

**South Carolina Department of Transportation  
On Behalf of the Federal Highway Administration – South Carolina Division Office**

**PROCESSING FORM FOR PROGRAMMATIC CATEGORICAL EXCLUSIONS  
NON MAJOR FEDERAL ACTIONS**

<b>County</b>	<b>Route</b>	<b>PIN</b>	<b>File Number</b>
Chester	S-12-77	39094_BR01	12.039094.1

**Programmatic Type:** CE B

**Project Name:** Proposed Bridge Replacement on S-12-77 (Hightower Road) over Fishing Creek in Chester County, South Carolina.

**Proposed Action:** The South Carolina Department of Transportation (SCDOT) proposes to replace the existing S-12-77 (Hightower Road) bridge over Fishing Creek in Chester County, South Carolina (**Figure 1**). The scope of the project involves replacing the existing two-lane bridge (one lane in each direction) with a new, modern structure in the existing location on the current alignment. The proposed project is part of a design-build contract and funds for the project are reasonably expected to be available. The proposed project is included in the State Transportation Improvement Plan (STIP) with funding for the years 2010-2015 (STIP District 4: Chester County – Page 1) as an Off-System project. The existing bridge is 375 feet in length and 27.6 feet in width with two, 45-foot spans and 19 approach spans. The existing bridge has a clearance height (low chord elevation) of 28.2 feet (distance from low steel to normal water elevation). Preliminary engineering indicates that the new bridge would be approximately 405 feet in length and 34 feet in width and would maintain the existing clearance height (low chord elevation) (**Figure 2**). The new bridge would accommodate two, 11-foot travel lanes (one lane in each direction) with 6-foot paved shoulders on either side (**Figure 3**). No wetlands or impaired waters were identified within the Project Study Area (PSA) and impacts to the stream are not anticipated as the new bridge would completely span Fishing Creek. An additional 1.748 acres of right-of-way would be required to accommodate the new bridge; however, displacements would not result from the proposed project (**Figure 4**). It is anticipated that the existing bridge would need to be closed for demolition and re-construction of the bridge and an off-site detour route (approximately 4.03 miles) would be required during this time (**Figure 1**). Replacement of the bridge in a new location with roadway realignment was considered to improve the geometry of the existing roadway. However, replacement of the bridge in a new location would require a new roadway alignment with an extension of project limits and additional right-of-way acquisition. The vertical and horizontal curves of the existing roadway meet the proposed design speed criteria for the posted speed of 35 miles per hour. In addition, crash data in the area adjacent to the bridge was reviewed. A total of six crashes were recorded between 2007 and 2010 in the vicinity of the bridge. Five of the crashes resulted in property damage only and one crash resulted in an injury. All six crashes were a result of the vehicle running off the road and all but one crash occurred when it was dark. As part of the proposed bridge replacement, additional reflective signage and pavement markings would be installed for advanced warning. Selective clearing of vegetation around the bridge would also take place as part of the project to improve visibility around the bridge. As a result, the replacement of the bridge in the existing location has been deemed the most reasonable alternative.

**Purpose and Need:** The purpose of the proposed project is to replace a structurally deficient bridge. The bridge was built in 1966 and has a sufficiency rating of 43.0. Traffic studies indicate that the existing (2008) average daily traffic volume (ADT) is 300 vehicles per day (vpd). By 2028, the ADT is expected to increase to 384 vpd. The aging structure is nearing the end of its

useful life and replacement of the bridge would increase the safety of the crossing and provide for long-term functionality.

**Findings:** The project has been assessed for possible effects on the human and natural environment with a determination that no significant environmental impact would occur. The class of action and impact determination documented by this statement would qualify this project as a categorical exclusion under 23 CFR 771, Section 115(b).

In consultation with the State Historic Preservation Office (SHPO), as appropriate, the project would not affect historic properties or archeological sites under 36 CFR 800. Concurrence from the SHPO and the Tribal Historic Preservation Offices (THPOs) for the Catawba Indian Nations and the Eastern Band of Cherokee Indians is included in **Appendix A**.

Wetlands were not identified within the Project Study Area (PSA). The project would cross Fishing Creek (a jurisdictional stream); however, stream impacts are not anticipated as the bridge would span Fishing Creek. A Preliminary Jurisdictional Determination (JD) has been made concurring with the delineations (**Appendix A**).

The proposed project is located within Zone AE of a Federal Emergency Management Agency (FEMA) floodplain. As a result, this project would involve encroachment within floodplains. However, a preliminary hydraulic assessment has determined that the bridge replacement would meet the "No Rise" requirement (see Bridge Replacement Scoping Trip Risk Assessment Form in **Appendix B**). Therefore, under Executive Order 11988, it has been determined that no practicable alternative to this involvement is considered and all practicable measures to minimize harm have been incorporated. A coordination letter with the Chester County Floodplain Manager was sent on November 29, 2011 (**Appendix A**).

The project is not expected to jeopardize the continued existence of any listed endangered or threatened species or destroy or adversely modify critical habitat. Therefore, no further investigation under Section 7 of the Endangered Species Act is necessary (see **Appendix C** for Biological Assessment).

Additionally, the proposed project would have no effect on land use, hazardous materials, farmlands, air quality or noise.

#### **Environmental Commitments:**

- Construction within the floodplain will be consistent with FEMA regulations (see Bridge Replacement Scoping Trip Risk Assessment Form in **Appendix B**). The bridge will be replaced as part of a design/build contract. If necessary, a detailed hydraulic analysis will be performed during the final design phase. The contractor will be required to construct a minimum structure length, minimum low chord and minimum channel opening. A letter of concurrence will be obtained from the Chester County Floodplain Manager prior to construction and a No-Rise Certification will also be obtained. A letter of coordination with the Chester County Floodplain Manager was sent November 29, 2011 (**Appendix A**). Coordination with the Floodplain Manager will continue throughout the process and they will be notified once the final hydraulic analysis is complete.
- The acquisition and disturbance of hazardous waste will be avoided, if possible. If avoidance is not a viable alternative, hazardous materials will be tested and removed and/or treated in accordance with the United States Environmental Protection Agency and the South Carolina Department of Health and Environmental Control requirements.

- As part of the proposed bridge replacement, additional reflective signage and pavement markings will be installed for advanced warning. Selective clearing of vegetation around the bridge will also take place as part of the project to improve visibility around the bridge.

### **Categorical Exclusion Type B (Conditional Programmatic)**

Projects of the type listed below would not automatically fall under the same programmatic clearance as the CE Type A. The regulations in 23 CFR 771.117(d) list additional types of projects which can meet the CE criteria only after FHWA approval. Several of these projects have been approved to be processed programmatically by FHWA-SC if certain conditions are met. These types are listed below.

Check appropriate project type:

- ☐ 1. Safety projects including but not limited to: placement of traffic barrier; energy attenuators; grading of slopes or gore areas to eliminate the need for guardrail, improve the clear zone, improve curves, or improve sight distance/ removal of fixed objects such as boulders or trees; lighting; glare screens; delineators; and safety modification of drainage structures.
- ☐ 2. Pavement resurfacing, restoration, rehabilitation, and reconstruction projects including related shoulder and ditch work.
- ☐ 3. Traffic operation type projects including but not limited to: freeway surveillance and control systems; intersection channelization; turn lanes, acceleration or deceleration lanes; construction, modification or elimination of curbs, raised median dividers or sidewalks; and widening less than a single lane width.
- ☒ 4. Bridge and culvert rehabilitation work and bridge replacement at the same location.

**To be processed as a Categorical Exclusion Type B (CEB) the following conditions must be met in addition to the General Criteria (as outlined in the PA between FHWA-SC and SCDOT). Place a check in the appropriate box.**

	Yes	No
1. The acquisition of more than minor amounts of temporary or permanent strips of right-of-way and the acquisition will not require any residential or business displacements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Use of Section 4(f) properties.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. An adverse effect determination under Section 106 of the Nation Historic Preservation Act.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Individual Coast Guard Permits.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Individual Corps of Engineer Permits, or and impact greater		
Programmatic CE Determination Form		

than three (3) acres of wetlands.

☐ ☒

a. Wetland Impacts (acres):

6. Impacts to planned growth or land use, or significant impacts on travel patterns.

☐ ☒

7. Work encroaching in a regulatory floodway, adversely affecting the base floodplain, or potentially adversely affecting a National Wild and Scenic River.

☐ ☒

8. Changes in access control.

☐ ☒

9. Any known or potential major hazardous waste sites within the right-of-way.

☐ ☒

**If the answer is yes to any of the above criteria, a documented Categorical Exclusion (CE-C) must be prepared and forwarded to FHWA for approval.**

The above described project has been reviewed based on the information contained in the engineer's Project Planning Report (PPR) and it has been determined that the project meets the criteria set forth in the Programmatic Categorical Exclusion Agreement signed by FHWA and SCDOT. It is understood that any additions/deletions to the project may void environmentally processing the project as presently classified; consequently, any engineering changes must be brought to the attention of the SCDOT Environmental Section immediately. The project's CE Classification should be shown in the remarks section on the Letter of Request for Authorization

Form (PS Form 39) for right-of-way and/or construction for concurrence by FHWA. A copy of this form is included in the project file and one (1) copy has been provided to FHWA.

Prepared by: Stephanie Gallagher AICP, Environmental Planner  
STV Incorporated

March 7, 2012  
Date

PPMS: Yes ☐

No ☐

## Supplemental Information

### Acquisitions /Displacements

It is anticipated that approximately 1.748 acres of new right-of-way would need to be obtained for the proposed bridge replacement (**Figure 4**). However, the proposed project would primarily take place within existing right-of-way and no displacements would result from the proposed project.

### Section 4(f)

The proposed project would not impact publically owned parks, recreational areas, or wildlife refuges. Therefore, a Section 4(f) evaluation/approval is not required for this project.

### Section 106 - Cultural Resources (Archaeological/Historic)

In accordance with 36 CFR 800.4, a cultural resource survey was conducted. A background historical and archival records search was conducted in August 2010. The search revealed that no previously identified historic architectural resources or archaeological sites are located in the project vicinity or within 0.5 mile of the project area. In addition, an intensive archaeological survey was conducted in August and September 2010. There were no archaeological resources or cultural materials identified during the survey. The bridge over Fishing Creek was also previously determined to be not eligible for the National Register of Historic Places (NRHP). As a result, the report concludes that the proposed project would not affect any cultural resources.

The State Historic Preservation Office (SHPO), Tribal Historic Preservation Offices of the Eastern Band of Cherokee Indians (EBCI THPO) and the Catawba Indian Nation (CIN THPO) have all concurred with the findings that no cultural resources would be affected by the proposed bridge replacement (see approved correspondence in **Appendix A**).

### Wetlands and Streams

The project study area (PSA) was field reviewed on August 18, 2010 for the presence of jurisdictional waters of the U.S. Prior to the fieldwork, a review of the National Wetlands Inventory (NWI) was also conducted. The PSA reviewed was approximately 1,000 feet long, 200 feet wide and generally centered on the S-12-77 bridge over Fishing Creek and roadway approaches.

