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NC Registered Engineering Firm F-1078

June 10, 2013

Miss Jennifer Calabria Pacolet Milliken Enterprises, Inc. 105 Corporate Drive, Suite A Spartanburg, South Carolina 29303

Re: Report of Cultural Threatened Species Study Clinton – Adair Site Clinton, South Carolina ECS Project No. 14-7071

Dear Miss Calabria:

ECS Carolinas, LLP (ECS) is pleased to provide the results of the Limited NEPA Database Review conducted for the above referenced property. Our services were provided in accordance with ECS Proposal Number 14-9194-P.

# **BACKGROUND INFORMATION**

The project site (site) consists of approximately 780 acres as two parcels of partially developed wooded and grassed land located northeast of Interstate 26 to the southeast of Highway 56 and north and south of Highway 72 in Clinton, Laurens County, South Carolina (Figure 1). The northern parcel is identified by the Laurens County GIS website as Tax Parcel Identification Number #692-00-001 consisting of approximately 497.88 acres. The southern parcel is identified by the Laurens County GIS website as Tax Parcel Identification Number #901-35-01-004 consisting of approximately 281.10 acres.

The Laurens County Tax Assessor lists both parcels as owned by Pacolet Milliken Enterprises with no structures identified as currently located at the site. The subject site is under consideration for the Industrial Site Certification Program through the South Carolina Department of Commerce.

## FIELD RECONNAISSANCE

ECS personnel conducted field reconnaissance between the dates of February 27, 2013 and March 15, 2013. The site consists of undeveloped partially wooded and grassed land. Partial development of the site consists of unpaved gated access roadways located to the north of Hwy 72, to the west of Duncan Creek Church Road, and to the south of Barrel Stave Road. There are no structures located on the site.

Wooded areas located near western and northern site boundaries contain a mixture of basicmesic, Oak-Hickory, and Piedmont xeric hardpan forests. The trees in these areas appear to be approximately 15 to 20 years old. Heavy underbrush is typically present in these.

A transition zone is located between the grassed fields with planted pines and the wooded areas. This transition zone contains thick vegetation that is dominated by Carolina Rose, and Multiflora Rose (Rosa Carolina and Rosa multiflora), Japanese Honeysuckle (Lonicera japonica), Sericea (Lespedeza cuneata, Kudzu (pueraria lobata), common goldenrod (solidago altissima).

Intermittent unnamed streams are located along the drainages of the upland ridges and flow north to Miller's Fork or east to Sand Creek. Miller's Fork is located along the western boundary of the site and flows northeast to southeast before its confluence with Sand Creek. Sand Creek is located outside of the site boundary to the east.

#### PRELIMINARY THREATENED AND ENDANGERED SPECIES DETERMINATION

Congress passed the Endangered Species Act (ESA) in 1973. The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service (FWS) and the Commerce Department's National Marine Fisheries Service (NMFS). The FWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife.

Under the ESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments.

We reviewed the FWS Endangered Species Database to identify federally protected threatened and endangered species in Laurens County, South Carolina. The following federally protected Threatened and Endangered species were identified in Laurens County, South Carolina.

Common Name	Scientific name	Federal Status	<b>Record Status</b>
Invertebrate:			
Carolina Heelspliter	Lasmigona decorata	E	Current
Vertebrate:			
Red-cockaded woodpecker	Picoides borealis	E	Historic
Vascular Plant:			
Georgia Aster	Symphyotrichum georgianum	Т	Historic
E = Endangered T = Threa	tened		

## **Species/Habitat Description**

#### Bald eagle

**Description:** The Carolina heelsplitter can reach up to 4.6 inches in length, 1.6 inches in width, and 2.7 inches in height (Keferl 1991). Like other freshwater mussels, the Carolina heelsplitter feeds by filtering food particles from the water column. The specific food habits of the species

are unknown, but other juvenile and adult freshwater mussels have been documented to feed on detritus, diatoms, phytoplankton, and zooplankton (Churchill and Lewis 1924). The diet of Carolina heelsplitter glochidia, like other freshwater mussels, comprises water (until encysted on a fish host) and fish body fluids (once encysted). The Carolina heelsplitter's life span, the fish host species, and many other aspects of its life history are unknown (USFWS 1997).

