulator movement diminished in its power and influence. The Charleston government had agreed to establish circuit courts to meet the legal needs of backcountry residents; this led to the establishment of Ninety-Six District in the northwestern section of the colony. Although these courts did not begin operation until 1772, tensions between the two regions of South Carolina were lessened for the moment (Edgar 1998:215-216; Huff 1995:20).

This short period of peace would soon be ended by a more broad-reaching conflict, the third period of unrest to affect the backcountry in a quarter of a century. The residents of the Lowcountry, along with the citizens of other

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colonies, were becoming increasingly dissatisfied with the policies of the British. After Bostonians led a well-known protest against the Tea Act in 1773, the British government implemented harsh regulations as punishment. Seeing the situation in Boston reminded Charleston residents of their own recent struggles with the British-led colonial government—the Laurens-Leigh Controversy of 1767–1768 and the 1769 Wilkes Fund Controversy. Knowing that their own port could be easily closed by the British, Charlestonians generally supported Boston and the resolutions of the First Continental Congress (Edgar 1998:217–220).

Although the Lowcountry lent its support to the original tenants of the American Revolution, most backcountry settlers did not, highlighting the differences and tensions that still separated the two regions. Many backcountry settlers felt more slighted by the colonial government in Charleston than by the British. In Ninety-Six District there was a large concentration of settlers with Loyalist feelings; many of these settlers were immigrants who had come to the colony seeking some measure of freedom. Often, these residents had acquired their lands through grants from the king and they felt a certain amount of loyalty and indebtedness to the monarchy. In 1775, William Henry Drayton negotiated with the citizens of inland South Carolina and a compromise was reached, which allowed the backcountry residents to remain neutral in the conflict in return for the provincial government basically leaving them alone. Drayton also courted Cherokee support for the Revolutionary cause during this period, arranging meetings with Indian leaders through Richard Pearis. Later, Pearis would join the Loyalist cause, along with the militia commander of the Upper Saluda Region, Colonel Thomas Fletchell. A separate force of partier militiamen was then organized in the northwest part of the colony by Captain John Thomas (Weir 1997; Gordon 2003). The Spartanburg area, however, was generally supportive of the Patriot cause, with the Spartan Regiment formed to support the revolutionaries in 1775 (Landrum 1900).

While many backcountry residents remained loyal to the crown, but practiced neutrality, for the beginning years of the Revolution, Ninety-Six District had a more experience with the conflict in late 1775. In an effort to subdue the district's Loyalist supporters, patriot leaders sent Colonel Richard Richardson to capture the forces of Patrick Cunningham and the Cherokee-bound ammunition that he had intercepted. At the Battle of the Great Canebreak, near Simpsonville, the patriots recaptured the ammunition and took 130 prisoners. On December 23, 1775, Loyalists signed an agreement stating that if they took up arms against the patriots again, they would forfeit their estates (Weir 1997; Gordon 2003).

In 1776, fighting came again to the northwestern corner of South Carolina, as Indian attacks began anew along the frontier. To defend their homes, frontiersmen under the command of Andrew Williamson began a campaign against the Cherokee and those who supported them, including Richard Pearis. By August 22, 1776, Williamson's force had burned all of the Cherokee Lower Towns. In May 1777, the Cherokee signed the Treaty of DeWitt's Corner, formally transferring all land in South Carolina, except a small tract in Oconee and Pickens counties, to the state (Gordon 2003).

In May 1780, the capture of Charleston and the subsequent British conquest of inland South Carolina, along with the atrocities that accompanied the nearby fighting, stirred the anti-British sentiments of settlers in this area. Aiding the patriot cause, these residents were soon able to assist the South Carolina troops in ousting the British from Ninety-Six District in the spring of 1781 (Edgar 1998). The Spartanburg County area saw a number of skirmishes between 1780 and 1782, including Moore's Plantation, near the Tyger River, in November 1781, and Farrows Station, near Cross Anchor in April 1782, with the most notable battle being at Cowpens, near the Pacolet River, which was within the boundaries of Spartanburg County until the 1897 formation of Cherokee County (Landrum 1900; Gordon 2003). The Battle at Cowpens is significant in that it was one of the first major victories for

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the patriots against the British in the southern theater of the Revolutionary War and became a turning point for the Patriot cause in the South. An American force under the command of Brigadier General Daniel Morgan met British regulars under Lieutenant Colonel Banastre Tarleton near modern day Cowpens, South Carolina on 17 January 1781 (Edgar 1998). The patriots retreated behind the main lines and when the British gave chase the patriots ambushed them through the use of double envelopment, the result was nearly one-thousand British regulars were either captured or killed (Edgar 1998).

The ultimate result of the decades of conflict and unrest in the backcountry was the creation of a new political order. Spartanburg County was created in 1785, from a portion of Ninety-Six District, and named after the Spartan regiment that was organized by area residents during the Revolution (Long 1997). The development of new counties in the backcountry signaled a shift in South Carolina's social and political order, as power and influence became more concentrated in inland areas. The county seat of Spartanburg County, which was also named Spartanburg, was established near the center of the county (Landrum 1900).

When the first census was conducted in 1790, South Carolina had just under 250,000 inhabitants, with 56.3 percent free whites, 0.7 percent other free persons, and 43 percent slaves. During the same census, Spartanburg County had a total population of 8,800 persons, made up of 7,907 free whites, 27 free persons of color, and 866 slaves. This region comprised only 3.5 percent of the total state population and had a significantly higher free population percentage (89.9%) than the state average (Social Explorer 2023).

## 3.2.3 Nineteenth Century

At the beginning of the nineteenth century, the region encompassing the project area was primarily agricultural. Before 1800, subsistence farmers dominated the area's agriculture. Although tobacco was also grown by upcountry farmers, poor soils resulted in low yields and the crop was never as successful in South Carolina as it was in more northern areas such as Virginia (Edgar 1998:270).

Eli Whitney's cotton gin, patented in 1794, would significantly alter the agricultural character of much of the South Carolina backcountry. With locally made gins becoming available in the early 1800s, short-staple cotton became the primary crop in most of the upcountry. In many areas of the state, the enormous profits available from cotton growing and processing during the early nineteenth century influenced a large number of upcountry farmers to engage in this activity. These profits allowed cotton farmers to purchase more land and slaves, creating a plantation-based economy in many Piedmont counties (Edgar 1998:271). Spartanburg County followed the trend of many Piedmont counties during the mid-nineteenth century, with cotton as the dominant agricultural product, which subsequently increased slave population in upcountry counties, and in the state as a whole (Edgar 1998).

During the early nineteenth century the population of South Carolina grew, with an increase of almost 100,000 people between 1790 and 1800. By 1820, the state population had grown to just over 490,000 people, with approximately 47 percent white, 51 percent slaves, and the remaining two percent free blacks. Spartanburg District also grew during this period, with the population increasing from 12,122 in 1800 to 16,989 in 1820; the demographic makeup of the county, however, was different from the state as a whole, with only 19.5 percent of the population made up of slaves (Social Explorer 2023).

The nineteenth century was a period of railroad construction in some parts of South Carolina, and Spartanburg County did benefit from this development. The Spartanburg-Union Railroad was organized in 1849, although construction did not begin until 1853; the five-foot gauge rail line had 32 miles of track and was completed from

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Alston to Spartanburg, with a connection to the Greenville and Columbia Railroad at Alston, by 1859. The Spartanburg-Union Railroad, which began to bring commercial and transportation benefits to the area, would fall victim to the Civil War during the following decade, during which its tracks would sustain significant damage (Landrum 1900). Although Spartanburg itself saw an increase in population from the railroad, the surrounding areas did not experience such growth until after the Civil War (Irby 1974; Landrum 1900).

As the antebellum period moved forward, the population of South Carolina grew at a slow, but steady rate. Between 1830 and 1860, the total population grew approximately 21 percent, from 581,185 to 703,708. By 1830, slavery had already been firmly entrenched in the state for many decades and the percentage of slave population remained static, increasing only 2.9 percent, from 54.3 to 57.2 percent of the total state population over the three decades. During this same period, Spartanburg County experienced some growth, increasing from a total population of 21,150 in 1830 to 26,919 in 1860. Although the total population grew during these three decades, the percentage of slave population in the county increased only slightly during this period, from 23.3 percent to 30.6 percent, remaining significantly lower than the state average (Social Explorer 2023).

Although Spartanburg County's agriculture was focused on cotton during the mid-nineteenth century, production of other crops continued. Spartanburg was the thirteenth ranked cotton producing county in the state, with 1.6 million pounds harvested in 1840. During the same year, it ranked fourth in orchard products, fifth in the amount of Indian corn, sixth in wheat, and eighth in oats. Additionally, livestock was an important aspect of Spartanburg County agriculture. It ranked third among South Carolina counties in the number of horses raised in the county, seventh in the number of sheep, tenth in cattle, thirteenth in the number of poultry, and fifteenth in the number of swine. At the same time, small scale manufacturing enterprises were also part of the economy of Spartanburg County, which ranked second in the state in the amount of capital invested in manufactures, behind Charleston County. There were four cotton mills that had a total of over 2,200 spindles and employed 95 men, along with eight tanneries with 16 employees, as well as 37 distilleries producing over 6,600 gallons of spirits and 12 men employed in carriage and wagon manufacturing. There were 99 milling enterprises, including flour, grist, and saw mills, employing 70 men (Social Explorer 2023).

In 1850, South Carolina had about 25.1 percent of its farmland improved, but Spartanburg County was higher than the state average with 37 percent of its farmland improved. Although cotton remained an important crop grown in the county, and the production increased in 1850 from a decade earlier, the yields slipped compared to other counties; Spartanburg County produced 6,671 bales of ginned cotton (2,668,400 pounds), which ranked it only nineteenth among South Carolina counties. The county continued to rank in the top ten in wheat, Indian corn, oats, tobacco, and wool. Raising farm animals was still a major part of the agricultural landscape in Spartanburg County, which ranked seventh overall in the value of livestock, with the second highest number of horses and the fifth highest number of sheep and swine among the counties. Overall, in 1850, the county ranked seventh in the state in the value of its farms, at \$2.66 million (Social Explorer 2023).

By 1860, the acreage of improved farmland in Spartanburg County had decreased, to over 26.6 percent, lower than the 28.2 percent statewide average. Cotton production decreased slightly in the previous decade, to 6,279 bales, dropping Spartanburg County's ranking in cotton production to twenty-second, out of thirty counties, in the state. Although the output of wheat, corn, other grains, and tobacco remained steady, the value of livestock had dropped to twelfth in the state but the overall cash value of farms, which had increased to \$4.39 million, had risen to the fifteenth highest in South Carolina. At the same time, some manufacturing enterprises had been

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established within the county; Spartanburg County's 75 manufacturing establishments ranked it fifth in South Carolina (Social Explorer 2023).

## 3.2.4 Civil War and Reconstruction

By 1860, the South Carolina upcountry had developed a dual society, with plantation owners living alongside yeomen and subsistence farmers. Spartanburg County consisted of only a small proportion of plantation owners, but there were many other residents who sided with the Confederacy in the defense of slavery. As the questions of slavery, nullification, and secession loomed over antebellum South Carolina during the 1850s, the support of yeomen farmers in the upcountry was also important in the ultimate course that the state would take. Ford (1988) argues that these upcountry yeomen held a firm belief in their own independence and liberty, stemming from an inclusive political structure, widespread ownership of land, and a social system that encouraged white unity by holding black slaves as the lowest caste. Yeomen could view themselves as independent and important because they were not slaves. Maintaining slavery was, therefore, an important part of affirming their independence and self-professed inherent superiority to blacks (Ford 1988:370–373). Therefore, when local governments held meetings to discuss secession in late 1860, the majority of upcountry residents favored seceding from the Union. On December 17, 1860, a statewide convention was held in Columbia and delegates from districts throughout South Carolina met and voted unanimously in favor of secession. Before the Ordinance of Secession could be drafted, a smallpox scare necessitated a change of venue, and the convention was moved to Charleston. There, on December 20, 1860, the Ordinance was presented and signed, officially declaring South Carolina as independent from the United States (Edgar 1998:360).

During most of the war, the project area was affected only indirectly as the military did not come to the region until 1865. Early in 1861, when excitement for the war was high and Southerners were rallying to the Confederate cause, many men volunteered for the army and traveled from the area to help defend Charleston, with men from the county mustering at various posts throughout the area and at least 24 Confederate companies were organized in the area, comprised of 3,000 to 4,000 area men who joined the cause. These same men, and many others of fighting age, went into battle in skirmishes throughout the South, leaving many farms to be run by wives, children, slaves, and old men. Women in the counties organized relief and aid societies, raising money and performing whatever services they could to help the war effort and the soldiers. The farms that continued to produce crops aided the war effort by supplying food to supplement shortages throughout the state and in the armies. Initially voluntary, this effort became compulsory after an 1863 state mandate required farmers to limit the amount of cotton planted and donate one-tenth of their crop yields to state government (Landrum 1900).

As the tide of the Civil War changed, and the Confederate army went on the defensive in an attempt to protect its major cities, the fighting came closer to home for residents in the project vicinity in the last weeks of the war. Although General William T. Sherman's Union army advanced through the state, looting and destroying property in a 30-mile swath along its route, including raiding and firing Columbia, it did not come near to the project area. In April and May 1865, however, the Union army rode through upstate South Carolina searching for Jefferson Davis, who was rumored to be fleeing south from Richmond through the area. The presence of the army was minimal and only lasted a day, but the most lasting legacy of the war was destruction of the slavery-based plantation system and the concomitant development of a new economic order (Edgar 1998:373).

