



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

South Carolina

June 16, 2017

1835 Assembly Street, Suite 1270  
Columbia, South Carolina 29201  
803-765-5411  
803-253-3989

In Reply Refer To:  
HDA-SC

Mr. David Kelly  
RPG 4 NEPA Coordinator/Architectural Historian  
South Carolina Department of Transportation (SCDOT)  
955 Park Street, P.O. Box 191  
Columbia, South Carolina 29202

Dear Mr. Kelly:

The FHWA has received your letter requesting a Finding of No Significant Impact (FONSI) determination for the proposed I-85 Widening and Improvements from Mile Marker 96 to Mile Marker 106 in Cherokee County, South Carolina (Federal Project No. P027116). Based on the information provided to complete the environmental process the FHWA finds that the project will have no significant impacts; therefore a FONSI determination is justified. Please proceed accordingly with the publication of the notice of availability of location and preliminary design approval and availability of the FONSI. The final documentation is to be made available to the public upon request. A notice of the FONSI approval shall be sent to the affected units of Federal, State, and local governments. A notice shall also be sent to the State inter-governmental review contacts established under Executive Order 12372.

We have also reviewed the Interchange Modification Reports (IMR) submitted on May 25, 2017 for Interstate access revisions at Exits 98, 100, 102, 104 and 106. Based on our review, the modifications as recommended are acceptable. As the selected alternative contained in the NEPA document is consistent with the IMR, the proposed access revision to the Interstate System is approved. Please note that the approved access revision is valid for a period of eight years and must be re-assessed if not advanced to construction within this timeframe.

By our adoption of the FONSI and completion of the public comment/hearing requirements of 23 U.S.C. 128, the SCDOT is authorized to proceed with further project development. Please ensure that the project commitments made during the NEPA process are included in the project construction proposal and ultimately carried out. Please address any questions to Michelle Herrell at [michelle.herrell@dot.gov](mailto:michelle.herrell@dot.gov) /803-765-5460 or Carolyn Fisher at [carolyn.fisher@dot.gov](mailto:carolyn.fisher@dot.gov) /803-765-5464.

Sincerely,

Emily O. Lawton  
Division Administrator

Enclosures

cc: Mr. Brad Reynolds, SCDOT Program Manager



South Carolina  
Department of Transportation

May 25, 2017

Mr. Steve Ikerd  
Federal Highway Administration  
1835 Assembly Street, Suite 758  
Columbia, South Carolina 29201

Re: Interchange Modification Reports for Review and Approval  
Interstate 85 at Frontage Road off Ramp – Exit 98 &  
Interstate 85 at US 29 (E. Cherokee Street) – Exit 106  
Cherokee County

Dear Mr. Ikerd:

Please find attached the Interchange Modification Reports for the above referenced locations. The South Carolina Department of Transportation has reviewed and approved these reports. We request that Federal Highway Administration review and provide concurrence on these reports.

If you should have additional questions regarding these reports, please do not hesitate to contact me at (803) 737-1440 or reynoldsbs@scdot.org.

Sincerely,

Digitally signed by Reynolds, Brad S  
DN: cn=Reynolds, Brad S,  
e=ReynoldsBS@scdot.org, o=SCDOT  
Date: 2017.05.25 09:11:01-0400

Bradley S. Reynolds, P.E.  
Program Manager

Approval by FHWA:

Date:

June 16, 2017

BSR:bsr

Attachments

ec: Carolyn Fisher, FHWA Operations Engineer  
Tad Kitowitz, FHWA Operations Engineer Team Leader  
Ron Hinson, Traffic Design Review Engineer

File: PC/BSR

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955 Park Street  
Columbia, SC 29202-0191



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PROJECT FILE



South Carolina  
Department of Transportation

May 25, 2017

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Federal Highway Administration  
1835 Assembly Street, Suite 758  
Columbia, South Carolina 29201

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If you should have additional questions regarding these reports, please do not hesitate to contact me at (803) 737-1440 or reynoldsbs@scdot.org.

Approval of IMR  
Concurrent w/ FONSI  
is Recommended  
BSR 6/15/17

Sincerely,

  
Bradley S. Reynolds, P.E.  
Program Manager

Digitally signed by Reynolds, Brad S  
DN: cn="Reynolds, Brad S",  
e=ReynoldsBS@scdot.org, o=SCDOT  
Date: 2017.05.25 09:11:01-0400

Approval by FHWA:  Date: June 16, 2017

BSR:bsr

Attachments

cc: Carolyn Fisher, FHWA Operations Engineer  
Tad Kitowitz, FHWA Operations Engineer Team Leader  
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South Carolina  
Department of Transportation

**Finding of No Significant Impact  
*and*  
Public Hearing Certification**

**Interstate 85 Improvement Project  
Cherokee County, South Carolina**

**Project No. P027116**



**May 2017**

Date: 06/15/2017



Project ID: P027116 County: Cherokee District: District 4 Doc Type: EA Total # of Commitments: 13

Project Name: I-85 Widening and Interchange Improvements - Design Build Preparation

The Environmental Commitment **Contractor Responsible** measures listed below **are to be included in the contract and must be implemented**. It is the responsibility of the Program Manager to make sure the Environmental Commitment **SCDOT Responsible** measures are adhered to. If there are questions regarding the commitments listed please contact:

**CONTACT NAME:** Mr. Brad Reynolds P.E.

**PHONE #:** (803)-737-1440

### ENVIRONMENTAL COMMITMENTS FOR THE PROJECT

#### Non-Standard Commitment

NEPA Doc Ref: Page: 62 Paragraph: 2

Responsibility: SCDOT/CONTRACTOR

#### Section 404 Individual Permit and Mitigation

Based on preliminary design, it is anticipated that the proposed project will require a Department of the Army Section 404 Permit from the U.S. Army Corps of Engineers (USACE). The Contractor, with oversight from SCDOT, will be responsible for preparing the permit application and the SCDOT will be responsible for submitting the permit application to USACE. In addition, mitigation will be required for impacts to waters of the U.S. The Contractor, in coordination with the SCDOT, will be responsible for obtaining suitable mitigation for the project in consultation with the USACE and other resource/regulatory agencies. The SCDOT/Contractor will provide the USACE with information regarding any proposed demolition activities during the Section 404 Permitting Process.

#### Water Quality

NEPA Doc Ref: Page: 65 Paragraph: 2

Responsibility: CONTRACTOR

The contractor will be required to minimize possible water quality impacts through implementation of BMPs, reflecting policies contained in 23 CFR 650B and the Department's Supplemental Specification on Erosion Control Measures (latest edition) and Supplemental Technical Specifications on Seeding (latest edition). Other measures including seeding, silt fences, sediment basins, etc. as appropriate will be implemented during construction to minimize impacts to water quality.

#### Stormwater

NEPA Doc Ref: Page: 65 Paragraph: 2

Responsibility: CONTRACTOR

Stormwater control measures, both during construction and post-construction, are required for SCDOT projects with land disturbance and/or constructed in the vicinity of 303(d), TMDL, ORW, tidal, and other sensitive waters in accordance with the SCDOT's MS4 Permit. The selected contractor would be required to minimize potential stormwater impacts through implementation of construction best management practices, reflecting policies contained in 23 CFR 650 B and SCDOT's Supplemental Specifications on Seed and Erosion Control Measures (latest edition).

Project ID: P027116

SCDOT  
NEPA ENVIRONMENTAL COMMITMENTS  
FORM



**ENVIRONMENTAL COMMITMENTS FOR THE PROJECT**

**Non-Standard Commitment**

NEPA Doc Ref: Page: 81 Paragraph: 4

Responsibility: CONTRACTOR

Construction Noise

To minimize construction noise, the contractor will be required to comply with *SCDOT 2007 Standard Specifications for Highway Construction*, which includes specifications regarding nuisance noise avoidance.

**Migratory Bird Treaty Act**

NEPA Doc Ref: Page: 69 Paragraph: 1

Responsibility: CONTRACTOR

The federal Migratory Bird Treaty Act, 16 USC § 703-711, states that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. The South Carolina Department of Transportation (SCDOT) will comply with the Migratory Bird Treaty Act of 1918 in regard to the avoidance of taking of individual migratory birds and the destruction of their active nests.

The contractor shall notify the Resident Construction Engineer (RCE) at least four (4) weeks prior to construction/demolition/maintenance of bridges and box culverts. The RCE will coordinate with SCDOT Environmental Services Office (ESO), Compliance Division, to determine if there are any active birds using the structure. After this coordination, it will be determined when construction/demolition/maintenance can begin. If a nest is observed that was not discovered after construction/demolition/maintenance has begun, the contractor will cease work and immediately notify the RCE, who will notify the ESO Compliance Division. The ESO Compliance Division will determine the next course of action.

The use of any deterrents by the contractor designed to prevent birds from nesting, shall be approved by the RCE with coordination from the ESO Compliance Division. The cost for any contractor provided deterrents will be provided at no additional cost to SCDOT.

**Noise**

NEPA Doc Ref: Page: 82 Paragraph: 1

Responsibility: SCDOT

SCDOT will inform local planning officials of future, generalized noise levels expected to occur in the project vicinity after FHWA has made a final decision on the Environmental document.

