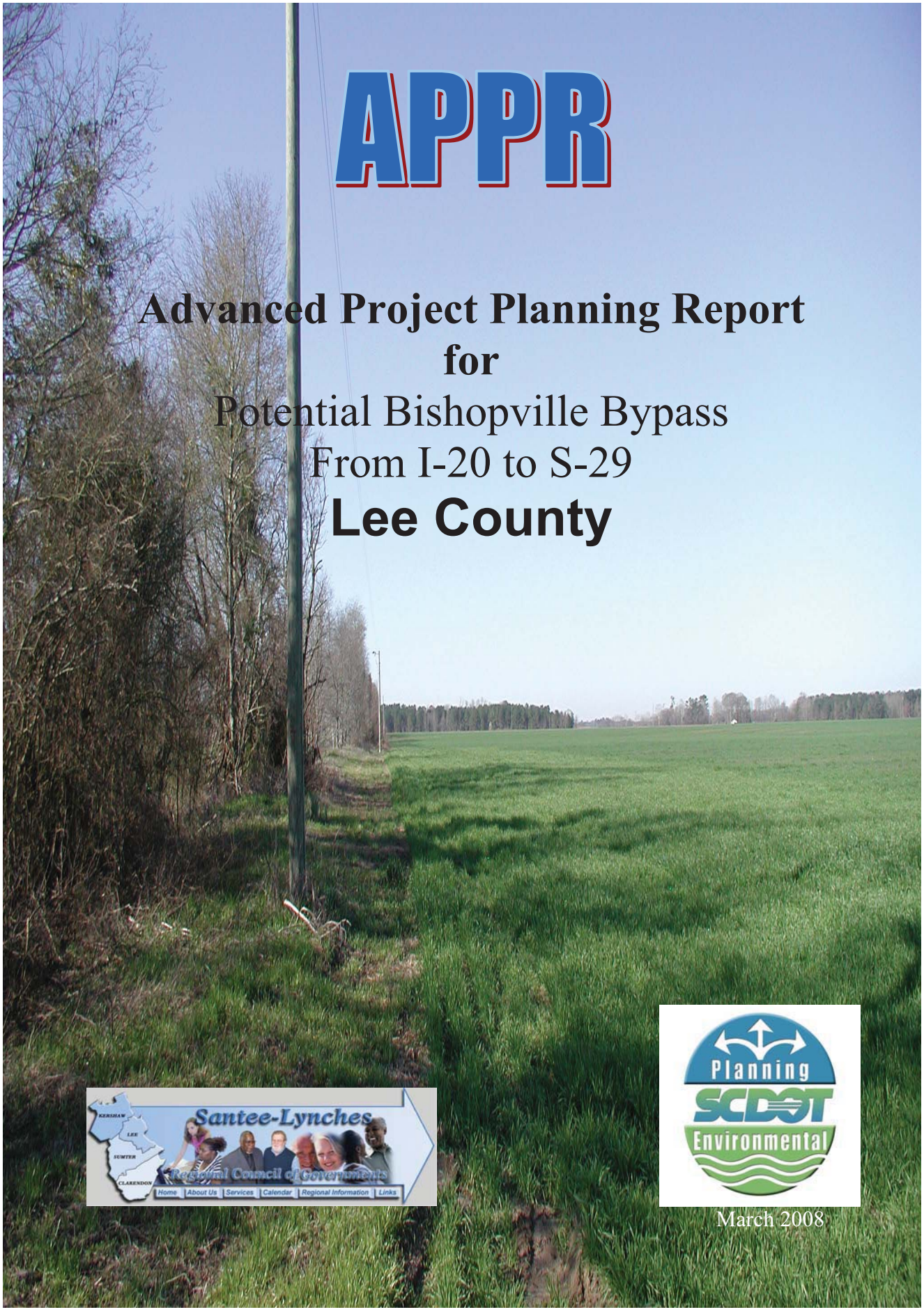
APPENDIX B. *ADVANCED PROJECT PLANNING REPORT*



Advanced Project Planning Report
for
Potential Bishopville Bypass
From I-20 to S-29
Lee County

March 2008

ADVANCED PROJECT PLANNING REPORT
for
Potential Bishopville By-Pass from I-20 to S-29 in Lee County

South Carolina Department of Transportation

Project Abstract:

The South Carolina Department of Transportation (SCDOT) in partnership with the Santee-Lynches Council of Governments (SLCOG) has developed this Advanced Project Planning Report (APPR) for a potential Bishopville By-Pass from I-20 to S-29, in Lee County. This APPR is a preliminary evaluation conducted within a study area to identify the potential benefits, impacts and areas of concern to the human and natural environment by a potential roadway improvement project. The project's focus is to provide a by-pass corridor in anticipation of future growth.

3-17-09
Date of Approval

COG/MPO Planner

03/17/09
Date of Approval

COG/MPO Executive Director

4/01/09
Date of Approval

SCDOT Planner

4/2/09
Date of Approval

SCDOT Chief of Statewide Planning

4/6/09
Date of Approval

SCDOT Director of Planning

MPO/COG/City/County Officials:

3/26/09
Date of Approval

Signature & Title

For additional information please contact:
Mr. Michael Sullivan, P.E., Area Planning Engineer
S.C. Department of Transportation, P.O. Box 191, Columbia, SC 29202-0191
Telephone: (803) 737-4662

Introduction

The South Carolina Department of Transportation (SCDOT) in partnership with the SLCOG has developed this Advanced Project Planning Report (APPR) for a potential Bishopville By-Pass from I-20 to S-29, located in Lee County. The APPR is a preliminary evaluation conducted within the study area to identify the potential benefits, impacts, and areas of concern to the human and natural environment by a potential roadway improvement project.

PURPOSE AND NEED

Background – The potential roadway (Alternative 1) runs from I-20 along the outer sections of Bishopville to S-29 in Lee County, for approximately 6.16 miles. This potential alignment was provided by the SLCOG as one option for consideration as part of this planning document. No alignment has been endorsed by SCDOT. The alignment shown, as well as other potential alignments, will be formally evaluated during the National Environmental Policy Act (NEPA) phase of the project development process. The NEPA process will determine if there is a viable alternative that will adequately fulfill the project's stated purpose and need.

An alternate alignment (Alternative 2) is also discussed running along approximately the same alignment, but utilizing more existing paved and dirt roadways, for a length of approximately 6.42 miles (see location map in **Appendix A**). This potential alignment was a product of discussion and input from the liaison agencies during the field review.

Project Goal – The project goal is to relieve and discourage truck traffic and noise from the central business district. The project goal supports the recruitment of new business ventures in areas of the City that have recently undergone extensive streetscape improvements and other revitalization. The project goal further encourages pedestrian movements in the central business district. The by-pass is consistent with the local comprehensive plans to improve the overall quality of life and to help revitalize the downtown core, which in turn benefits the city fringe and outlying areas.

Current Roadway Deficiencies – No deficiencies were noted on the field review.

Funding Priority – The proposed project is part of the Santee Lynches Long Range Rural Transportation Plan 2005-2025. Three sources of monies have been identified in the total amount of approximately $2,100,000.00. There is also an earmark of approximately $3,600,000.00 available but no local match has been identified at this time. For the SLCOG, the overall score of this potential project is 1.45 out of 5. This potential project is the only new location project for the SLCOG; therefore it is their number 1 ranked new location project.

EXISTING FACILITY

Roadway Description – Along the proposed route, segments of SC 341, S-156(Davis Street/Wags Street), and S-111(Dixon Street) would be utilized. SC 341 consists of one 12 foot travel lane in each direction, with a posted speed limit of 45mph. S-156 consists of one 12 foot travel lane in each direction, with a posted speed limit of 40mph. S-111 consists of one 12 foot travel lane in each direction, with a posted speed limit of 35mph. Land use in the area is mostly utilized for farming.

For the possible alternate, SC 341, S-48(Dennys Pond Road), and various dirt roads are utilized. SC 341 on the northeast side of Bishopville consists of one 12 foot travel lane in each direction, with a posted speed limit of 40mph. S-48 consists of one 12 foot travel lane in each direction. The dirt roads have various widths and can accommodate two lane traffic. Most of the land use in this area is for farming.(See **Appendix A** for location maps and **Appendix B** for site photos).

Mass Transit Accommodations - Currently the Santee Wateree Regional Transportation Authority (SWRTA) does not offer any fixed route transit. SWRTA is not expected to add any fixed route transit in the future. While this project is located within areas of sufficient household and employment density to warrant more detailed analysis of potential transit service, there are no impacts to transit expected due to the potential project. (See **Appendix C**).