Habitat: Presently, the species is known to occur in only nine small streams and one small river. It has been recorded from a variety of substrates (including mud, clay, sand, gravel, and cobble/boulder/bedrock) without significant silt accumulations, along stable, well-shaded stream banks (Keferl and Shelly 1988, Keferl 1991). However, individuals have also been found near the center of the stream channel in relatively silt-free substrates comprised primarily of a mixture of sand, gravel, and cobble, with scattered areas of exposed boulders/bedrock (J. Fridell personal observation, 1995). It is conceivable that this is the preferred habitat type for the species and that in other areas scouring and degradation of the gravelly substrate in the center of the channel has restricted the species to the softer substrates found along the portion of the stream banks that receive less scouring (USFWS 1997). The stability of the stream banks and stream bottom appears to be a habitat feature essential to the species. Keferl (1991) noted that in his surveys of Goose, Waxhaw, and Flat Creeks and the Lynches River, he found the highest concentrations of the species in (bank) undercuts and along shaded banks stabilized with extensive tree roots, a buried log, and rocks. The best populations are typically found in areas with significant woodland as a dominant land use. The species appears to exist in creeks or small rivers near or within the transition from Piedmont to Coastal Plain / Sandhills physiographic regions (Alderman 1998a). Past records indicate this mussel may have also inhabited mill ponds (NatureServe 2003).

**Conclusion:** The site consists of grassed and planted pine fields, and mixed hardwood and pine woodlands. Intermittent unnamed streams are located along the drainages of the upland ridges and flow north to Miller's Fork or east to Sand Creek. Miller's Fork is located along the western boundary of the site and flows northeast to southeast before its confluence with Sand Creek. Sand Creek is located outside of the site boundary to the east. Intermittent unnamed streams did not appear to provide suitable habitat for this species.

Miller's Fork appeared large enough to the support this species, however, siltation and suspended solids observed during the site visit did not appear to provide suitable habitat for this species. Therefore, suitable habitat for this species is considered marginally present at the site.

## Red-cockaded Woodpecker

**Description:** The red-cockaded woodpecker (RCW) is a small bird measuring about seven inches in length. Identifiable by its white cheek patch and black and white barred back, the males have a few red feathers, or "cockade". These red feathers usually remain hidden underneath black feathers between the black crown and white cheek patch unless the male is disturbed or excited. Female RCWs lack the red cockade. Juvenile males have a red 'patch' in the center of their black crown. This patch disappears during the fall of their first year at which time their 'red-cockades' appear.

**Habitat:** Red-cockaded woodpecker habitat includes forests with trees old enough for roosting, generally at least 60-120 years old, depending on species of pine. The most prominent adaptation of RCWs is their use of living pines for cavity excavation.

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For nesting and roosting habitat, red-cockaded woodpeckers need open stands of pine containing trees 60 years old and older. RCWs need live, large older pines in which to excavate their cavities. Longleaf pines (*Pinus palustrus*) are preferred, but other species of southern pine are also acceptable. Dense stands (stands that are primarily hardwoods, or that have a dense hardwood under story) are avoided. Foraging habitat is provided in pine and pine hardwood stands 30 years old or older with foraging preference for pine trees 10 inches or larger in diameter. In good, moderately-stocked, pine habitat, sufficient foraging substrate can be provided on 80 to 125 acres.

Hardwood mid-story encroachment results in cluster abandonment; therefore, it is critical that hardwood mid-story be controlled. Prescribed burning is the most efficient and ecologically beneficial method to accomplish hardwood mid-story control.

**Conclusion:** The site consists of grassed and recently planted pine fields, and mixed hardwood and pine woodlands.

Wooded areas located near western and northern site boundaries contain a mixture of basicmesic, Oak-Hickory, and Piedmont xeric hardpan forests. The trees in these areas appear to be approximately 15 to 20 years old. Heavy underbrush is present in these areas eliminating the potential for RCW habitat.

There are no pine woodlands or mixed hardwood and pine woodlands on the site of sufficient age and open understory to support roosting or foraging RCWs. Therefore, suitable habitat for this species is not present on the site.

## Georgia Aster

**Description:** The Georgia Aster has large heads, 5 centimeters (cm) (2 inches (in)) across (containing numerous flowers), with dark purple rays up to 2 cm (0.8 in) long, and thick, lanceolate to oblanceolate, scabrous, clasping leaves. Flowering occurs from early October to mid-November. Disc flowers are white fading to a light or dull lavender, tan or white as they mature, resulting in a difference between colors of early and mature disk corollas. The ribbed achenes are up to 4 millimeters (0.1 in) long, with evenly distributed spreading trichomes. S. georgianum can be distinguished from the similar S. patens by its dark purple rays (compared to the light lavender rays of S. patens), and white to lavender disc flowers (compared to the yellow disc flowers of S. patens). Various species of butterflies and bumblebees have been observed pollinating the flowers, but these have not yet been identified to species (Matthews 1993, p. 21). The main mode of reproduction is vegetative. Plants are usually colonial, with 1 (sometimes 2) stems arising from each underground part.