With the collapse of the Confederacy, a struggle began between Congress and the President on how to handle the restoration of the southern states into the Union. Although the more radical policies of Congress were adopted, from 1865 to 1867 the southern states attempted to reorganize themselves under President Andrew

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Johnson's program. These efforts were repeatedly thwarted by Congressional policies, such as the December 1865 refusal to seat southern congressional delegates, the Fourteenth Amendment ratification, and the March 1867 Reconstruction Acts.

After the end of the Civil War, Spartanburg County retained many of the same characteristics it had during the antebellum period. After a slight decrease between 1860 and 1870, as many former slaves left in search of lost family members or better opportunities, the population of Spartanburg County grew significantly during the second half of the nineteenth century, from 26,919 in 1860 to 55,385 in 1890. The racial composition of the county also remained static, retaining the white majority that existed before the Civil War, with 66.5 percent of the county's residents being white in 1890 (Social Explorer 2023).

Despite the end of slavery, agriculture continued to dominate much of the region, although crop production fell during the early Reconstruction era. Cotton remained a primary crop in many areas, with farmers often planting it in lieu of food crops in an attempt to make a quick profit and pay the debts they had incurred. The market would soon become saturated with cotton, however, causing the prices to fall steadily during the 1880s, pushing the farmers further into debt (Edgar 1998:427–428). In areas where the landholdings had been large, these plantations were often broken up into smaller units. Most owners could no longer afford such large holdings, since they could not make them profitable without slave labor. This trend began to affect Spartanburg County shortly after the war and the number of farms in the county more than doubled between 1860 and 1870, from 1,599 to 3,813; as the nineteenth century progressed, farms were split into increasingly smaller units for rental and by 1890 the county had 5,584 farms, more than three times the 1860 number (Social Explorer 2023).

During the late nineteenth century, tenancy and sharecropping developed across South Carolina, as landless farmers, both black and white, sought arrangements that would allow them to continue farming to support their families. The newly freed slaves were forced into these arrangements because they had no land, little money, and few other options. As the 1800s drew to a close, many white farmers succumbed to large debts and also became tenants for large landholders. Two categories of tenancy developed, cash tenants and share tenants. Cash tenants provided their own tools and seed, gaining ownership of the crop they produced while paying rent on their house and land to the landlord. Sharecroppers could not afford their own tools or seeds; the landlords supplied these items and subtracted their value from the farmer's share of the crop. Both systems resulted in many small farmers living meager existences (Orser 1988:57).

At the close of the nineteenth century, only 33.8 percent of South Carolina's farms were operated by their owners. Comparatively, 36.6 percent were operated by cash tenants, 24.3 percent by share tenants, and 3.3 percent were operated under other arrangements, including by managers or by a combination of tenancy methods. Six out of 10 farmers in the state were either tenants or sharecroppers (Edgar 1998:450–451). The farmers in Spartanburg County, however, had a slightly different situation than the state as a whole. In 1880, 49.3 percent of Spartanburg County farms were worked by their owners, whereas 4.5 percent were farmed by cash tenants and 46.2 percent were farmed by sharecroppers (Social Explorer 2023). Ten years later, the numbers had shifted slightly, with 41.4 percent of farmers in the county owning their farms, while 55.2 percent of farms were worked by sharecroppers and 3.4 percent were farmed by cash tenants (Social Explorer 2023).

At the turn of the century, in both the state and the county, black farmers were more likely to be tenants than whites, with 53.1 percent of white farms operated by their owners and only 18.2 percent of black farms being owner operated. In Spartanburg County, white farms were owner-farmed 42.2 percent of the time, while only 7.8

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percent of black farmers owned their farmland. For farmers of both races in the county, share tenancy was more prevalent than cash tenancy. Among white farmers, 46.8 percent were sharecroppers, 7.4 percent were cash tenants, and 3 percent farmed under other arrangements. Comparatively, 82.7 percent of black farmers were sharecroppers, 7.8 percent were cash tenants, and 1.7 percent farmed under other arrangements (Social Explorer 2023).

## 3.2.5 Twentieth Century

Although cotton production still dominated the South Carolina Piedmont region, industrial development had begun to develop in the late nineteenth century. Following a pattern that was occurring throughout the South, investors began financing and building mills to bring textile production closer to the source of raw cotton. They also reinvested in railroads, in an attempt to link more rural farming areas directly to mill towns and to northern markets (Kovacik and Winberry 1987:114–115). The Union and Spartanburg Railroad was acquired by the Greenville and Columbia Railroad in 1870 and the tracks were repaired, allowing for the continued transportation of passengers and goods to and from the county. Additional railroad lines followed during the late nineteenth and early twentieth centuries, including the Spartanburg and Asheville Railroad, the Greenwood, Laurens, and Spartanburg Railroad, the Charleston and Western Carolina Railway, a line from Marion to Spartanburg on the Carolina, Clinchfield, and Ohio Railroad, the Greenville, Spartanburg, and Anderson Railroad, and the Piedmont and Northern Railway, which provided an impetus for the twentieth century changes to Spartanburg County (Leonard 1986; Writer's Program of the Works Projects Administration of South Carolina 1940).

By the 1880s, the textile industry had begun transforming the economy and settlement patterns of Spartanburg County. The Clifton Manufacturing Company was one of the earliest large textile mills in the county, organized in January 1880 and located just northeast of the city of Spartanburg; by the turn of the twentieth century the Clifton operation had expanded to three mills. Other manufacturing enterprises soon followed, including the Pacolet Mills in 1882, Spartan Mills in 1888, and Inman Mills in 1902. By the 1920s, there was more than 35 million dollars invested in cotton mill enterprises within the county, which totaled 25,000 looms and 950,000 spindles (South Carolina Department of Agriculture, Commerce, and Industries 1927). By the mid-twentieth century, many of the mills were under the controlling interest of the Millikin family, who dominated the textile business in the South Carolina upstate. The network of textile mills in the Piedmont Region were offering a large number of jobs, which influenced many people to move into the nearby towns, including Spartanburg.

Spartanburg County was no different from many Southern communities during the first half of the twentieth century. While the total population of the county increased significantly between 1910 to 1940, from 83,465 to 127,733, the non-white population of the county only increased by around 4,000 residents, as many African Americans left the rural south for larger cities in the Northeast and Midwest, searching for steady work and better pay. At the same time, the county's demographics were quickly shifting from rural/farm based to urban based. The population living in urban areas (having 2,500 residents or more) was 11,395 in 1900, but had grown to over 17,500 by 1910 and accounted for only 21 percent of the county's residents; by 1940 it had more than doubled since 1910, to over 36,348 residents (28.5 percent). A large number of the mill villages that were located outside of the city of Spartanburg, however, were not large enough on their own to be considered urban and were not considered, although their residents lived in a more urban setting than rural residents (Kovacik and Winberry 1987; Social Explorer 2019).

World Wars I and II provided a jumpstart to the textile industry, but agriculture continued as a supplement to the textile industry, with cotton and corn cultivation, as well as dairy products, being the most popular farm products.

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At the same time, Spartanburg County's population growth leveled out, increasing to 150,349 by 1950, but and only adding around 6,500 residents during the following decade (Social Explorer 2023). Additionally, in 1941 Camp Croft was organized as a Replacement Training Center for army infantry personnel, as the country mobilized large numbers of troops for participation in World War II. Camp Croft only operated between 1941 and 1946, but had the capacity to house almost 20,000 trainees; during the five-year period that it was active, the center trained almost 75,000 troops per year. Following the war, the large-scale training operations at Camp Croft were no longer necessary and the United States Government sold the land as surplus property, with over 7,000 acres being purchased by the South Carolina Commission of Forestry for the creation of Croft State Park (Davis and Walker 2004).

In the late twentieth and early twenty-first centuries, the construction of Interstates 26 and 85 through Spartanburg County began; the Interstate system eventually linked many cities throughout the southeast, including Charleston and Greenville, and led to significant economic development along its corridor. However, the closing of the many of the textile mills during the closing decades of the 1900s led to a decline in the economic condition of the county during the last part of the twentieth century.

## 3.3 Previously Recorded Cultural Resources

In May 2023, a background literature review and records search were conducted at the South Carolina Institute of Archaeology and Anthropology (SCIAA) in Columbia. The area examined was a 0.5-mile radius around the project area (Figure 3.1). The records examined at SCIAA include a review of ArchSite, a GIS-based program containing information about archaeological and historic resources in South Carolina. If cultural resources were noted within the 0.5-mile search radius, then additional reports and site forms contained at SCIAA, and the South Carolina Department of Archives and History (SCDAH) were consulted.

A review of ArchSite indicated there are no archaeological sites or historic resources and two previously completed cultural resource surveys within a 0.5-mile radius of the project area (Figure 3.1; Table 3.1). Neither of the previously completed cultural resource surveys cover a portion of the current project area.

As part of the background research, Henry Mouzon's (1775) map of North and South Carolina, Mills Atlas map (1820), a 1921 USDA soil survey map of Spartanburg County, South Carolina Department of Transportation (SCDOT) maps of Spartanburg from 1940, 1951, and 1964, and United States Geological Survey (USGS) topographic maps from 1935, 1957, and 1983 were examined. Mouzon's map indicates that the project area was located within Camden District and shows no landowners near the project area, which was near the Cherokee Boundary (Figure 3.2). Mills Atlas of Spartanburg District shows that the project area was uninhabited, Buncome Road is in the vicinity of the project area (Figure 3.3).

The 1921 USDA soils map of Spartanburg County shows roads to the north and west of the project area with structures but no structures are depicted within the project area; Greer had been established to the north of the project area (Figure 3.4). The 1935 *Greer* USGS 7.5-minute topographic map shows no structures within or adjacent to the project area; an unpaved road is located south of the project area (Figure 3.5). The 1940 and 1951 SCDOT maps continue to depict structures surrounding the project area, but none within the project boundary (Figure 3.6 and 3.7). The 1957 *Greer* USGS 7.5-minute topographic map continues to show no structures within the project area and the road to the south has been paved (Figure 3.8). The 1964 SCDOT map shows that GSP had been built and surrounds the project area (Figure 3.9). The 1983 *Greer* USGS 7.5-minute topographic map shows that GSP had been constructed along the northwestern border of the project area (Figure 3.10).



Figure 3.1. ArchSite map showing 0.5-mile search radius around project area.

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Figure 3.2. Portion of Mouzon's map (1775), showing vicinity of project area.



Figure 3.3. Portion of Mills' Atlas map of Spartanburg District (1820), showing vicinity of project area.

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Figure 3.4. Portion of USDA soil survey map of Spartanburg County (1921), showing the vicinity of the project area.



Figure 3.5. Portion of 1935 Greer 7.5-minute USGS topographic map, showing project area.

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Figure 3.6. Portion of 1940 SCDOT map of Spartanburg County, indicating the vicinity of the project area.
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Figure 3.7. Portion of 1951 SCDOT map of Spartanburg County, indicating the vicinity of the project area.

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Figure 3.8. Portion of 1957 *Greer* 7.5-minute USGS topographic map, showing project area.



Figure 3.9. Portion of 1964 SCDOT map of Spartanburg County, indicating the vicinity of the project area.

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Figure 3.10. Portion of 1983 *Greer* 7.5-minute USGS topographic map, showing project area.

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## 3.4 **Potential for Archaeological Resources**

Various predictive models assist researchers in identifying areas having a high potential for containing archaeological sites (e.g., Benson 2006; Brooks and Scurry 1978; Cable 1996; Scurry 2003). In general, the most significant variables for determining site location are distance to a permanent water source, proximity to a wetland or other ecotone, slope, and soil drainage. Prehistoric sites tend to occur on level areas such as ridge tops or knolls, with well drained soils that are near a permanent water source or wetland. Historic home sites tend to be located on well drained soils near historic roadways.

The South Carolina Standards and Guidelines for Archaeological Investigations outlines three site occurrence probability categories. The categories listed in South Carolina Standards and Guidelines for Archaeological Investigations (2013) are:

- A. Indeterminate Probability. Areas that are permanently or seasonally inundated; tidal areas; and active floodplains (or other active depositional environments) where deposits are so deep that finding sites using conventional methods is unlikely.
- **B.** Low Probability. Areas with slopes greater than 15 percent; areas of poorly drained soil (as determined by subsurface inspection); and areas that have been previously disturbed to such a degree that archaeological materials, if present, are no longer in context. Documentation of disturbance can include recent aerial photographs, ground views, or maps showing the disturbance (e.g., recent construction).
- **C.** High Probability. Areas that do not meet any of the foregoing criteria are considered to possess high probability.

Based on the probability model presented above the project area contains 3.6 acres (72.1 percent) of high probability area for containing archaeological sites due to the presence of well drained soils, the landforms within the project area, and distance to a permanent water source; the remaining approximately 1.4 acres (27.9 percent) is considered low probability due to disturbed urban land and udorthents soils (Figure 3.11).



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# 4.0 Methods

## 4.1 Archaeological Field Methods

An archaeological survey of the project area was conducted on May 18, 2023, in areas of high and low probability for containing archaeological sites based on landform type, soil drainage, distance to water, and the results of the background research. Pedestrian survey was undertaken along dirt roads and other areas with good ground surface exposure.

Shovel tests were at least 30 x 30 cm and excavated to sterile subsoil or 80 cm below surface (cmbs), whichever was encountered first. Soil from the shovel tests was screened though 1/4-inch wire mesh and soil colors were determined through comparison with Munsell Soil Color Charts.

No archaeological sites or isolated finds were identified so radial shovel testing and sites forms were not completed.

## 4.2 Laboratory Methods

No artifacts were identified during the survey, so no lab work was completed.

The field notes, maps, photographs, and other technical materials generated as a result of this project will be curated at the S&ME office in Columbia, South Carolina.