Project ID: P027116

SCDOT  
NEPA ENVIRONMENTAL COMMITMENTS  
FORM



**ENVIRONMENTAL COMMITMENTS FOR THE PROJECT**

**USTs/Hazardous Materials**

NEPA Doc Ref: Page: 84 Paragraph: 2

Responsibility: SCDOT/CONTRACTOR

If avoidance of hazardous materials is not a viable alternative and soils that appear to be contaminated are encountered during construction, the South Carolina Department of Health and Environmental Control (SCDHEC) will be informed. Hazardous materials will be tested and removed and/or treated in accordance with the United States Environmental Protection Agency and the SCDHEC requirements, if necessary.

**Cultural Resources**

NEPA Doc Ref: Page: 85 Paragraph: 1

Responsibility: CONTRACTOR

The contractor and subcontractors must notify their workers to watch for the presence of any prehistoric or historic remains, including but not limited to arrowheads, pottery, ceramics, flakes, bones, graves, gravestones, or brick concentrations during the construction phase of the project, if any such remains are encountered, the Resident Construction Engineer (RCE) will be immediately notified and all work in the vicinity of the discovered materials and site work shall cease until the SCDOT Archaeologist directs otherwise.

**Non-Standard Commitment**

NEPA Doc Ref: Page: 67 Paragraph: 5

Responsibility: CONTRACTOR

Conditional Letter of Map Revision

It is anticipated that a Conditional Letter of Map Revision (CLOMR) would be necessary for impacts to Buffalo Creek on the south side of I-85 in the vicinity of Exit 100. The contractor would be responsible for coordinating with FEMA and local floodplain officials in the preparation of the CLOMR. The selected contractor will send a set of final plans and request for floodplain management compliance determination to the local County Floodplain Administrator.

Project ID: P027116

SCDOT  
NEPA ENVIRONMENTAL COMMITMENTS  
FORM



**ENVIRONMENTAL COMMITMENTS FOR THE PROJECT**

**Non-Standard Commitment**

NEPA Doc Ref: Page: 67 Paragraph: 4

Responsibility: CONTRACTOR

Hydraulic Analysis

A final detailed hydraulic analysis will be conducted during final design development, and will be performed per the *SCDOT Requirements for Hydraulic Design Studies*.

**Non-Standard Commitment**

NEPA Doc Ref: Page: 86 Paragraph: 2

Responsibility: SCDOT/CONTRACTOR

Right-of-way Acquisition

The SCDOT/Contractor will acquire all new right-of-way and process any relocations in compliance with the Uniform Relocation Assistance and Real Property Acquisition policies Act of 1970, as amended (42 U.S. C. 4601 *et seq.*). The purpose of these regulations is to ensure that owners of real property to be acquired for Federal and federally-assisted projects are treated fairly and consistently, to encourage and expedite acquisition by agreements with such owner, to minimize litigation and relieve congestion in the courts, and to provide public confidence in Federal and federally-assisted land acquisition programs.

**Non-Standard Commitment**

NEPA Doc Ref: Page: 71 Paragraph: 1

Responsibility: SCDOT

Georgia Aster

Georgia aster was found within the project study area along a stream north of I-85 near Shaman Road, outside of the existing mainline corridor. The preliminary alternative alignment would not impact this area at this time, as it is outside of the construction limits. The design build contractor will be provided a map showing the avoidance area for this species. Candidate species do not currently receive statutory protection under the ESA; thus, an effect determination was not completed. Should this species become listed, or if the final design of the preferred alternative changes in this area, SCDOT and/or FHWA would need to conduct additional consultation with the USFWS.



Project ID: P027116

SCDOT  
NEPA ENVIRONMENTAL COMMITMENTS  
FORM



**ENVIRONMENTAL COMMITMENTS FOR THE PROJECT**

**Non-Standard Commitment**

NEPA Doc Ref: Page: 73 Paragraph: 1

Responsibility: CONTRACTOR

Air Quality

State and local regulations regarding dust control and other air quality emission reduction controls will be followed. Current state BMP's will be followed during construction of the project. These include covering earth-moving trucks to keep dust levels down, watering haul roads, and refraining from open burning, except as may be permitted by local regulations.

NEPA Doc Ref:

Responsibility:

NEPA Doc Ref:

Responsibility:

**FEDERAL HIGHWAY ADMINISTRATION  
SOUTH CAROLINA DIVISION OFFICE  
FINDING OF NO SIGNIFICANT IMPACT**

**For**

**Interstate 85 (I-85) Phase III Improvement Project  
MM 98 to 106**

**In**

**Cherokee County, South Carolina**

**Project Description**

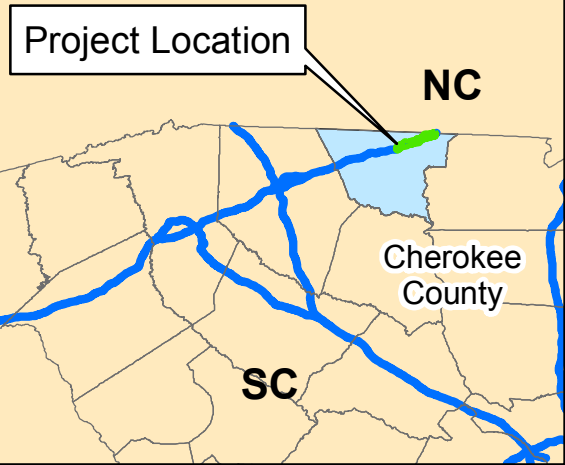
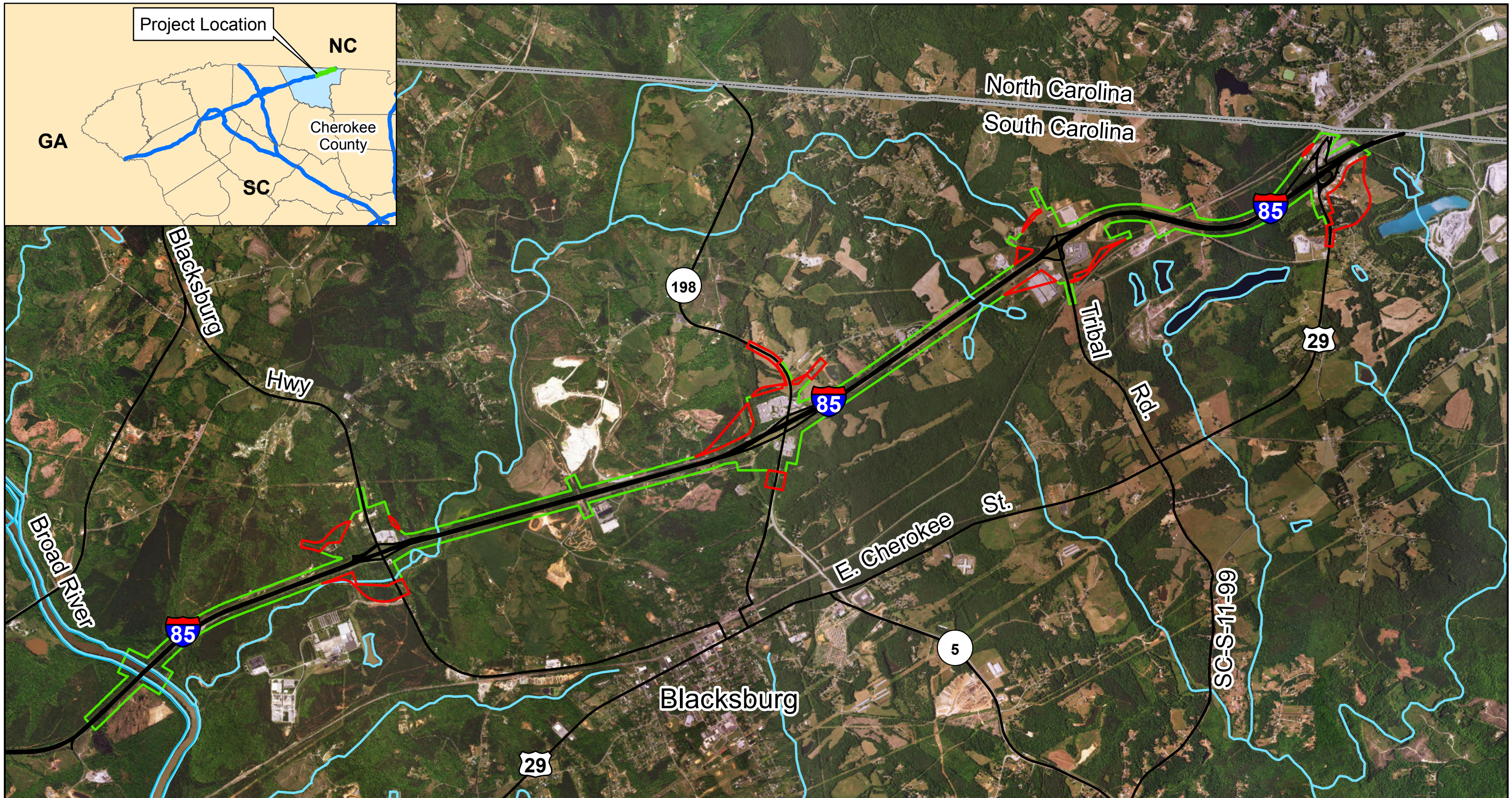
The South Carolina Department of Transportation (SCDOT) propose to provide for the widening of I-85 between Milemarker (MM) 98 and 106 in Cherokee County, South Carolina (Figure 1). The proposed project would also include complimentary improvements to four interchanges along the project corridor.

The project, as proposed, would result in certain modifications to the human and natural environment. However, the Department has not identified any significant impacts that would occur based on the data collected, and therefore the project meets the criteria under 23 CFR 771.115(c) for processing as an Environmental Assessment. Specific environmental studies were conducted in the early stages of project development and were utilized in making this decision. These environmental studies are incorporated by reference to the Environmental Assessment (EA).