Cross Sections – The existing cross section along SC 341, S-156, and S-111 within the proposed area consist of two 12ft lanes. Dirt shoulders and ditches are present with variable widths of 9-17 feet.

Along the possible alternate, SC 341 and S-48 consist of two 12ft lanes. Dirt shoulders and ditches are present with variable widths of 9-13 feet.

Traffic Data – Since this is a new by-pass and the majority of the roadway is not in existence, there is not a current volume for the roadway. According to Santee-Lynches COG model information, the average annual daily traffic(AADT) for the year 2025 is projected to be 2,000 – 3,000. According to the SCDOT Traffic Engineering Department, the truck AADT entering the downtown area is approximately 2360 or 12.7% of the total entering downtown traffic. Most of the truck traffic seems to be a through movement on US 15 and a turning movement between SC 341 and US 15. According to the year 2025 projection, approximately 300-500 trucks per day may be diverted from the central downtown region. (see **Appendix C**)

Crash Data – In the past three years (2004 -2007), on SC 341, from I-20 to S-156, there were 7 property damage only and 1 injury crashes. On S-156, from SC 341 to S-308, there were no crashes. On S-111, from US 15/SC 34 to S-378, there was 1 property damage only crash.

For the alternate proposal, on SC 341, from US 15/SC 34 to S-21, there were 5 property damage only and 2 injury crashes. On S-48, from S-21 to SC 34, there were no crashes (see **Appendix C).**

Trucks amounted for only 3 of the crashes in the last three years in the downtown area.

Rights of Way – According to older roadway plans, the existing right-of-way is approximately 33ft on each side of the roadway's centerline for S-156(File 31.267, 1956, SCDOT Plan Library) and S-111(File 31.313, 1967, SCDOT Plan Library).

For the alternate, the right-of-way along SC 341(File 31.209, 1939, SCDOT Plan Library) is approximately 37.5ft on each side of the roadway's centerline, and 33ft on each side of the roadway's centerline for S-48(File 31.257, 1954, SCDOT Plan Library) (see **Appendix C** for right of way information).

Pavement Condition – The pavement quality index(PQI) provides an assessment of the pavements overall condition. It combines an evaluation of pavement cracks and surface distress with the pavements' smoothness and ranges from 0.0(very poor) to 5.0(very good).

Based on the data compiled, the Pavement Quality Index (PQI) within the potential project area, along SC 341, between I-20 and S-156, varies between 2.0 and 3.9. This indicates that the existing pavement is between poor and good conditions. The PQI on S-156 varies between 2.5 and 3.3, which indicates that the existing pavement is between poor and fair conditions. The PQI on S-111 varies between 2.7 to 3.2, which indicates that the existing pavement is in fair condition.

Along the alternate, SC 341 has a PQI varying between 3.5 and 4.1, which indicates that the existing pavement is in good to very good conditions. The PQI on S-48 varies between 2.6 and 3.3, which indicates that the existing pavement is in poor to fair conditions.

Bridges/Other Structures – Currently there are no structures along the potential section

Railroads – One railroad crossing will be required where the alignment rejoins S-111, on the northeast side of Bishopville. The location of this crossing should be chosen in order to lessen the impacts to Robert E. Lee Academy located on S-111.

CORRIDOR ASSESSMENT OF SOCIAL, ECONOMIC AND ENVIRONMENTAL CONCERNS

Information was collected about the study area utilizing a geographical information system (GIS) platform, aerial photos, and photographic and written data collected from site visits.

SCDOT in partnership with state and federal regulatory and resource agencies have begun sharing GIS databases to improve communication and reduce potential conflicts during the project development process. SCDOT has created four maps using this data in order to identify the existing data on human and natural resources within the study area.

The first map is the Location map for the study area. This map identifies the location of the potential project.

The second map is the Cultural Resources map for the study area. This map identifies such resources as churches, schools, and hospitals as well as known local landmarks. It also identifies known archaeological sites and parcels of property and districts that are potentially eligible for or have been registered with the National Register of Historic Places.

The third map is the DHEC map for the study area. This map identifies potentially hazardous material locations and generators of potentially or known hazardous waste. This map may also identify underground storage tank locations and businesses that may generate infectious wastes.

The fourth map is the Natural map for the study area. This map identifies points or areas of environmental importance. Wetlands, streams, water bodies, and threatened or endangered species are the most common elements found on this map.

The fifth map is the Social/Others map. This map identifies areas of social and economic importance, such as key industries to an area, low income and minority population centers, and established neighborhoods.

All five maps described above are located in the **Appendix A** of this report.

On March 12, 2008, SCDOT employees conducted a survey of the potential improvements. Based on their review, see attached memos in **Appendix D**, the potential improvements should improve safety and alleviate congestions within the corridor. The outcome of the survey is also summarized below.

Noise – Without final right of way limits it is difficult to make any definitive statements concerning relocations or noise. However, there is a possibility of both relocations and noise issues. A detailed noise analysis will be needed during the NEPA process.

Water/Wetlands – According to the South Carolina Department of Health and Environmental Control (SCDHEC), it appears that potential stream and wetlands impacts could be reduced by shifting the eastern-most portion of the road crossing Cousar Branch (in the vicinity of Bishopville Finishing Co.) east far enough to minimize the wetland width of the crossing. Also, increasing the use of existing roads could reduce potential impacts. An alternative route discussed during the site visit would involve shifting the northern portion of the route. It is also suggested that the western-most terminus of the alignment be shifted west to minimize impacts to wetlands associated with Laws Branch.

The eastern-most crossing of Cousar Branch (in the vicinity of Bishopville Finishing Co.) is upstream of a monitoring site that is impaired due to high mercury levels in fish tissue. However, it is not anticipated that a new road will significantly contribute to this impairment.

SCDHEC will review any additional information including a preferred alternative, and a thorough description (and quantification) of the stream and wetland resources that will potentially be impacted by a potential project.

According to the Department of the Army, several areas along the corridor appear to contain or potentially contain Waters of the U.S., including wetlands. Based upon this, the Corps of Engineers would prefer a wetland delineation within the required Right of Way corridor for the potential project. Once complete, a Corps representative would verify the delineation (Jurisdictional Determination). A Department of the Army permit will be required pursuant to Section 404 of the Clean Water Act if a potential project involves discharges of dredged or fill material into Waters of the U.S., including wetlands.

According to the U.S. Fish and Wildlife Service, the amount of natural resource impacts remains unknown for either alignment. Impacts will definitely occur as both proposals cross multiple streams and wetlands including Laws Branch and tributaries to the Lynches River. SCDOT may consider avoidance measures such as bridging to the maximum extent possible as the project develops.

According to the SCDOT Environmental Office, there is a potential problem with several tributaries of the Lynches and Black Rivers. There are several stream crossings on both alternates. However, Alternate 1 is shown on the Natural Resources map running right along one stream between SC 34 and SC 341. Realignment may remedy this situation.

Archaeological/Historical – There are approximately 10 individually listed National Register sites and two National Register Historic Districts in Bishopville. The two alternate corridors do not appear to affect any of these National Register of Historic Places properties. The two alternates cross several areas that are of high probability for archaeological site locations. The archaeological survey will likely identify sites in these

areas. Any significant sites would have to be dealt with through avoidance or data recovery excavations.

Endangered Species – According to the SCDOT Environmental Office, there are three endangered species in Lee County. These include the Red Cockaded Woodpecker, Chaffseed, and Canby's Dropwort. The Red Cockaded Woodpecker and Chaffseed prefer open, mature pine forests. Canby's Dropwort is found in wetland areas. Habitats for all three species are located in the general potential project area.

U.S. Fish and Wildlife Service reviewed the Heritage Trust Database and indicate that no threatened and endangered species (T&E) occur within the potential project corridors. However, the federally endangered Red Cockaded Woodpecker, *Picodies borealis*, is known to occur within a few miles of the potential project. The service recommends SCDOT performs a preliminary survey for this woodpecker and other T&E species known to occur in Lee County.

Relocations – Without final right of way limits it is difficult to make any definitive statements concerning relocations or noise. However, there is the potential for some residential and business relocations.

Farmlands – There exist farmland under active cultivation in the potential project area. Farmland analyses will need to be completed during the NEPA documentation process.

USTs/Hazardous Waste – There are some areas of underground storage tanks and air regulated facilities shown on the DHEC Sites map. A future environmental site assessment will provide more information on these areas.