## 4.3 Architectural Field Methods

In addition to the archaeological survey, an architectural survey was conducted to determine whether the proposed project would affect aboveground historic properties. Accessible public roads within the indirect APE were driven, and if previously unrecorded structures 50 years old or older existed, that were within view of or within the project area, they were photographed and evaluated for the NRHP. No resources were identified so no resource forms were completed.

## 4.4 National Register Eligibility Assessment

For a property to be considered eligible for the NRHP it must retain integrity of location, design, setting, materials, workmanship, feeling, and association (National Register Bulletin 15:2). In addition, properties must meet one or more of the criteria below:

- A. are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. are associated with the lives of persons significant in our past; or
- C. embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- **D.** have yielded or may be likely to yield information important in history or prehistory.

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The most frequently used criterion for assessing the significance of an archaeological site is Criterion D, although other criteria were considered where appropriate. For an archaeological site to be considered significant, it must have potential to add to the understanding of the area's history or prehistory. A commonly used standard to determine a site's research potential is based on a number of physical characteristics including variety, quantity, integrity, clarity, and environmental context (Glassow 1977). All of these factors were considered in assessing a site's potential for inclusion in the NRHP.

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# 5.0 Results

A cultural resources reconnaissance survey for the approximately five-acre project area was conducted May 18, 2023. Vegetation within the project area consists of wooded areas and secondary growth (Figures 5.1 to 5.3); disturbances consist of a powerline corridor, buried utilities, a sewer corridor, a paved road (GSP Drive) along the northwestern border of the project area, and a dirt road (Figures 5.4 through 5.8); a creek runs through the central portion of the project area (Figure 5.9); sections within the project area contain slope greater than 15 percent and rock outcrops (Figures 5.10 and 5.11).

As a result of the investigations, no archaeological sites and no aboveground structures were identified.

## 5.1 Archaeological Survey Results

A total of five shovel tests were excavated within the project area (Figure 5.12). Two soil profiles were encountered: the first typical soil profile consisted of roughly 60 cm of gray (5YR 5/1) sandy loam and terminated with 10+ cm (60–70+ cmbs) of red (2.5YR 5/6) sandy clay subsoil (Figure 5.13); the second typical soil profile consisted of roughly 10 cm of reddish brown (2.5YR 5/3) sandy loam and ended with 10+ cm (10–20+ cmbs) of light red (10R 6/8) sandy clay subsoil (Figure 5.14). No archaeological sites were identified during the survey.

## 5.2 Architectural Survey Results

An architectural survey was conducted to determine whether the proposed project would affect aboveground historic properties. Accessible public roads within the indirect APE were driven and resources greater than 50 years old were photographed. There were no previously recorded aboveground resources located within the indirect APE for the project area and no new aboveground resources were identified during the current survey.



Figure 5.1. Typical wooded areas within the project area, facing southeast.



Figure 5.2. Flagged wetland within the project area, facing southeast.



Figure 5.3. Typical secondary growth within the project area, facing southwest.



Figure 5.4. Powerline corridor within the project area, facing south.



Figure 5.5. Typical buried utilities within the project area, facing northeast.



Figure 5.6. Sewer corridor within the project area, facing southeast.



Figure 5.7. GSP Drive along the northwestern border of the project area, facing northeast.



Figure 5.8. A dirt road within the project area, facing northeast.



Figure 5.9. Creek within the project area, facing southeast.



Figure 5.10. Typical steep slope within the project area, facing northwest.



Figure 5.11. Typical rock outcrop within the project area, facing southwest.





Figure 5.13. First typical soil profile within the project area.



Figure 5.14. Second typical soil profile within the project area.

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## 6.0 Conclusions and Recommendations

On behalf of the FAA, S&ME has completed a cultural resources reconnaissance survey of the approximately fiveacre project area associated with the GSP Traffic Control Tower Site H project in Spartanburg County, South Carolina (Figures 1.1 and 1.2). The project area is located southeast of GSP Drive and roughly 2.7 miles south of the city center of Greer.

The purpose of the current survey was to assess the project area's potential for containing significant cultural resources and to make recommendations regarding additional work that may be required under Section 106 of the National Historic Preservation Act, as amended, and other pertinent federal, state, or local laws. In a letter dated January 21, 2021, the SHPO requested a phased investigation of the project area's potential to contain historic properties, beginning with archival research on the history of the project area and a reconnaissance level survey. If the archival research and reconnaissance survey indicate a high probability for historic properties to exist within the project area, an intensive survey would be recommended (Appendix A). This work was carried out in general accordance with S&ME Proposal Number 23600247D, dated April 10, 2023.

Fieldwork for the project was conducted on May 18, 2023. This work included the excavation of five shovel tests and the photo documentation of the project area. The APE for direct effects is limited to the project footprint, while the APE for indirect effects includes resources that are within or visible from the project area. As a result of the investigations, no archaeological sites or above ground resources were identified during the survey (Figures 1.1 and 1.2).

Despite approximately 72.1 percent (3.6 acers) of the project area being recommended as being high probability based on the probability model presented in Chapter 3, Section 3.4, the survey results revealed a lack of intact soil deposits, a lack of cultural material, and disturbances within the project area. It is the opinion of S&ME that the project area has a low potential for containing significant cultural resources and no additional cultural resource work is recommended.

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**Cultural Resources Reconnaissance Survey GSP Traffic Control Tower Site H** Spartanburg County, South Carolina S&ME Project No. 23600247D; SHPO Project No. 20-JS0534

# 8.0 Appendix A – SHPO Correspondence



January 21, 2021

Nicole Miller Assistant Staff Project Manager ECS Southeast, LLP <u>nmrivera@ecslimited.com</u>

> Re: Proposed GSP Airport Air Traffic Control Tower Location, Sites H and 12, 2000 GSP Drive Greer, Spartanburg County, South Carolina SHPO Project No. 20-JS0534

Dear Nicole Miller:

Our Office has received the documentation dated December 10, 2020 that you submitted as due diligence for the project referenced above, including your letters, Section 106 Project Review Forms, maps, and photographs. This letter is for preliminary, informational purposes only and does not constitute consultation or agency coordination with our Office as defined in 36 CFR 800: "Protection of Historic Properties" or by any state regulatory process. The recommendation stated below could change once the responsible federal and/or state agency initiates consultation with our Office.

Our office knows of no documented historic properties that are eligible for listing or listed in the National Register of Historic Places in the proposed project areas. The project areas have not been previously surveyed for cultural resources/historic properties.

If the subject referenced project were to require state permits or federal permits, licenses, funds, loans, grants, or assistance for development, we would recommend to the federal or state agency or agencies that:

A phased investigation of the project area's potential to contain historic properties, beginning with archival research on the history of the project area and a reconnaissance-level survey be conducted. We recommend the phased investigations because the project area's proximity to water, known archaeological sites, and to well-drained soils. If these investigations indicate a high probability for historic properties to exist within the project area, we recommend proceeding to an intensive survey. Please consult the SC Standards and Guidelines for Archaeological Investigations for guidance.

The federal or state agency or agencies will take our recommendation(s) into consideration when evaluating the project and will determine what level of identification efforts will be required.

The State Historic Preservation Office will provide comments regarding historic architectural and archaeological resources and effects to them once the federal or state agency initiates consultation. Project

Review Forms and additional guidance regarding our Office's role in the compliance process and historic preservation can be found on our website at: <u>https://scdah.sc.gov/historic-preservation/programs/review-compliance</u>.

Please refer to SHPO Project Number 20-JS0534 in any future correspondence regarding this project. If you have any questions, please contact me at (803) 896-6129or at <u>jsylvest@scdah.sc.gov</u>.

Sincerely,

John D. Sylvest

John D. Sylvest Project Review Coordinator State Historic Preservation Office

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Cultural Resources Reconnaissance Survey GSP Traffic Control Tower Site 12 Spartanburg County, South Carolina S&ME Project No. 23600247A SHPO Project NO. 20-JS0534

#### PREPARED FOR

Federal Aviation Administration 2711 Highway 75 Blountville, Tennessee 37617

#### PREPARED BY:

S&ME, Inc. 134 Suber Road Columbia, SC 29210

May 2023



# Cultural Resources Reconnaissance Survey GSP Traffic Control Tower Site 12 Spartanburg County, South Carolina

Prepared for:

Federal Aviation Administration 2711 Highway 75 Blountville, Tennessee 37617

Prepared by:

S&ME, Inc. 134 Suber Road Columbia, South Carolina 29210

S&ME Project No. 23600247A SHPO Project No. 20-JS0534

Kim Nagle

Kimberly Nagle, M.S., RPA Principal Investigator

Authors: Clayton Moss, B.A. and Heather Carpini, M.A

May 2023

#### **Cultural Resources Reconnaissance Survey GSP Traffic Control Tower Site 12** Spartanburg County, South Carolina S&ME Project No. 23600247A; SHPO Project No. 20-JS0534

# **Management Summary**

On behalf of the Federal Aviation Administration (FAA), S&ME, Inc. (S&ME) has completed a cultural resources reconnaissance survey of the approximately 4.2-acre project area associated with the Greenville Spartanburg International Airport (GSP) Traffic Control Tower Site 12 project in Spartanburg County, South Carolina (Figures 1.1 and 1.2). The project area is located southeast of GSP Drive and roughly 2.7 miles south of the city center of Greer.

The purpose of the current survey was to assess the project area's potential for containing significant cultural resources and to make recommendations regarding additional work that may be required under Section 106 of the National Historic Preservation Act, as amended, and other pertinent federal, state, or local laws. In a letter dated January 21, 2021, the South Carolina State Historic Preservation Office (SHPO) requested a phased investigation of the project area's potential to contain historic properties, beginning with archival research on the history of the project area and a reconnaissance level survey. If the archival research and reconnaissance survey indicate a high probability for historic properties to exist within the project area, an intensive survey would be recommended (Appendix A). This work was carried out in general accordance with S&ME Proposal Number 23600247A, dated April 10, 2023.

Fieldwork for the project was conducted on May 18, 2023. This work included the excavation of five shovel tests and the photo documentation of the project area. The APE for direct effects is limited to the project footprint, while the APE for indirect effects includes resources that are within or visible from the project area. As a result of the investigations, no archaeological sites or above ground resources were identified during the survey (Figures 1.1 and 1.2).

Despite approximately 55.8 percent (2.3 acres) of the project area being recommended as being high probability based on the probability model presented in Chapter 3, Section 3.4, the survey results revealed a lack of intact soil deposits, a lack of cultural material, and disturbances within the project area. It is the opinion of S&ME that the project area has a low potential for containing significant cultural resources and no additional cultural resource work is recommended.

#### **Cultural Resources Reconnaissance Survey GSP Traffic Control Tower Site 12** Spartanburg County, South Carolina S&ME Project No. 23600247A; SHPO Project No. 20-JS0534

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# 1.0 Introduction

On behalf of the FAA, S&ME has completed a cultural resources reconnaissance survey of the approximately 4.2acre project area associated with the GSP Traffic Control Tower Site 12 project in Spartanburg County, South Carolina (Figures 1.1 and 1.2). The project area is located southeast of GSP Drive and roughly 2.7 miles south of the city center of Greer.

S&ME carried out background research and field investigation tasks in May 2023. The fieldwork was conducted by Crew Chiefs Clayton Moss, B.A. and Amber Wellings, B.A., under the supervision of Principal Archaeologist Kimberly Nagle, M.S., RPA, and consisted of excavating shovel tests and photo documenting the project area. Graphics, GIS maps, and photographs were prepared and the report was written by Mr. Moss. The historic context and architectural information was provided by Principal Architectural Historian Heather Carpini, M.A. The report was senior reviewed by Ms. Nagle.





**Cultural Resources Reconnaissance Survey GSP Traffic Control Tower Site 12** Spartanburg County, South Carolina S&ME Project No. 23600247A; SHPO Project No. 20-JS0534

## 2.0 Environmental Setting

## 2.1 Location

The project area is in Spartanburg County roughly 0.6-mile east of the Spartanburg and Greenville county line, and approximately 2.7 miles southeast of the city center of Greer, South Carolina. The project area is located at the GSP, southeast of GSP Drive.

## 2.2 Geology and Topography

The project area is located in the Piedmont physiographic province of South Carolina (Kovacik and Winberry 1989). Topography in the project area ranges from 279 ft above mean sea level (AMSL) in the southern portion of the project area, to 288 ft AMSL, the northwestern portion of the project area (Figure 1.1).

## 2.3 Hydrology

The project area is located within the Santee River drainage basin. The closest permanent water source is Dillard Creek which is roughly 130 meters southeast of the project area (Figures 1.1 and 1.2). Dillard Creek flows south joining the Enoree River roughly four miles south of the project area. The Enoree River flows southeast into the Broad River.

## 2.4 Soils

There are three specific soil types located within the project area (Figure 2.1); their descriptions can be found in Table 2.1 (United States Department of Agriculture [USDA] Web Soil Survey, Accessed May 17, 2023).

Soil Name	Туре	Drainage	Location	Slope	% Project Area
Cecil	Sandy loam	Well drained	Interfluves	2–6%	55.8%
Udorthents	Loamy	Well drained	Interfluves	6–20%	37.5%
Urban Land-Cecil Complex		Well drained	Hillslopes	2–10%	6.8%

### Table 2.1. Specific soil types within the project area.

## 2.5 Climate and Vegetation

The climate of Spartanburg County is characterized by long, hot summers and moderately short, cool winters. The average daily temperatures range from 27° Fahrenheit (F) in winter to 89° F in summer. Precipitation is moderate throughout the year and sustained droughts are uncommon. Rainfall is roughly 49 inches per year, and because of the mild winter snowfall is light, averaging about three inches annually (USDA 1965:1). Vegetation within the project area consists of wooded areas and secondary growth (Figures 2.2 through 2.4); disturbances consist of a powerline corridor, buried utilities, a storm drain, a paved road (GSP Drive) along the northwestern border of the project area, and clear-cutting activities in the northern portion of the project area (Figures 2.5 through 2.9); sections within the project area contain slope greater than 15 percent and rock outcrops (Figures 2.10 and 2.11).


