Red-cockaded Woodpecker (*Picoides borealis*)
Survey Report for the
Replacement of Bridge No. 68 on NC 214
Over Green Swamp
Columbus County, North Carolina

TIP B-5699

Prepared For:

THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Project Development and Environmental Analysis Unit
Natural Environment Section

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1.0 INTRODUCTION

The North Carolina Department of Transportation (NCDOT) proposes to replace bridge number 68 on NC 214 over Green Swamp (TIP B-5699) in Columbus County (Figure 1). The red-cockaded woodpecker (*Picoides borealis*) (RCW) is listed by the U.S. Fish and Wildlife Service (USFWS) as federally endangered. VHB Engineering NC, P.C (VHB) has been contracted to assess habitat and conduct necessary surveys to determine potential effect for the RCW. This report presents the results of the habitat assessments and surveys, pursuant to Section 7 of the Endangered Species Act, as amended.

2.0 SPECIES DESCRIPTION

RCWs are 8 to 9 inches in length, with black and white plumage and its back lined with alternating black and white horizontal stripes. This bird is distinguished from other woodpeckers with its large white cheek patches (USFWS 2003). The adult males have red feathers between their black caps and white cheeks. These feathers, "the cockade", are usually only seen when the male is disturbed or excited (USFWS 2015).

RCWs are cooperative breeders and are found throughout the southeast, living in groups. Typical RCW nesting and foraging habitat consists of mature stands of southern pine species with an open understory. For nesting and roosting, they excavate cavities within the heartwood of living pine trees aged 60 years or older, particularly longleaf pine (*Pinus palustris*), which are contiguous to pine stands at least 30 years of age to provide foraging habitat. The collection of cavity trees in an area defended by a group of RCWs is called a cluster. The foraging range of the RCW is normally no more than a half-mile from the cluster (USFWS 2003).

3.0 METHODOLOGY

The project study area was assessed for the presence of RCW foraging and nesting habitat per the USFWS 2003 RCW Survey Protocol and the NCDOT Natural Environment Section Red-cockaded Woodpecker Survey Protocol, version 1.2 (NCDOT 2011). When assessing RCW habitat, forest stands should be predominantly pine or a pine/hardwood mix in which the pine composition is 50 percent or greater. Foraging habitat consists of pines 30 years of age or older while nesting habitat consists of pine trees 60 years of age and older. The project study area was assessed for the presence of foraging and/or nesting habitat and RCW cavity trees based on the parameters described above. If the project study area contained either habitat, then a half-mile radius boundary was drawn from all RCW habitat in the project study area. The half-mile survey area was assessed for the presence of nesting habitat. In some cases, foraging or nesting habitat may be separated from other habitat areas by segments of non-foraging habitat such as forest stands with greater than 50 percent hardwoods, pine stands less than 30 years old,

cleared lands such as agricultural land or clear cut areas, paved roadways, utility right of ways or bodies of water (USFWS 2003). In these cases, if the potential RCW habitat area (i.e., foraging or nesting) is separated from other potential RCW habitat areas by non-foraging habitat by a distance of more than 200 feet, these areas are considered non-contiguous habitat and were not surveyed.

All potential nesting habitat accessible by foot was surveyed for the presence of RCW cavity trees. Surveys consisted of transects spaced 50 -150 feet apart based on the visibility of the stand. Nesting habitats within residential areas were surveyed on foot and by vehicle. In some instances, mature pines are known to occur within wide expanses of extremely dense wetland ecosystems locally referred to as pocosins or Carolina Bays. Because these systems contain dense, impenetrable understories, RCW cavity tree establishment is mainly restricted to pocosin edges where understories are less dense and birds have easy access to neighboring upland pine ridges to forage. In these situations, VHB biologists used binoculars to survey along the edges of pocosins where cavity trees are most likely to be found, with the assumption that RCW cavity tree use within the center of pocosin areas is not common in this part of the state.

4.0 RESULTS

VHB staff assessed and surveyed the project study area and half-mile survey area on July 28, 2016. The project study area contained only a few loblolly pine trees aged 60 -70 years old (Figure 1); therefore a half-mile survey was conducted. The half-mile survey area consisted mostly of an uneven aged stand of loblolly pine aged 50 to 80 years old and older. Five other stands contained loblolly pine 40 years old and younger. Stands to the northwest of the bridge were considered non-contiguous habitat. No RCW cavity trees were found. Stands not depicted on Figure 2 are non-forage or non-contiguous habitat. See Table 1 and Figure 2 for descriptions of pine stands.

According to the North Carolina Natural Heritage Program records, updated June 2016, no documented occurrences of RCW are cited within 1.0 mile of the project study area.

Table 1. Description of Pine Stands in the Half-Mile Survey Area

Stand	Description of stand	Age of Pines
A	Loblolly pine	15 years old
B	Loblolly pine	30 years old
C	Loblolly pine with dense hardwood understory	50 to 80+ years old
D	Loblolly pine	30-40 years old

5.0 BIOLOGICAL CONCLUSION

RCW foraging habitat was located within the project study area requiring a half-mile survey for nesting habitat. Only one stand contained potential RCW nesting habitat but no RCW cavity trees were found. Based on these findings and no documented occurrences within 1.0 mile, this project will have no effect on the RCW.