The proposed project is consistent with the Appalachian Council of Governments (ACOG) Long Range Transportation Plan and is included in SCDOT's Statewide Transportation Improvement Program (STIP) for Cherokee County. Act 98 of 2013 provided additional funding for bridge, resurfacing, and mainline interstate projects. Act 98 provides an annual appropriation of \$50 million to SCDOT, which in turn transfers an equivalent amount to the South Carolina Transportation Infrastructure Bank (SCTIB) to be utilized to finance an estimated \$550 million of interstate improvements.<sup>1</sup> The SCDOT 2017-2022 Statewide Transportation Improvement Program (STIP) currently allocates \$171 million for construction.

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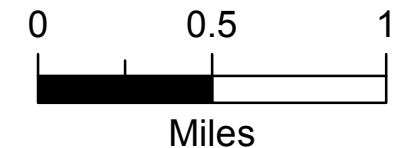
<sup>1</sup>SCDOT, State Transportation Improvement Program, Cherokee County, October 11, 2016, [http://206.74.144.42/ESTIP/downloads/Cherokee.html?\\_id=1478876431965](http://206.74.144.42/ESTIP/downloads/Cherokee.html?_id=1478876431965). Last Assessed on February 9, 2017.



**SCDOT**  
 South Carolina  
 Department of Transportation

**Legend**

- Roads
- I-85
- Streams
- ▭ County Boundary
- Project Boundary
- Additional Project Limits



**FIGURE 1:  
 INTERSTATE I-85 WIDENING  
 FROM MM 98 TO MM 106  
 STUDY AREA MAP**

## Purpose and Need

The primary purpose of the project is to improve the operational efficiency of I-85 and correct geometric deficiencies along the various interchanges and overpasses by bringing them into compliance with current state and federal design standards. The secondary purpose of the project is to enhance the safety along the existing facilities. Expanded discussion regarding the project purpose and need is included in **Section 2.0** of the approved EA.

## Project Alternatives

SCDOT has considered various location and design alternatives in the process of developing the currently proposed “build” alternative. These alternatives were developed based on the purpose and need for the project, required and recommended engineering criteria, traffic data, visual observations, and supplemental data including previous studies.<sup>2</sup> Specifically, the engineering criteria considered design speed, horizontal and vertical curve criteria, sight distance, and intersection spacing. This includes utilization of the SCDOT’s *Access and Roadside Management Standards* (ARMS) which documents minimum spacing guidelines for access placement along interchange areas. A minimum distance of 750 feet is recommended from the closest interchange ramp to the first full access intersection, and a minimum distance of 325 feet is recommended between the ramps and the first right-in/right-out access point.<sup>3</sup> The purpose of this spacing is to avoid traffic congestion and conflicts in the vicinity of interchange ramp terminals. Providing the recommended intersection spacing of 750 feet, and minimizing environmental impacts, provided the greatest design challenge. As such, the alternative analysis considered alternatives that do not fully comply with the recommended intersection spacing for the benefit of minimizing impacts. In addition, the alternatives were developed to avoid and minimize undesirable at grade railroad crossings along the project corridor.

There were five alternatives originally developed for each of the four interchanges during the preliminary development of the project, along with one alternative for the mainline. These alternatives were refined to a total of ten (10) interchange alternatives that were evaluated during the early phases of project development and presented for public input. These ten alternatives were further refined based on continued design, and comments received from early public involvement. As a result, a total of 13 build alternatives for the interchanges and one mainline alternative were ultimately analyzed. These build alternatives were evaluated based on their ability satisfying the purpose and need for the project while minimizing impacts to the human and natural environment. The environmental factors included, but were not limited to impacts to existing residences, commercial businesses, property access, floodplain impacts, wetland impacts, protected species, and community impacts. Various engineering and environmental technical studies were conducted to provide adequate documentation for the alternative analysis including traffic analysis and report, natural resource technical memorandum, cultural resource report, environmental site assessment, and noise report. The findings of these studies, along with applicable references are appropriately documented throughout this document. Expanded discussion regarding the project alternatives is included in **Section 3.0** of the approved EA.

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<sup>2</sup> SCDOT, *I-85 Corridor Analysis, Spartanburg and Cherokee Counties*, SCDOT Office of Planning, 2014.

<sup>3</sup> SCDOT, *Access and Roadside Management Standards* (ARMS), 2008 Editions, Revised April 27, 2015, [http://www.scdot.org/doing/technicalPDFs/publicationsManuals/trafficEngineering/ARMS\\_2008.pdf](http://www.scdot.org/doing/technicalPDFs/publicationsManuals/trafficEngineering/ARMS_2008.pdf), last accessed October 10, 2016.

### No-Build Alternative

The No-Build Alternative, which consists of SCDOT making no improvements to existing I-85 or the associated interchanges, was considered a baseline for comparison. This alternative would not improve the existing operational conditions of the interchanges nor improve the deteriorating levels of service on I-85 in the design year. As a result, the No-Build Alternative would result in continued operational deficiencies, unacceptable levels of service, congestion, and safety concerns. Therefore, the No-Build Alternative would not satisfy the purpose and need for the project and is not considered an acceptable alternative.

### Preferred Alternative

The preferred alternative along the mainline and each interchange was selected largely based on the ability to satisfy the purpose and need while minimizing environmental impacts. The mainline build alternative, along with Exit 100 – Alternative 4, Exit 102 – Alternative 1, Exit 104 – Alternative 4, and Exit 106 – Alternative 3 are recommended as the overall preferred alternative for this project. This alternative accommodates future traffic needs and improves existing operational efficiency of the interchanges while minimizing impacts to the commercial/residential developments, wetlands/streams, and access.

The proposed mainline widening would occur to the median of the existing facility, with only minor work beyond the existing shoulder to provide adequate clear zones. In addition, minor approach work would be conducted along the rest area facility near mile marker 105. The proposed work along the mainline would result in impacts to approximately 317 linear feet of stream impact, 0.16 acres of wetland and 1.7 acres of floodplain.

**Exit 100** - Alternative 4 consists of a diamond interchange with the replacement of the Blacksburg Highway bridge over I-85 to the east (i.e. right) of the existing structure. Due to alignment constraints, the proposed bridge would be constructed in stages and traffic would be maintained during construction. The proposed bridge would accommodate the appropriate horizontal and vertical clearances for traffic along I-85. All frontage roads and business access points would be eliminated along the interchange ramps, and realigned to provide the desirable intersection spacing. This includes the elimination Frontage Road/Milliken Road from the northbound off-ramp; relocation of Simper Road and the commercial driveways along the southbound off-ramp; and the relocation of Crawford Road from the southbound on-ramp. Specifically, Milliken Road would be eliminated, and not relocated to avoid adverse impacts to Buffalo Creek and associated floodplain. The elimination of this roadway would result in additional right-of-way/access impacts to two properties, including the displacement of one commercial business. Access to Milliken Road would continue to be provided through the current access off Blacksburg Road, just south of Buffalo Creek. This alternative would avoid construction of a new bridge over Buffalo Creek and avoid potential conflicts and/or additional work associated with the current SCDOT bridge replacement over Buffalo Creek. This alternative would also include closing Exit 98. This alternative requires the fewest acres of additional right-of-way and floodplains, less potential *Hexastylis* sp. habitat impacts, lower stream impacts, no wetland impacts, and achieves the ramp and frontage road separation as recommended by the SCDOT ARMS manual.

**Exit 102** - Alternative 1 consists of a diamond interchange with the replacement of the N. Mountain Street bridge over I-85 to the east (i.e. right) of the existing structure. The proposed bridge would accommodate the appropriate horizontal and vertical clearances for traffic along I-85. All frontage roads and business access points would be eliminated along the interchange ramps, and realigned to provide the desirable intersection spacing. This includes the relocation of Henson Road from the northbound off-ramp; elimination of direct commercial access driveways along the southbound off-ramp; and the relocation of Shaman Road from the southbound on-ramp. Specifically, the intersections of these roadways with N. Mountain Street would be relocated to accommodate at a minimum the desired 750-foot of spacing from the interchange ramp intersections. This alternative is very similar to Alternative 2 except it has less stream impacts, and lower costs. It also has less impacts to the parking areas at the Flying J Truck Stop. Alternative 2 impacts more Flying J parking and also encroaches closer to the diesel fuel islands. Although Alternative 1 has higher impacts to potential *Hexastylis* sp. habitat, this is due to the expanded project area. The original project area was surveyed for *Hexastylis* sp. and none were found (Appendix C). Although, the overall potential *Hexastylis* sp. habitat is greater for Alternative 1, *Hexastylis* sp. was not identified throughout the habitat.