Potential jurisdictional waters of the U.S. identified in the project study area include Stream A (Fishing Creek). Fishing Creek is perennial, relatively permanent water (Perennial RPW). A detailed description of Fishing Creek can be found in the supporting *Natural Resources Technical Memorandum*. Wetlands were not identified within the PSA.

Based on preliminary engineering, a total of approximately 212 linear feet of Fishing Creek are located within the PSA. The delineated jurisdictional boundaries have been verified by the U.S. Army Corps of Engineers (USACE), and a Preliminary Jurisdictional Determination (dated April 27, 2011) is included in **Appendix A**. Based on preliminary design, impacts would not occur to Fishing Creek as the bridge would be designed to span the waterway.

Quantitative water quality sampling within the PSA was not conducted and no waters within the PSA are 303(d) listed for impairment. The proposed project is not expected to have long term

impacts to water quality within the PSA watershed. Short-term impacts would be controlled through Best Management Practices (BMPs). In addition, it is anticipated that the National Pollutant Discharge Elimination System (NPDES) limits would be offset approximately 5 feet from the construction limits. NPDES limits will be included on permit drawings.

### **Floodplains**

The proposed project is located within Zone AE of Federal Emergency Management Agency (FEMA) floodplain map (Panel Number 45023C0268C). Zone AE is a high risk area for flooding and is in the area determined to have a 1% annual chance of flooding.

A preliminary hydraulic assessment was performed in March of 2012 to determine possible impacts to the floodplain from the proposed project (see the Bridge Replacement Scoping Trip Risk Assessment Form in **Appendix B**). The proposed project would span the waterway. As a result, the proposed project is not expected to increase the Base Flood Elevation on Fishing Creek and a No-Rise Certificate would be obtained in accordance with FEMA regulations. A coordination letter to the Chester County Floodplain Manager was sent on November 29, 2011 (**Appendix A**). Coordination with the Floodplain Manager will continue throughout the process and they will be notified once the final hydraulic analysis is complete.

The level of risk analogous with the probable area of flooding and its consequences attributed to this encroachment is not expected to be any greater than that associated with the present roadway and bridge. Also, the project is not expected to have any increased potential for impact on those critical elements that would constitute a significant risk under 23 CFR 650A. The project's construction within these floodplains would be consistent with FEMA regulations. As part of the design/build contract, the contractor selected will be required to construct a minimum structure length, minimum low chord and minimum channel opening. Once the design/build contract has been established, the proper hydraulic design and analysis will be performed according to FEMA regulations. If the detailed hydraulic analysis is deemed necessary and fails to verify that the proposed project would not significantly impact the floodplain, the project would require re-evaluation prior to proceeding with construction.

### **Hazardous Materials**

The acquisition of minimal amounts of right-of-way would be required for the proposed project. However, the area directly adjacent to the bridge consists predominantly of undisturbed land with a very low potential for hazardous materials.

A Phase 1 Environmental Site Assessment (ESA) for the proposed project was completed in April 2011. In general accordance with ASTM E 1527-05, *Standard Practice for Environmental Site Assessments*, the purpose of the Phase 1 ESA is to identify recognized environmental conditions (RECs) and historical recognized environmental conditions (HRECs). The Phase 1 ESA included a search of standard environmental databases and a site reconnaissance. The subject was not listed on any environmental databases. A total of eleven (11) unmapped "orphan" sites within the study area were listed on environmental databases. However, these "orphan" sites were investigated and they are not considered environmental threats to the subject property based on location, groundwater flow and current regulatory status. The Phase 1 ESA revealed no evidence of RECs on the subject property or within the specified search radii. As a result, impacts to hazardous materials are not expected.

It is SCDOT's practice to avoid the acquisition of underground storage tanks (USTs) and other

hazardous waste materials, if at all possible. If soils that appear to be contaminated with petroleum products were encountered during construction, the South Carolina Department of Health and Environmental Controls (DHEC) would be informed. If avoidance were not a viable alternative, tanks and other hazardous materials would be tested and removed and/or treated in accordance with the United States Environmental Protection Agency (EPA) and South Carolina DHEC requirements. Costs necessary for clean up would be taken into consideration during the right-of-way appraisal and acquisition process.

### **Threatened and Endangered Species**

Pursuant to Section 7 of the Endangered Species Act, the list of protected species known to occur in Chester County was reviewed, and evaluations were performed regarding the likelihood of the presence of each species within the project area. A search of the United States Fish and Wildlife Service (USFWS) database provided existing information concerning the potential occurrence of threatened or endangered species within Chester County. This database identifies federally threatened or endangered species known to occur or to have formerly occurred in Chester County and are listed in **Table 1**.

**Table 1**  
**Chester County Endangered/Threatened Species**

Federally Protected Species		Protection Status	
Common Name	Scientific Name	Federal	State
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA	E
Carolina heelsplitter	<i>Lasmigona decorata</i>	E	E
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	E

Source: South Carolina Department of Natural Resources

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

None of the protected species were observed within the PSA during the field review. No potential habitat for red-cockaded woodpecker was identified within the PSA; therefore, it is determined that the project will have a biological conclusion of “no effect” on this species. The field review did, however, reveal potential habitat for Carolina heelsplitter, as well as foraging habitat for the bald eagle (see **Appendix C** for Biological Assessment).

There is no potential nesting habitat for the bald eagle within the PSA. No individuals were observed during the field review. Additionally, reviews of the SCHAT Geographic Database of Rare and Endangered Species did not reveal the presence of any known individuals or populations of bald eagle within one mile of the PSA. Due to the removal of the bald eagle from the federal threatened and endangered species list, effective August 8, 2007, the bald eagle is no longer protected by the Endangered Species Act. Since the USFWS no longer conducts consultations regarding this species, a biological conclusion regarding potential project-related impacts is not provided.

A survey for freshwater mussels was conducted in October 2010 and a November 2010 report concluded that this reach of Fishing Creek is extremely poor freshwater habitat for freshwater mussels, and provides inappropriate habitat for the Carolina heelsplitter (**Appendix C**). Based on the findings of the report, the project will have “no effect” on the Carolina heelsplitter.

## **Land Use**

The proposed project is located in a rural area, north of the town of Great Falls in Chester County, South Carolina. Land use in the project area is comprised of mainly undeveloped woodland and low density residential with some small, agricultural/farm areas. The only community establishment within a half-mile of the proposed project is a cemetery, located directly east of the project location. Chester County has designated the area for residential development with R-2 zoning.

The project is not expected to modify existing land use or change the timing or density of development in the area. The project is not in conflict with any plan, existing land use, or zoning regulation.

## **Farmlands**

The United States Department of Agriculture (USDA) Soil Survey indicates that the four mapped soils within the project area include the following.

- Cecil sandy clay loam, two to six percent slopes, eroded (CnB2)
- Pacolet sandy loam, 10 to 25 percent slopes (PaE)
- Toccoa loam (To), and
- Wilkes sandy loam, 15 to 40 percent slopes (WkF)

According to the List of Prime and Other Important Farmlands for Chester County, CnB2 is a prime farmland soil and To is a prime farmland when protected from flooding (USDA NRCS, 2011). Small, scattered farm sites can be found throughout the PSA and directly north of the bridge. Alternatives to replace the bridge on a new alignment would result in additional acquisition and increased impacts to farmland soils. The proposed project would require the acquisition of farmland soils (approximately 1.042 acres). However, Chester County has designated the area for residential development. In addition, A Farmland Assessment Form has been completed and is included in **Appendix D**. The assessment for the proposed project scored a 130 (below the minimum 260 points required for protection from conversion). As a result, the land is committed to residential development and the site is not eligible for protection from farmland conversion. The proposed bridge would not result in an impact to farmland soils.

## **Air Quality**

The purpose of this project is to replace a structurally deficient bridge. This project has been determined to generate minimal air quality impacts for Clean Air Act Amendments (CAAA) criteria pollutants and has not been linked with any special Mobile Source Air Toxins (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, Environmental Protection Agency (EPA) regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOBILE6.2 model forecasts a combined reduction of 72 percent in the total annual emission rate for the priority MSAT from 1999 to 2050 while vehicle-miles of travel are projected to increase by 145 percent. This will

both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project (FHWA 2011).

### **Noise**

The proposed project does not represent improvements on new location, the addition of through traffic lanes or significant changes in alignment. Therefore, the requirements for conducting noise studies under 23 CFR 772 do not apply.

### **References**

Brockington and Associates, Inc. November 2010. *Draft Cultural Resources Survey of the S-12-77 Fishing Creek Bridge Replacement Project, Chester County, South Carolina*. Prepared for the South Carolina Department of Transportation.

Federal Emergency Management Agency. July 5, 1982. FIRM Flood Insurance Rate Map, Chester County, South Carolina, Community Panel 45023C0268C Number. Available at: <http://map1.msc.fema.gov> Accessed March 2012.

Federal Highway Administration. 2009. *Interim Guidance on Air Toxic Analysis in NEPA Documents*. Available at: <http://www.fhwa.dot.gov/environment/airtoxic/100109guidmem.htm> Accessed April 2011.

S&ME, Inc. April 2011. *Phase 1 Environmental Site Assessment: Bridge over Fishing Creek (S-12-77) Chester County, South Carolina*. Prepared for the South Carolina Department of Transportation.

STV/RWA. January 2011. *Natural Resources Technical Memorandum – S-12-77 Bridge Replacement Over Fishing Creek*. Prepared for the South Carolina Department of Transportation.

U.S. Department of Agriculture, Natural Resource Conservation Service (USDA NRCS). Soil Data Mart – Prime and Other Important Farmlands, Chester/Fairfield County, South Carolina. Available at: <http://soildatamart.nrcs.usda.gov/> Accessed April 2011.