Biological Conclusion: No Effect

6.0 REFERENCES

North Carolina Department of Transportation. 2011. Red-cockaded Woodpecker Survey Protocol, Version 1.2. Project Development and Environmental Analysis Branch, Raleigh, NC. https://connect.ncdot.gov/resources/Environmental/PDEA%20Procedures%20Manual%20Documents/Red-cockaded%20Woodpecker%20Survey%20Protocol.pdf

North Carolina Natural Heritage Program. June 2016. Biotics Database. Department Natural and Cultural Resources, Raleigh, North Carolina.

U.S. Fish and Wildlife Service. 2003. Recovery plan for the red-cockaded woodpecker (*Picoides borealis*): second revision. U.S. Fish and Wildlife Service, Atlanta, GA. 296 pp.

U.S. Fish and Wildlife Service. 2015. (Date accessed: August 22, 2016) https://www.fws.gov/raleigh/species/es_red-cockaded_woodpecker.html

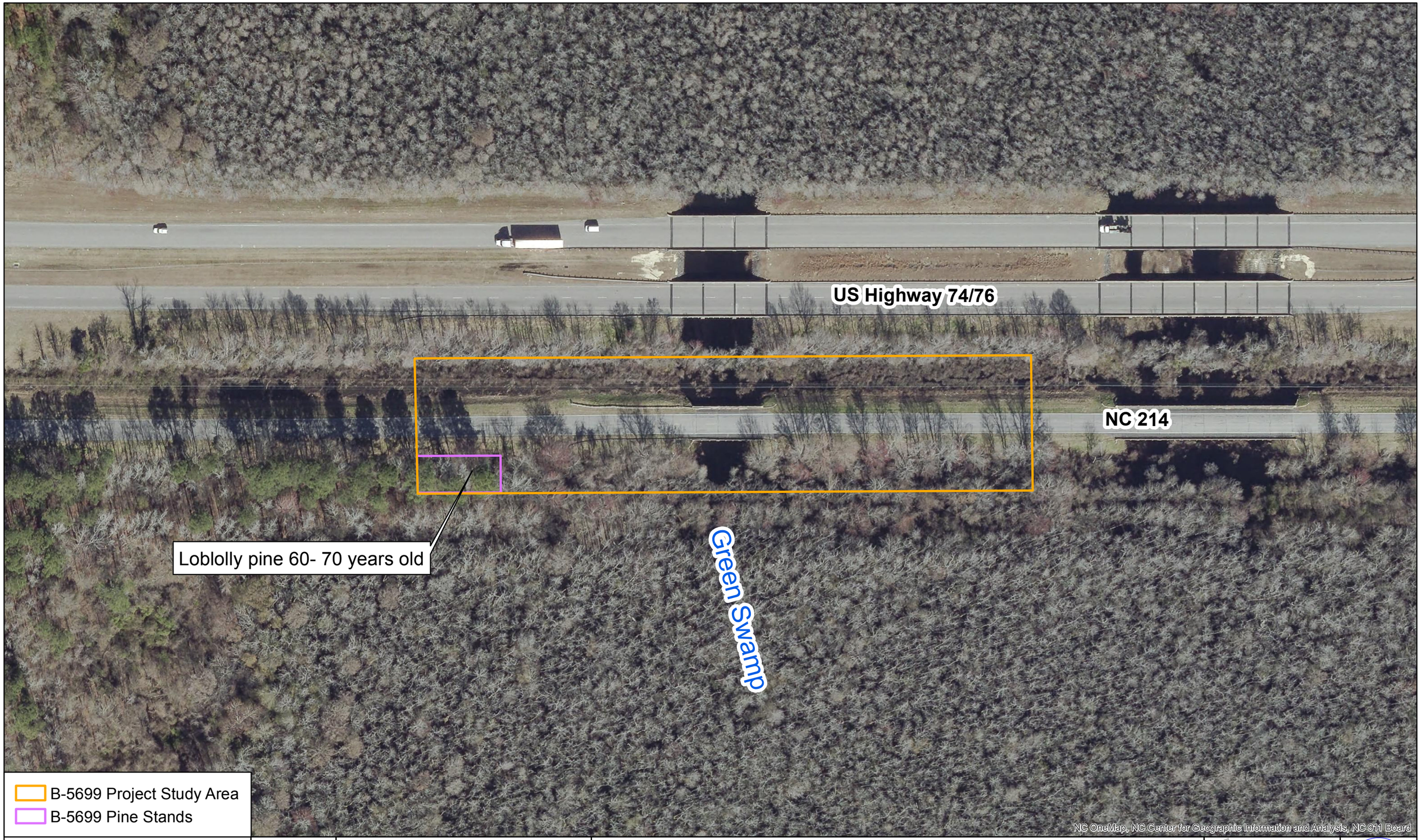
Appendix A
Qualifications of Contributors