**Exit 104** - Alternative 4 consists of a diamond interchange with the replacement of the Tribal Road bridge over I-85 to the east (i.e. right) of the existing structure. The proposed bridge would accommodate the appropriate horizontal and vertical clearances for traffic along I-85. All frontage roads and business access points would be eliminated along the interchange ramps, and realigned to provide the desirable intersection spacing. This includes the relocation of S-657 from the northbound off-ramp; relocation of Priester Road from the northbound on-ramp; and the relocation of Holly Grove Road and White's Farm Road from the southbound on-ramp. The frontage road intersections would be located to accommodate the desired 750-foot spacing with the exception of S-657. The relocation of S-657 would be aligned to avoid and minimize impacts to an industrial site, resulting in approximately 450-foot of spacing between the proposed intersection and the ramp intersection. However, this alternative would impact a portion of the existing parking lot along the industrial site. This alternative requires the second fewest acres of additional right-of-way, second less potential *Hexastylis* sp. habitat impacts, less stream impacts, and lower costs than the other alternatives. This alternative was developed to avoid impacts to the Atlas Industrial parking lot from the Henson Road realignment. An Atlas Industrial representative discussed the potential impacts to the parking lot with SCDOT and stated that the existing configuration was setup to provide security to the facility. Although there is available land to reconfigure the parking, it would not provide the level of security necessary to the facility. All other impacts are relatively similar.

**Exit 106** - Alternative 3 consists of a diamond interchange with the replacement of the E. Cherokee Street bridge over I-85 to the west (i.e. left) of the existing structure. The proposed bridge would accommodate the appropriate horizontal and vertical clearances for traffic along I-85. All frontage roads and business access points would be eliminated along the interchange ramps, and realigned to provide the desirable intersection spacing. This includes the relocation of Frontage Road from the northbound on-ramp; elimination of direct commercial access driveways along the southbound off-ramp; and the elimination of the two-way southbound on-ramp. Frontage Road would be relocated to intersect with Lakeview Drive to minimize right-of-way impacts and avoid residential developments. The Lakeview Drive alignment would exceed

the desired 750-foot of spacing from the interchange ramp intersections. However, the 750-foot of spacing is not feasible to the north of the interchange due to the location of an existing railroad line. Therefore, the intersection associated with the relocated property access roadway would be located approximately 350 feet from the ramp intersections and avoid commercial displacements. This alternative requires the fewest acres of additional right-of-way, less farmland acres, no wetland impacts, no residential relocations, and achieves the ramp and frontage road separation as recommended by the SCDOT ARMS manual. It does have higher potential *Hexastylis* sp. impacts, higher stream impacts, and higher costs. The alternative was developed to avoid displacing, and bisecting, a small neighborhood located on south US 29 on Wendy Drive. Table 1 lists the impacts resulting from the preferred alternative.

Impact Category	Table 1. Preferred Alternative Impacts					
	Mainline	Exit 100 Alt. 4	Exit 102 Alt. 1	Exit 104 Alt. 4	Exit 106 Alt. 3	Totals
<b>Residential Relocations/Impacts</b>	0	0	0	1	0	1
<b>Commercial Relocations/Impacts</b>	0	3	4	1	8	16
<b>Right-of-Way (acres)</b>	2.6	17	25	21	19	84.6
<b>Farmlands (acres)</b>	16.7	0.67	0	0	5.5	22.9
<b>Floodplains (acres)</b>	1.7	0.9	0	0	0	2.6
<b>Wetlands (acres)</b>	0.16	0	0.001	0.1	0	0.26
<b>Streams/Linear Conveyances (linear feet)</b>	317	787	2,280	714	1,734	5,832
<b>Permits</b>	IP	IP	IP	IP	IP	IP
<b>Threatened/Endangered Species</b>						
<i>Hexastylis</i> Habitat (acres)	2.5	0.2	2.4	2.3	2.7	10.1
<b>Cultural Resources</b>						
Architectural	0	0	0	0	0	0
Archaeological	0	0	0	0	0	0
<b>Section 4(f) Resource (parks, wildlife refuges, etc.)</b>	0	0	0	0	0	0
<b>Noise Impacted Receivers</b>	N/A	7	22	14	6	49
<b>Hazardous Material Sites<sup>1</sup></b>	0	4	4	2	4	14
<b>Project Cost (millions)</b>	\$85.0	\$20.4	\$34.9	\$25.3	\$26.0	\$191.6

### Impacts Summary

This section includes a summary of the potential environmental effects of the project. Expanded discussion regarding the probable impacts on the environment is included in **Section 4.0** of the approved Environmental Assessment.

#### Threatened and/or Endangered Species

Pursuant to Section 7 of the Endangered Species Act of 1973, a field survey of the PSA was conducted by Department representatives in 2015 and 2016 that coincided with the optimal survey time for each species. Table 2 lists the threatened (T) and endangered (E) species for Cherokee County that were obtained from the U.S. Fish and Wildlife Service (USFWS) (last updated August 2015):

**Table 2. Threatened and Endangered Species**

<b>Animals</b>	<b>Federal Status</b>
<i>Myotis septentrionalis</i> (Northern long-eared bat)	Threatened
<b>Plants</b>	
<i>Hexastylis naniflora</i> (Dwarf-flowered heartleaf)	Threatened
<i>Symphotrichum georgianum</i> (Georgia aster)	Candidate

SCDOT representatives conducted appropriate literature research and field investigations regarding the potential presence of any threatened or endangered species within the PSA. A *Natural Resources Technical Memorandum* (NRTM) was prepared to document the methods and findings of this review.

#### Northern Long-Eared Bat (*Myotis septentrionalis*)

Based on coordination with the USFWS, the USFWS determined that potentially suitable habitat exists in the project area for the NLEB but the project is not located within 150 feet of a known NLEB maternity roost tree or within 0.25 miles of a known NLEB hibernaculum. Therefore, potential take of this species through project construction is not prohibited according to the final 4(d) rule for the species. Therefore, there are no restrictions on the clearing of trees associated with the Northern long-eared bat.

#### Dwarf-flowered Heartleaf (*Hexastylis naniflora*)

Dwarf-flowered heartleaf surveys were conducted within the original 905 acre PSA on March 29 and April 5, 2016. The survey consisted of traversing all suitable habitat within the PSA for the presence/absence of Dwarf-flowered heartleaf. Representative *Hexastylis* specimens were then identified to species level, and dwarf-flowered heartleaf was not found in the PSA. After this survey, this PSA was increased to 1,065 acres during development of the alternatives to ensure adequate coverage and data collection for alternative analysis. The additional area was assessed in August 2016, with the identification of suitable habitat. *Hexastylis* sp. was also observed in the expanded PSA, but could not be identified to species level. Since this was outside the optimal survey period, these areas were recorded and mapped. However, the newly identified areas were outside of the construction limits of the preferred alternative, and would not impact these areas where *Hexastylis* sp. was observed. An additional survey within the USFWS survey window (i.e. March to May) was completed in March 2017 with no specimens being identified. Therefore, it was recommended that the project would have a “no effect” on the dwarf-flowered heartleaf.

#### Georgia Aster (*Symphotrichum georgianum*)

Georgia aster was found within the PSA along a stream north of I-85 near Shaman Road, outside of the existing mainline corridor. The Preferred Alternative would not impact this area as it is outside of the construction limits. Candidate species do not currently receive statutory protection under the ESA; thus an effect determination was not completed. Should this species become listed, or if the final design of the preferred alternative changes in this area, SCDOT and/or FHWA would need to conduct additional consultation with the USFWS.

Based on the Natural Resources Technical Memorandum, the SCDOT and FHWA recommended that the proposed action would have no effect on resources under the jurisdiction of the USFWS



that are currently protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). This information was sent to the USFWS on January 9, 2017 and is currently under review.

### Wetlands and Streams

The proposed improvements would result in various unavoidable impacts to streams and wetlands. The following is a summary of the impacts associated with each element of the project:

- **Mainline:** The mainline improvement would result in approximately 317 LF of stream impact and 0.16 acre of wetland impact. The 317 LF of stream impacts include perennial, seasonal, and intermittent streams; however, the mainline would only impact 317 LF of jurisdictional waters (i.e. perennial and seasonal streams) would be impacted.
- **Exit 100:** The improvements along the Exit 100 would result in approximately 787 LF of stream impact with no impact to any wetland areas. The 787 LF of impact does not include any intermittent streams, and therefore includes only jurisdictional waters.
- **Exit 102:** The improvements along the Exit 102 would result in approximately 2,280 LF of stream impact and 0.001 acre of wetland impact. The 2,280 LF of stream impacts include perennial, seasonal, and intermittent streams; however, only 1,298 LF of jurisdictional waters (i.e. perennial and seasonal streams) would be impacted.
- **Exit 104:** The improvements along the Exit 104 would result in approximately 714 LF of stream impact and 0.1 acre of wetland impacts. The 714 LF of stream impacts include perennial, seasonal, and intermittent streams; however, only 279 LF of jurisdictional waters (i.e. perennial and seasonal streams) would be impacted.
- **Exit 106:** The improvements along the Exit 106 would result in approximately 1,734 LF of stream impact and no wetland impacts. The 1,734 LF of stream includes impacts associated with perennial, seasonal, and intermittent streams; however, only 1,408 LF of jurisdictional waters (i.e. perennial and seasonal streams) would be impacted.

Table 3 shows the overall wetland and stream impacts resulting from the preferred alternative.

**Table 3. Impacts to Wetlands and Streams**

<b>Roadway Element</b>	<b>Wetland Impacts (acres)</b>	<b>Stream Impacts (linear feet)</b>
<b>Mainline</b>	0.16	317
<b>Exit 100</b>	0.0	787
<b>Exit 102</b>	0.001	2280
<b>Exit 104</b>	0.1	714
<b>Exit 106</b>	0.0	1734
<b>Totals</b>	<b>0.26</b>	<b>5832</b>

### Floodplains

The I-85 mainline currently crosses regulated floodways and floodplains associated with Broad River and Buffalo Creek. The mainline currently includes bridge structures at these crossings to accommodate and maintain adequate conveyance for these systems. In addition, the existing bridges can accommodate the proposed travel lanes without any major construction and modifications to the structure. Therefore the proposed improvements along the mainline would not result in any direct floodplain impacts. The reconstruction of Exit 100 would result in direct impacts to “Zone A” floodplains associated with Buffalo Creek. Specifically, the proposed relocation of the I-85 northbound off-ramp and on-ramp would impact 0.9 acres of floodplain.