#### **GSP Traffic Control Tower Site 12**



Figure 2.2. Typical wooded area within the project area, facing south.



Figure 2.3. Typical wooded area within the project area, facing northwest.

#### **GSP Traffic Control Tower Site 12**



Figure 2.4. Typical secondary growth within the project area, facing southwest.



Figure 2.5. Powerline corridor within the project area, facing southeast.

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Figure 2.6. Typical buried utilities within the project area, facing southeast.



Figure 2.7. A storm drain within the project area, facing north.

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Figure 2.8. GSP Drive along the northwestern border of the project area, facing northeast.



Figure 2.9. Clear cut area in the northwestern portion of the project area, facing northeast.

#### **GSP Traffic Control Tower Site 12**



Figure 2.10. Typical steep slope within the project area, facing northeast.



Figure 2.11. Typical rock outcrop within the project area.

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# 3.0 Cultural Context

The cultural context of the region is reviewed below for two purposes: first, to outline previous research in the region and the nature of historic and prehistoric resources that might be expected in the project area and second, to provide a comparative framework in which to place resources identified within the project area and APE in order to better understand their potential significance and NRHP eligibility. The cultural context of the project area, for the purposes of the Cultural Resources Survey, includes the prehistoric record and the historic past, which are discussed in this section of the report.

#### 3.1 Prehistoric Context

Over the last three decades there has been much debate over when humans first arrived in the New World. The traditional interpretation is that humans first arrived in North America via the Bering land bridge that connected Alaska to Siberia at the end of the Pleistocene, approximately 13,500 years ago. From Alaska and northern Canada, these migrants may have moved southward through an ice-free corridor separating the Cordilleran and Laurentide ice sheets to eventually settle in North and South America.

Some researchers have suggested that initial colonization of the New World began well before Clovis, with some dates going back more than 35,000 years (Dillehay and Collins 1988; Goodyear 2005). Evidence for pre-Clovis occupations are posited for the Meadowcroft Rock shelter in Pennsylvania, the Cactus Hill and Saltville sites in Virginia, and the Topper site in South Carolina, although this evidence is not widely accepted and has not been validated (Adovasio and Pedler 1996; Dillehay and Collins 1988; Goodyear 2005). A number of sites providing better evidence for a presence in the New World dating between 15,000 and 13,500 years ago have been discovered. Although far from numerous, these sites are scattered across North and South America, including Alaska, Florida, Missouri, Oregon, Tennessee, Texas, Wisconsin, and southern Chile. Despite this, the earliest definitive evidence for occupation in the Southeastern United States is at the end of the Pleistocene, approximately 13,000 years ago (Anderson and O'Steen 1992; Bense 1994).

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

Unfortunately, most information about Paleoindian lifeways in the Southeast comes from surface finds of projectile points rather than from controlled excavations. The limited information we have for the Paleoindian Period suggests the earliest Native Americans had a mixed subsistence strategy based on the hunting (or scavenging) of the megafauna and smaller game combined with the foraging of wild plant foods. Groups are thought to have consisted of small, highly transient bands made up of several nuclear and/or extended families. Paleoindian artifacts have been found in both riverine and inter-riverine contexts (Charles and Michie 1992:193). Paleoindian projectile points appear to be concentrated along major rivers near the Fall Line and in the Coastal Plain, although it is almost certain that many additional sites along the coast have been inundated by the rise of sea level that has occurred since that time (Anderson et al. 1992; Anderson and Sassaman 1996).

Paleoindian tools are typically well-made and manufactured from high-quality, cryptocrystalline rock such as Coastal Plain and Ridge and Valley chert, as well as Piedmont metavolcanics such as rhyolite (Goodyear 1979). Paleoindians traveled long distances to acquire these desirable raw materials, and it is likely that particularly favored quarries were included in seasonal rounds, allowing them to replenish their stock of raw material on an annual basis.

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The most readily recognizable artifact from the early Paleoindian Period is the Clovis point, which is a fluted, lanceolate-shaped spear point. Clovis points, first identified from a site in New Mexico, have been found across the nation, although they tend to be clustered in the eastern United States (Anderson and Sassaman 1996:222). Paleoindian artifact assemblages typically consist of diagnostic lanceolate projectile points, scrapers, gravers, unifacial and bifacial knives, and burins. Projectile point types include fluted and unfluted forms, such as Clovis, Cumberland, Suwanee, Quad, and Dalton (Anderson et al. 1992; Justice 1987:17–43).

In South Carolina, the Clovis sub-period is generally thought to date from 11,500 to 11,000 B.P. (Sassaman et al. 1990:8). Fairly recent radiocarbon data indicate that a more accurate time for the Clovis period in North America may be 11,050 to 10,800 B.P. (Waters and Stafford 2007); however, this has yet to gain widespread acceptance. Suwanee points, which are slightly smaller than Clovis points, date from 11,000 to 10,500 B.P. This is followed by Dalton points, which are found throughout the Southeast from about 10,500 to 9900 B.P.

#### 3.1.2 Archaic Period (ca. 10,000–3000 B.P.)

Major environmental changes at the terminal end of the Pleistocene led to changes in human settlement patterns, subsistence strategies, and technology. As the climate warmed and the megafauna became extinct, population size increased and there was a simultaneous decrease in territory size and settlement range. Much of the Southeast during the early part of this period consisted of a mixed oak-hickory forest. Later, during the Hypsithermal interval, between 8000 and 4000 B.P., southern pine communities became more prevalent in the interriverine uplands and extensive riverine swamps were formed (Anderson et al. 1996a; Delcourt and Delcourt 1985).

The Archaic Period typically has been divided into three subperiods: Early Archaic (10,000–8000 B.P.), Middle Archaic (8000–5000 B.P.), and Late Archaic (5000–3000 B.P.). Each of these subperiods appears to have been lengthy, and the inhabitants of each were successful in adapting contemporary technology to prevailing climatic and environmental conditions of the time. Settlement patterns are presumed to reflect a fairly high degree of mobility, making use of seasonally available resources in the changing environment across different areas of the Southeast. The people relied on large animals and wild plant resources for food. Group size gradually increased during this period, culminating in a fairly complex and populous society in the Late Archaic.

### Early Archaic (10,000-8000 B.P.)

During the Early Archaic, there was a continuation of the semi-nomadic hunting and gathering lifestyle seen during the Paleoindian Period; however, there was a focus on modern game species rather than on the megafauna, which had become extinct by that time. During this time there also appears to have been a gradual, but steady increase in population and a shift in settlement patterns. In the Carolinas and Georgia, various models of Early Archaic social organization and settlement have been proposed (Anderson et al. 1992; Anderson and Hanson 1988). In general, these models hypothesize that Early Archaic societies were organized into small, band-sized communities of 25 to 50 people whose main territory surrounded a portion of a major river (Anderson and Hanson 1988: Figure 2). During the early spring, groups would forage in the lower Coastal Plain and then move inland to temporary camps in the Piedmont and mountains during the summer and early fall. In the late fall and winter, these bands would aggregate into larger, logistically provisioned base camps in the upper Coastal Plain, near the Fall Line. It is believed that group movements would have been circumscribed within major river drainages, and that movement across drainages into other band territories was limited. At a higher level of organization, bands were believed to be organized into larger "macrobands" of 500 to 1,500 people that

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periodically gathered at strategic locations near the Fall Line for communal food harvesting, rituals, and the exchange of mates and information.

Daniel (1998, 2001) has argued that access to high quality lithic material has been an under-appreciated component of Early Archaic settlement strategies. He presents compelling evidence that groups were moving between major drainages just as easily as they were moving along them. In contrast to earlier models, group movements were tethered to stone quarries rather than to specific drainages. Regardless of which model is correct, settlement patterns generally reflect a relatively high degree of mobility, making use of seasonally available resources such as nuts, migratory waterfowl, and white-tailed deer.

Diagnostic markers of the Early Archaic include a variety of side and corner notched projectile point types such as Hardaway, Kirk, Palmer, Taylor, and Big Sandy, and bifurcated point types such as Lecroy, McCorkle, and St. Albans. Other than projectile points, tools of the Early Archaic subperiod include end scrapers, side scrapers, gravers, microliths, and adzes (Sassaman et al. 2002), and likely perishable items such as traps, snares, nets, and basketry. Direct evidence of Early Archaic basketry and woven fiber bags was found at the Icehouse Bottom site in Tennessee (Chapman and Adovasio 1977).

#### Middle Archaic (8,000-5000 B.P.)

The Middle Archaic subperiod coincides with the start of the Altithermal (a.k.a. Hypsithermal), a significant warming trend where pine forests replaced the oak-hickory dominated forests of the preceding periods. By approximately 6000 B.P., extensive riverine and coastal swamps were formed by rising water tables as the sea level approached modern elevations (Whitehead 1972). It was during this subperiod that river and estuary systems took their modern configurations. The relationship between climatic, environmental, and cultural changes during this period, however, is still poorly understood (Sassaman and Anderson 1995:5–14). It is assumed that population density increased during the Middle Archaic, but small hunting and gathering bands probably still formed the primary social and economic units. Larger and more intensively occupied sites tend to occur near rivers and numerous small, upland lithic scatters dot the interriverine landscape. Subsistence was presumably based on a variety of resources such as white-tail deer, nuts, fish, and migratory birds; however, shellfish do not seem to have been an important resource at this time.

During the Middle Archaic, ground stone tools such as axes, atlatl weights, and grinding stones became more common, while flaked stone tools became less diverse and tend to be made of locally available raw materials (Blanton and Sassaman 1989). Middle Archaic tools tend to be expediently manufactured and have a more rudimentary appearance than those found during the preceding Paleoindian and Early Archaic periods. The most common point type of this subperiod is the ubiquitous Morrow Mountain, but others such as Stanly, Guilford, and Halifax also occur, as well as transitional Middle Archaic-Late Archaic forms such as Brier Creek and Allendale/MALA (an acronym for Middle Archaic Late Archaic) (Blanton and Sassaman 1989; Coe 1964). The major difference in the artifact assemblage of the Stanly Phase seems to be the addition of stone atlatl weights. The Morrow Mountain and Guilford phases also appear during the Middle Archaic, but Coe (1964) considers these phases to be without local precedent and views them as western intrusions.

#### Late Archaic (5000-3000 B.P.)

The Late Archaic is marked by a number of key developments. There was an increased focus on riverine locations and resources (e.g., shellfish), small-scale horticulture was adopted, and ceramic and soapstone vessel technology

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was introduced. These changes allowed humans to occupy strategic locations for longer periods of time. In the spring and summer, Late Archaic people gathered large amounts of shellfish. It is not known why this productive resource was not exploited earlier, but one explanation is that the environmental conditions conducive to the formation of shellfish beds were not in place until the Late Archaic. Other resources that would have been exploited in the spring and summer months include fish, white-tailed deer, small mammals, birds, and turtles (House and Ballenger 1976; Stoltman 1974). During the late fall and winter, populations likely subsisted on white-tailed deer, turkey, and nuts such as hickory and acorn. It is also possible that plants such as *cucurbita* (squash and gourds), sunflower, sump weed, and chenopod, were being cultivated on a small-scale basis.

The most common diagnostic biface of this subperiod is the Savannah River Stemmed projectile point (Coe 1964), a broad-bladed stemmed point found under a variety of names from Florida to Canada. There are also smaller variants of Savannah River points, including Otarre Stemmed and Small Savannah River points that date to the transitional Late Archaic/Early Woodland. Other artifacts include soapstone cooking discs and net sinkers, shell tools, grooved axes, and worked bone.

The earliest pottery in the New World comes from the Savannah River Valley and coastal regions of South Carolina and Georgia. Both Stallings Island and Thom's Creek pottery date from about 4500–3000 B.P. and have a wide variety of surface treatments including plain, punctuated, and incised designs (Sassaman et al. 1990). For a long time, it was believed that fiber-tempered Stallings Island pottery was the oldest pottery in the region (perhaps in the New World), and that sand-tempered Thom's Creek wares appeared a few centuries later (Sassaman 1993). Work at several shell ring sites on the coast, however, has demonstrated that the two types are contemporaneous, with Thom's Creek possibly even predating Stallings Island along the coast (Heide and Russo 2003; Russo and Heide 2003; Saunders and Russo 2002).

#### 3.1.3 Woodland Period (ca. 3000–1000 B.P.)

Like the preceding Archaic Period, the Woodland is traditionally divided into three subperiods—Early Woodland (3000–2300 B.P.), Middle Woodland (2300–1500 B.P.), and Late Woodland (1500–1000 B.P.)— based on technological and social advances and population increase. Among the changes that occurred during this period were a widespread adoption of ceramic technology, an increased reliance on native plant horticulture, and a more sedentary lifestyle. There is also an increase in sociopolitical and religious interactions as evidenced by an increased use of burial mounds, increased ceremonialism, and expanded trade networks (Anderson and Mainfort 2002). In addition, ceramics became more refined and regionally differentiated, especially with regard to temper.

#### Early Woodland (3000-2300 B.P.)

The Early Woodland subperiod is generally marked by the intensification of horticulture, an increased use of ceramics in association with a semisedentary lifeway, and the introduction of the bow and arrow. The earliest expression of the Early Woodland subperiod in the Piedmont is the Badin phase (Ward and Davis 1999). Representative cultural material includes sand-tempered cord marked or fabric-impressed ceramics and large, crude triangular projectile points (Ward and Davis 1999). Differences between the southern and northern Piedmont traditions became more pronounced through time and by the Late Woodland subperiod ceramics were quite diversified (Ward 1983).