Figure 1: Site Location

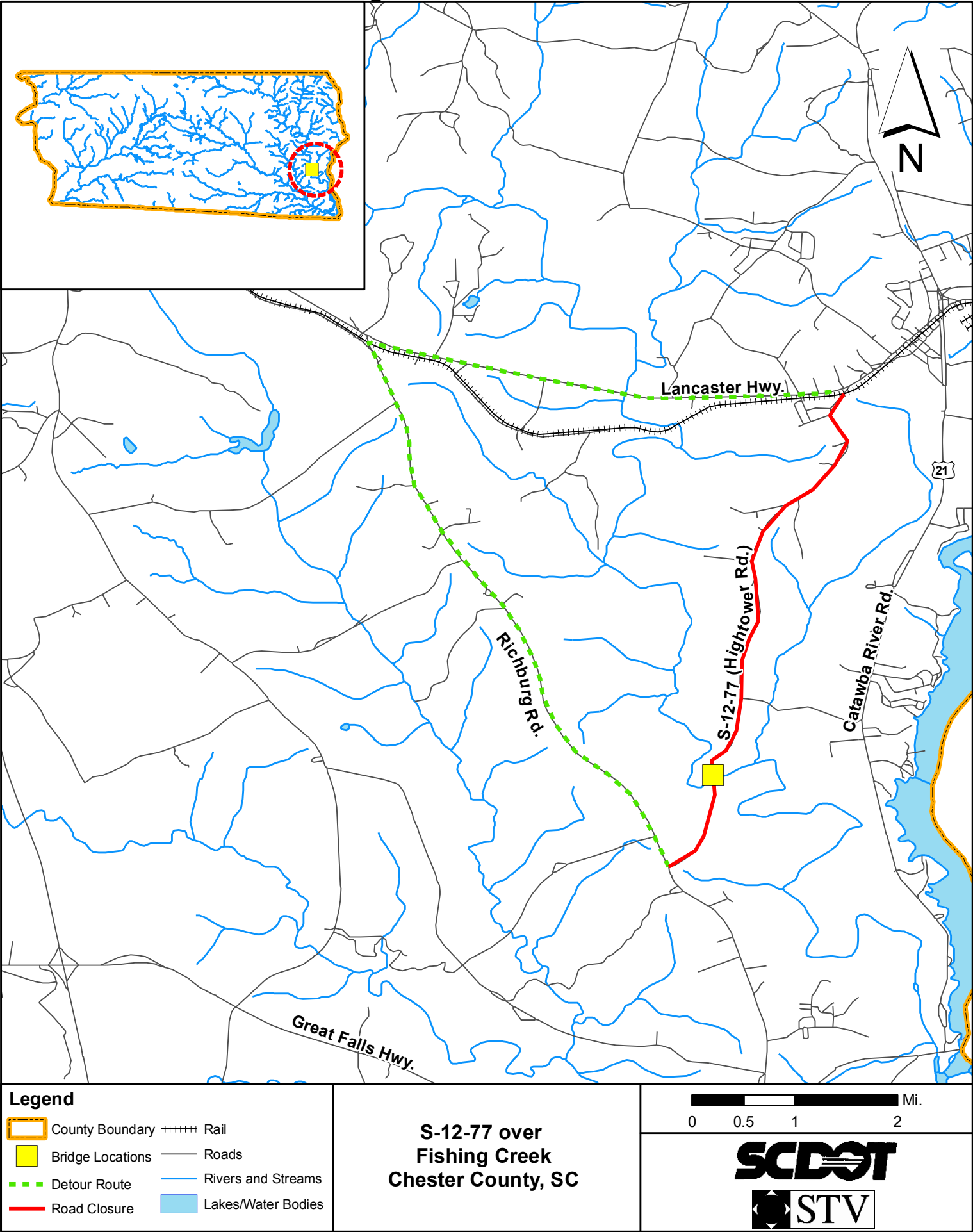
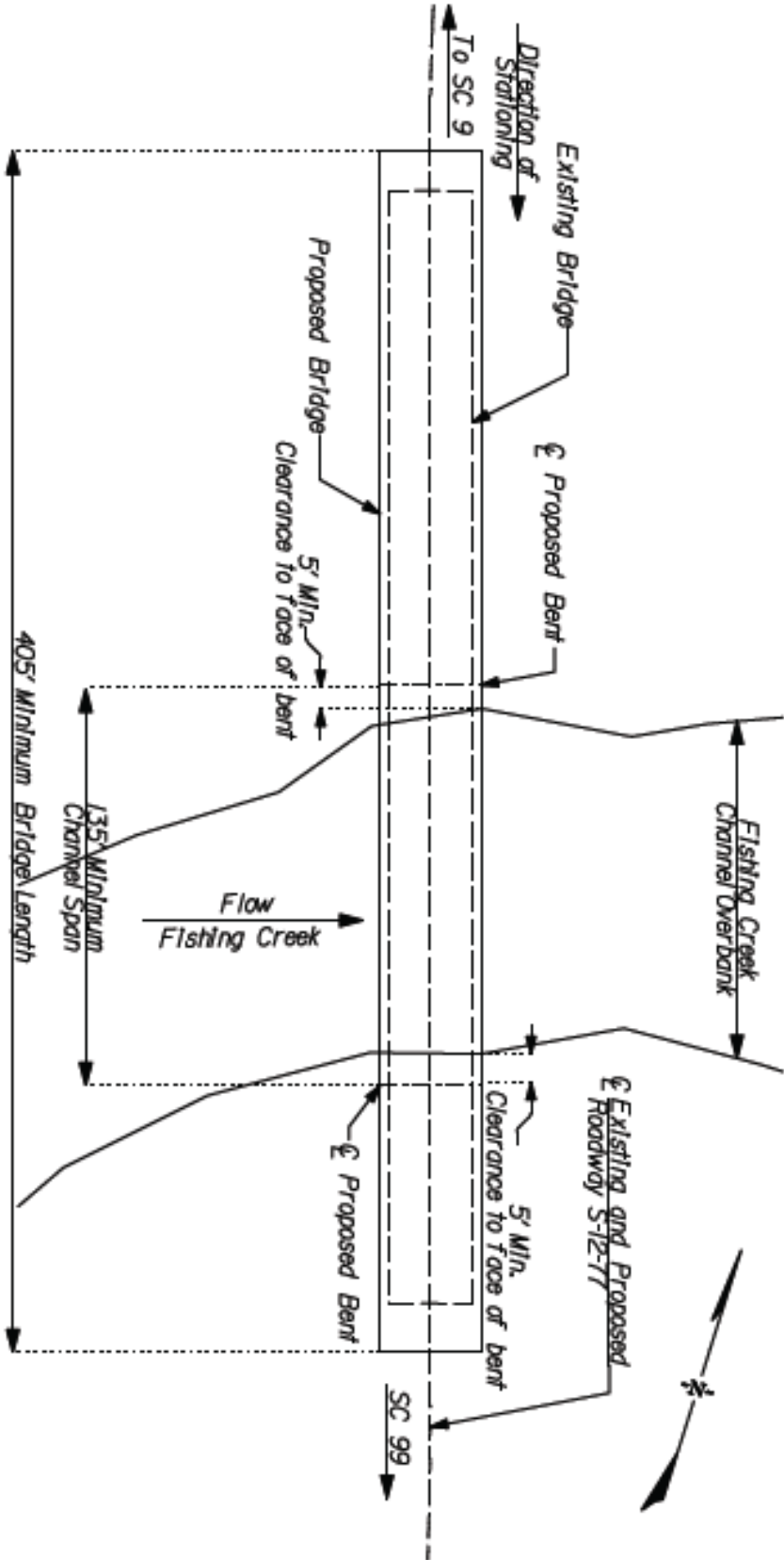