Please see **Appendix D** for additional comments from Liaison Agencies that are assisting SCDOT on the potential improvements.

Minority Populations- Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs federal agencies to appropriately analyze environmental impacts to minority and low-income populations. The intent is to ensure that those environmental impacts due to federal activities and federally funded activities do not disproportionately affect minority and low-income populations. According to census data, 53.1%-74.4% of the population in the project area is African American, 0.8%-2.0% is Hispanic/Latino, 0.1%-0.5% Asian, 0.1%-0.2% American Indian/Alaska Native, and 0% Native Hawaiian/Pacific Islander.

Low-Income Populations – Per 2000 U.S. Census Bureau, the average family size for Lee County is 3.12 and the poverty level threshold for this family size is $13,738. Based on this data, approximately 18.1% of the families in this study area are below the poverty level.

POTENTIAL IMPROVEMENT

Design Criteria – SC 341 between I-20 and S-156 is classified as a minor arterial. Based on this functional classification, SC 341 provides linkage between cities, towns, and traffic generators. It provides integrated interstate and intercounty service. This type of route is expected to provide for relatively high travel speeds and minimum interference to through movement. (See **Appendix E** for potential project locations and visualization.)

Proposed Cross Section – The potential cross section is proposed to consist of a three-lane undivided section. (See **Appendix E** for typical cross sections.) There may be a need for a signalized intersection where the by-pass crosses US 15/SC 34. All intersections will require traffic studies to determine the needed geometric design of the intersection and any impacts

Proposed Rights of Way – As most of this alignment is on new location, additional right of way will be required. It is recommended that right of way for a 3-lane section (minimum 60 feet on both sides of the centerline) be purchased.

Traffic Data – The year 2025 traffic volume projections of 2,000-3,000, based on the Santee-Lynches COG model, indicates that a potential by-pass will operate at a level of service A within the area of the proposed route. Of this AADT, approximately 300-500 of the vehicles will be trucks.

Bicycle and Pedestrian Facilities – Consideration for bicycle facilities should be made along the potential project, in order to adhere to SCDOT directive (See **Appendix E**). A decision with regard to the appropriateness of bicycle and pedestrian facilities on a by-pass should be made with an emphasis on safety.

PROJECTED PROJECT COST – The estimated cost for Alternative 1 is $17,700,000. The estimated cost of Alternative 2 is $18,310,000. See **Appendix F** for both Alternatives estimates. Generally, the inclusion of a bicycle/pedestrian facility along this particular type of project would cost approximately $150,000/mile. This would amount to an increase in the total estimate of approximately $924,000.00 for Alternative 1 and approximately $963,000.00 for Alternative 2.

PUBLIC INVOLVEMENT / SCOPING

No public involvement has been initiated as of this date.

SUMMARY

The potential construction of a by-pass, from I-20 to S-29 in Lee County, could relieve and discourage truck traffic and noise from the central business district.

Approximately, 300-500 trucks per day, moving through Bishopville, could utilize a new by-pass. It should be noted that trucks, not making deliveries to the downtown area, should be routed to the by-pass. Based on the study and input from the resource agencies, the improvements will have certain impacts on the surrounding areas that need to be considered during the project development phase. Some of the impacts that should be considered include: The minority areas that are present, the wetland areas, railroad crossing, and the abandoned textile site located between S-378 and S-111.

Please also see **Appendix A** for a color-coded resource impact matrix that has been developed for the potential improvements, in order to identify the likelihood of environmental concerns that could impact the project development process. This matrix ranks various impacts to calculate an average impact score from 0, meaning High Impact, and 5.0, meaning No Impact. This potential project rank is 3.19, which reflects a moderate impact.

APPENDIX A

PROJECT EVALUATION MATRIX

	Resource/Area of Concern	Impact	Score	Impact Description
ENVIRONMENTAL FEATURES	UST/Hazardous Waste	P	3.36	Abandoned textile plant in the area.
	Ground Water Contamination	N	5.0	
	Infectious Waste	N	5.0	
	Underground Storage Tanks	C	0.0	Underground storage tanks.
	Water Storage	N	5.0	
	Others	P	3.36	ARF site.
NATURAL RESOURCES	Wetland & Other Waters	C	0.0	Wetlands present throughout the project.
	Threatened & Endangered Species	P	3.36	Survey needed for Red Cockaded Woodpecker, Chaffseed, and Canby's Dropwort.
	Flood Plains & Drainage	L	1.66	Wetlands and river flood plain present.
	Water Resources & Quality	P	3.36	
	Air Quality	N	5.0	
	Farmland	C	0.0	Farmland present throughout project.
	Parks	N	5.0	
CULTURAL RESOURCES	National Register	N	5.0	
	Historic Sites	N	5.0	
	Archeological Sites	L	1.66	High probability for archaeological sites.
	Architectural	N	5.0	
SOCIAL/OTHERS	Low Income /Minority	C	0.0	Minority areas are present along the project.
	School/Hospitals	L	1.66	Robert E. Lee Academy present on S-111 near possible railroad crossing.
	Churches/Cemeteries	P	3.36	
	Noise	N	5.0	
	Relocations	P	3.36	

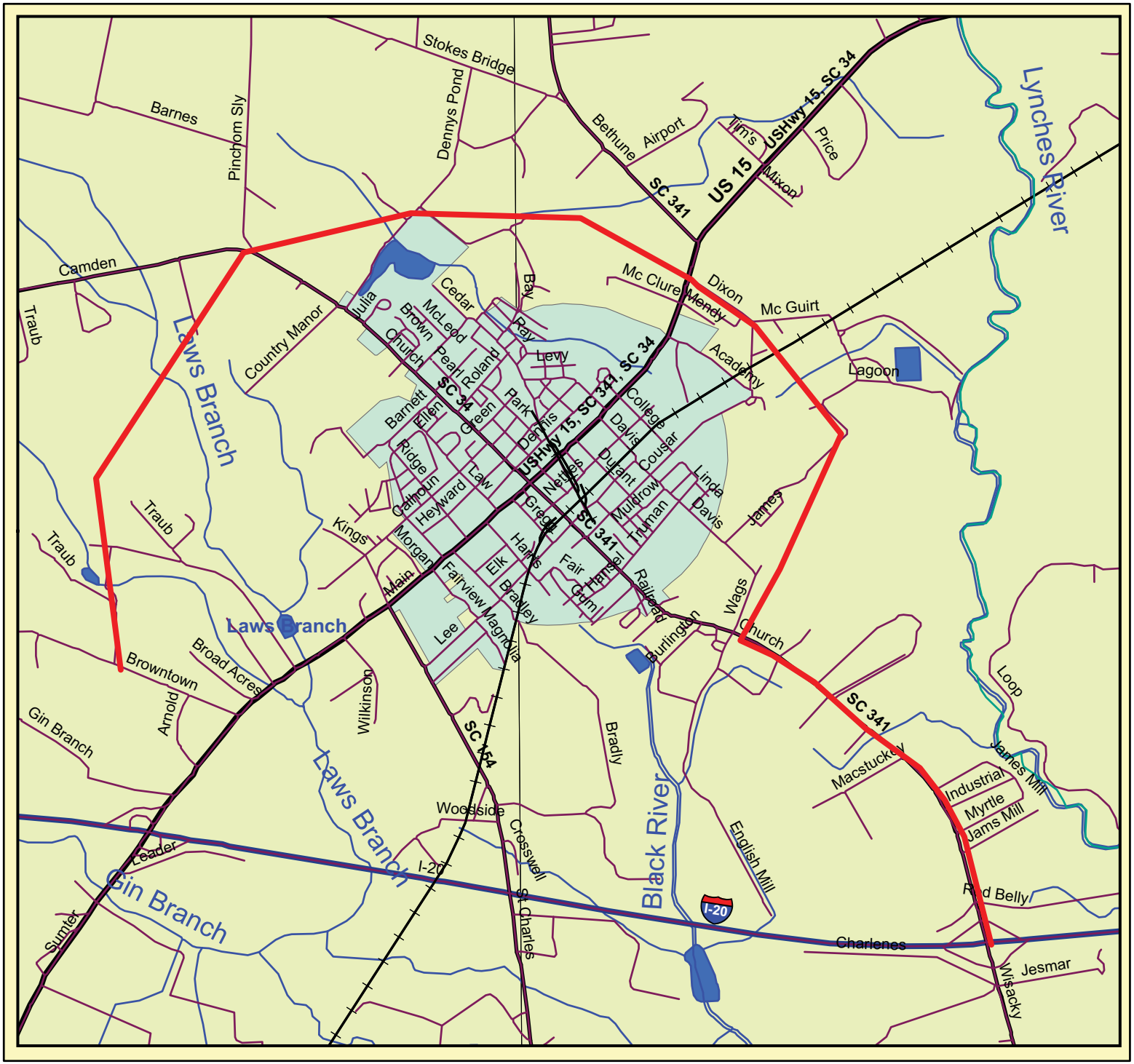
Impact Key:	*Score*
C=Certain	0.0
L=Likely	1.66
P=Possible	3.36
N=None	5.0