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### Middle Woodland (2300–1500 B.P.)

In some areas of the Piedmont, the Middle Woodland subperiod is characterized by the Yadkin phase, whose ceramics are similar to the previous Badin type except they are tempered with crushed quartz rather than sand (Ward and Davis 1999). However, as Webb and Leigh (1995:29) point out, there is no clear, linear relationship between the development of the two phases. In some areas, Yadkin may represent the earliest ceramics, whereas in other areas Badin may be the earliest type. The Yadkin Large Triangular Point is the diagnostic point of the Early and Middle Woodland subperiods throughout much of North and South Carolina. Although substantial regional differences appear during this time, the Piedmont region was relatively unaffected by the elaborate Hopewell and Swift Creek cultures.

#### Late Woodland (1500–1000 B.P.)

The Late Woodland subperiod is one of the least understood prehistoric subperiods, both in the South Carolina Piedmont and in the Southeast as a whole. Few diagnostic artifacts are known that can definitively date occupations to this subperiod. The few diagnostic artifacts associated with the Late Woodland subperiod in the South Carolina Piedmont include small triangular and pentagonal projectile points, as well as Swift Creek, Napier, and Woodstock ceramics (Benson 2006:53–54).

### 3.1.4 Mississippian Period (ca. 1000–350 B.P.)

The Mississippian Period saw dramatic changes across most of the Southeast. Mississippian societies were complex sociopolitical entities that were based at mound centers, usually located in the floodplains along major river systems. The flat-topped platform mounds served as both the literal and symbolic manifestation of a complex sociopolitical and religious system that linked chiefdoms across a broad network stretching from the Southeastern Atlantic Coast to Oklahoma (Spiro Mounds) in the west, to as far north as Wisconsin (Aztalan). Mound centers were surrounded by outlying villages that usually were built along major rivers to take advantage of the rich floodplain soils. Smaller hamlets and farmsteads dotted the landscape around villages and provided food, tribute, and services to the chief in return for protection and inclusion in the sociopolitical system. While Mississippian subsistence was focused to a large extent on intensive maize agriculture, the hunting and gathering of aquatic and terrestrial resources supplemented Mississippian diets (Anderson 1994).

Mound centers have been found along most major river systems in the Southeast, and South Carolina is no exception. Major Mississippian mounds in the area include the Belmont and Mulberry sites along the Wateree River in central South Carolina; Santee/Fort Watson/Scotts Lake on the Santee River; the Irene site near Savannah; Hollywood, Lawton, Red Lake, and Mason's Plantation in the central Savannah River Valley; and Town Creek along the Pee Dee River in North Carolina (Anderson 1994).

Diagnostic artifacts of the Mississippian Period include small triangular projectile points and sand-tempered Lamar, Savannah, and Etowah pottery types (Anderson and Joseph 1988; Elliot 1995). These types are primarily identified by their complicated stamped designs, although simple stamped, check stamped, cord marked, and other surface treatments also occur. Various ceremonial items made from stone, bone, shell, copper, and mica were used as symbolic markers of chiefly power and status.

There is increasing evidence that territorial boundaries between chiefdoms were closely maintained during the Mississippian Period. Within the South Carolina Piedmont, Judge (2003, see also DePratter and Judge 1990) has

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identified six phases of Mississippian occupation within the Wateree Valley: Belmont Neck (A.D. 1200–1250), Adamson (A.D. 1250–1300), Town Creek (A.D. 1300–1350), McDowell (A.D.1350–1450), Mulberry (A.D. 1450–1550), and Daniels (A.D. 1550–1675). Cable (2000) adds a Savannah phase (A.D.1200–1300) to this list, between the Belmont Neck phase (which he puts at A.D. 1100–1200) and Adamson phase (which he places between A.D. 1300– 1350). Meanwhile, groups living in the southern part of the North Carolina Piedmont were part of the Pee Dee culture, which includes the Teal (A.D. 950–1200), Town Creek (A.D. 1200–1400), and Leak (A.D. 1400–1600) phases (Ward and Davis 1999:123–134).

### 3.2 Historic Context

The project area is located roughly 2.7 miles south of the city center of Greer, South Carolina in Spartanburg County.

#### 3.2.1 Early Settlement

Although settlers of European descent began arriving in South Carolina's backcountry during the mid-eighteenth century, the area containing the project corridor was on the edge of the colony border and Cherokee land, as established in 1766. However, there were still a handful of white families living northwest of the Indian land boundary in the mid-1700s (Huff 1995:10). During the early years of the colony, this region was considered the backcountry and it was sparsely settled. The area was distinctly different from the Lowcountry, where the plantation system had already developed to produce rice and indigo as cash crops (Klein 1981:662). Geographically, the northwestern portion of South Carolina is part of the Piedmont, which did not provide the soils or rainfall needed to produce these early staple crops, thus delaying the adoption of the plantation system in this region (Kovacik and Winberry 1989:41).

As early as the 1500s, Spanish explorers traveled through the inland regions of the Southeast in their quest for land and gold (Edgar 1998:23). Other Europeans had ventured into the Piedmont throughout the 1700s, seeking to trade with the local Indians, with at least four traders living among the Cherokee by 1714. However, these men did not establish permanent settlements in the area (Huff 1995:7). Although Governor Robert Johnson instituted a plan in 1730 to encourage settlement in the backcountry as a protective buffer for Lowcountry plantations. None of the original townships established by Governor Johnson's plan was located near the Cherokee and colony boundary line, although Boonesborough was established to the southeast in 1762 as a township for Irish immigrants.

During the mid-eighteenth century, some Lowcountry South Carolina residents did migrate to the backcountry, lured there by the large unclaimed expanses of land. However, the majority of the earliest white settlers came from more northern areas, including Pennsylvania, Virginia, and North Carolina. By the 1760s and 1770s, some of these colonists had begun to push their settlements past the boundary of the Cherokee lands (Revels and Sherrer 2002).

Land claims in these areas during the 1700s tended to be small, encompassing much less area than the massive Lowcountry plantations, although some early grants to Indian traders were extensive. One of the earliest settlers in the area was Elijah Clarke. Clarke was followed by the Bobo, Rhodes, and Wofford families, who immigrated from Virginia and claimed land on the Enoree River and Two Mile Creek during the 1760s, along with the Anderson, Bomer, Moore, and Montgomery families, who established settlements near present day Duncan during the 1770s (Landrum 1900).

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## 3.2.2 Eighteenth Century Conflicts

The second half of the eighteenth century was a period of unrest in the South Carolina backcountry, including the Spartanburg County area. The beginnings of the instability occurred during the 1750s, as the Cherokee became frustrated by the unfulfilled promises of the British colonies and began attacking settlements along the Carolina frontiers. The attacks increased and grew continually worse, eventually inaugurating the French and Indian War, which is generally recognized as lasting from 1754 to 1763 (Edgar 1998:205–206). During this period, settlers in the backcountry established small forts for protection, which were essentially stockades where families in the area could go in times of imminent danger. In the vicinity of the project area, a handful of these forts appeared, although the locations of most of them are unknown. A description of Fort Prince in Spartanburg County gives an idea of their construction details. John Prince's fort was "circular and about 150 feet in diameter—with upright timbers 12 to 15 feet high. Around the perimeter was a ditch...beyond the ditch was an abatis of heavy timbers. In the stockade itself were portholes for the use of the riflemen inside" (Huff 1995:19).

The most brutal of the attacks in the South Carolina backcountry came in early 1760. In February, a wagon train of refugees was massacred at Long Cane Creek, along the western edge of the colony. The French and Indian War ended in 1763 with the Treaty of Paris, but by 1761 the Cherokee had already been vanquished and had signed a treaty, essentially ending the Indian attacks on inland South Carolina settlements (Edgar 1998:206-207). From 1761 to 1776, through discussions and treaties, the Boundary Line between Indian lands and colonial territory was established (Weir 1997:275).

The end of the Cherokee threat did not restore order to the backcountry, however. With a growing population, backcountry residents felt that the Charleston government was neglecting their needs. Settlers who had sought shelter within the forts during the Cherokee conflict had been victims of greed and extortion from the private fort owners. At the same time, the militiamen who were supposed to be protecting their property were raiding and squatting at the abandoned homesteads (Edgar 1998:206).

The treaty with the Cherokee and the subsequent end to the Indian threat did little to alleviate the situation. During the mid-1760s, gangs of bandits swept through the nearby Congaree and Saluda river basins, "burning and looting, torturing victims presumed to have items of value, raping wives and daughters, making off with horses, furniture and household goods" and generally terrorizing residents of established settlements (Edgar 1998:212). A lack of response from the colonial government in Charleston compelled the victims to band together and pursue vigilante justice in an attempt to protect themselves. This group of backcountry landowners became known as the Regulators, a movement which "united frontiersmen in an effort to make their region safe for planting and property [as] they struggled to establish a particular type of order consistent with the needs of hardworking farmers and rising slave owners" (Klein 1981:668). The issues of the 1760s were not limited to the conflict between gang members and the vigilante Regulators. The colonial government resented both the Regulators' tactics and their demands for backcountry equality. As a result, Regulators were arrested and tried for their actions just as often as bandits were. Ultimately, order was reestablished in the backcountry and the Regulator movement diminished in its power and influence. The Charleston government had agreed to establish circuit courts to meet the legal needs of backcountry residents; this led to the establishment of Ninety-Six District in the northwestern section of the colony. Although these courts did not begin operation until 1772, tensions between the two regions of South Carolina were lessened for the moment (Edgar 1998:215-216; Huff 1995:20).

This short period of peace would soon be ended by a more broad-reaching conflict, the third period of unrest to affect the backcountry in a quarter of a century. The residents of the Lowcountry, along with the citizens of other

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colonies, were becoming increasingly dissatisfied with the policies of the British. After Bostonians led a well-known protest against the Tea Act in 1773, the British government implemented harsh regulations as punishment. Seeing the situation in Boston reminded Charleston residents of their own recent struggles with the British-led colonial government—the Laurens-Leigh Controversy of 1767–1768 and the 1769 Wilkes Fund Controversy. Knowing that their own port could be easily closed by the British, Charlestonians generally supported Boston and the resolutions of the First Continental Congress (Edgar 1998:217–220).

Although the Lowcountry lent its support to the original tenants of the American Revolution, most backcountry settlers did not, highlighting the differences and tensions that still separated the two regions. Many backcountry settlers felt more slighted by the colonial government in Charleston than by the British. In Ninety-Six District there was a large concentration of settlers with Loyalist feelings; many of these settlers were immigrants who had come to the colony seeking some measure of freedom. Often, these residents had acquired their lands through grants from the king and they felt a certain amount of loyalty and indebtedness to the monarchy. In 1775, William Henry Drayton negotiated with the citizens of inland South Carolina and a compromise was reached, which allowed the backcountry residents to remain neutral in the conflict in return for the provincial government basically leaving them alone. Drayton also courted Cherokee support for the Revolutionary cause during this period, arranging meetings with Indian leaders through Richard Pearis. Later, Pearis would join the Loyalist cause, along with the militia commander of the Upper Saluda Region, Colonel Thomas Fletchell. A separate force of partier militiamen was then organized in the northwest part of the colony by Captain John Thomas (Weir 1997; Gordon 2003). The Spartanburg area, however, was generally supportive of the Patriot cause, with the Spartan Regiment formed to support the revolutionaries in 1775 (Landrum 1900).

While many backcountry residents remained loyal to the crown, but practiced neutrality, for the beginning years of the Revolution, Ninety-Six District had a more experience with the conflict in late 1775. In an effort to subdue the district's Loyalist supporters, patriot leaders sent Colonel Richard Richardson to capture the forces of Patrick Cunningham and the Cherokee-bound ammunition that he had intercepted. At the Battle of the Great Canebreak, near Simpsonville, the patriots recaptured the ammunition and took 130 prisoners. On December 23, 1775, Loyalists signed an agreement stating that if they took up arms against the patriots again, they would forfeit their estates (Weir 1997; Gordon 2003).

In 1776, fighting came again to the northwestern corner of South Carolina, as Indian attacks began anew along the frontier. To defend their homes, frontiersmen under the command of Andrew Williamson began a campaign against the Cherokee and those who supported them, including Richard Pearis. By August 22, 1776, Williamson's force had burned all of the Cherokee Lower Towns. In May 1777, the Cherokee signed the Treaty of DeWitt's Corner, formally transferring all land in South Carolina, except a small tract in Oconee and Pickens counties, to the state (Gordon 2003).

In May 1780, the capture of Charleston and the subsequent British conquest of inland South Carolina, along with the atrocities that accompanied the nearby fighting, stirred the anti-British sentiments of settlers in this area. Aiding the patriot cause, these residents were soon able to assist the South Carolina troops in ousting the British from Ninety-Six District in the spring of 1781 (Edgar 1998). The Spartanburg County area saw a number of skirmishes between 1780 and 1782, including Moore's Plantation, near the Tyger River, in November 1781, and Farrows Station, near Cross Anchor in April 1782, with the most notable battle being at Cowpens, near the Pacolet River, which was within the boundaries of Spartanburg County until the 1897 formation of Cherokee County (Landrum 1900; Gordon 2003). The Battle at Cowpens is significant in that it was one of the first major victories for

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the patriots against the British in the southern theater of the Revolutionary War and became a turning point for the Patriot cause in the South. An American force under the command of Brigadier General Daniel Morgan met British regulars under Lieutenant Colonel Banastre Tarleton near modern day Cowpens, South Carolina on 17 January 1781 (Edgar 1998). The patriots retreated behind the main lines and when the British gave chase the patriots ambushed them through the use of double envelopment, the result was nearly one-thousand British regulars were either captured or killed (Edgar 1998).