Figure 2: Plan View

# ROUTE S-12-77 OVER FISHING CREEK CHESTER COUNTY PRELIMINARY BRIDGE LAYOUT

SUBJECT TO CHANGE BASED ON DESIGN

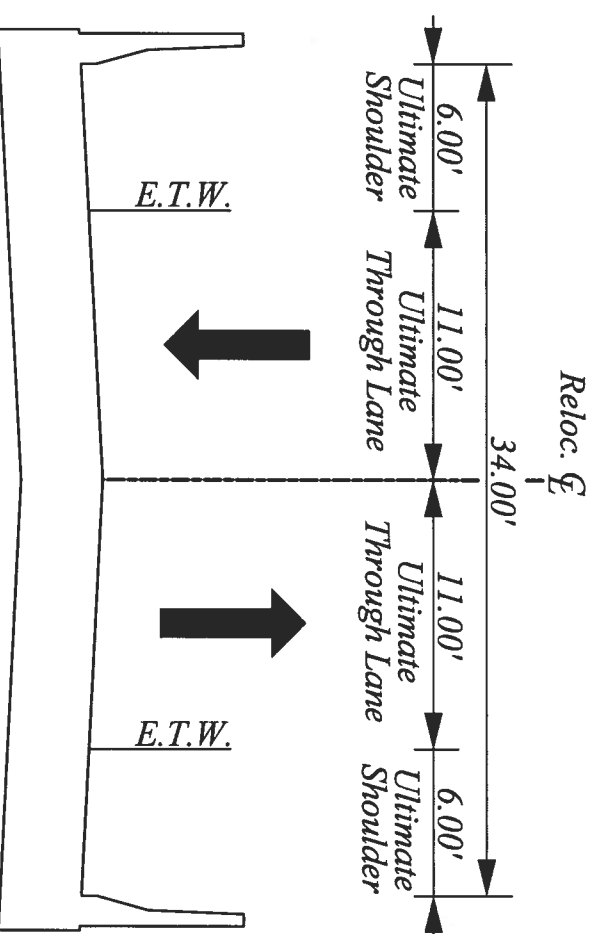


\*Preliminary Design

S-12-77 over  
Fishing Creek  
Chester County, SC

**Figure 3: Typical Section**

**CHESTER COUNTY  
ROAD S-12-77 OVER FISHING CREEK  
PRELIMINARY BRIDGE TYPICAL SECTION**



**TYPICAL SECTION NO. 1**

USE THIS SECTION ON  
S-12-77 BRIDGE

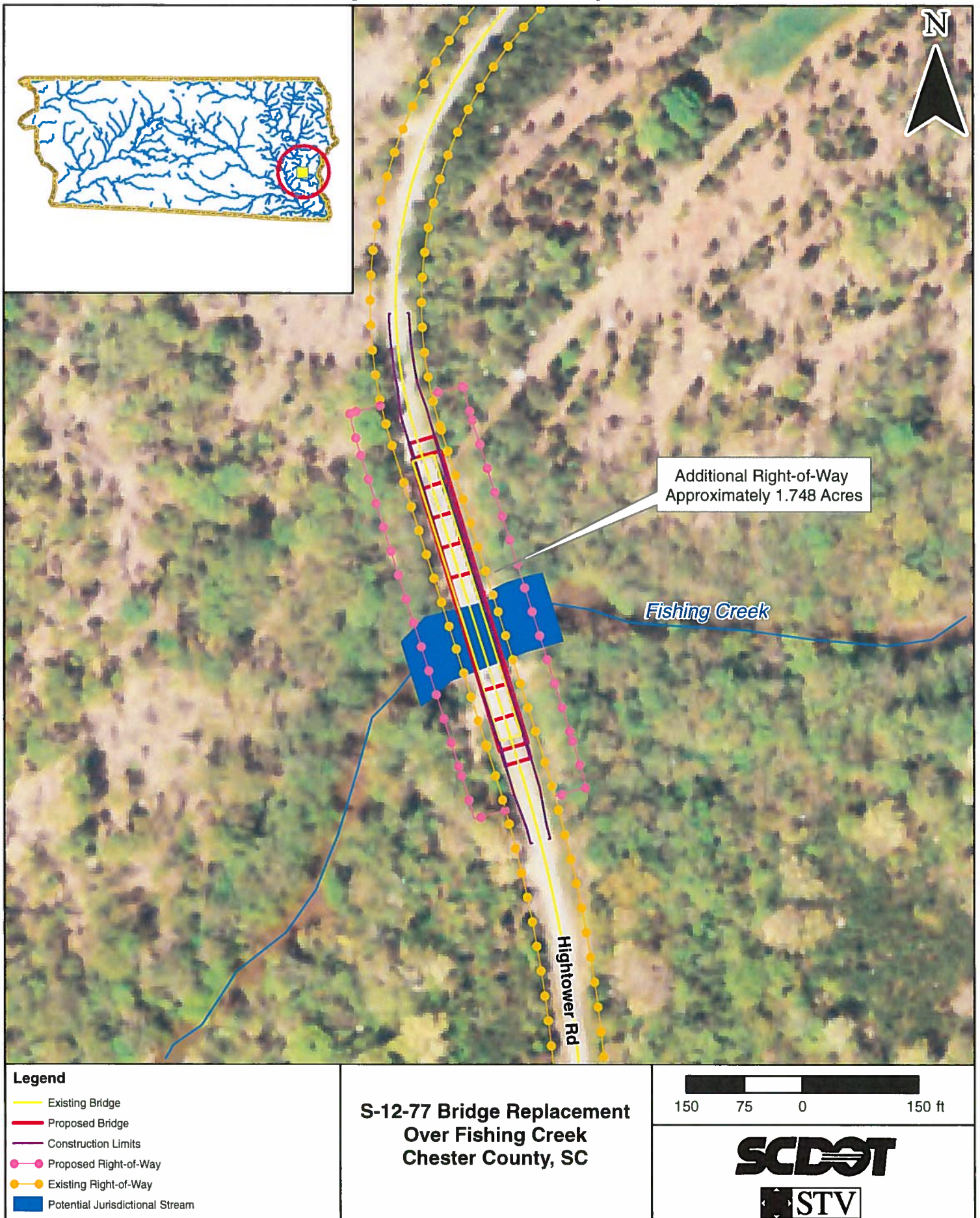
NOTE: DRAWING IS NOT TO SCALE

\*Preliminary Design

S-12-77 over  
Fishing Creek  
Chester County, SC



**Figure 4: Potential Impacts**



## **Appendix A**

### **Agency Correspondence**



## STV/Ralph Whitehead Associates

1000 West Morehead Street, Suite 200

Charlotte North Carolina 28208

(704) 372-1885 fax: (704) 372-3393

November 29, 2011

Ms. Karen Lee  
Chester County Floodplain Manager  
1476 J.A. Cochran Bypass  
Chester, SC 29706

RE: No Impact Intent Statements for Bridge Replacement Projects on SC-9 over the Catawba River, S-12-77 over Fishing Creek and S-12-141 over Rocky Creek in Chester County.

Dear Ms. Lee

The South Carolina Department of Transportation is preparing to replace the above referenced bridges in Chester County. The bridges will be replaced through a design/build contract where the contractor must construct a minimum structure length, minimum low chord and minimum channel opening equal to or greater than the existing structure. This letter attests that the referenced bridges all lay within Zone A of a FEMA regulated floodplain. Preliminary hydraulic assessments have been performed and the bridge replacements are not expected to cause any increases within the base flood elevations nor would they increase the flooding potential for the surrounding areas during 100-year storm events. As a result, it is anticipated that each of the bridges will be designed to meet the "No-Rise" requirements. Once the design/build contracts have been established, the final hydraulic design and analysis will be performed according to FEMA regulations. You will be notified of the study findings for each of the bridges once they are completed.

Please feel free to contact me at (704) 372-3393 if you have any questions or require additional information about the proposed projects.

Sincerely,

Stephanie J. Gallagher, AICP  
Environmental Planner  
STV, Inc.

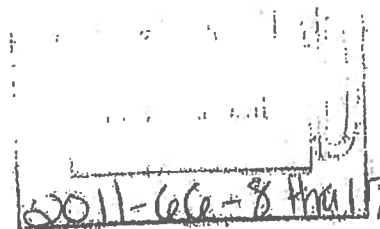
Ec: Heather Robbins, SCDOT NEPA Manager



South Carolina  
Department of Transportation

February 7, 2011

Ms. Elizabeth Johnson  
Deputy State Historic Preservation Officer  
South Carolina Department of Archives and History  
8801 Parklane Road  
Columbia, SC 29223-4906



RE: Ten Design Build Bridge Replacement Projects

Dear Ms. Johnson:

The Department plans to hire a design build contractor to replace ten structurally deficient bridges in various counties throughout the state. Brookington and Associates conducted background research and/or field surveys for each of the proposed bridge replacement projects. Copies of the survey reports and letters recommending no need for survey are provided for your review and comment.

Based on the results of background research and field surveys, it is the Department's determination that no historic properties will be affected by the following undertakings:

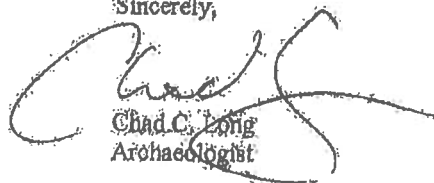
- 2011-66-8 1) Proposed S-26-24 Pawleys Swamp Bridge Replacement Project, Horry County  
File No. 26.040460.1 PCN: 40460\_BR01
- 2011-66-9 2) Cultural Resources Survey of the S-13-22 Thompson Creek Bridge Replacement Project,  
Chesterfield County, File No. 13.040460.3 PCN: 40460\_BR03
- 2011-66-10 3) Cultural Resources Survey of the SC 41 Marsh Creek Bridge Replacement Project, Marion  
County, File No. 34.040460.2 PCN: 40460\_BR02
- 2011-66-11 4) Cultural Resources Survey of the SC 9 Cataywa River Bridge Replacement Project, Chester  
and Lancaster Counties, File No. 1229.039094 PCN: 39094\_BR04
- 2011-66-12 5) Proposed SC 72 Cane Creek Bridge Replacement Project, Union County,  
File No. 44.039441.2 PCN: 39441\_BR02
- 2011-66-13 6) Cultural Resources Survey of the S-12-77 Fishing Creek Bridge Replacement Project,  
Chester County, File No. 12.039094.1 PCN: 39094\_BR01
- 2011-66-14 7) Cultural Resources Survey of the S-12-141 Rocky Creek Bridge Replacement Project,  
Chester County, File No. 12.039094.2 PCN: 39094\_BR02
- 2011-66-15 8) No Need for Archaeological or Historic Architectural Survey for the Proposed SC 200  
Wateree Creek Bridge Replacement Project, Fairfield County  
File No. 20.39094.3 PCN: 39094\_BR03
- 2011-66-16 9) Cultural Resources Survey of the SC 200 Cane Creek Bridge Replacement Project, Lancaster  
County, File No. 29.039094.5 PCN: 39094\_BR05

2011-66-17

10) No Need for Archaeological or Historic Architectural Survey for the Proposed I-85/SBL  
Southern Railroad Bridge Replacement Project, Cherokee County  
File No. 11.029094.11 PCN: 32094 BK11

In accordance with the memorandum of agreement approved by the Federal Highway Administration, March 16, 1993, the Department is providing this information as agency official designee, as defined under 36 CFR 800.2, to ensure compliance with Section 106 of the National Historic Preservation Act. It is requested that you review the enclosed material and, if appropriate, indicate your concurrence in the Department's findings, thus completing the Section 106 consultation process. Please respond within 30 days if you have any objections or if you have need of additional information.

Sincerely,



Chad C. Long  
Archaeologist

Enclosures

I ~~(do not)~~ concur in the above determination.

Signed: Carla Poltner for Wenonah Haire Date: 5/17/11

cc: Shane Belcher, FHWA  
Russell Townsend, EBCI  
Lisa LaRue-Stopp, United Kestowah  
Dr. Wenonah Haire, CIN-THPO  
Keith Derting, SCIAA

File: Env/CCL



South Carolina  
Department of Transportation

February 7, 2011

#  
11-DKO  
NHPA

Ms. Elizabeth Johnson  
Deputy State Historic Preservation Officer  
South Carolina Department of Archives and History  
8301 Parklane Road  
Columbia, SC 29223-4905

RECEIVED

FEB 14 2011

SO Department of  
Archives & History

RE: Ten Design Build Bridge Replacement Projects

Dear Ms. Johnson:

The Department plans to hire a design build contractor to replace ten structurally deficient bridges in various counties throughout the state. Brockington and Associates conducted background research and/or field surveys for each of the proposed bridge replacement projects. Copies of the survey reports and letters recommending no need for survey are provided for your review and comment.

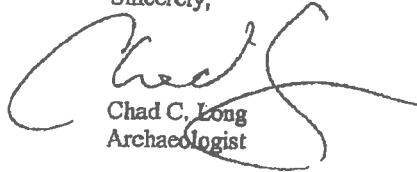
Based on the results of background research and field surveys, it is the Department's determination that **no historic properties will be affected** by the following undertakings:

- 1) Proposed S-26-24 Pawleys Swamp Bridge Replacement Project, Horry County  
File No. 26.040460.1 PCN: 40460\_BR01
- 2) Cultural Resources Survey of the S-13-22 Thompson Creek Bridge Replacement Project, Chesterfield County, File No. 13.040460.3 PCN: 40460\_BR03
- 3) Cultural Resources Survey of the SC 41 Marsh Creek Bridge Replacement Project, Marion County, File No. 34.040460.2 PCN: 40460\_BR02
- 4) Cultural Resources Survey of the SC 9 Catawba River Bridge Replacement Project, Chester and Lancaster Counties, File No. 1229.039094 PCN: 39094\_BR04
- 5) Proposed SC 72 Cane Creek Bridge Replacement Project, Union County,  
File No. 44.039441.2 PCN: 39441\_BR02
- 6) ~~Cultural Resources Survey of the S-12-77 Fishing Creek Bridge Replacement Project, Chester County, File No. 12.039094.1 PCN: 39094\_BR01~~
- 7) Cultural Resources Survey of the S-12-141 Rocky Creek Bridge Replacement Project, Chester County, File No. 12.039094.2 PCN: 39094\_BR02
- 8) No Need for Archaeological or Historic Architectural Survey for the Proposed SC 200 Wateree Creek Bridge Replacement Project, Fairfield County  
File No. 20.39094.3 PCN: 39094\_BR03
- 9) Cultural Resources Survey of the SC 200 Cane Creek Bridge Replacement Project, Lancaster County, File No. 29.039094.5 PCN: 39094\_BR05

10) No Need for Archaeological or Historic Architectural Survey for the Proposed I-85 SBL  
Southern Railroad Bridge Replacement Project, Cherokee County  
File No. 11.039094.11 PCN: 39094\_BR11

In accordance with the memorandum of agreement approved by the Federal Highway Administration, March 16, 1993, the Department is providing this information as agency official designee, as defined under 36 CFR 800.2, to ensure compliance with Section 106 of the National Historic Preservation Act. It is requested that you review the enclosed material and, if appropriate, indicate your concurrence in the Department's findings, thus completing the Section 106 consultation process. Please respond within 30 days if you have any objections or if you have need of additional information.

Sincerely,



Chad C. Long  
Archaeologist

Enclosures

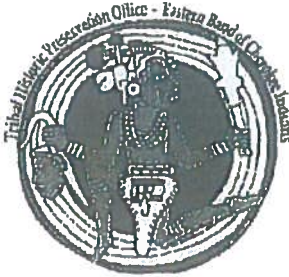
I (~~do not~~) concur in the above determination.