To comply with these EO, appropriate hydraulic analysis would be conducted for each encroachment of a FEMA regulated floodplain. The hydraulic analysis is used to determine if the project is likely to increase the risk of flooding within the floodplain. In order to meet the requirements of a “No-Rise” condition, FEMA requires projects which would encroach on Regulated Floodways and Zone AE floodplains to result in a change no greater than 0.1 feet from the established 100-year flood elevations. Furthermore, SCDOT requires all Zone A crossings to be analyzed for the 100-year flood to ensure that the floodplain encroachment does not cause one (1) foot or more of backwater when compared to unrestricted or natural conditions.

Preliminary hydraulic analysis has been completed, and is documented in The “South Carolina Department of Transportation – Location and Hydraulic Design of Encroachments of Floodplains Checklist” included in Appendix D of the EA. A final detailed hydraulic analysis would also be conducted during final design development, and would be performed per the *SCDOT Requirements for Hydraulic Design Studies*.<sup>4</sup> These studies would more precisely determine the effects of the project on the base floodplains. However, based on a preliminary evaluation, the proposed project is anticipated to require a CLOMR. The final analysis and preparation of a CLOMR would require coordination with FEMA and the Cherokee County floodplain manager.

### Farmland

The PSA has been evaluated with regard to the Farmland Protection Policy Act (FPPA) of 1981. Through the use of county farmland listings provided by the Natural Resources Conservation Service (NRCS), it has been determined that the PSA would involve lands protected under the Act. A Farmland Conversion Impact Rating Form SCS-CPA-160 was been completed for the project corridor. The form provides a site assessment scoring system with criteria for evaluating adverse effects of projects on the protection of farmland. Sites receiving highest scores up to a maximum of 260 are considered most suitable for protection while those with lowest scores are considered least suitable. Sites receiving scores less than the maximum allowable score of 160 are to be given minimal consideration for protection. The score computed for this proposed action was 157. As the total points are less than 160, neither consideration of alternative sites nor additional studies for the study area are required under the Act.

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<sup>4</sup> SCDOT, <http://www.scdot.org/doing/technicalPDFs/hydraulic/requirements2009.pdf>. Last accessed October 31, 2016.

### Relocations/Right-of-Way Impacts

The proposed project would require the relocation of 16 businesses and 1 residence, which results in a direct impact on these properties. In addition, the reconstruction of the four interchanges would alter the existing mobility and access points along many businesses. This includes the addition of controlled access along the cross roads for some distance from the interchange ramp intersections to ensure adequate operation of the interchange facilities. The improvements would also eliminate direct access to and from the interchange ramps for various businesses, further impacting access and mobility. Numerous side roads would be relocated at desirable distances from the interchange ramp intersections and some frontage roads would be realigned to create better separation from interstate ramps.

### Hazardous Material Impacts

A Phase I Environmental Site Assessment (ESA) was conducted to identify any Recognized Environmental Conditions (RECs) within or in proximity to the PSA. RECs include, but are not limited to possible sites involving the presence and/or past use of underground storage tanks (USTs), above ground storage tanks (ASTs), and/or other hazardous materials within the project study area. The ESA included federal and state database research along with an on-site reconnaissance survey of the project study area. The ESA identified numerous recognized environmental conditions (RECs) within the PSA. These sites are primarily associated with current and/or former gasoline service stations; auto repair facilities; trucking/transport facilities; industrial facilities; and other retail facilities. The ESA further identified approximately 17 of these sites to have moderate to high potential for subsurface contamination, seven (7) of these sites to have low to moderate potential for subsurface contamination and noted seven (7) additional incidental environmental conditions.

### Cultural Resource Impacts

A literature review and records search was undertaken prior to the field surveys. Background research was conducted to identify all previously recorded cultural resources located within the project study area and to develop a cultural and historic context to evaluate newly recorded resources identified within the study area of the proposed project during the cultural resource field survey.

As a result of the cultural resources survey 22 architectural resources, two archaeological sites and one isolated find were recorded and evaluated. One architectural resource is recommended eligible for listing on the NRHP, while all other resources were determined not eligible for listing on the NRHP. The proposed project would not impact the eligible site as the site is located beyond the proposed construction limits and no new right-of-way is anticipated to be acquired from this property.

### Air Quality Impacts

The project was evaluated with regard to the Clean Air Act Amendments of 1990. These amendments identify six criteria pollutants (ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen oxides, and lead), along with the National Ambient Air Quality Standards (NAAQS) for each pollutant. The Environmental Protection Agency (EPA) designates geographical areas that have pollutant concentrations below the NAAQS as these pollutants vary, but automotive vehicles are considered a source for four (ozone, particulate matter, nitrogen

oxides, and carbon monoxide) of the criteria pollutants. A review of current air quality data determined that the EPA has designated Cherokee County 'in attainment' for the criteria pollutants, and in compliance with the NAAQS.<sup>5</sup>

The proposed project is not expected to require any additional transportation control strategies to maintain the County's current attainment status, and the project is anticipated to be consistent with the State Air Quality Implementation Plan (SIP). However, the proposed project must be continually evaluated throughout project development to ensure compliance with the most current air quality regulations and attainment status.

For each build alternative in this EA, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for each of the Build Alternatives is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. Refer to Table 4 regarding the VMT for the preferred alternative. This increase in VMT would lead to higher MSAT emissions for the preferred alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to the Environmental Protection Agency's (EPA) MOVES2014 model, emissions of all of the priority MSAT decrease as speed increases. Because the estimated VMT under each of the alternatives are nearly the same, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 90 percent between 2010 and 2050 (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, October 12, 2016). Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

**Table 4. Vehicle Miles Traveled (VMT)**

Roadway Segment	AM	PM
I-85 Study Area	2,929,133	4,588,853

#### Greenhouse Emissions

For this project, the operations, fuel cycle, and construction/maintenance emissions were estimated. A GHG Analysis was completed for the No-build Alternative and the Reasonable Alternatives, and included the emissions from constructions, operations, and fuel cycle. Operations and fuel cycle emissions were determined for the No-build, Reasonable, and Preferred Alternatives using lookup tables from the Motor Vehicle Emission Simulator (MOVES2014a) provided by the FHWA. The assumptions used for this analysis can be found in Appendix G of the EA. The results of the analysis are shown below in Table 5. The

<sup>5</sup> U.S. EPA website. <https://www.epa.gov/green-book>. Last Accessed December 6, 2016.

amount of CO<sub>2</sub>e emitted would be expected to decrease with the advent of better technologies between now and 2040, as noted in the table.<sup>6</sup>

**Table 5. Estimated GHG Operations and Fuel Cycle Emissions, CO<sub>2</sub>e**

Year	Metric Tons of CO <sub>2</sub> e/year
2015 Existing Conditions	100,261.85
2040 No Build Conditions	96,922.00
2040 Build Conditions	111,463.00

### Climate Change

Climate change is not likely to impact the proposed project, as it is not located in a coastal area or in a floodplain area that would be susceptible to sea level rise. Thus, no resiliency measures have been incorporated into the Preferred Alternative at this time.

### Noise Impacts

An analysis was performed to determine the effect of the proposed project on traffic noise levels in the immediate area. This investigation included an inventory of existing noise sensitive land uses, and a field survey of background (existing) noise levels in the project study area. It also included a comparison of the predicted noise levels and the background noise levels for all reasonable alternatives to determine if traffic noise impacts could be expected resulting from the proposed project. Based on the results of the analysis, traffic noise impacts are predicted for this project. The noise levels calculated for the 2040 no-build conditions range from 56-78 dBA, with 47 receivers predicted to be impacted. These receivers are impacted due to noise levels approaching or exceeding the NAC, and include single family residential, commercial, and churches. The noise levels calculated for the 2040 Build conditions range from 57-79 dBA, with 49 receivers predicted to be impacted. These receivers are impacted due to noise levels approaching or exceeding the NAC. Noise abatement, in the form of noise barrier walls, was evaluated for the impacted receivers. However, none of the abatement measures were found to meet the reasonable and feasible criteria outlined in the SCDOT Traffic Noise Policy; thus, no abatement measures are proposed for the project.

### Socio-Economic Impacts

The social impacts identified in this assessment are largely associated with impacts to the existing commercial establishments, mainly in regards to access and mobility to and from these destinations. Other potential adverse social impacts include a change in travel patterns, direct right-of-way acquisition, and temporary impacts during construction. In addition, the proposed improvements are expected to result in beneficial social impact by improving the operational efficiency and safety of the transportation facility, resulting in decreased travel times and safer driving conditions.

<sup>6</sup> The CEQ guidance directing agencies to evaluate the potential amounts of GHG being released due to the agency's action has been rescinded through the *Presidential Executive Order on Promoting Energy Independence and Economic Growth*, dated March 28, 2017. Even though this guidance has been rescinded, the GHG analysis was completed prior to that date, and has been left in this EA.