Total Score	*70.14*
AVERAGE SCORE (Tot. Score/22)	*3.19*

Average Score: 0 =High Impact
Average Score: 5.0 =No Impact

Notes:

Bishopville Bypass
From I-20 to S-29
Lee County
Location Map

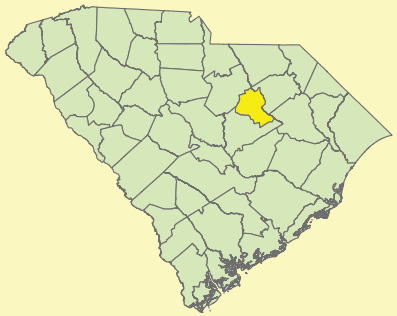


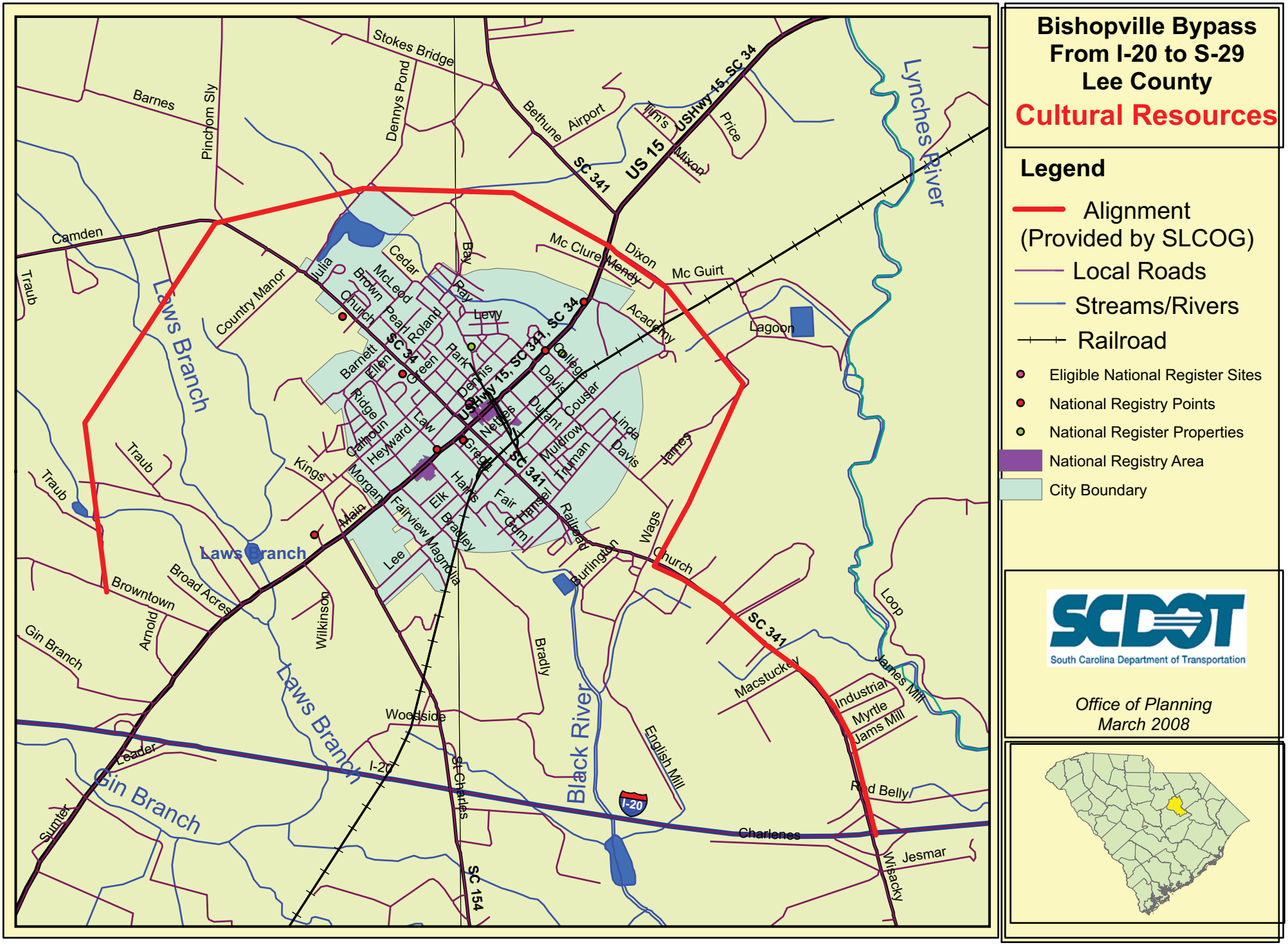
Legend

- Alignment (Provided by SLCOG)
- Local Roads
- Streams/Rivers
- Railroad
- City Boundary

SCDOT
South Carolina Department of Transportation

Office of Planning
March 2008





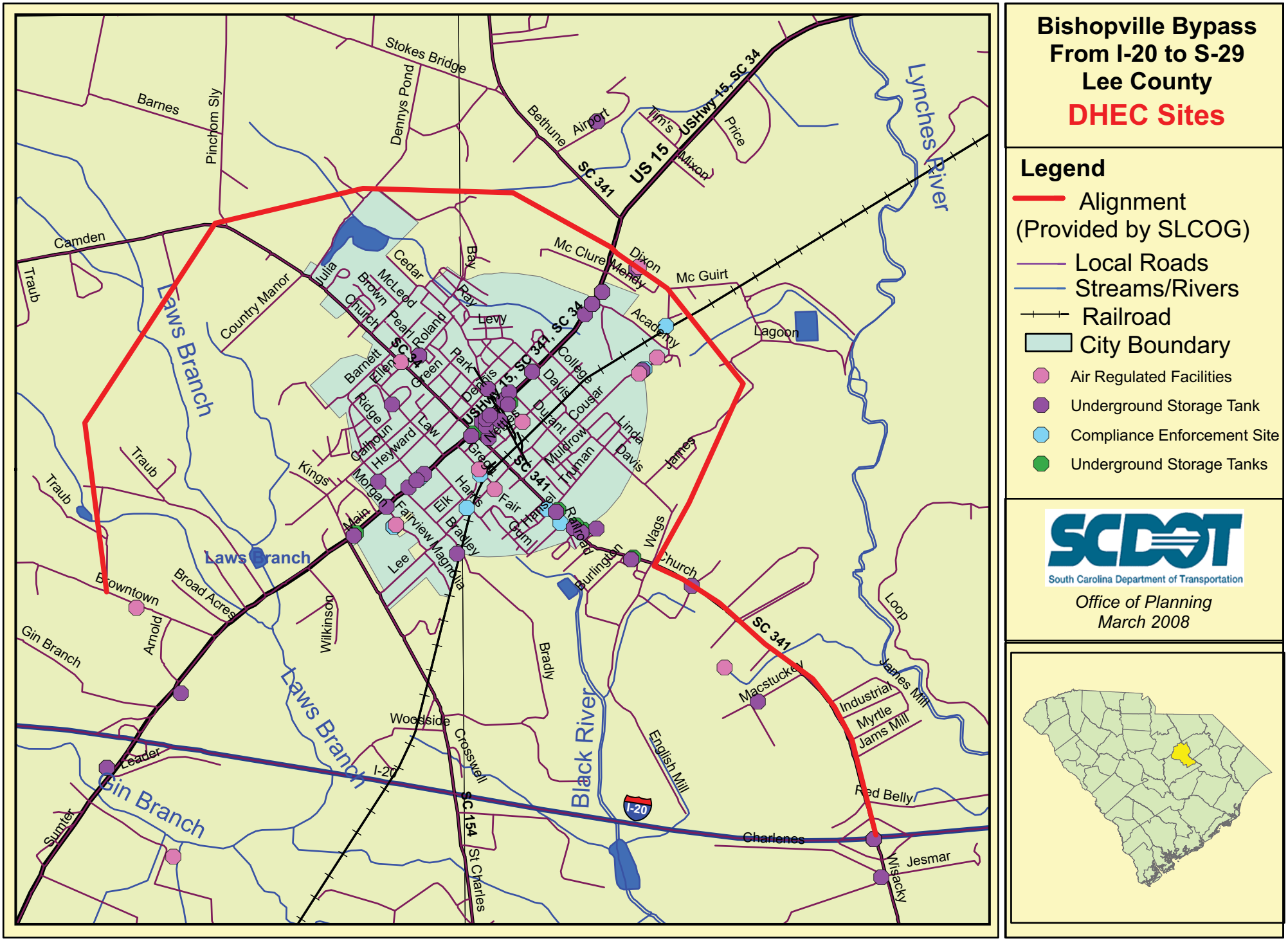
Bishopville Bypass
From I-20 to S-29
Lee County
Cultural Resources