Signed: 

Date: 2/23/11

cc: Shane Belcher, FHWA  
Russell Townsend, EBCI  
Lisa LaRue-Stopp, United Keetowah  
Dr. Wenonah Haire, CIN-THPO  
Keith Derting, SCIAA

File: Env/CCL



Eastern Band of Cherokee Indians  
Tribal Historic Preservation Office  
P.O. Box 455  
Cherokee, NC 28719  
Ph: 828-554-6852 Fax 828-488-2462

DATE: April 6, 2011

TO: FHWA, SC Division  
Robert L. Lee  
Division Administrator  
1835 Assembly St.  
Suite 1270  
Columbia, SC 29201



**PROJECTS: Comments concerning:**

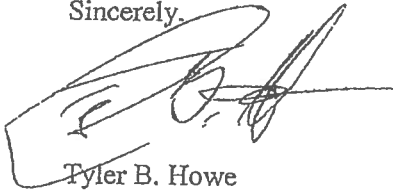
- 1.) (File # 40.039333A; Pin: 39333). Phase I Cultural Resources Survey of the Hardscrabble Road Widening Project, Richland County, SC.
- 2.) (File # 29.039094.5; PCN: .39094\_BR05). Cultural Resources Survey of the SC 200 Cane Creek Bridge Replacement Project, Lancaster County, SC.
- 3.) (File # 20.39094.3 PCN: 39094\_BR03). No Need for Archaeological or Historic Architectural Survey for Proposed SC 200 Wateree Creek Bridge Replacement Project, Fairfield County, SC.
- 4.) (File # 12.039094.2 PCN: 39094\_BR02). Cultural Resources Survey of the S-12-141 Rocky Creek Bridge Replacement Project, Chester County, SC.
- 5.) (File # 12.039094.1 PCN: 39094\_BR01). Cultural Resources Survey of the S-12-77 Fishing Creek Bridge Replacement Project, Chester County, SC.
- 6.) (File # 44.039441.2 PCN: 39441\_BR02). No Need for Archaeological or Historic Architectural Survey for the Proposed SC 72 Cane Creek Bridge Replacement Project, Union County, SC.
- 7.) (File # 1229.039094 PCN: 39094\_BR04). Cultural Resources Survey of the SC 9 Catawba River Bridge Replacement Project, Chester and Lancaster Counties, SC.
- 8.) Cultural Resources Survey of the Celriver/Red River Road Improvements Project, York County, SC. City of Rock Hill Project.

The Tribal Historic Preservation Office of the Eastern Band of Cherokee Indians (EBCI THPO) would like to thank you for the opportunity to comment on this proposed section 106 activities under §36 C.F.R. 800.

The EBCI THPO concurs with the archeologist's recommendations that no sites eligible for inclusion on the National Register of Historic Places were encountered during the recent phase I archaeological field surveys. As such, the EBCI THPO believes that the proposed projects may proceed as planned. In the event that project plans change, or cultural resources or human remains are discovered, all work should cease, and this office should be contacted to continue government to government consultation as defined under Section 106 of the National Historic Preservation Act of 1966, as amended.

If we can be of further service, or if you have any comments or questions, please feel free to contact me at (828) 554-6852.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tyler B. Howe', with a large, stylized initial 'T' and 'H'.

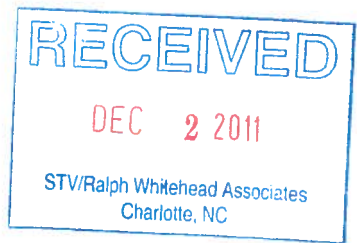
Tyler B. Howe  
Tribal Historical Preservation Specialist  
Eastern Band of Cherokee Indians

C: Wayne D. Roberts



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CHARLESTON DISTRICT, CORPS OF ENGINEERS  
69A HAGOOD AVENUE  
CHARLESTON, SOUTH CAROLINA 29403-5107



April 27, 2011

Regulatory Division

Mr. Sean Connolly  
Environmental Permit Manager  
South Carolina Department of Transportation  
P.O. Box 191, 955 Park Street  
Columbia, South Carolina 29202

39094-BK01

Dear Mr. Connolly:

This is in response to a letter from STV/Ralph Whitehead received January 3, 2011, requesting a Jurisdictional Determination, on behalf of South Carolina Department of Transportation, for a 4.6 acre tract, located along S-77 across Fishing Creek located in Chester County, South Carolina. The project area is depicted on the enclosed sketch (Sheet 1 of 1) entitled "S-77 Bridge Replacement over Fishing Creek (SCDOT PIN: 39094), Chester County, SC" dated August 25, 2010, that depict the project location, soils mapping, project boundaries, and delineated Waters of the U.S. A preliminary jurisdictional determination is used to indicate that this office has identified wetlands or other waters on the property and believes these waters may be jurisdictional waters of the United States. Since the Preliminary does not verify the actual jurisdictional status of wetlands and/or waters of the United States on the property, it relies on the presumption of jurisdiction for the purpose of expediting the request for a Preliminary.

Based on an on-site inspection, a review of aerial photography, topographic maps, National Wetland Inventory maps and soil survey information and information which you provided, it has been concluded that the boundaries shown on the referenced sketch or plat are a reasonable approximation of the location and boundaries of the waters found on this site. The property in question contains a total of approximately **212 linear feet** of federally defined freshwater wetlands or other waters. **Specifically, your project contains 212 linear feet of Fishing Creek.** You are cautioned that this delineation is approximate, subject to change, and should be used for planning purposes only. This office should be contacted prior to performing any work in or around these wetlands or other waters. In order for a definitive determination to be provided, these areas should be located and marked on-site, sketched or surveyed, platted on a map, and should be accompanied by a request for an Approved Jurisdictional Determination. Upon receipt of such a request, this office can then issue an approved determination as to jurisdiction (rather than the presumption of jurisdiction). You should also be aware that the areas identified as wetlands or other waters may be subject to restrictions or requirements of other state or local government entities.

Please note that since this jurisdictional determination is a Preliminary, it is subject to change and therefore is not an appealable action under the Corps of Engineers administrative appeal procedures defined at 33 CFR 331. If a permit application is forthcoming as a result of this Preliminary, a copy of this letter, as well as the attached sketch or plat should be submitted as part

of the application. Otherwise, a delay could occur in confirming that a preliminary jurisdictional determination was performed for the permit project area.

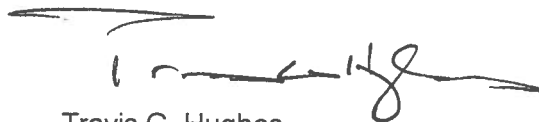
This preliminary jurisdictional determination is a non-binding action and as such has no expiration until it is superseded by an Approved Jurisdictional Determination. If you intend to request an Approved Jurisdictional Determination in the future, you are advised not to commence work in these wetlands and/or waters prior to receiving the Approved Jurisdictional Determination.

In future correspondence concerning this matter, please refer to SAC 2011-00021-DJS. You may still need state or local assent.

Enclosed are two copies of the Preliminary Jurisdictional Determination Form which have been prepared for your signature. Please sign each copy and return to this office in the enclosed self-addressed envelope.

If you have any questions concerning this matter, please contact Stephen A. Brumagin at 803-253-3445.

Sincerely,

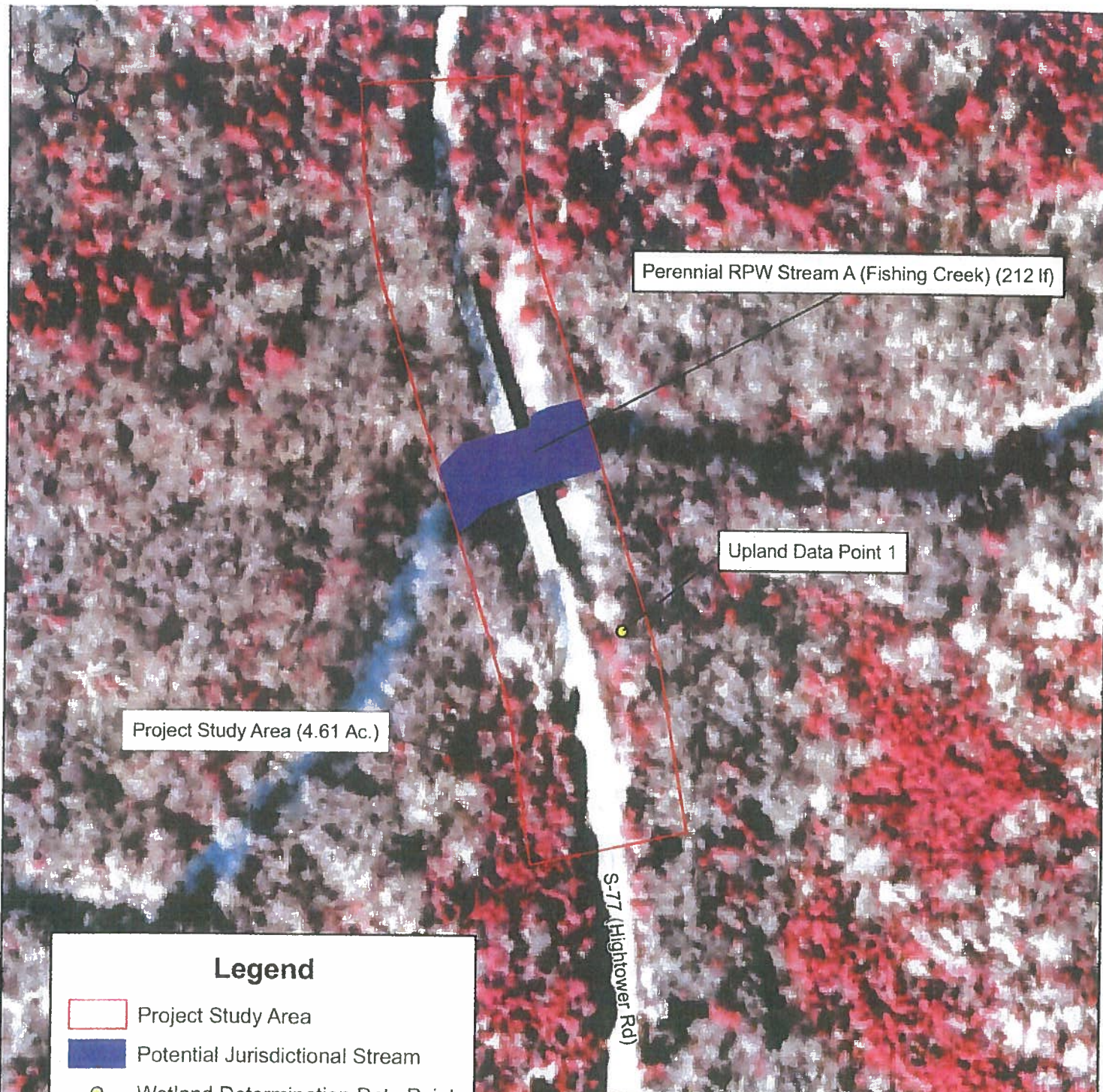
A handwritten signature in black ink, appearing to read "Travis G. Hughes", with a long horizontal flourish extending to the right.

Travis G. Hughes  
Chief, Special Projects Branch

Enclosures:  
Preliminary Jurisdictional Determination Form

Copy Furnished:

Mr. Michael Iagnocco, PWS  
STV/Ralph Whitehead Associates  
1000 West Morehead Street, Suite 200  
Charlotte, North Carolina 28208

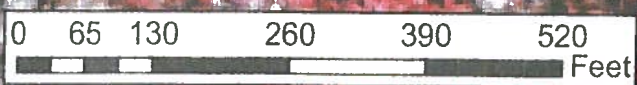


**Legend**

Project Study Area

Potential Jurisdictional Stream

● Wetland Determination Data Point



**Note:**

1. Potential jurisdictional waters of the U.S. were delineated by STV/Ralph Whitehead Associates on August 18, 2010. Potential jurisdictional boundaries were marked in the field with blue and white striped tape and mapped using a Trimble GEOXT hand-held GPS unit capable of submeter accuracy. This map is intended for planning purposes only.
2. Jurisdictional boundaries of waters of the U.S. have not been verified by the U.S. Army Corps of Engineers and are subject to change following verification.