The ultimate result of the decades of conflict and unrest in the backcountry was the creation of a new political order. Spartanburg County was created in 1785, from a portion of Ninety-Six District, and named after the Spartan regiment that was organized by area residents during the Revolution (Long 1997). The development of new counties in the backcountry signaled a shift in South Carolina's social and political order, as power and influence became more concentrated in inland areas. The county seat of Spartanburg County, which was also named Spartanburg, was established near the center of the county (Landrum 1900).

When the first census was conducted in 1790, South Carolina had just under 250,000 inhabitants, with 56.3 percent free whites, 0.7 percent other free persons, and 43 percent slaves. During the same census, Spartanburg County had a total population of 8,800 persons, made up of 7,907 free whites, 27 free persons of color, and 866 slaves. This region comprised only 3.5 percent of the total state population and had a significantly higher free population percentage (89.9%) than the state average (Social Explorer 2023).

### 3.2.3 Nineteenth Century

At the beginning of the nineteenth century, the region encompassing the project area was primarily agricultural. Before 1800, subsistence farmers dominated the area's agriculture. Although tobacco was also grown by upcountry farmers, poor soils resulted in low yields and the crop was never as successful in South Carolina as it was in more northern areas such as Virginia (Edgar 1998:270).

Eli Whitney's cotton gin, patented in 1794, would significantly alter the agricultural character of much of the South Carolina backcountry. With locally made gins becoming available in the early 1800s, short-staple cotton became the primary crop in most of the upcountry. In many areas of the state, the enormous profits available from cotton growing and processing during the early nineteenth century influenced a large number of upcountry farmers to engage in this activity. These profits allowed cotton farmers to purchase more land and slaves, creating a plantation-based economy in many Piedmont counties (Edgar 1998:271). Spartanburg County followed the trend of many Piedmont counties during the mid-nineteenth century, with cotton as the dominant agricultural product, which subsequently increased slave population in upcountry counties, and in the state as a whole (Edgar 1998).

During the early nineteenth century the population of South Carolina grew, with an increase of almost 100,000 people between 1790 and 1800. By 1820, the state population had grown to just over 490,000 people, with approximately 47 percent white, 51 percent slaves, and the remaining two percent free blacks. Spartanburg District also grew during this period, with the population increasing from 12,122 in 1800 to 16,989 in 1820; the demographic makeup of the county, however, was different from the state as a whole, with only 19.5 percent of the population made up of slaves (Social Explorer 2023).

The nineteenth century was a period of railroad construction in some parts of South Carolina, and Spartanburg County did benefit from this development. The Spartanburg-Union Railroad was organized in 1849, although construction did not begin until 1853; the five-foot gauge rail line had 32 miles of track and was completed from

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Alston to Spartanburg, with a connection to the Greenville and Columbia Railroad at Alston, by 1859. The Spartanburg-Union Railroad, which began to bring commercial and transportation benefits to the area, would fall victim to the Civil War during the following decade, during which its tracks would sustain significant damage (Landrum 1900). Although Spartanburg itself saw an increase in population from the railroad, the surrounding areas did not experience such growth until after the Civil War (Irby 1974; Landrum 1900).

As the antebellum period moved forward, the population of South Carolina grew at a slow, but steady rate. Between 1830 and 1860, the total population grew approximately 21 percent, from 581,185 to 703,708. By 1830, slavery had already been firmly entrenched in the state for many decades and the percentage of slave population remained static, increasing only 2.9 percent, from 54.3 to 57.2 percent of the total state population over the three decades. During this same period, Spartanburg County experienced some growth, increasing from a total population of 21,150 in 1830 to 26,919 in 1860. Although the total population grew during these three decades, the percentage of slave population in the county increased only slightly during this period, from 23.3 percent to 30.6 percent, remaining significantly lower than the state average (Social Explorer 2023).

Although Spartanburg County's agriculture was focused on cotton during the mid-nineteenth century, production of other crops continued. Spartanburg was the thirteenth ranked cotton producing county in the state, with 1.6 million pounds harvested in 1840. During the same year, it ranked fourth in orchard products, fifth in the amount of Indian corn, sixth in wheat, and eighth in oats. Additionally, livestock was an important aspect of Spartanburg County agriculture. It ranked third among South Carolina counties in the number of horses raised in the county, seventh in the number of sheep, tenth in cattle, thirteenth in the number of poultry, and fifteenth in the number of swine. At the same time, small scale manufacturing enterprises were also part of the economy of Spartanburg County, which ranked second in the state in the amount of capital invested in manufactures, behind Charleston County. There were four cotton mills that had a total of over 2,200 spindles and employed 95 men, along with eight tanneries with 16 employees, as well as 37 distilleries producing over 6,600 gallons of spirits and 12 men employed in carriage and wagon manufacturing. There were 99 milling enterprises, including flour, grist, and saw mills, employing 70 men (Social Explorer 2023).

In 1850, South Carolina had about 25.1 percent of its farmland improved, but Spartanburg County was higher than the state average with 37 percent of its farmland improved. Although cotton remained an important crop grown in the county, and the production increased in 1850 from a decade earlier, the yields slipped compared to other counties; Spartanburg County produced 6,671 bales of ginned cotton (2,668,400 pounds), which ranked it only nineteenth among South Carolina counties. The county continued to rank in the top ten in wheat, Indian corn, oats, tobacco, and wool. Raising farm animals was still a major part of the agricultural landscape in Spartanburg County, which ranked seventh overall in the value of livestock, with the second highest number of horses and the fifth highest number of sheep and swine among the counties. Overall, in 1850, the county ranked seventeenth in the state in the value of its farms, at \$2.66 million (Social Explorer 2023).

By 1860, the acreage of improved farmland in Spartanburg County had decreased, to over 26.6 percent, lower than the 28.2 percent statewide average. Cotton production decreased slightly in the previous decade, to 6,279 bales, dropping Spartanburg County's ranking in cotton production to twenty-second, out of thirty counties, in the state. Although the output of wheat, corn, other grains, and tobacco remained steady, the value of livestock had dropped to twelfth in the state but the overall cash value of farms, which had increased to \$4.39 million, had risen to the fifteenth highest in South Carolina. At the same time, some manufacturing enterprises had been

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established within the county; Spartanburg County's 75 manufacturing establishments ranked it fifth in South Carolina (Social Explorer 2023).

### 3.2.4 Civil War and Reconstruction

By 1860, the South Carolina upcountry had developed a dual society, with plantation owners living alongside yeomen and subsistence farmers. Spartanburg County consisted of only a small proportion of plantation owners, but there were many other residents who sided with the Confederacy in the defense of slavery. As the questions of slavery, nullification, and secession loomed over antebellum South Carolina during the 1850s, the support of yeomen farmers in the upcountry was also important in the ultimate course that the state would take. Ford (1988) argues that these upcountry yeomen held a firm belief in their own independence and liberty, stemming from an inclusive political structure, widespread ownership of land, and a social system that encouraged white unity by holding black slaves as the lowest caste. Yeomen could view themselves as independent and important because they were not slaves. Maintaining slavery was, therefore, an important part of affirming their independence and self-professed inherent superiority to blacks (Ford 1988:370–373). Therefore, when local governments held meetings to discuss secession in late 1860, the majority of upcountry residents favored seceding from the Union. On December 17, 1860, a statewide convention was held in Columbia and delegates from districts throughout South Carolina met and voted unanimously in favor of secession. Before the Ordinance of Secession could be drafted, a smallpox scare necessitated a change of venue, and the convention was moved to Charleston. There, on December 20, 1860, the Ordinance was presented and signed, officially declaring South Carolina as independent from the United States (Edgar 1998:360).

During most of the war, the project area was affected only indirectly as the military did not come to the region until 1865. Early in 1861, when excitement for the war was high and Southerners were rallying to the Confederate cause, many men volunteered for the army and traveled from the area to help defend Charleston, with men from the county mustering at various posts throughout the area and at least 24 Confederate companies were organized in the area, comprised of 3,000 to 4,000 area men who joined the cause. These same men, and many others of fighting age, went into battle in skirmishes throughout the South, leaving many farms to be run by wives, children, slaves, and old men. Women in the counties organized relief and aid societies, raising money and performing whatever services they could to help the war effort and the soldiers. The farms that continued to produce crops aided the war effort by supplying food to supplement shortages throughout the state and in the armies. Initially voluntary, this effort became compulsory after an 1863 state mandate required farmers to limit the amount of cotton planted and donate one-tenth of their crop yields to state government (Landrum 1900).

As the tide of the Civil War changed, and the Confederate army went on the defensive in an attempt to protect its major cities, the fighting came closer to home for residents in the project vicinity in the last weeks of the war. Although General William T. Sherman's Union army advanced through the state, looting and destroying property in a 30-mile swath along its route, including raiding and firing Columbia, it did not come near to the project area. In April and May 1865, however, the Union army rode through upstate South Carolina searching for Jefferson Davis, who was rumored to be fleeing south from Richmond through the area. The presence of the army was minimal and only lasted a day, but the most lasting legacy of the war was destruction of the slavery-based plantation system and the concomitant development of a new economic order (Edgar 1998:373).

With the collapse of the Confederacy, a struggle began between Congress and the President on how to handle the restoration of the southern states into the Union. Although the more radical policies of Congress were adopted, from 1865 to 1867 the southern states attempted to reorganize themselves under President Andrew

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Johnson's program. These efforts were repeatedly thwarted by Congressional policies, such as the December 1865 refusal to seat southern congressional delegates, the Fourteenth Amendment ratification, and the March 1867 Reconstruction Acts.

After the end of the Civil War, Spartanburg County retained many of the same characteristics it had during the antebellum period. After a slight decrease between 1860 and 1870, as many former slaves left in search of lost family members or better opportunities, the population of Spartanburg County grew significantly during the second half of the nineteenth century, from 26,919 in 1860 to 55,385 in 1890. The racial composition of the county also remained static, retaining the white majority that existed before the Civil War, with 66.5 percent of the county's residents being white in 1890 (Social Explorer 2023).

Despite the end of slavery, agriculture continued to dominate much of the region, although crop production fell during the early Reconstruction era. Cotton remained a primary crop in many areas, with farmers often planting it in lieu of food crops in an attempt to make a quick profit and pay the debts they had incurred. The market would soon become saturated with cotton, however, causing the prices to fall steadily during the 1880s, pushing the farmers further into debt (Edgar 1998:427–428). In areas where the landholdings had been large, these plantations were often broken up into smaller units. Most owners could no longer afford such large holdings, since they could not make them profitable without slave labor. This trend began to affect Spartanburg County shortly after the war and the number of farms in the county more than doubled between 1860 and 1870, from 1,599 to 3,813; as the nineteenth century progressed, farms were split into increasingly smaller units for rental and by 1890 the county had 5,584 farms, more than three times the 1860 number (Social Explorer 2023).

During the late nineteenth century, tenancy and sharecropping developed across South Carolina, as landless farmers, both black and white, sought arrangements that would allow them to continue farming to support their families. The newly freed slaves were forced into these arrangements because they had no land, little money, and few other options. As the 1800s drew to a close, many white farmers succumbed to large debts and also became tenants for large landholders. Two categories of tenancy developed, cash tenants and share tenants. Cash tenants provided their own tools and seed, gaining ownership of the crop they produced while paying rent on their house and land to the landlord. Sharecroppers could not afford their own tools or seeds; the landlords supplied these items and subtracted their value from the farmer's share of the crop. Both systems resulted in many small farmers living meager existences (Orser 1988:57).

At the close of the nineteenth century, only 33.8 percent of South Carolina's farms were operated by their owners. Comparatively, 36.6 percent were operated by cash tenants, 24.3 percent by share tenants, and 3.3 percent were operated under other arrangements, including by managers or by a combination of tenancy methods. Six out of 10 farmers in the state were either tenants or sharecroppers (Edgar 1998:450–451). The farmers in Spartanburg County, however, had a slightly different situation than the state as a whole. In 1880, 49.3 percent of Spartanburg County farms were worked by their owners, whereas 4.5 percent were farmed by cash tenants and 46.2 percent were farmed by sharecroppers (Social Explorer 2023). Ten years later, the numbers had shifted slightly, with 41.4 percent of farmers in the county owning their farms, while 55.2 percent of farms were worked by sharecroppers and 3.4 percent were farmed by cash tenants (Social Explorer 2023).

At the turn of the century, in both the state and the county, black farmers were more likely to be tenants than whites, with 53.1 percent of white farms operated by their owners and only 18.2 percent of black farms being owner operated. In Spartanburg County, white farms were owner-farmed 42.2 percent of the time, while only 7.8

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percent of black farmers owned their farmland. For farmers of both races in the county, share tenancy was more prevalent than cash tenancy. Among white farmers, 46.8 percent were sharecroppers, 7.4 percent were cash tenants, and 3 percent farmed under other arrangements. Comparatively, 82.7 percent of black farmers were sharecroppers, 7.8 percent were cash tenants, and 1.7 percent farmed under other arrangements (Social Explorer 2023).

### 3.2.5 Twentieth Century

Although cotton production still dominated the South Carolina Piedmont region, industrial development had begun to develop in the late nineteenth century. Following a pattern that was occurring throughout the South, investors began financing and building mills to bring textile production closer to the source of raw cotton. They also reinvested in railroads, in an attempt to link more rural farming areas directly to mill towns and to northern markets (Kovacik and Winberry 1987:114–115). The Union and Spartanburg Railroad was acquired by the Greenville and Columbia Railroad in 1870 and the tracks were repaired, allowing for the continued transportation of passengers and goods to and from the county. Additional railroad lines followed during the late nineteenth and early twentieth centuries, including the Spartanburg and Asheville Railroad, the Greenwood, Laurens, and Spartanburg Railroad, the Charleston and Western Carolina Railway, a line from Marion to Spartanburg on the Carolina, Clinchfield, and Ohio Railroad, the Greenville, Spartanburg, and Anderson Railroad, and the Piedmont and Northern Railway, which provided an impetus for the twentieth century changes to Spartanburg County (Leonard 1986; Writer's Program of the Works Projects Administration of South Carolina 1940).