Legend

- Alignment (Provided by SLCOG)
- Local Roads
- Streams/Rivers
- Railroad
- Eligible National Register Sites
- National Registry Points
- National Register Properties
- National Registry Area
- City Boundary

SCDOT
South Carolina Department of Transportation

Office of Planning
March 2008



Bishopville Bypass From I-20 to S-29 Lee County

DHEC Sites

Legend

- Alignment (Provided by SLCOG)
- Local Roads
- Streams/Rivers
- Railroad
- City Boundary
- Air Regulated Facilities
- Underground Storage Tank
- Compliance Enforcement Site
- Underground Storage Tanks

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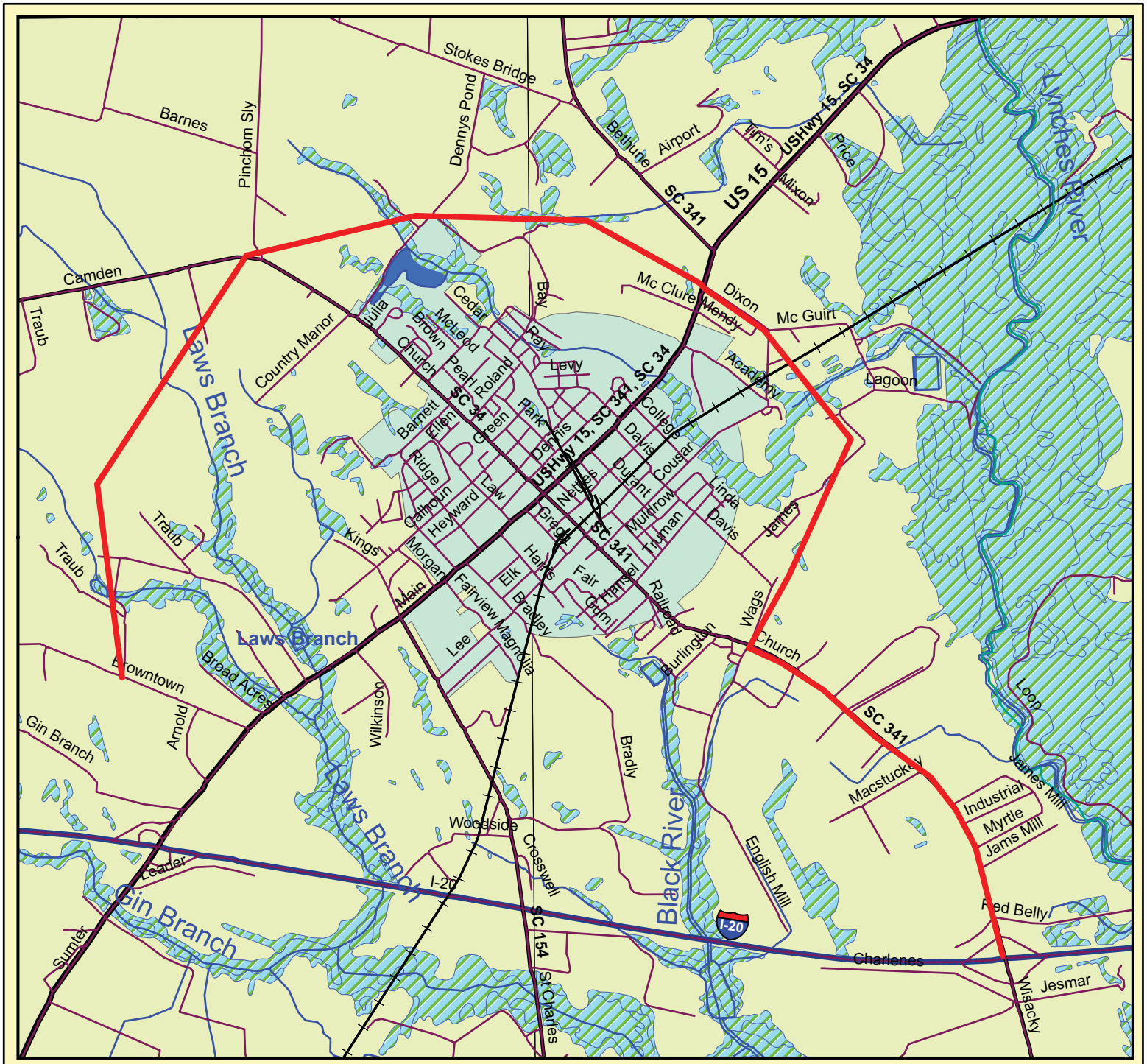
March 2008