**Habitat:** Georgia aster occupies dry oak-pine flatwoods and uplands. Soils vary from sand to heavy clay, with pH ranging from 4.4 to 6.8 at the sites sampled thus far (Matthews 1993, p.20). The primary controlling factor appears to be the availability of light. The species is a good competitor with other early successional species, but tends to decline when shaded by woody species. Populations can persist for an undetermined length of time in the shade, but these rarely flower (Matthews 1993, p.20) and reproduce only by rhizomes.

**Conclusion:** The site consists of grassed and recently planted pine fields, and mixed hardwood and pine woodlands. Soil types of the upland areas consist of Cecil, Enon, and Wilkes characterized by sandy loams and sandy clay loams. Upland areas are heavily

vegetated with weedy cover and young pines affecting availability of light, additionally, the lack of natural fire disturbance (prescribed burning) at the site minimize the occurrence potential of suitable habitat for this species.

Based on our assessment of the on-site conditions, ECS did not identify threatened or endangered species or habitat at the subject site suitable for RCW or Georgia Aster. Miller's Fork was considered marginally suitable for the Carolina Heelsplitter and if possible, this area should be avoided in the development plan at the site.

## AGENCY CORRESPONDENCE

On March 12, 2013, ECS conducted a telephone interview with Ms. Paula Sisson, Biologist – Red-Cockaded Woodpecker with the US Fish and Wildlife, South Carolina Field Office and Ms. Mellissa Bimbi, Biologist – Recovery and Endangered Species with the US Fish and Wildlife, South Carolina Field Office. At that time, Ms. Sisson indicated that there have been no recorded observations of RCW identified on the site. At that time, Ms. Bimbi indicated that there have been no recorded observations of Carolina Heelsplitter, or Georgia Aster identified on the site.

#### CONCLUSIONS

We have conducted a preliminary threatened and endangered species for the site. Please note that our services did not include detailed studies for threatened and endangered species. However, based on our knowledge of the site, the database review and correspondence from representatives of the U.S. Fish & Wildlife Service, it is our opinion that the project will not adversely affect threatened and endangered species. Additional assessment is recommended only in areas that may affect Miller's Creek directly such as roadway and or utility piping crossings.

## <u>CLOSING</u>

We appreciate the opportunity to provide our services to you. Please contact us at (864) 987-1610 if you have questions or require additional information.

Sincerely,

ECS Carolinas. LLP

Mark C White Senior Project Manager

Attachments Figure 1 – USGS Topographic Map Figure 2 – Aerial Photograph Figures supplied by Pacolet Milliken Proposed Development Plan

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Denise M. Neas, LSS, PWS Senior Environmental Principal

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€15 USGS TOPOGRAPHIC MAP PHILSON CROSSING, SC QUADRANGLE DATED 1969, JOANNA, SC QUADRANGLE **DATED 1974** SCALE 1"=2,000'



**FIGURE 1** 

SITE LOCATION MAP **CLINTON – ADAIR TRACT** SC HWY 72 AND BARREL STAVE ROAD LAURENS COUNTY, SOUTH CAROLINA ECS PROJECT NO.14-7071





Spartanburg, SC 29303 864.503.1331	National Wetlands Inventory (NWI) Map	<u>Legend</u>	
Map created: 27 July 2012 Map created by: Pacolet Milliken Enterprises, Inc./JAC		_	Parcel boundaries
Map is for illustrative purposes only; survey required to verify exact locations.	Clinton 26 Commerce Park		Wetlands
$\bigcirc$	Attachment 12		
	5.400		
0 1,800 3,600	5,400		



105 Corporate Drive, Suite A Spartanburg, SC 29303 864.503.1331		Legend
Map created: 27 July 2012 Map created by: Pacolet Milliken Enterprises, Inc./JAC	Jurisdictional Waters	Parcel boundaries
Map is for illustrative purposes only; survey required to verify exact locations.	Clinton 26 Commerce Park Laurens County, SC	Wetlands
0' 1,800' 3,600'	5,400'	