By the 1880s, the textile industry had begun transforming the economy and settlement patterns of Spartanburg County. The Clifton Manufacturing Company was one of the earliest large textile mills in the county, organized in January 1880 and located just northeast of the city of Spartanburg; by the turn of the twentieth century the Clifton operation had expanded to three mills. Other manufacturing enterprises soon followed, including the Pacolet Mills in 1882, Spartan Mills in 1888, and Inman Mills in 1902. By the 1920s, there was more than 35 million dollars invested in cotton mill enterprises within the county, which totaled 25,000 looms and 950,000 spindles (South Carolina Department of Agriculture, Commerce, and Industries 1927). By the mid-twentieth century, many of the mills were under the controlling interest of the Millikin family, who dominated the textile business in the South Carolina upstate. The network of textile mills in the Piedmont Region were offering a large number of jobs, which influenced many people to move into the nearby towns, including Spartanburg.

Spartanburg County was no different from many Southern communities during the first half of the twentieth century. While the total population of the county increased significantly between 1910 to 1940, from 83,465 to 127,733, the non-white population of the county only increased by around 4,000 residents, as many African Americans left the rural south for larger cities in the Northeast and Midwest, searching for steady work and better pay. At the same time, the county's demographics were quickly shifting from rural/farm based to urban based. The population living in urban areas (having 2,500 residents or more) was 11,395 in 1900, but had grown to over 17,500 by 1910 and accounted for only 21 percent of the county's residents; by 1940 it had more than doubled since 1910, to over 36,348 residents (28.5 percent). A large number of the mill villages that were located outside of the city of Spartanburg, however, were not large enough on their own to be considered urban and were not considered, although their residents lived in a more urban setting than rural residents (Kovacik and Winberry 1987; Social Explorer 2019).

World Wars I and II provided a jumpstart to the textile industry, but agriculture continued as a supplement to the textile industry, with cotton and corn cultivation, as well as dairy products, being the most popular farm products.

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At the same time, Spartanburg County's population growth leveled out, increasing to 150,349 by 1950, but and only adding around 6,500 residents during the following decade (Social Explorer 2023). Additionally, in 1941 Camp Croft was organized as a Replacement Training Center for army infantry personnel, as the country mobilized large numbers of troops for participation in World War II. Camp Croft only operated between 1941 and 1946, but had the capacity to house almost 20,000 trainees; during the five-year period that it was active, the center trained almost 75,000 troops per year. Following the war, the large-scale training operations at Camp Croft were no longer necessary and the United States Government sold the land as surplus property, with over 7,000 acres being purchased by the South Carolina Commission of Forestry for the creation of Croft State Park (Davis and Walker 2004).

In the late twentieth and early twenty-first centuries, the construction of Interstates 26 and 85 through Spartanburg County began; the Interstate system eventually linked many cities throughout the southeast, including Charleston and Greenville, and led to significant economic development along its corridor. However, the closing of the many of the textile mills during the closing decades of the 1900s led to a decline in the economic condition of the county during the last part of the twentieth century.

### 3.3 Previously Recorded Cultural Resources

In May 2023, a background literature review and records search were conducted at the South Carolina Institute of Archaeology and Anthropology (SCIAA) in Columbia. The area examined was a 0.5-mile radius around the project area (Figure 3.1). The records examined at SCIAA include a review of ArchSite, a GIS-based program containing information about archaeological and historic resources in South Carolina. If cultural resources were noted within the 0.5-mile search radius, then additional reports and site forms contained at SCIAA, and the South Carolina Department of Archives and History (SCDAH) were consulted.

A review of ArchSite indicated there are no archaeological sites, no above ground resources, and two previously completed cultural resource surveys within a 0.5-mile radius of the project area (Figure 3.1; Table 3.1). Neither of the previously completed cultural resource surveys cover a portion of the current project area.

As part of the background research, Henry Mouzon's (1775) map of North and South Carolina, Mills Atlas map (1820), a 1921 USDA soil survey map of Spartanburg County, South Carolina Department of Transportation (SCDOT) maps of Spartanburg County from 1940, 1951, and 1964, and United States Geological Survey (USGS) topographic maps from 1935, 1957, and 1983 were examined. Mouzon's map indicates that the project area was located within Camden District and depicts no landowners near the project area, which was near the Cherokee Boundary (Figure 3.2). Mills Atlas of Spartanburg District shows that the project area was uninhabited, Buncome Road is in the vicinity of the project area (Figure 3.3).

The 1921 USDA soils map of Spartanburg County shows roads to the north and west of the project area with structures but no structures are within the project area; Greer had been established to the north of the project area (Figure 3.4). The 1935 *Greer* USGS 7.5-minute topographic map shows no structures within or adjacent to the project area (Figure 3.5). The 1940 and 1951 SCDOT maps continue to show structures surrounding the project area, but none within or adjacent to the project boundary (Figure 3.6 and 3.7). The 1957 *Greer* USGS 7.5-minute topographic map continues to show no structures within the project area and the road to the south has been paved (Figure 3.8). The 1964 SCDOT map shows that the GSP has been constructed and surrounds the project area (Figure 3.9). The 1983 *Greer* USGS 7.5-minute topographic map shows that GSP Drive has been constructed along the northwestern border of the project area (Figure 3.10).

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Figure 3.1. ArchSite map showing 0.5-mile search radius around project area.

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Figure 3.2. Portion of Mouzon's map (1775), showing vicinity of project area.



Figure 3.3. Portion of Mills' Atlas map of Spartanburg District (1820), showing vicinity of project area.

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Figure 3.4. Portion of USDA soil survey map of Spartanburg County (1921), showing the vicinity of the project area.



Figure 3.5. Portion of 1935 Greer 7.5-minute USGS topographic map, showing project area.

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Figure 3.6. Portion of 1940 SCDOT map of Spartanburg County, indicating the vicinity of the project area.

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Figure 3.7. Portion of 1951 SCDOT map of Spartanburg County, indicating the vicinity of the project area.

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Figure 3.8. Portion of 1957 Greer 7.5-minute USGS topographic map, showing project area.



Figure 3.9. Portion of 1964 SCDOT map of Spartanburg County, indicating the vicinity of the project area.

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Figure 3.10. Portion of 1983 Greer 7.5-minute USGS topographic map, showing project area.

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### 3.4 **Potential for Archaeological Resources**

Various predictive models assist researchers in identifying areas having a high potential for containing archaeological sites (e.g., Benson 2006; Brooks and Scurry 1978; Cable 1996; Scurry 2003). In general, the most significant variables for determining site location are distance to a permanent water source, proximity to a wetland or other ecotone, slope, and soil drainage. Prehistoric sites tend to occur on level areas such as ridge tops or knolls, with well drained soils that are near a permanent water source or wetland. Historic home sites tend to be located on well drained soils near historic roadways.

The South Carolina Standards and Guidelines for Archaeological Investigations outlines three site occurrence probability categories. The categories listed in South Carolina Standards and Guidelines for Archaeological Investigations (2013) are:

- A. Indeterminate Probability. Areas that are permanently or seasonally inundated; tidal areas; and active floodplains (or other active depositional environments) where deposits are so deep that finding sites using conventional methods is unlikely.
- **B.** Low Probability. Areas with slopes greater than 15 percent; areas of poorly drained soil (as determined by subsurface inspection); and areas that have been previously disturbed to such a degree that archaeological materials, if present, are no longer in context. Documentation of disturbance can include recent aerial photographs, ground views, or maps showing the disturbance (e.g., recent construction).
- **C.** High Probability. Areas that do not meet any of the foregoing criteria are considered to possess high probability.

Based on the probability model presented above the project area contains 2.3 acres (55.8 percent) of high probability area for containing archaeological sites due to the presence of well drained soils, the landforms within the project area, and distance to a permanent water source; the remaining approximately 1.9 acres (44.2 percent) is considered low probability due to disturbed urban land and udorthents soils (Figure 3.11).



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# 4.0 Methods

### 4.1 Archaeological Field Methods

An archaeological survey of the project area was conducted on May 18, 2023, in areas of high and low probability for containing archaeological sites based on landform type, soil drainage, distance to water, and the results of the background research. Pedestrian survey was undertaken along dirt roads and other areas with good ground surface exposure.

Shovel tests were at least 30 x 30 cm and excavated to sterile subsoil or 80 cm below surface (cmbs), whichever was encountered first. Soil from the shovel tests was screened though 1/4-inch wire mesh and soil colors were determined through comparison with Munsell Soil Color Charts.

No archaeological sites or isolated finds were identified so radial shovel testing and site forms were not completed.

#### 4.2 Laboratory Methods

No artifacts were identified during the survey, so no lab work was completed.

The field notes, maps, photographs, and other technical materials generated as a result of this project will be curated at the S&ME office in Columbia, South Carolina.

### 4.3 Architectural Field Methods

In addition to the archaeological survey, an architectural survey was conducted to determine whether the proposed project would affect aboveground historic properties. Accessible public roads within the indirect APE were driven, and if previously unrecorded structures 50 years old or older existed, that were within view of or within the project area, they were photographed and evaluated for the NRHP. No resources were identified so no resource forms were completed.

### 4.4 National Register Eligibility Assessment

For a property to be considered eligible for the NRHP it must retain integrity of location, design, setting, materials, workmanship, feeling, and association (National Register Bulletin 15:2). In addition, properties must meet one or more of the criteria below:

- A. are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. are associated with the lives of persons significant in our past; or
- **C.** embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- **D.** have yielded or may be likely to yield information important in history or prehistory.

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The most frequently used criterion for assessing the significance of an archaeological site is Criterion D, although other criteria were considered where appropriate. For an archaeological site to be considered significant, it must have potential to add to the understanding of the area's history or prehistory. A commonly used standard to determine a site's research potential is based on a number of physical characteristics including variety, quantity, integrity, clarity, and environmental context (Glassow 1977). All of these factors were considered in assessing a site's potential for inclusion in the NRHP.

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# 5.0 Results

A cultural resources reconnaissance survey for the approximately 4.2-acre project area was conducted May 18, 2023. Vegetation within the project area consists of wooded areas and secondary growth (Figures 5.1 through 5.3); disturbances consist of a powerline corridor, buried utilities, a storm drain, a paved road (GSP Drive) along the northwestern border of the project area, and clear-cutting activities in the northern portion of the project area (Figures 5.4 through 5.8); sections within the project area contain slope greater than 15 percent and large rock outcrops (Figures 5.9 and 5.10). Aerial imagery from 2010 shows that the southeastern portion of the project area had been clear cut (Figure 5.11).

As a result of the investigations, no archaeological sites and no aboveground structures were identified.

### 5.1 Archaeological Survey Results

A total of five shovel tests were excavated within the project area (Figure 5.12). Three soil profiles were encountered: the first consisted of roughly 30 cm of reddish gray (5YR 5/2) sandy loam mottled with reddish yellow (5YR 6/8) sandy clay and terminated with 10+ cm (30–40+ cmbs) of yellowish red (5YR 5/6) sandy clay subsoil (Figure 5.13); the second consisted of roughly 15 cm of gray (5YR 6/1) sandy loam and ended with 10+ cm (15–25+ cmbs) of light red (2.5YR 6/8) sandy clay subsoil (Figure 5.14); and the third soil profile consisted of roughly 25 cm of reddish gray (2.5YR 6/1) sandy loam overlaying 20 cm (25–45 cmbs) of light reddish brown (2.5YR 6/4) sandy clay and terminated at the water table (Figure 5.15). No archaeological sites were identified during the survey.

### 5.2 Architectural Survey Results

An architectural survey was conducted to determine whether the proposed project would affect aboveground historic properties. Accessible public roads within the indirect APE were driven and resources greater than 50 years old were photographed. There were no previously recorded aboveground resources located within the indirect APE for the project area and no new aboveground resources were identified during the current survey.

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Figure 5.1. Typical wooded area within the project area, facing northeast.



Figure 5.2. Typical wooded area within the project area, facing southeast.

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Figure 5.3. Typical secondary growth within the project area, facing northwest.



Figure 5.4. Powerline corridor and rock outcrop within the project area, facing north.

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Figure 5.5. Typical buried utilities within the project area, facing south.



Figure 5.6. A storm drain within the project area, facing northwest.



Figure 5.7. GSP Drive along the northwestern border of the project area, facing southwest.



Figure 5.8. Clear cut area in the northwestern portion of the project area, facing east.
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Figure 5.9. Typical steep slope within the project area, facing southwest.



Figure 5.10. Typical rock outcrop within the project area.

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Figure 5.11. Aerial imagery from 2010 showing location of the project area.



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Figure 5.13. First shovel test profile within the project area.



Figure 5.14. Second shovel test profile within the project area.

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Figure 5.15. Third shovel test profile within the project area.

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## 6.0 Conclusions and Recommendations

On behalf of the FAA, S&ME has completed a cultural resources reconnaissance survey of the approximately 4.2acre project area associated with the GSP Traffic Control Tower Site 12 project in Spartanburg County, South Carolina (Figures 1.1 and 1.2). The project area is located southeast of GSP Drive and roughly 2.7 miles south of the city center of Greer.