Bishopville Bypass From I-20 to S-29 Lee County

Natural Resources

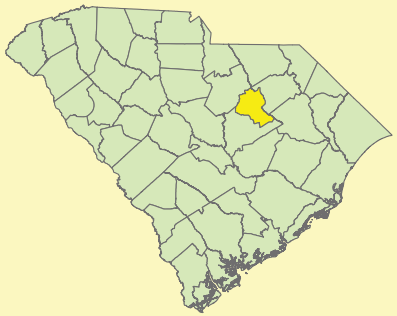


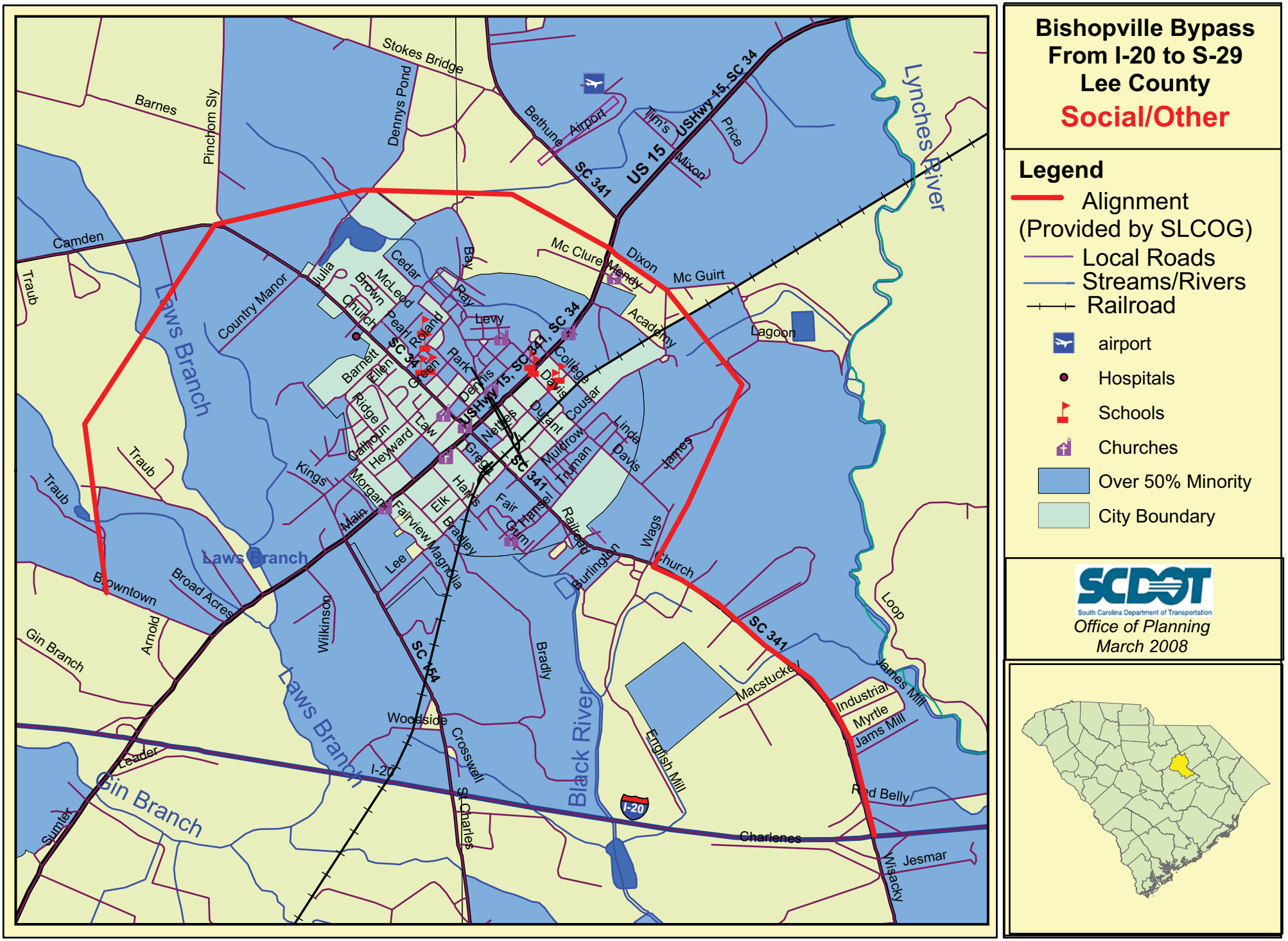
Legend

- Alignment (Provided by SLCOG)
- Local Roads
- Streams/Rivers
- Railroad
- Wetlands
- City Boundary

South Carolina Department of Transportation

Office of Planning
March 2008





Bishopville Bypass
From I-20 to S-29
Lee County
Social/Other

Legend

- Alignment (Provided by SLCOG)
- Local Roads
- Streams/Rivers
- Railroad
- airport
- Hospitals
- Schools
- Churches
- Over 50% Minority
- City Boundary

SCDOT
South Carolina Department of Transportation

Office of Planning
March 2008

APPENDIX B

Start of project on SC 341 at I-20

SC 341

Approach to I-20

SC 341 near prison

Ditches along roadway

S-156

Field where project is proposed

Closed factory at S-111

Field where project is proposed

Intersection of S-111 and US 15/SC 34

Field where project is proposed

11/20/08 – A truck transporting liquid fertilizer caught fire in the downtown area.

APPENDIX C

South Carolina
Department of Transportation

September 22, 2008

Mr. James T. Darby
Executive Director
Santee Lynches Council of Governments
(sent via electronic mail)

Re: Potential Bypass Project around Bishopville in Lee County

Dear Mr. Darby:

In preparation of the October Santee Lynches Council of Governments Board meeting, the South Carolina Department of Transportation (SCDOT) Planning Office has been reviewing all of the potential projects that will be considered for inclusion in the State Transportation Improvement Program (STIP), including the merits of a potential bypass around the Town of Bishopville.

As you are aware, our office has utilized the current Santee Lynches COG Traffic Demand Model to predict future traffic volumes and overall impact of the bypass. Based on current socioeconomic data provided by the Santee Lynches COG, the model projects that approximately 2,000 to 3,000 vehicles per day would use the new bypass and approximately 300 and 500 trucks per day may be diverted from the central downtown region.

Since the project is likely to receive federal funding in the form of federal earmarks and guideshares from the COG, the project will be required to satisfy the National Environmental Policy Act (NEPA) guidelines. The most basic component of the NEPA process consists of a purpose and need statement for a project that essentially justifies a project's necessity compared to financial investments and environmental impacts.

After listening to discussions in both the Transportation Committee and full Board, it is clear that the purpose of the project will be to divert truck traffic from the central downtown area. Less clear though is the need for the project. It may be difficult to justify the construction of a multimillion dollar project and its associated environmental impacts based on such low traffic volume projections. Assuming the project is included in the STIP for funding, if the Federal Highway Administration determines that the Bishopville Bypass does not meet both the purpose and need during the NEPA process, the project could potentially be stopped. Given the limited guideshare funding available to the COG, there should be considerable discussion within the Transportation Committee before the project is recommended to the board for future guideshare.

Please accept this letter as information for the project selection process. We will be glad to review the analysis with the Transportation Committee.

Sincerely,

Mike Sullivan, P.E.
Area Planning Engineer

JMS:mmb
File: Pln/JMS

Post Office Box 191
Columbia, South Carolina 29202-0191

Phone: (803) 737-2314
TTY: (803) 737-3870

From: Frate, Douglas W.
Sent: Thursday, March 06, 2008 2:50 PM
To: Amick, Chad E
Subject: RE: Bishopville By-Pass APPR, Lee County / Camden By-Pass APPR, Kershaw County

Chad,

Transit Planning will pass on this one, as there is no impact to nor impact from current or potential transit facilities.

Thanks,
Doug

From: Amick, Chad E
Sent: Monday, March 03, 2008 9:47 AM
To: Sullivan, Mike; Roberts, Wayne D; Frierson, Ed W; Frate, Douglas W.; Amado, Bener; Connolly, Sean; Belcher, Jeffery - FHWA; 'Kelly@scdah.state.sc.us'; 'mark_caldwell@fws.gov'; 'stephen.a.brumagin@usace.army.mil'; 'GIFFINMA@dhec.sc.gov'; 'slplan@slcog.org'; Vakili-Rad, Nasser (Nick)
Cc: Pleasant, Mark D.
Subject: Bishopville By-Pass APPR, Lee County / Camden By-Pass APPR, Kershaw County

As part of preparing an Advanced Project Planning report (APPR), a site visit is planned for the above project, at 9:00 A.M. on Wednesday, March 12th, 2008. This visit will be made in conjunction with the Camden By-Pass visit in Kershaw County. We are planning to meet at the northeast quadrant of the interchange of I-20 and S-329 (Exit #101) in Kershaw County. Please feel free to inform anyone else that may want to attend.

For those of you who would like to ride with us, we will be leaving from the back of the SCDOT Headquarters building at 8:00 A.M.

For your information, I have attached maps that show the initial GIS screening data. Nick Vakili-Rad will be providing an additional email with the GIS screening data maps for the Camden By-Pass.

If you plan to go with Nick and myself, please let us know by March 10th, so we can arrange for adequate transportation.

Chad Amick
SCDOT – Planning
(803)-737-4606

S-341 between S-156 and I-20
2004 - 2006
Lee County

Year	type				
	INJURY	PROPERTY DAMAGE ONLY	Crashes	PERSONS INJURED	PERSONS KILLED
2004	0	1	1	0	0
2005	1	3	4	2	0
2006	0	3	3	0	0
TOTAL	1	7	8	2	0

S-341 between S-156 and I-20
2004 - 2006
Lee County

Base Route	type				
	INJURY	PROPERTY DAMAGE ONLY	Crashes	PERSONS KILLED	PERSONS INJURED
3110020	1	2	3	0	2
3140156	0	2	2	0	0
3140405	0	3	3	0	0
TOTAL	1	7	8	0	2

S-341 between S-156 and I-20
2004 - 2006
Lee County

Manner of Collision	TYPE				
	INJURY	PROPERTY DAMAGE ONLY	TOTAL	PERSONS KILLED	PERSONS INJURED
NOT COLLISION W/MVT	1	4	5	0	2
REAR END	0	2	2	0	0
ANGLE	0	1	1	0	0
TOTAL	1	7	8	0	2

S-111 between S-378 and US-15
2004 - 2006
Lee County

Year	type			
	PROPERTY DAMAGE ONLY	Crashes	PERSONS INJURED	PERSONS KILLED
2004	1	1	0	0
TOTAL	1	1	0	0

S-111 between S-378 and US-15
2004 - 2006
Lee County

Base Route	type			
	PROPERTY DAMAGE ONLY	Crashes	PERSONS KILLED	PERSONS INJURED
3120015	1	1	0	0
TOTAL	1	1	0	0

S-111 between S-378 and US-15
2004 - 2006
Lee County

Manner of Collision	TYPE			
	PROPERTY DAMAGE ONLY	TOTAL	PERSONS KILLED	PERSONS INJURED
ANGLE	1	1	0	0
TOTAL	1	1	0	0

SC-341 between US-15/SC-34 and S-21
2004 - 2006
Lee County

Year	type				
	INJURY	PROPERTY DAMAGE ONLY	Crashes	PERSONS INJURED	PERSONS KILLED
2004	0	1	1	0	0
2005	1	1	2	2	0
2006	1	3	4	3	0
TOTAL	2	5	7	5	0