Ref. SCDNR GIS Data Clearinghouse, 2006 Aerial Photography

<b>S-77 Bridge Replacement Over Fishing Creek</b> Chester County, SC				
STV/ Ralph Whitehead Associates				
<b>Approximate Waters of the U.S. and Wetlands Boundary Map</b>			<b>FIGURE 4</b>	
<u>BJP</u> <small>DELINEATED BY</small>	<u>AWN</u> <small>PREPARED BY</small>	<u>BJP</u> <small>CHECKED BY</small>	<u>MAI</u> <small>APPROVED BY</small>	<u>8/25/10</u> <small>DATE</small>
2514104/0800 <small>JOB/PHASE NO.</small>		1"=175' <small>SCALE</small>		N:\PROJ\2514104\reports\10 Bridges Field Maps\ S77 over Fishing Creek\ Waters.mxd <small>GIS FILE PATH</small>
			SHEET <u>1</u>	OF <u>1</u>

## **Appendix B**

### **Preliminary Hydraulic Assessment**

## BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

COUNTY: Chester

DATE: 05 March 2012

ROAD #: S-77

STREAM CROSSING: Fishing Creek

Purpose & Need for the Project:

Project replaces a structurally deficient 1966 structure. Replacement increases safety and provides for long-term functionality of S-77 (Hightower Road).

### I. FEMA Acknowledgement

Is this project located in a regulated FEMA Floodway? ☐ Yes ☒ No

Panel Number: 45023C0268C Effective Date: July 5, 1982 (See Attached)

### II. FEMA Floodmap Investigation

Fishing Creek is a Zone AE w/ BFEs and non-encroachment area established by limited detail study. No mapped floodway or plotted profile exists.

FEMA Flood Profile Sheet Number \_\_\_\_\_ illustrates the existing 100 year flood:

- ☒ Passes under the existing low chord elevation.  
☐ Is in contact with the existing low chord elevation.  
☐ Overtops the existing bridge finished grade elevation.

### III. No Rise/CLOMR Preliminary Determination

- ☒ Preliminary assessment indicates this project may be constructed to meet the "No-Rise" requirements. A detailed hydraulic analysis will be performed to verify this assessment.

Justification: Recommended span arrangement holds existing low chord and will not decrease available hydraulic opening.

- ☐ Preliminary assessment indicates this project may require a CLOMR/LOMR. Impacts will be determined by a detailed hydraulic analysis.

Justification: \_\_\_\_\_

## BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

### IV. Preliminary Bridge Assessment

#### A. Locate Existing Plans

a. Bridge Plans ☐ Yes File No. \_\_\_\_\_ Sheet No. \_\_\_\_\_ (See Attached)  
☒ No

b. Road Plans ☒ Yes File No. 12.325 Sheet No. 8 (See Attached)  
☐ No 12.389 10

#### B. Historical Highwater Data

a. USGS Gage ☐ Yes Gage No. \_\_\_\_\_ Results: \_\_\_\_\_  
☒ No

b. SCDOT/USGS Documented Highwater Elevations

☐ Yes Results: \_\_\_\_\_  
☒ No

c. Existing Plans ☒ Yes See Above  
☐ No

### V. Field Review

#### A. Existing Bridge

Length: 375 ft. Width: 27.6 ft. Max. span Length: 45 ft.

Alignment: ☒ Tangent ☐ Curved

Bridge Skewed: ☐ Yes ☒ No Angle: \_\_\_\_\_

End Abutment Type: spill-through

Riprap on End Fills: ☒ Yes ☐ No Condition: poor - eroded

Superstructure Type: Concrete precast slabs on steel beams

Substructure Type: Timber piles w/ precast caps; steel piles w/ CIP caps over creek.

Utilities Present: ☒ Yes ☐ No

Describe:

telecom and monitoring well pipe attached, power overhead

Debris Accumulation on Bridge: Percent Blocked Horizontally: 0 %  
Percent Blocked Vertically: 0 %

## BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

Hydraulic Problems: ☐ Yes ☒ No

Describe:

### V. Field Review (cont.)

#### B. Hydraulic Features

a. Scour Present: ☐ Yes ☒ No Location: \_\_\_\_\_

b. Distance from F.G. to Normal Water Elevation: 32.2 ft.

c. Distance from Low Steel to Normal Water Elev.: 28.2 ft.

d. Distance from F.G. to High Water Elevation: N/A ft.

e. Distance from Low Steel to High Water Elev.: N/A ft.

f. Channel Banks Stable: ☒ Yes ☐ No

Describe: heavily vegetated

g. Soil Type: tan and brown silty medium sand

h. Exposed Rock: ☐ Yes ☒ No Location: \_\_\_\_\_

i. Give Description and Location of any structures or other property that could be damaged due to additional backwater.

#### C. Existing Roadway Geometry

a. Can the existing roadway be closed for an On-Alignment Bridge Replacement

☒ Yes ☐ No

Describe: Close and detour. Maintain existing alignment.

If "yes", does the existing vertical and horizontal curves meet the proposed design speed criteria?

Existing geometry is adequate for current 35 mph speed limit. Significant roadway realignment would be required to meet 45 mph design speed.

## BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

If "No", will the proposed bridge be"

- ☐ Staged Constructed  
☐ Replaced on New Alignment

### VI. Field Review (cont.)

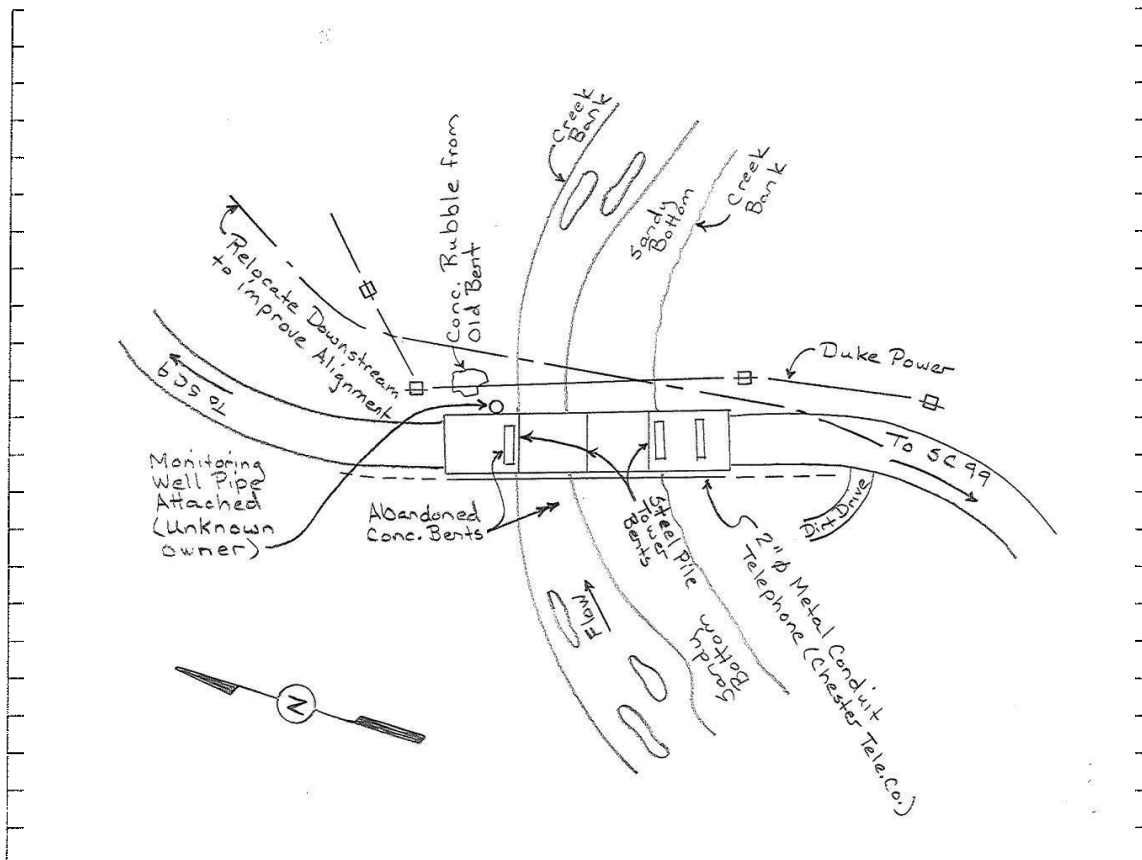
#### A. Proposed Bridge Recommendation:

Length: 405 ft. Width: 34 ft. Elevation: maintain  
exstg low  
chord ft.

Span Arrangement: 1- 135' span, 9 - 30' spans

Notes: Need minimum 135' span over Fishing Creek

DIAGRAM: (Show North Arrow and Direction of Flow)







JOINS PANEL 0264

Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0268C

**FIRM**

FLOOD INSURANCE RATE MAP

CHESTER COUNTY,  
SOUTH CAROLINA  
AND INCORPORATED AREAS

PANEL 268 OF 450

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHESTER COUNTY	450047	0268	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**  
45023C0268C