The purpose of the current survey was to assess the project area's potential for containing significant cultural resources and to make recommendations regarding additional work that may be required under Section 106 of the National Historic Preservation Act, as amended, and other pertinent federal, state, or local laws. In a letter dated January 21, 2021, the SHPO requested a phased investigation of the project area's potential to contain historic properties, beginning with archival research on the history of the project area and a reconnaissance level survey. If the archival research and reconnaissance survey indicate a high probability for historic properties to exist within the project area, an intensive survey would be recommended (Appendix A). This work was carried out in general accordance with S&ME Proposal Number 23600247A, dated April 10, 2023.

Fieldwork for the project was conducted on May 18, 2023. This work included the excavation of five shovel tests and the photo documentation of the project area. The APE for direct effects is limited to the project footprint, while the APE for indirect effects includes resources that are within or visible from the project area. As a result of the investigations, no archaeological sites or above ground resources were identified during the survey (Figures 1.1 and 1.2).

Despite approximately 55.8 percent (2.3 acres) of the project area being recommended as being high probability based on the probability model presented in Chapter 3, Section 3.4, the survey results revealed a lack of intact soil deposits, a lack of cultural material, and disturbances within the project area. It is the opinion of S&ME that the project area has a low potential for containing significant cultural resources and no additional cultural resource work is recommended.

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**Cultural Resources Reconnaissance Survey GSP Traffic Control Tower Site 12** Spartanburg County, South Carolina S&ME Project No. 23600247A; SHPO Project No. 20-JS0534

# 8.0 Appendix A – SHPO Correspondence



January 21, 2021

Nicole Miller Assistant Staff Project Manager ECS Southeast, LLP <u>nmrivera@ecslimited.com</u>

> Re: Proposed GSP Airport Air Traffic Control Tower Location, Sites H and 12, 2000 GSP Drive Greer, Spartanburg County, South Carolina SHPO Project No. 20-JS0534

Dear Nicole Miller:

Our Office has received the documentation dated December 10, 2020 that you submitted as due diligence for the project referenced above, including your letters, Section 106 Project Review Forms, maps, and photographs. This letter is for preliminary, informational purposes only and does not constitute consultation or agency coordination with our Office as defined in 36 CFR 800: "Protection of Historic Properties" or by any state regulatory process. The recommendation stated below could change once the responsible federal and/or state agency initiates consultation with our Office.

Our office knows of no documented historic properties that are eligible for listing or listed in the National Register of Historic Places in the proposed project areas. The project areas have not been previously surveyed for cultural resources/historic properties.

If the subject referenced project were to require state permits or federal permits, licenses, funds, loans, grants, or assistance for development, we would recommend to the federal or state agency or agencies that:

A phased investigation of the project area's potential to contain historic properties, beginning with archival research on the history of the project area and a reconnaissance-level survey be conducted. We recommend the phased investigations because the project area's proximity to water, known archaeological sites, and to well-drained soils. If these investigations indicate a high probability for historic properties to exist within the project area, we recommend proceeding to an intensive survey. Please consult the SC Standards and Guidelines for Archaeological Investigations for guidance.

The federal or state agency or agencies will take our recommendation(s) into consideration when evaluating the project and will determine what level of identification efforts will be required.

The State Historic Preservation Office will provide comments regarding historic architectural and archaeological resources and effects to them once the federal or state agency initiates consultation. Project

Review Forms and additional guidance regarding our Office's role in the compliance process and historic preservation can be found on our website at: <u>https://scdah.sc.gov/historic-preservation/programs/review-compliance</u>.

Please refer to SHPO Project Number 20-JS0534 in any future correspondence regarding this project. If you have any questions, please contact me at (803) 896-6129or at <u>jsylvest@scdah.sc.gov</u>.

Sincerely,

John D. Sylvest

John D. Sylvest Project Review Coordinator State Historic Preservation Office

Appendix 3 - Jurisdictional Water Assessment Reports



June 2, 2023

Federal Aviation Administration 2711 Highway 75 Blountville, Tennessee 37617

Attention: Ms. Karen Yeung

Reference: Jurisdictional Waters Assessment Report GSP Traffic Control Tower Site H Greer, Spartanburg County, South Carolina S&ME Project No. 23600247

Dear Ms. Yeung:

S&ME, Inc. (S&ME) appreciates the opportunity to provide this Jurisdictional Waters Report for the abovereferenced project located at the Greenville Spartanburg International Airport (GSA) in Greer, Spartanburg County, South Carolina. The work was performed in accordance with S&ME Proposal No. 23600247E dated April 10, 2023.

## Project Background

We understand the Federal Aviation Administration (FAA) is proposing to construct a new traffic control tower on an approximate 4.74-acre portion (known as Site H) of the larger GSA property. The site and site waters are depicted on the attached **Exhibit 1 – Aerial Imagery**.

## Methodology

Prior to the site visit, S&ME reviewed relevant supporting information, including U.S. Geological Survey (USGS) Maps, U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Spartanburg County Soil Survey, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Map and representative aerial imagery.

The assessment included evaluating features exhibiting characteristics that are consistent with Jurisdictional Waters of the U.S., following the procedures set forth in the 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual<sup>1</sup> and the Eastern Mountains and Piedmont Region Supplemental Guidance<sup>2</sup>. S&ME also

<sup>&</sup>lt;sup>1</sup> Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. NTIS No. AD A176.

<sup>&</sup>lt;sup>2</sup> United States Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (version 2.0). ERDC/EL TR-12-9. U.S. Army Engineer Research and Development Center. Vicksburg, Mississippi.



Jurisdictional Waters Assessment Report GSP Traffic Control Tower Site H Greer, Spartanburg County, South Carolina S&ME Proposal No. 23600247

assessed the project area for the presence of stream channels with a defined ordinary high water mark (OHWM) within a bed and bank system, utilizing the USACE Regulatory Guidance Letter No. 05-05<sup>3</sup>.

Jurisdictional Wetlands refer to areas where three wetland indicators are present and include: hydrophytic vegetation, wetland hydrology and hydric soils.

In South Carolina linear features with intermittent or perennial flows are considered jurisdictional streams with relatively permanent flow by the USACE.

## ♦ Results

The field reconnaissance was conducted on May 17 and 25, 2023. The site received two inches of rainfall the night before the 17<sup>th</sup> site visit. The site had received no rainfall in the 48 hours preceding the 25th site visit. The site reconnaissance was performed by S&ME Scientists Andrew Hook, Ronald Walker and Andrew Shumpert.

Following review of the supporting information described above, the site evaluation began in the southeast section of the site and proceeded to the northwest. Two streams and two wetlands were delineated on site. Stream 1 is a stream that flows onto the site from a culvert underneath GSP Drive. Stream 1 flows for approximately 445 linear feet (LF) before flowing off site in the southeast corner. Stream 2 originates on site within a drainage feature. Stream 2 flows for approximately 40 LF before flowing into Stream 1.

Two wetlands have developed abutting Stream 1.

All site streams were located within channels with a bed and bank system with a defined ordinary high-water mark. All site wetlands had an observable presence of hydrophytic vegetation, hydric soil indicators and wetland hydrology. Sufficient data was collected to prepare a Formal Request for Jurisdictional Determination (JD Request) to the USACE.

The jurisdictional features are summarized in Tables 1 and 2:

Feature ID	Area - Acres
Wetland 1	0.157
Wetland 2	0.002
Total Approximate Jurisdictional Wetlands	0.159

### Table 1 – Site Jurisdictional Wetlands

<sup>&</sup>lt;sup>3</sup> United States Army Corps of Engineers. 2005. Regulatory Guidance Letter. No. 05-05. U.S. Army Corps of Engineers. Signatory: Don T. Riley, Major General, U.S. Army, Director of Civil Works.



### Jurisdictional Waters Assessment Report GSP Traffic Control Tower Site H Greer, Spartanburg County, South Carolina S&ME Proposal No. 23600247

Feature ID	Linear Feet
Stream 1	445
Stream 2	40
Total Approximate Jurisdictional Streams	485

### **Table 2 – Site Jurisdictional Streams**

# Conclusion and Recommendation

In summary, S&ME identified two Jurisdictional Streams and two Jurisdictional Wetlands on site. Please note that while S&ME's assessment can be used for general planning purposes, regulatory concurrence and confirmation can be obtained only by USACE verification through a JD Request or as part of a Pre-Construction Notification (PCN). We collected sufficient data to prepare a JD Request for this site. The USACE will make the final jurisdictional determination for all site waters.

If the waters are impacted, notification to the USACE and South Carolina Department of Health and Environmental Control (SCDHEC) in the form of a PCN may be required. Compensatory Mitigation would be required for wetland impacts greater than 0.10 acre and stream impacts greater than 0.005 acre. The USACE would authorize wetland impacts less than 0.50 acre and stream impacts less than 0.050 acre under one of the Nationwide Permits (NWP), however, the total impacts cannot exceed 0.50 acre. For impacts that exceed these limits the USACE would require a standard Individual Permit (IP).

# Closing Remarks

S&ME appreciates the opportunity to submit this Jurisdictional Waters Assessment Report and trust the information is responsive to your needs. If you have any questions or comments, please do not hesitate to contact Ronald Walker at 864.297.9944.

Sincerely,

Romall. White

Ronald Walker Senior Scientist

Attachment: Exhibit 1

Mark Augspurger Senior Scientist / Senior Reviewer

Attachments

Attachment I – Exhibit 1



N N		&
	Aerial Imagery	GSP Traffic Control Tower Site H Federal Aviation Administration Greer, Spartanburg County, South Carolina
	SCALE: 1 " = 100 '	
d 📲	5-30-	-2023
te H Approximate Site Location	2360	0247
etlands	EXHIB	IT NO.
reams	_	L



June 2, 2023

Federal Aviation Administration 2711 Highway 75 Blountville, Tennessee 37617

Attention: Ms. Karen Yeung

Reference: Jurisdictional Waters Assessment Report GSP Traffic Control Tower Site 12 Greer, Spartanburg County, South Carolina S&ME Project No. 23600247

Dear Ms. Yeung:

S&ME, Inc. (S&ME) appreciates the opportunity to provide this Jurisdictional Waters Report for the abovereferenced project located at the Greenville Spartanburg International Airport (GSA) in Greer, Spartanburg County, South Carolina. The work was performed in accordance with S&ME Proposal No. 23600247B dated April 10, 2023.

## Project Background

We understand the Federal Aviation Administration (FAA) is proposing to construct a new traffic control tower on an approximate 4.19-acre portion (known as Site 12) of the larger GSA property. The site and site waters are depicted on the attached **Exhibit 1 – Aerial Imagery**.

## Methodology

Prior to the site visit, S&ME reviewed relevant supporting information, including U.S. Geological Survey (USGS) Maps, U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Spartanburg County Soil Survey, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Map and representative aerial imagery.

The assessment included evaluating features exhibiting characteristics that are consistent with Jurisdictional Waters of the U.S., following the procedures set forth in the 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual<sup>1</sup> and the Eastern Mountains and Piedmont Region Supplemental Guidance<sup>2</sup>. S&ME also

<sup>&</sup>lt;sup>1</sup> Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. NTIS No. AD A176.

<sup>&</sup>lt;sup>2</sup> United States Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (version 2.0). ERDC/EL TR-12-9. U.S. Army Engineer Research and Development Center. Vicksburg, Mississippi.



Jurisdictional Waters Assessment Report GSP Traffic Control Tower Site 12 Greer, Spartanburg County, South Carolina S&ME Proposal No. 23600247

assessed the project area for the presence of stream channels with a defined ordinary high water mark (OHWM) within a bed and bank system, utilizing the USACE Regulatory Guidance Letter No. 05-05<sup>3</sup>.

Jurisdictional Wetlands refer to areas where three wetland indicators are present and include: hydrophytic vegetation, wetland hydrology and hydric soils.

In South Carolina linear features with intermittent or perennial flows are considered jurisdictional streams with relatively permanent flow by the USACE.

## Results

The field reconnaissance was conducted on May 17 and 25, 2023. The site received two inches of rainfall the night before the 17<sup>th</sup> site visit. The site had received no rainfall in the 48 hours preceding the 25th site visit. The site reconnaissance was performed by S&ME Scientists Andrew Hook, Ronald Walker and Andrew Shumpert.

Following review of the supporting information described above, the site evaluation began in the southwest section of the site and proceeded to the north. No jurisdictional waters were observed on the site. Although there are wet areas with hydrophytic vegetation the soils, however, lack hydric soil indicators. The site is comprised entirely of uplands. Sufficient data was collected to prepare a Formal Request for Jurisdictional Determination (JD Request) to the USACE.

## Conclusion and Recommendation

In summary, S&ME identified no jurisdictional aquatic features within the Site 12 boundaries. Please note that while S&ME's assessment can be used for general planning purposes, regulatory concurrence and confirmation can be obtained only by USACE verification through an Approved JD Request (AJD) for an Upland Determination. We collected sufficient data to prepare a JD Request for this site. However, an Upland Determination is not required or necessary for the site development.

## Closing Remarks

S&ME appreciates the opportunity to submit this Jurisdictional Waters Assessment Report and trust the information is responsive to your needs. If you have any questions or comments, please do not hesitate to contact Ronald Walker at 864.297.9944.

Sincerely,

Ronallhalte

Ronald Walker Senior Scientist

Attachment: Exhibit 1

Mark Augspurger Senior Scientist / Senior Reviewer

<sup>3</sup> United States Army Corps of Engineers. 2005. Regulatory Guidance Letter. No. 05-05. U.S. Army Corps of Engineers. Signatory: Don T. Riley, Major General, U.S. Army, Director of Civil Works.

Attachment

Attachment I – Exhibit 1



N N		
	Aerial Imagery GSP Traffic Control Tower Site 12 Federal Aviation Administration Greer, Spartanburg County, South Carolina	
	scale: 1 " = 100 '	
	DATE: 5-30-2023	
	PROJECT NUMBER 23600247	
	EXHIBIT NO.	
e 12 Approximate Site Location	1	