Principal Investigator:	Rachelle Beauregard
Education:	B.S. Fisheries and Wildlife Science, North Carolina State University
Experience:	Environmental Senior Scientist, VHB, 2015-Present Environmental Supervisor/Senior Specialist, NCDOT, 2001-2015 Staff Biologist, Dr. J.H. Carter III and Associates, 1997-2001

Investigator:	D. Clayton Robertson
Education:	B.A. Environmental Science: Eckerd College
Experience:	Environmental Scientist, VHB, December 2013 – Present Environmental Field Lead, EcoGenesis, 2012-2013 Field Scientist/Team Lead, Cardno Entrix, 2011-2012 Ecologist, Stantec, 2008 – 2011 Environmental Specialist, Biological Research Associates, Inc., 2006 -2008

Appendix B

Figures

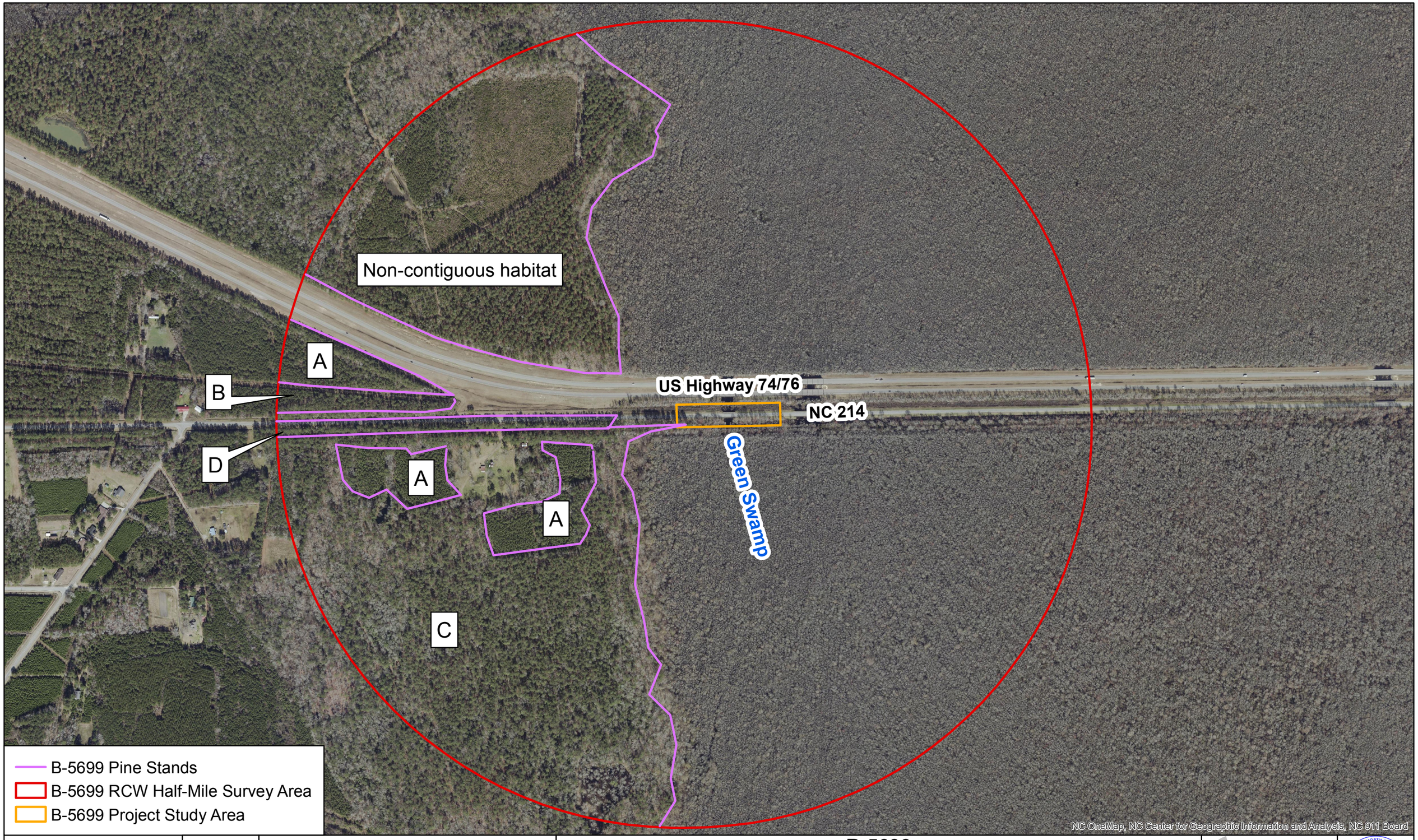


0 50 100 200 Feet

Figure 1
Project Study Area

B-5699
Replacement of Bridge No. 68 over Green Swamp on NC 214
Columbus County

9/29/2016



0 400 800 Feet

Figure 2
RCW Half-Mile Survey Area

B-5699

Replacement of Bridge No. 68 over Green Swamp on NC 214

Columbus County

9/28/2016