The proposed project would require the relocation of 16 businesses and 1 residence, which results in a direct impact on these properties. In addition, the reconstruction of the four interchanges would alter the existing mobility and access points along many businesses. This includes the addition of controlled access along the cross roads for some distance from the interchange ramp intersections to ensure adequate operation of the interchange facilities. The improvements would also eliminate direct access to and from the interchange ramps for various businesses, further impacting access and mobility. Numerous side roads would be relocated at desirable distances from the interchange ramp intersections and some frontage roads would be realigned to create better separation from interstate ramps. In addition, Gibbons Road at Exit 104, would be realigned to avoid the industrial park in the southwest quadrant. As such, the proposed improvements would result in a change in local travel patterns and access points along numerous businesses and undeveloped properties. While access to many of these areas will be maintained with similar access, additional internal improvements along these facilities may be warranted. There are also several adjacent properties in which access would not be maintained: a parcel at Exit 98; one parcel at Exit 100; two parcels at Exit 102; and two parcels at Exit 106 would be acquired. In this case, these parcels are considered a total take and are included as a commercial or residential relocation.

The preferred alternative would require approximately 85 acres of new right-of-way. This right-of-way would be acquired from various land-uses (commercial, undeveloped, residential, etc.) immediately adjacent to the existing right-of-way. The 85 acres of new right-of-way is not expected to alter the existing or projected land-uses. The proposed improvements are also expected to have beneficial social impacts by improving the operation of the existing interchanges and increasing the capacity along I-85. This would ultimately reduce traffic delays, enhance mobility along the PSA for local and transient traffic, and provide a safer facility. In addition, the project has been coordinated with the local citizens and stakeholders in an effort to accommodate the various needs of the surrounding community.

### **Public Involvement**

The project has been coordinated with various local, state and federal agencies; local stakeholders; and the general public to identify issues to be considered in the development of the project. Expanded discussion regarding the probable impacts on the environment is included in **Section 5.0** of the approved Environmental Assessment.

**April 2016** - A Letter of Intent (LOI) was disseminated to stakeholders on April 14, 2016, to apprise them of the commencement of the proposed project. The LOI generally described the project and asked for any comments on the proposal.

**June 2016** - A Public Information Meeting was also held on June 2, 2016 at Blacksburg Primary School located at 1010 East Cherokee Street in Blacksburg, SC. The purpose of the meeting was to provide an opportunity to review and discuss individually with representatives from the SCDOT the need for the project, limits of the project, and the various alternatives that had been developed. The Public Meeting was advertised through a local newspaper advertisement, signage along the roadway, and SCDOT's website. A total of 67 people registered their attendance at the meeting. Twenty-two (22) written comments were received at the meeting, and an additional six (6) were received after the meeting during the 15-day response period.

**March 2017** - A Public Hearing was also held on March 14, 2017 at Blacksburg Primary School located at 1010 East Cherokee Street in Blacksburg, SC. The purpose of the meeting was to provide an opportunity to review and discuss individually with representatives from the SCDOT the preliminary plans for the proposed widening of I-85. The Public Hearing was advertised through a local newspaper advertisement, signage along the roadway, and SCDOT's website. A total of 88 people registered their attendance at the meeting. Nine (9) written comments were received at the meeting, and an additional five (5) were received after the meeting during the 15-day response period.

## **Revisions Since Approval of the EA**

### Milliken Access Road

The frontage road in the southwestern quadrant of Exit 100 currently provides access to the Milliken pump station located on the Broad River as well as access from Exit 98. As part of the project, Exit 98 will be permanently closed, and the frontage road would be converted to a private access road for servicing the Milliken Plant pump station. The eastern termini of the frontage road at Blacksburg Highway would be realigned to the south, closer to the Milliken Plant, to provide separation from the interstate ramp. The realigned portion, including the tie-in with Blacksburg Highway, would be constructed to accommodate heavy trucks and equipment needing access to the pump station. The roadway as proposed would consist of a single 12-foot travel lane with four-foot unpaved shoulders (some areas would require 7.5 foot shoulders to accommodate guardrail). Additional impacts resulting from the proposed roadway include 0.5 acres of floodplain, 65 feet of seasonal stream and 35 feet of perennial stream. In addition, it would require 1.9 acres of additional right-of-way. The Environmental Assessment (EA) noted that a Conditional Letter of Map Revision (CLOMR) is anticipated for this area due to impacts to Buffalo Creek. The additional floodplain impacts would be incorporated into the CLOMAR. The impacts are illustrated in Figure 2.

### Shelton Fireworks

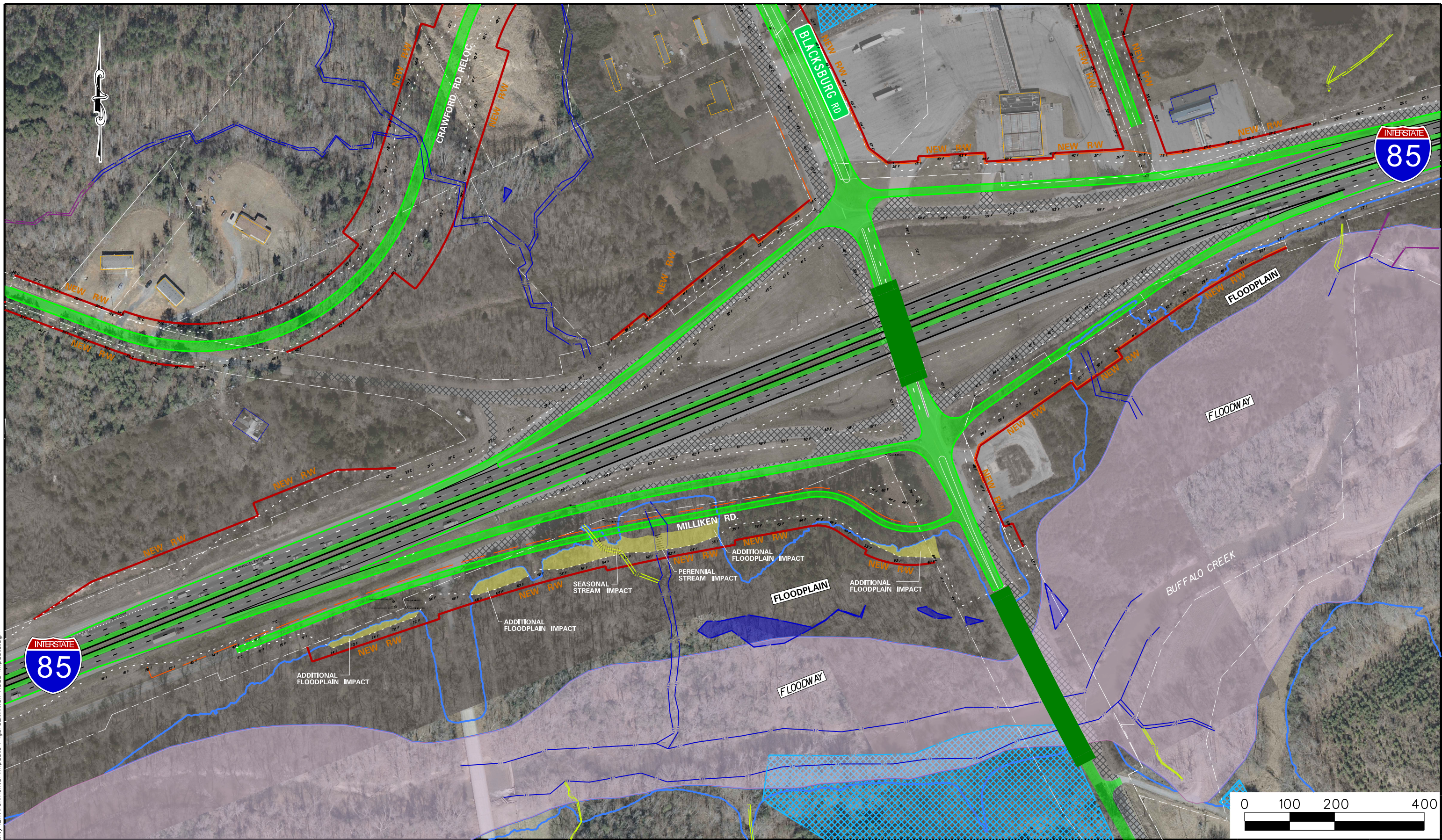
As originally proposed, the southbound offramp at Exit 104 would be relocated north of its existing location to provide additional separation between the ramp and the I-85 mainline. The realignment would require additional right-of-way that would impact part of the Shelton Fireworks building. Based on the topography of the area, the construction limits of the proposed southbound offramp would also directly impact a portion of the building (Figure 3).

The preferred alignment was reevaluated to avoid impacts to Shelton Fireworks. The revised design moves the proposed southbound ramp closer to its existing location to avoid any direct impacts to the building, and to accommodate any utility relocations. The preferred design uses a taper ramp exit, whereas the revised design uses a parallel-lane ramp exit. The ramp taper begin point would be shifted approximately 592 feet to the north, with the intersection at Tribal Road remaining in the same location. These revisions would result in 12.5 feet of additional intermittent stream impact and a reduction of 0.4 acres of required right-of-way (Figure 4).