SC-341 between US-15/SC-34 and S-21
2004 - 2006
Lee County

Base Route	type				
	INJURY	PROPERTY DAMAGE ONLY	Crashes	PERSONS KILLED	PERSONS INJURED
3120015	2	4	6	0	5
3140351	0	1	1	0	0
TOTAL	2	5	7	0	5

SC-341 between US-15/SC-34 and S-21
2004 - 2006
Lee County

Manner of Collision	TYPE				
	INJURY	PROPERTY DAMAGE ONLY	TOTAL	PERSONS KILLED	PERSONS INJURED
REAR END	1	0	1	0	3
HEAD-ON	0	1	1	0	0
ANGLE	1	3	4	0	2
SIDESWIPE-SAME DIRECTION	0	1	1	0	0
TOTAL	2	5	7	0	5

SC-341/SC-34 between S-237 and S-473
2005-2008 (through mid-May)
Lee County in Bishopville

Year	type				
	INJURY	PROPERTY DAMAGE ONLY	Total Crashes	Persons Killed	Persons Injured
2005	2	5	7	0	3
2006	4	8	12	0	6
2007	4	4	8	0	9
2008	3	3	6	0	4
TOTAL	13	20	33	0	22

US-15 between SC-341/SC-34 and S-293
2005-2008 (through mid-May)
Lee County in Bishopville

Year	type				
	INJURY	PROPERTY DAMAGE ONLY	Total Crashes	Persons Killed	Persons Injured
2005	0	3	3	0	0
2006	1	7	8	0	1
2007	4	4	8	0	4
2008	1	1	2	0	1
TOTAL	6	15	21	0	6

S-156 1956

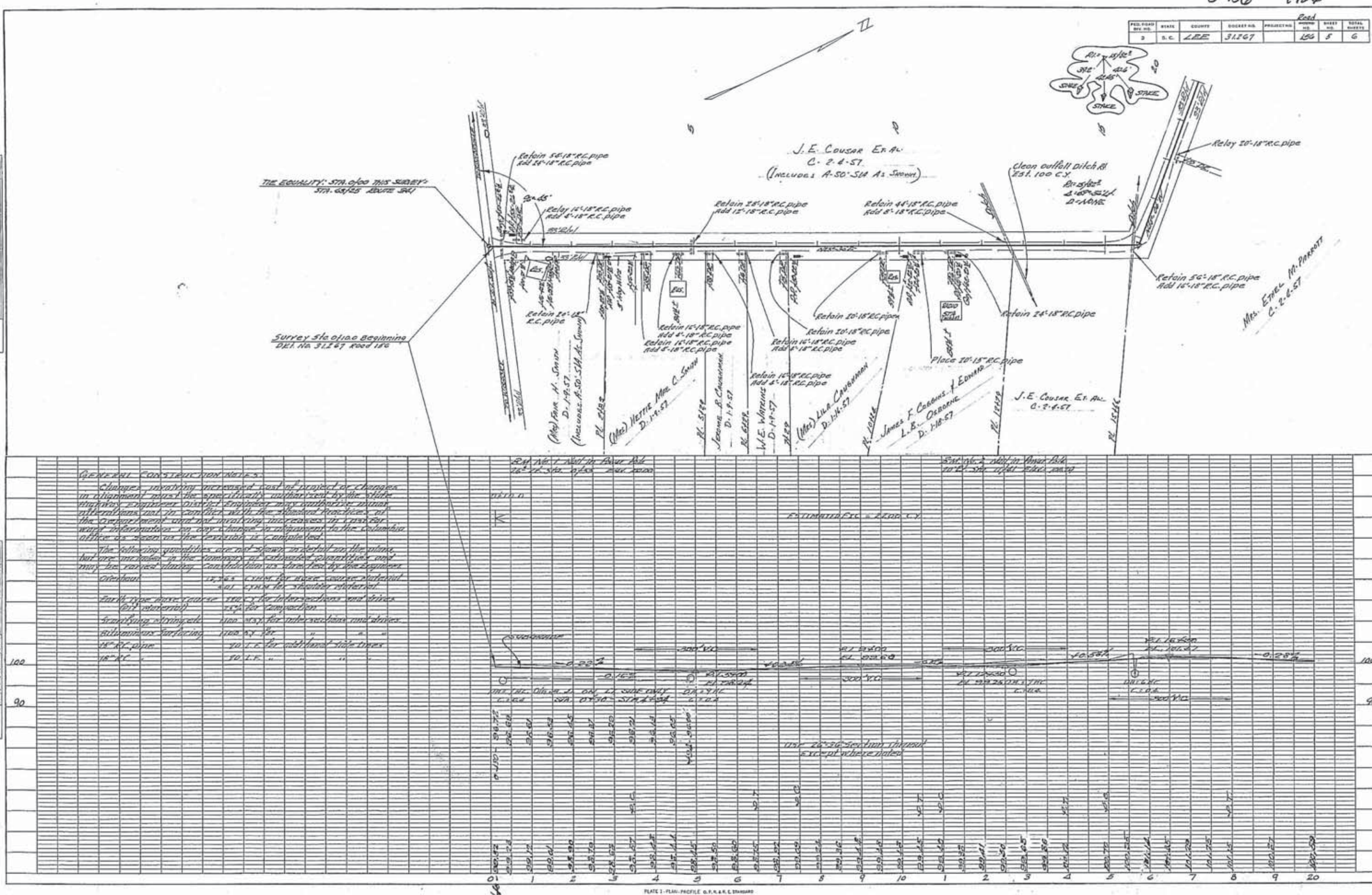
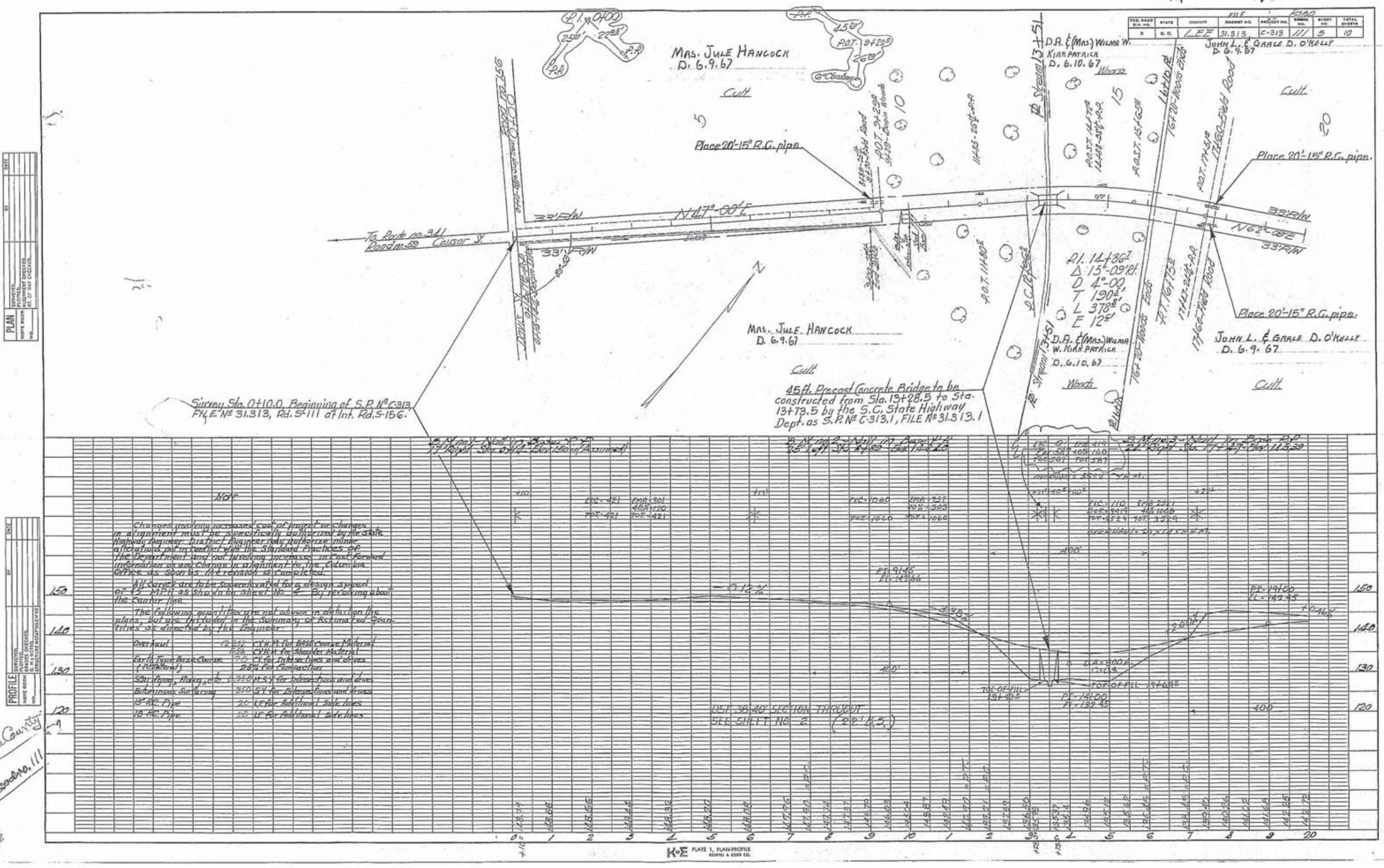
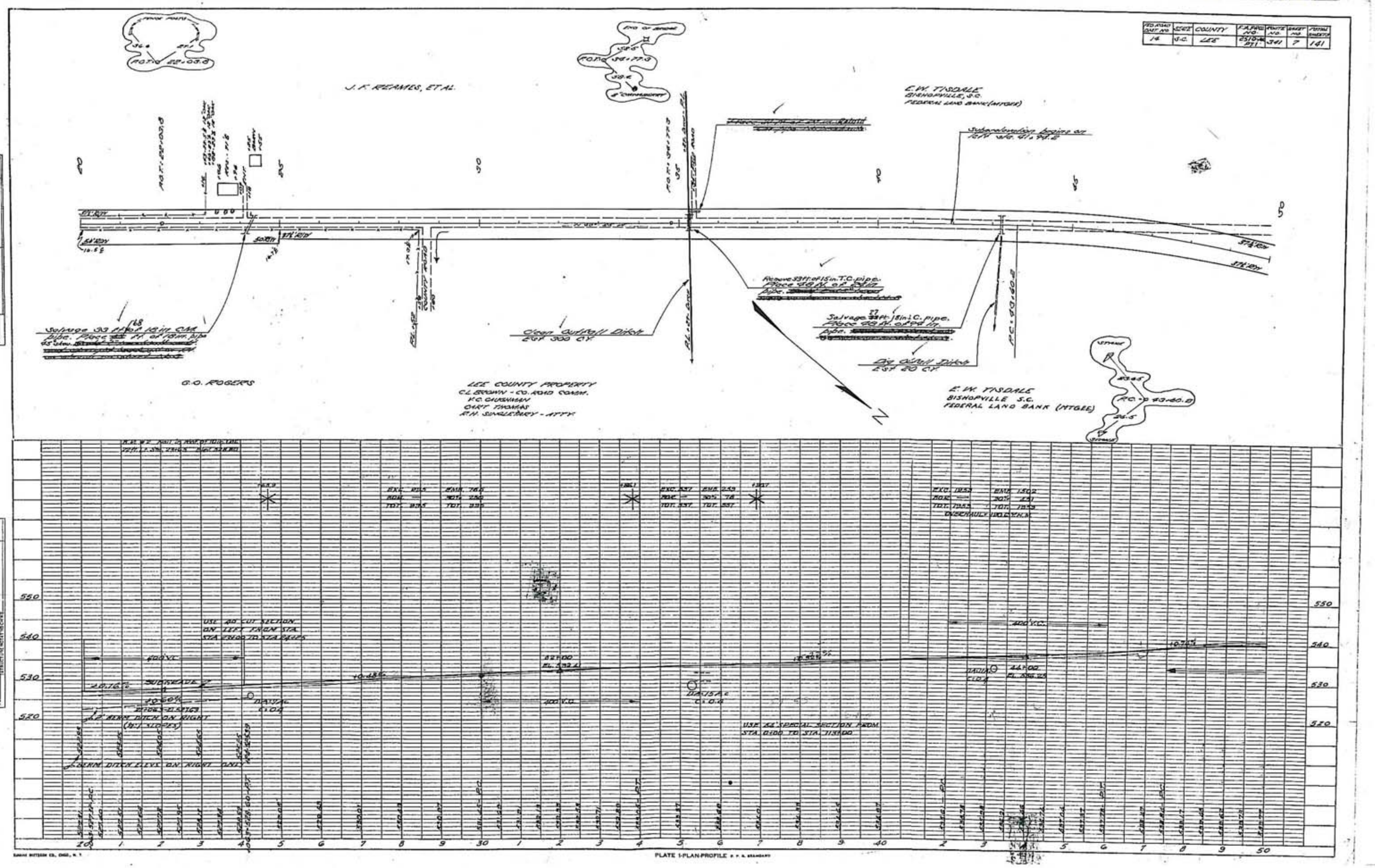