**EFFECTIVE DATE**  
SEPTEMBER 16, 2011

Federal Emergency Management Agency

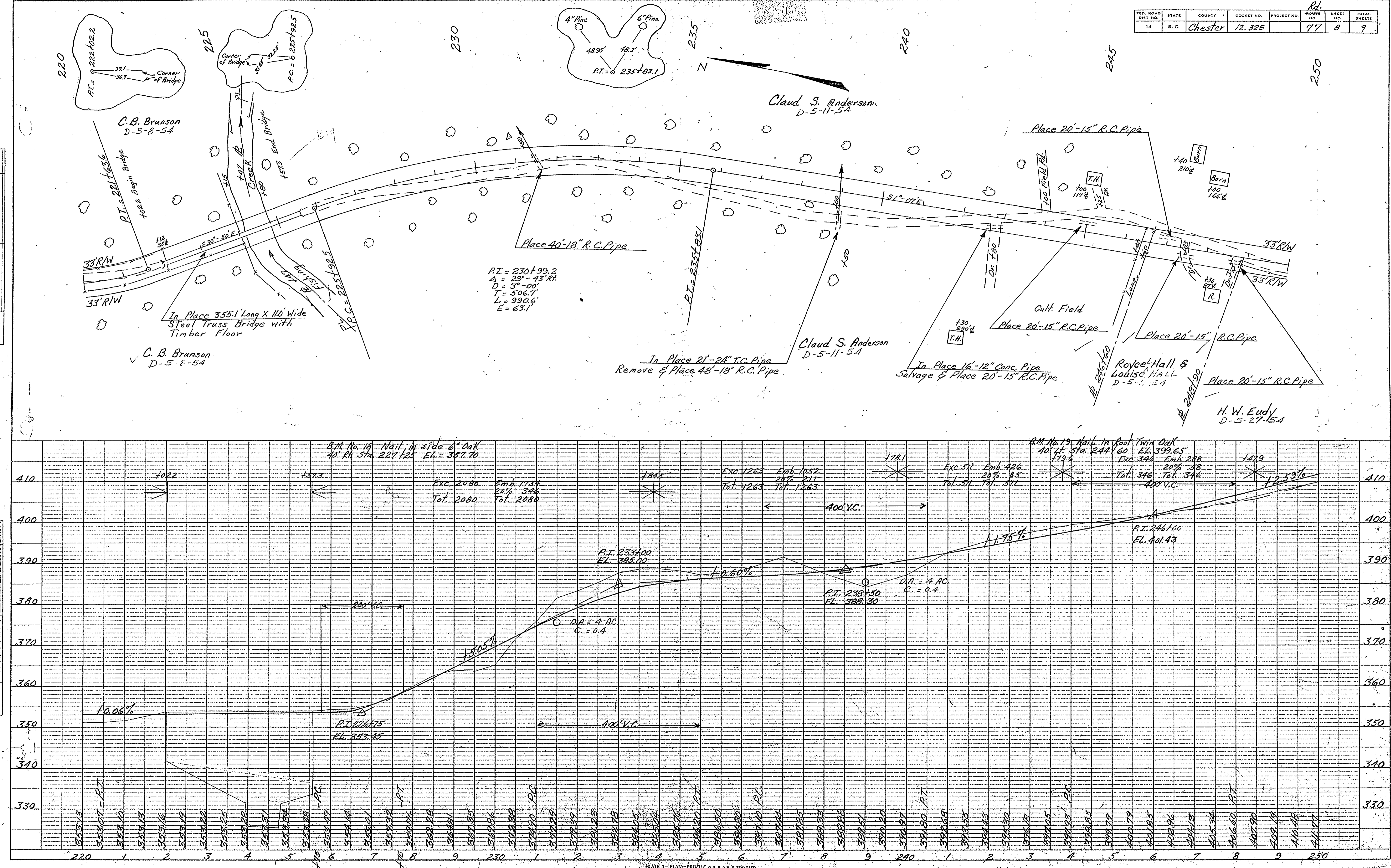
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

Cross Section <sup>1</sup>	Stream Station <sup>2</sup>	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88) <sup>3</sup>
<b>Fishing Creek (continued)</b>			
303	30,337	22,500	388.9
308	30,837	22,500	389.5
313	31,337	22,500	389.7
320	31,957	22,500	389.9
323	32,337	22,259	390.2
328	32,837	22,259	390.6
333	33,337	22,259	390.8
338	33,837	22,259	391.0
343	34,337	22,259	391.3
348	34,837	22,259	391.6
353	35,337	22,072	391.7
358	35,837	22,072	391.8
363	36,337	22,072	392.3
371	37,096	22,072	392.7
373	37,260	22,072	393.3
385	38,468	22,072	393.8
396	39,601	22,072	394.0
398	39,847	22,072	394.0
403	40,307	22,072	394.0
408	40,847	22,072	394.3
413	41,347	22,072	394.4
419	41,847	22,072	394.5
423	42,347	22,072	394.6
428	42,847	22,072	394.8
433	43,347	22,072	394.9
438	43,824	22,072	395.0
443	44,347	22,072	395.1
447	44,675	22,072	395.2
453	45,347	22,072	395.3
458	45,847	22,072	395.4
463	46,347	22,072	395.4
468	46,847	22,072	395.5
473	47,347	22,072	395.5
478	47,847	22,072	395.6
486	48,572	22,072	395.9

FED. ROAD DIST. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
14	S. C.	Chester	12.325		77	9

PLAN	DATE	BY	DATE	BY
SURVEYED				
PLOTTED				
NOTE BOOK				
NO.				

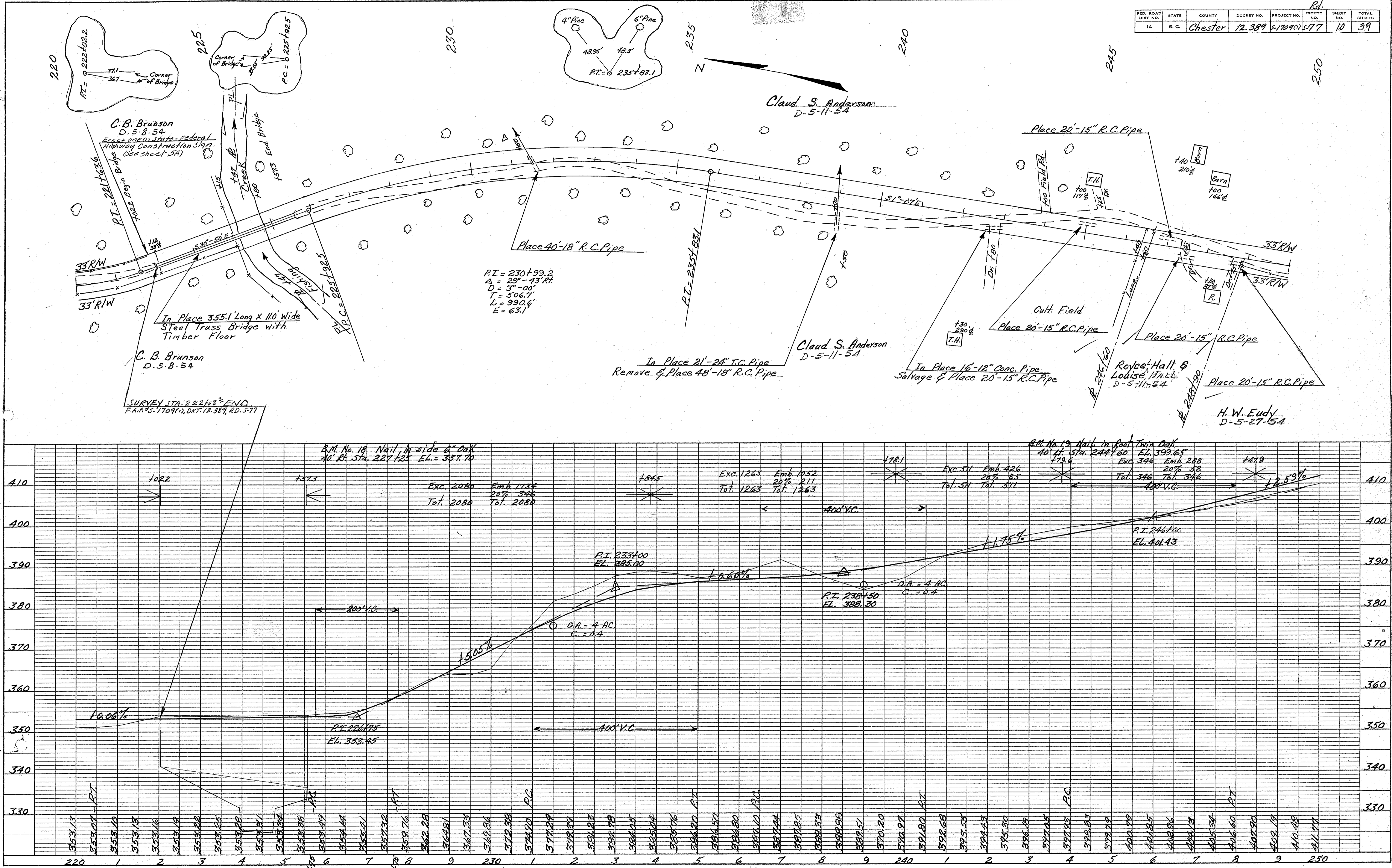
PROFILE	DATE	BY	DATE	BY
SURVEYED				
PLOTTED				
NOTE BOOK				
NO.				



FED. ROAD DIST. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
14	S. C.	Chester	12.389	5-1709(1)	5-77	10	39

PLAN	DATE	BY	DATE	BY
SURVEYED				
PLOTTED				
NOTE BOOK				
NO.				

PROFILE	DATE	BY	DATE	BY
SURVEYED				
PLOTTED				
NOTE BOOK				
NO.				



**Appendix C**  
**Biological Assessment and Mussel Survey**

**Biological Assessment  
Federal and State Threatened and Endangered Species  
S-77 Bridge Replacement over Fishing Creek  
Chester County, South Carolina  
PIN 39094  
File No. 12.039094.1**

The South Carolina Department of Transportation (SCDOT) is proposing to replace the S-77 (Hightower Road) Bridge over Fishing Creek located approximately 4.5 miles north of the Town of Great Falls in the southeastern portion of Chester County, South Carolina. The proposed project would involve the replacement of the existing S-77 Bridge over Fishing Creek with a new bridge and associated roadway approach improvements. Based on information provided by the SCDOT Bridge Replacement Site Information, the new bridge is anticipated to be built downstream of the existing bridge and traffic will be maintained. The existing S-77 Bridge over Fishing Creek was built in 1966, and has a sufficiency rating of 43.0 out of 100, and is considered structurally deficient. The existing bridge is 27.6 feet in width and 375 feet in length, consisting of two 45-foot main unit spans and nineteen 15-foot approach spans of precast concrete slabs on structural steel supported on timber piles with precast caps and steel piles with cast-in-place concrete caps over the creek. It is anticipated that the replacement bridge will be designed and constructed as part of a pending SCDOT Design-Build contract. Consequently, proposed bridge dimensions and other design details are unknown at the time of this writing.

Because of the federal nexus of the project, consultation with the U.S. Fish and Wildlife Service (USFWS) is required under Section 7 of the Endangered Species Act (ESA), as amended (16 USC 1531-1534) for proposed projects that "may affect" federally endangered and threatened species. This Biological Assessment (BA) analyzes potential impacts to federally and/or state endangered and threatened species for the proposed project, and is intended to initiate informal consultation, as needed.

The following list (Table 1) of federal and/or state endangered (E) and threatened (T) species for Chester County was obtained from the South Carolina Department of Natural Resources (SCDNR) Rare, Threatened, and Endangered Species Inventory (updated April 16, 2010) and the U.S. Fish and Wildlife Service (USFWS) protected species database (updated March 2010). The table includes bald eagle (*Haliaeetus leucocephalus*) which is no longer federally protected by the Federal Endangered Species Act but is afforded protection through the Bald and Golden Eagle Protection Act (BGEPA).

**TABLE 1. CHESTER COUNTY FEDERAL AND/OR STATE ENDANGERED  
AND THREATENED SPECIES**

Protected Species		Protection Status	
Common Name	Scientific Name	Federal	State
Animal			
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA	E
Carolina heelsplitter	<i>Lasmigona decorata</i>	E	E
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	E
Plant			
Georgia aster	<i>Aster georgianus</i>	C	

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

### **Methods**

On behalf of SCDOT, the list of federal and/or state protected species for Chester County was reviewed, and evaluations were performed regarding the likelihood of the presence of each species within the project study area (PSA) and potential project-related impacts. A field survey for federal and/or state-listed protected species was conducted by STV/Ralph Whitehead Associates (STV/RWA) on August 18, 2010. STV/RWA environmental scientists Brandon Phillips and Tony Nardo reviewed a PSA generally centered on the S-77 Bridge over Fishing Creek and roadway approaches, and conducted a pedestrian survey of the PSA for the presence of potential habitat for the above-listed species.