### Turn Lane Additions

Additional right turn lanes were added to the northbound and southbound exit ramps on Exits 102, 104, and 106. The additional turn lanes would be located within existing right-of-way

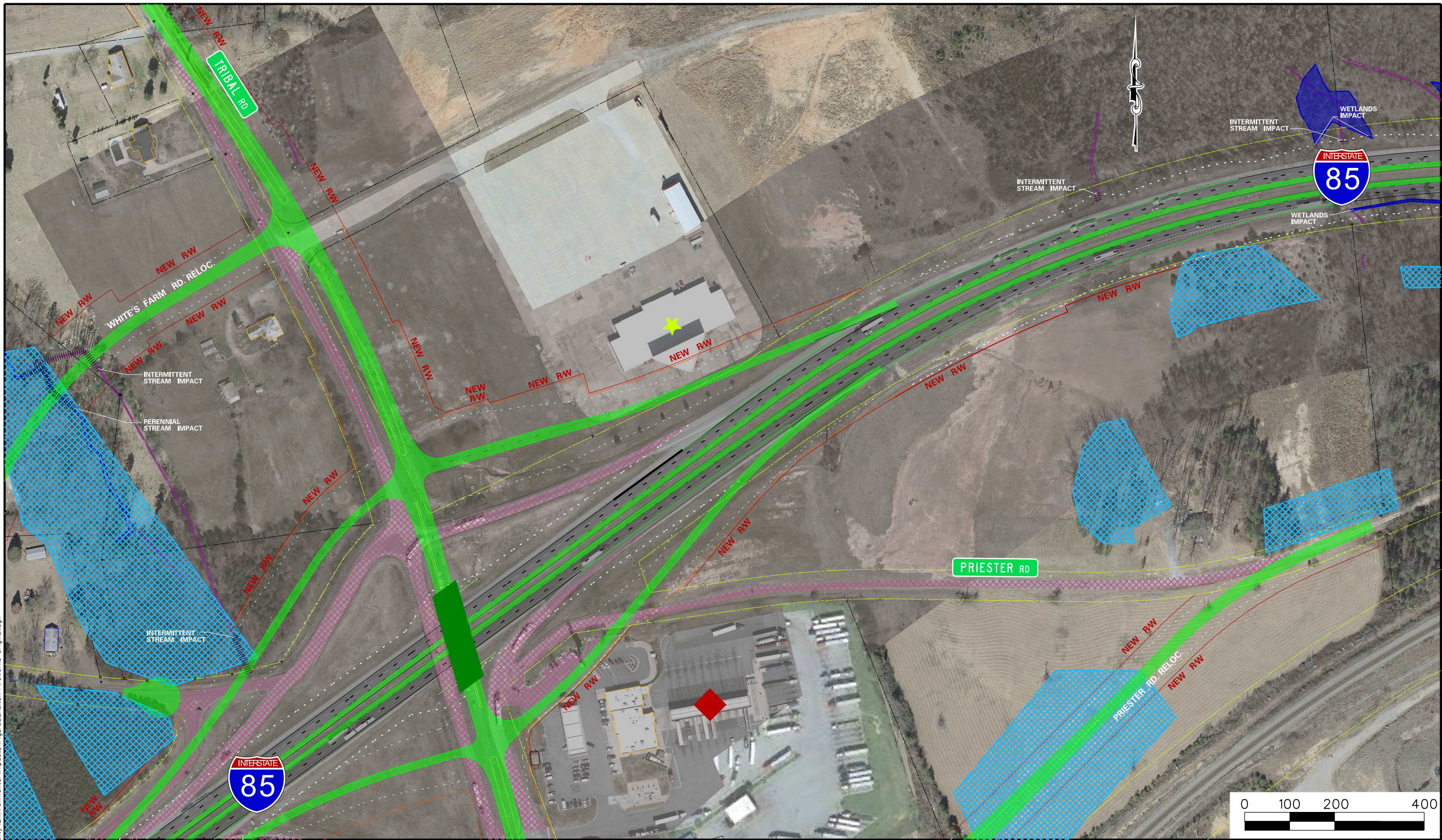
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<p>PROPERTY LINES</p> <p><b>NEW RW</b> NEW RIGHT-OF-WAY</p> <p>CONTROLLED ACCESS</p> <p>CONSTRUCTION LIMITS</p> <p>PAVEMENT REMOVAL</p>	<p><b>LEGEND</b></p> <p>PROPOSED ROADWAY</p> <p>PROPOSED BRIDGE</p> <p>NO NOISE IMPACT</p> <p>NOISE IMPACT</p> <p>WETLANDS IMPACT</p> <p>OPEN WATER IMPACT</p> <p>PERENNIAL STREAM IMPACT</p> <p>INTERMITTENT STREAM IMPACT</p> <p>SEASONAL STREAM IMPACT</p>	<p>COMMERCIAL DISPLACEMENTS</p> <p>RESIDENTIAL DISPLACEMENTS</p> <p>HEARTLEAF HABITAT</p> <p>PRIME FARMLAND</p>	<p>RECOGNIZED ENVIRONMENTAL CONDITIONS</p> <p>HISTORIC SITES</p>	<p><b>MILLIKEN ACCESS ROAD ENVIRONMENTAL IMPACTS</b></p> <p><b>I-85 WIDENING MM 98 TO MM 106 CHEROKEE COUNTY</b></p>	<p>FIGURE NO.</p> <p>2</p>
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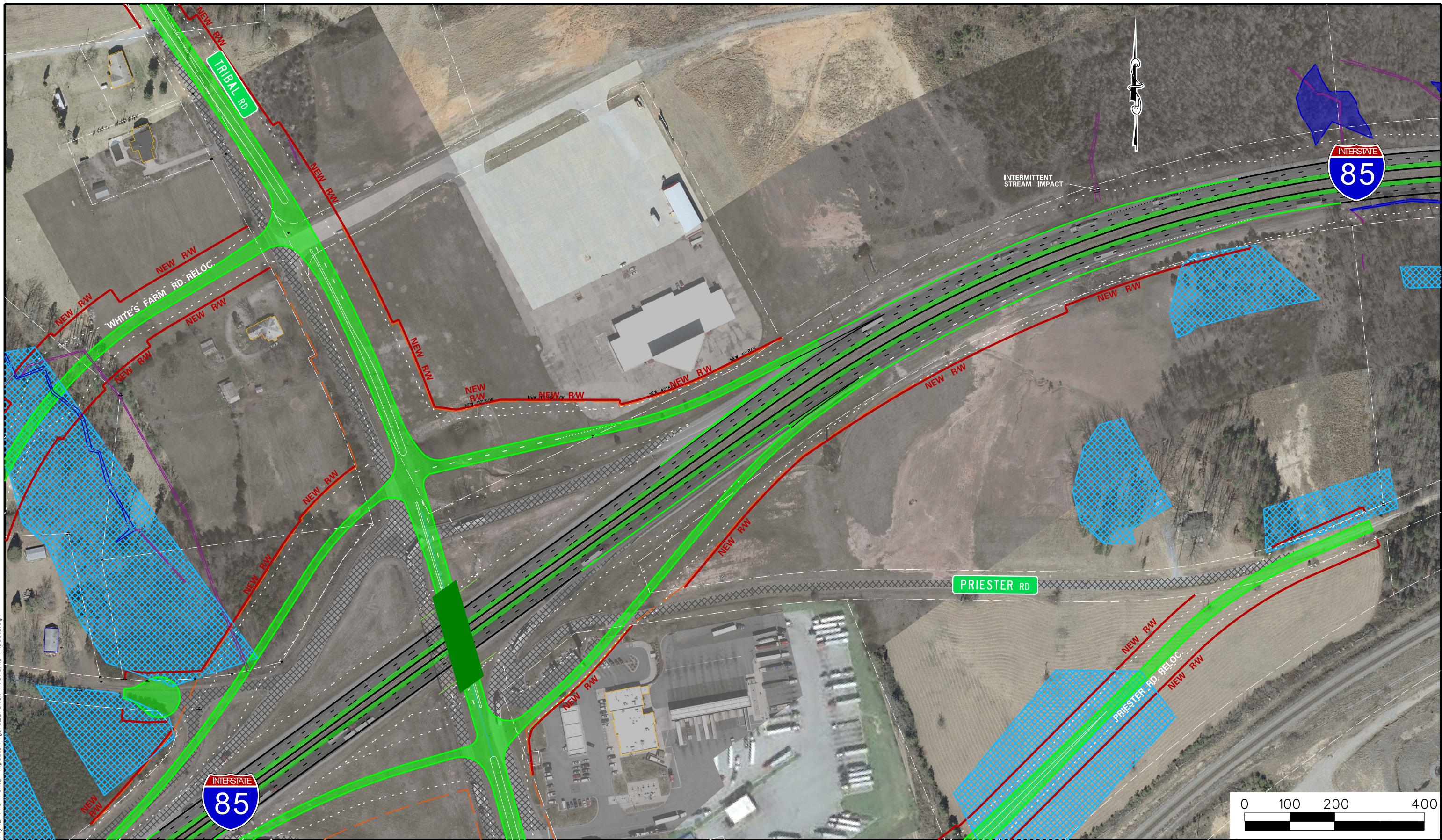


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<p>PROPERTY LINES</p> <p><b>NEW RW</b> NEW RIGHT-OF-WAY</p> <p>CONTROLLED ACCESS</p> <p>CONSTRUCTION LIMITS</p> <p>PAVEMENT REMOVAL</p>	<p><b>LEGEND</b></p> <p>PROPOSED ROADWAY</p> <p>PROPOSED BRIDGE</p> <p>NO NOISE IMPACT</p> <p>NOISE IMPACT</p> <p>WETLANDS IMPACT</p> <p>OPEN WATER IMPACT</p> <p>PERENNIAL STREAM IMPACT</p> <p>INTERMITTENT STREAM IMPACT</p> <p>SEASONAL STREAM IMPACT</p>	<p>★ COMMERCIAL DISPLACEMENTS</p> <p>★ RESIDENTIAL DISPLACEMENTS</p> <p>◆ RECOGNIZED ENVIRONMENTAL CONDITIONS</p> <p>▲ HISTORIC SITES</p> <p>HEARTLEAF HABITAT</p> <p>PRIME FARMLAND</p>	<p><b>EXIT 104 - PREFERRED DESIGN - I85 SB</b></p> <p><b>ENVIRONMENTAL IMPACTS</b></p> <p><b>I-85 WIDENING</b></p> <p><b>MM 98 TO MM 106</b></p> <p><b>CHEROKEE COUNTY</b></p>	<p><b>FIGURE NO.</b></p> <p><b>3</b></p>
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<p>PROPERTY LINES</p> <p><b>NEW RW</b> NEW RIGHT-OF-WAY</p> <p>CONTROLLED ACCESS</p> <p>CONSTRUCTION LIMITS</p> <p>PAVEMENT REMOVAL</p>	<p><b>LEGEND</b></p> <p>PROPOSED ROADWAY</p> <p>PROPOSED BRIDGE</p> <p>NO NOISE IMPACT</p> <p>NOISE IMPACT</p> <p>WETLANDS IMPACT</p> <p>OPEN WATER IMPACT</p> <p>PERENNIAL STREAM IMPACT</p> <p>INTERMITTENT STREAM IMPACT</p> <p>SEASONAL STREAM IMPACT</p>	<p>COMMERCIAL DISPLACEMENTS</p> <p>RESIDENTIAL DISPLACEMENTS</p> <p>HEARTLEAF HABITAT</p> <p>PRIME FARMLAND</p> <p>RECOGNIZED ENVIRONMENTAL CONDITIONS</p> <p>HISTORIC SITES</p>	<p><b>EXIT 104 - PARALLEL EXIT RAMP - I85 SB</b></p> <p><b>ENVIRONMENTAL IMPACTS</b></p> <p><b>I-85 WIDENING</b></p> <p><b>MM 98 TO MM 106</b></p> <p><b>CHEROKEE COUNTY</b></p>	<p><b>FIGURE NO.</b></p> <p><b>4</b></p>
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except for the southbound ramp at Exit 102 that would require an additional 0.04 acre of right-of-way. In addition, the southbound turn lane at Exit 106 would impact an additional 0.1 acre of farmland.

Survey of Expanded Project Area for *Hexastylis naniflora*

Dwarf-flowered heartleaf surveys were conducted within the original 905 acre PSA on March 29 and April 5, 2016. The survey consisted of traversing all suitable habitat within the PSA for the presence/absence of Dwarf-flowered heartleaf. Representative *Hexastylis* specimens were then identified to species level, and dwarf-flowered heartleaf was not found in the PSA. After this survey, this PSA was increased to 1,065 acres during development of the alternatives to ensure adequate coverage and data collection for alternative analysis. The additional area was assessed in August 2016, with the identification of suitable habitat. *Hexastylis* sp. was also observed in the expanded PSA, but could not be identified to species level. Since this was outside the optimal survey period, these areas were recorded and mapped. A second survey was conducted in March 2017 of those areas that were previously identified within the expanded project area. The survey resulted in no specimens being found.

The proposed revisions would still address the purpose and need of the project, and would not change any findings previously documented in the Environmental Assessment.

**Project Commitments**

SCDOT has agreed to the special commitments listed in Table 6.

**Table 6. Project Commitments**

Commitment	EA Reference Page
Impacts to jurisdictional waters will be permitted under a Department of the Army Section 404 permit from the U.S. Army Corps of Engineers (USACE). Based on preliminary design, it is anticipated that the proposed project would be permitted under an Individual Department of Army Permit (IP). SCDOT/Contractor will provide the USACE with information regarding any proposed demolition activities during the Section 404 permitting process. The required mitigation for this project will be determined through consultation with the USACE and other resource agencies. The Contractor will be responsible for mitigation in coordination with SCDOT.	Refer to page 62
The contractor will be required to minimize possible water quality impacts through implementation of construction BMPs, reflecting policies contained in 23 CFR 650B and SCDOT’s Supplemental Specifications on Seeding and Erosion Control Measures (January 1, 2015). Other measures including seeding, silt fences, sediment basins, etc. as appropriate will be implemented during construction to minimize impacts to water quality.	Refer to page 65
Stormwater control measures, both during construction and post-construction are required for SCDOT projects with land disturbance and/or constructed in the vicinity of 303(d), TMDL, ORW, tidal, and other sensitive waters in accordance with the SCDOT’s MS4 Permit. The selected contractor would be required to minimize potential stormwater	Refer to page 65

Commitment	EA Reference Page
impacts through implementation of construction best management practices, reflecting policies contained in 23 CFR 650B and SCDOT's Supplemental Specifications on Seed and Erosion Control Measures (January 1, 2015).	
It is anticipated that a Conditional Letter of Map Revision (CLOMR) would be necessary for impacts to Buffalo Creek on the south side of I-85 in the vicinity of Exit 100. The contractor would be responsible for coordinating with FEMA and local floodplain officials in the preparation of the CLOMR. The selected contractor will send a set of final plans and request for floodplain management compliance determination to the local County Floodplain Administrator.	Refer to page 67
A final detailed hydraulic analysis will be conducted during final design development, and will be performed per the <i>SCDOT Requirements for Hydraulic Design Studies</i> .	Refer to page 67
The federal Migratory Bird Treaty Act 16 USC § 703-711, states that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg or product, manufactured or not. The Department will comply with the Migratory Bird Treaty Act of 1918 in regard to the avoidance of taking individual migratory birds and the destruction of their active nests. Prior to construction/demolition of the bridges the RCE will coordinate with SCDOT Environmental Services Office to determine if there are any active nests on the bridge. After this coordination, it will be determined whether construction/demolition can begin. After construction/demolition has begun, measures can be taken to prevent birds from nesting, such as screens, noise producers, and deterrents, etc. If during construction or demolition a nest is observed on the bridge that was not discovered during the biological surveys, the contractor will cease work and immediately notify the SCDOT Environmental Services Office. SCDOT biologists will determine whether the nest is active and the species utilizing the nest. After this coordination, it will be determined whether construction/demolition can resume or whether a temporary moratorium will be put into effect. All cost for determining the need for, the placing of deterrents, and applying of all special actions including, but not limited to, removing nests and any costs associated with conducting work in compliance with the Migratory Bird Treaty Act as stated herein will not be paid for separately but will be considered to have been included with other items of work.	Refer to page 69
Georgia aster was found within the project study area along a stream north of I-85 near Shaman Road, outside of the existing mainline corridor. The preliminary alternative alignment would not impact this area at this time, as it is outside of the construction limits. The design build contractor will be provided a map showing the avoidance area for this species. Candidate species do not currently receive statutory protection under the ESA; thus,	Refer to page 71

Commitment	EA Reference Page
an effect determination was not completed. Should this species become listed, or if the final design of the preferred alternative changes in this area, SCDOT and/or FHWA would need to conduct additional consultation with the USFWS.	
State and local regulations regarding dust control and other air quality emission reduction controls will be followed. Current state BMPs will be followed during construction of the project. These include covering earth-moving trucks to keep dust levels down, watering haul roads, and refraining from open burning, except as may be permitted by local regulations.	Refer to page 73
To minimize construction noise, the contractor will be required to comply with <i>SCDOT 2007 Standard Specifications for Highway Construction</i> , which includes specifications regarding nuisance noise avoidance.	Refer to page 81
SCDOT will inform local planning officials of future generalized noise levels expected to occur in the project vicinity after FHWA has made a final decision on the environmental document.	Refer to page 82
If avoidance of hazardous materials is not a viable alternative and soils that appear to be contaminated are encountered during construction, the South Carolina Department of Health and Environmental Control (SCDHEC) will be informed. Hazardous materials will be tested and removed and/or treated in accordance with the United States Environmental Protection Agency and SCDHEC requirements.	Refer to page 84
The contractor and subcontractors must notify their workers to watch for the presence of any prehistoric or historic remains, including but not limited to arrowheads, pottery, ceramic flakes, bones, graves, gravestones, or brick concentrations, during the construction phase of the project, if any such remains are encountered, the Resident Construction Engineer (RCE) will be immediately notified and all work in the vicinity of the discovered materials shall cease until the SCDOT Archaeologist directs otherwise.	Refer to page 85
The SCDOT will acquire all new right-of-way and process any relocations in compliance with the Uniform Relocation Assistance and Real Property Acquisition policies Act of 1970, as amended (42 U.S. C. 4601 <i>et seq.</i> ). The purpose of these regulations is to ensure that owners of real property to be acquired for Federal and federally-assisted projects are treated fairly and consistently, to encourage and expedite acquisition by agreements with such owner, to minimize litigation and relieve congestion in the courts, and to provide public confidence in Federal and federally-assisted land acquisition programs.	Refer to page 86

### **FHWA Decision**

The FHWA has determined that this project will have no significant impact on the human environment. This Finding of No Significant Impact is based on the Environmental Assessment and other supporting information, which have been independently evaluated by the FHWA and determined to adequately and accurately discuss the need, environmental issues, and impacts of

the proposed project and appropriate mitigation measures. The Environmental Assessment provided sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. The FHWA takes full responsibility for the accuracy, scope and content of the Environmental Assessment and other environmental documentation for this project.



Emily O. Lawton  
SC FHWA Division Administrator