S-77 Bridge Replacement over Fishing Creek  
Biological Assessment for Federal and/or State Threatened and Endangered Species  
February 11, 2011

STV/RWA reviewed a PSA approximately 1,000 feet long and 200 feet wide extending from a center located at the S-77 bridge over Fishing Creek and roadway approaches, and the adjacent habitat communities located approximately 500 feet north and south of the bridge.

In addition, the South Carolina Heritage Trust (SCHT) Geographic Database of Rare and Endangered Species, updated January 17, 2006, was also reviewed to determine the presence of protected species within or in close proximity to the PSA.

### **Results**

According to the SCHAT database, no occurrences of protected species have been documented within a one-mile radius of the PSA.

Based on the STV/RWA field review, the PSA largely consists of undeveloped woodland and maintained right-of-ways (R/Ws).

None of the protected species were observed within the PSA during the field review conducted by STV/RWA. No potential habitat for red-cockaded woodpecker was identified within the PSA; therefore, it is determined that the project will have a biological conclusion of "no effect" on this species. The field review did, however, reveal potential habitat for Carolina heelsplitter, as well as potential foraging habitat for the bald eagle within the PSA. Biological conclusions for the protected species that have potential habitat within the PSA follows.

There is no potential nesting habitat for the bald eagle within the PSA. No individuals were observed during the field review. Additionally, reviews of the SCHAT Geographic Database of Rare and Endangered Species did not reveal the presence of any known individuals or populations of bald eagle within one mile of the PSA. Due to the removal of the bald eagle from the federal threatened and endangered species list, effective August 8, 2007, the bald eagle is no longer protected by the Endangered Species Act. Since the USFWS no longer conducts consultations regarding this species, a biological conclusion regarding potential project-related impacts is not provided.

A survey for freshwater mussels was conducted on October 29 and 30, 2010 by Alderman Environmental Services, Inc. In a report dated November 17, 2010, Alderman Environmental Services, Inc., concluded that this reach of Fishing Creek has a very heavy sediment load and Carolina heelsplitter was not found. Based on the findings of the report, it is determined that the project will have "no effect" on the Carolina heelsplitter. The findings report of this mussel survey is attached to this BA.

### **BIOLOGICAL CONCLUSION: NO EFFECT**



SCDOT Authorized Agent's Signature

02 / 10 / 2011

Date



**Alderman Environmental Services, Inc.**

November 17, 2010

**PROJECT:** Freshwater mussel survey for STV Incorporated; S-77 Bridge Replacement over Fishing Creek, Chester Co., SC

**TARGET SPECIES:** Federally listed endangered Carolina heelsplitter (*Lasmigona decorata*)

**BIOLOGISTS:** John Alderman  
Joseph Alderman  
Kim Hicks

**SCDNR Endangered Mussel Survey Permit Authorization:** November 25, 2002

**U.S. FISH AND WILDLIFE SERVICE ES PERMIT:** TE065756-1

**LOCATION:** Fishing Creek, Santee-Cooper River Basin; within 400+ m downstream and 100+ m upstream from S-77; see Figure 1

**SURVEY DATES:** October 29 & 30, 2010

**COMMENTS:** Very heavy sediment load

**HABITAT:**

WATERBODY TYPE:	Stream
FLOW:	Run, slack, pool
RELATIVE DEPTH:	Very shallow
DEPTH (%<2 FEET):	99
SUBSTRATE:	Clay, silt, <b>sand</b> , gravel, pebble, cobble, boulder, bedrock
COMPACTNESS:	Normal and unconsolidated
SAND/GRAVEL BARS:	Abundant
WOODY DEBRIS:	Average to high

**HABITAT (CONTINUED):**

BEAVER ACTIVITY:	Evidence (gnawed sticks); dams in stream
WINDTHROW:	Low to moderate
TEMPORARY POOLS:	None documented
CHANNEL WIDTH:	25+ meters
BANK HEIGHT:	2.5+ meters
BANK STABILITY:	Very stable with some erosion/undercutting
BUFFER WIDTH:	Wide
RIPARIAN VEGETATION:	Wooded, shrub-brush
LAND USE:	Natural, timber, rural
PERCENT COVER:	<15
WOODLAND EXTENT:	Wide
NATURAL LEVEES:	At least one
VISIBILITY:	Clear
WATER LEVEL:	<b>Low</b>
WEATHER:	Sunny, cool

**TECHNIQUES:** Visual/tactile

**SURVEY TIME:** 15 person-hours

**FRESHWATER MUSSELS:**

Elliptio complanata – 3 live, 1 fresh dead with soft parts present  
Elliptio angustata – 2 live  
Villosa delumbis – 1 live male, 1 live, gravid female

**OTHER DOCUMENTED TAXA:**

*Corbicula fluminea*

**CAROLINA HEELSPLITTER BIOLOGICAL DETERMINATION:**

**For direct effects on the Carolina heelsplitter: No Effect**

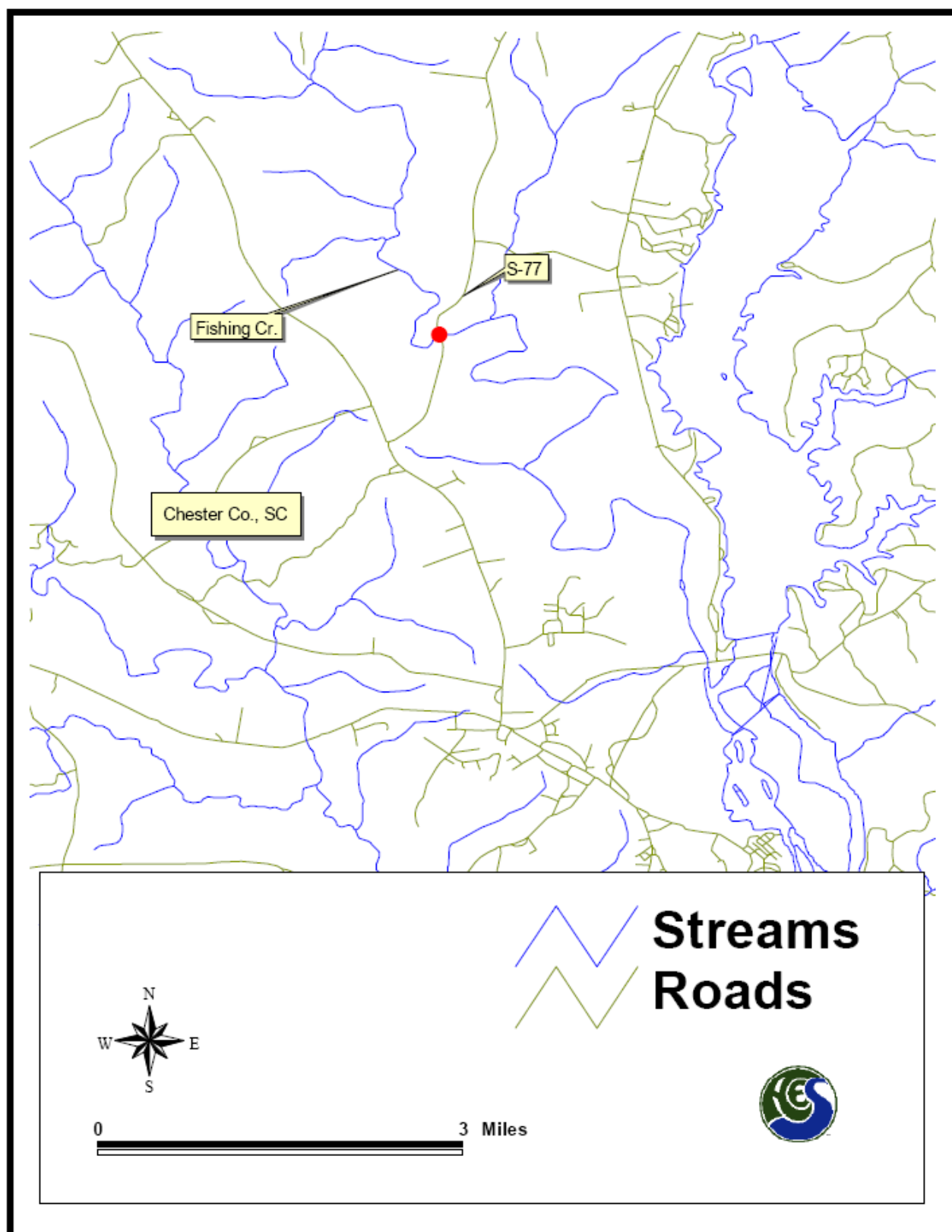


Figure 1. Fishing Creek freshwater mussel survey reach: 400+ m downstream to 100+ m upstream of S-77 bridge crossing, Chester Co., SC

## **Appendix D**

### **Farmland Conversion Impact Rating**

## U.S. Department of Agriculture

## FARMLAND CONVERSION IMPACT RATING

<b>PART I (To be completed by Federal Agency)</b>		Date Of Land Evaluation Request 11/29/11			
Name Of Project S-12-77 over Fishing Creek Bridge Project		Federal Agency Involved FHWA/SCDOT			
Proposed Land Use Transportation Right-of-Way		County And State Chester County, SC			
<b>PART II (To be completed by NRCS)</b>		Date Request Received By NRCS			
Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply -- do not complete additional parts of this form).		Yes <input type="checkbox"/>	No <input type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount Of Farmland As Defined In FPPA Acres: %			
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS			
<b>PART III (To be completed by Federal Agency)</b>		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly		1.0			
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site		1.0	0.0	0.0	0.0
<b>PART IV (To be completed by NRCS) Land Evaluation Information</b>					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide And Local Important Farmland					
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value					
<b>PART V (To be completed by NRCS) Land Evaluation Criterion</b>					
Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)		100	0	0	0
<b>PART VI (To be completed by Federal Agency)</b>					
Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))		Maximum Points			
1. Area In Nonurban Use	15	15			
2. Perimeter In Nonurban Use	10	10			
3. Percent Of Site Being Farmed	20	5			
4. Protection Provided By State And Local Government	20	0			
5. Distance From Urban Builtup Area	0	0			
6. Distance To Urban Support Services	0	0			
7. Size Of Present Farm Unit Compared To Average	10	0			
8. Creation Of Nonfarmable Farmland	25	0			
9. Availability Of Farm Support Services	5	0			
10. On-Farm Investments	20	0			
11. Effects Of Conversion On Farm Support Services	25	0			
12. Compatibility With Existing Agricultural Use	10	0			
TOTAL SITE ASSESSMENT POINTS		160	30	0	0
<b>PART VII (To be completed by Federal Agency)</b>					
Relative Value Of Farmland (From Part V)		100	100	0	0
Total Site Assessment (From Part VI above or a local site assessment)		160	30	0	0
TOTAL POINTS (Total of above 2 lines)		260	130	0	0
Site Selected: Replace in existing location		Date Of Selection 11/29/11		Was A Local Site Assessment Used?	
				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Reason For Selection:					

Replacement of the bridge in the existing location is the most feasible alternative and has the least impacts on farmland soils.