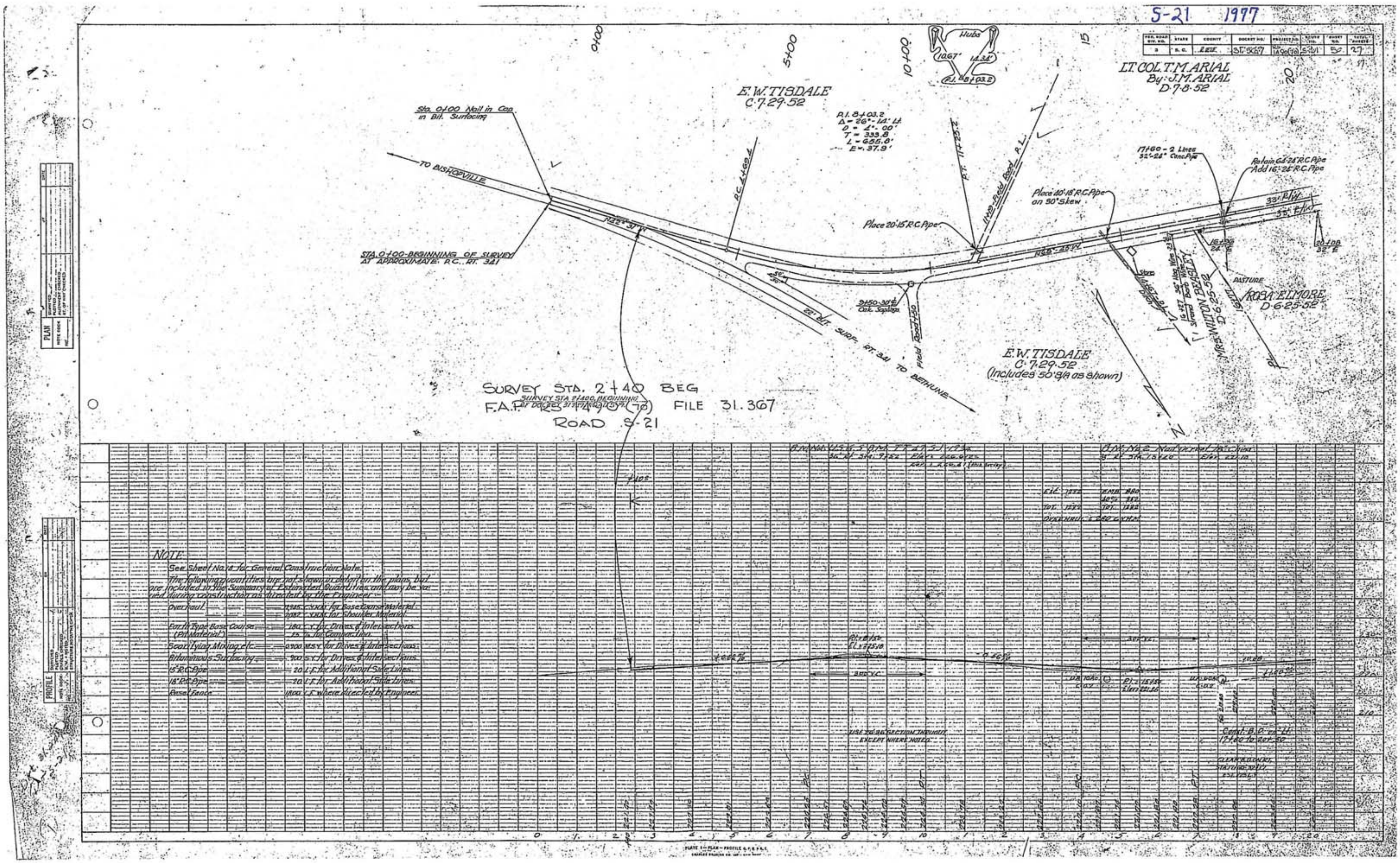
PLATE 1 - PLAN - PROFILE G. F. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

S-111 1967

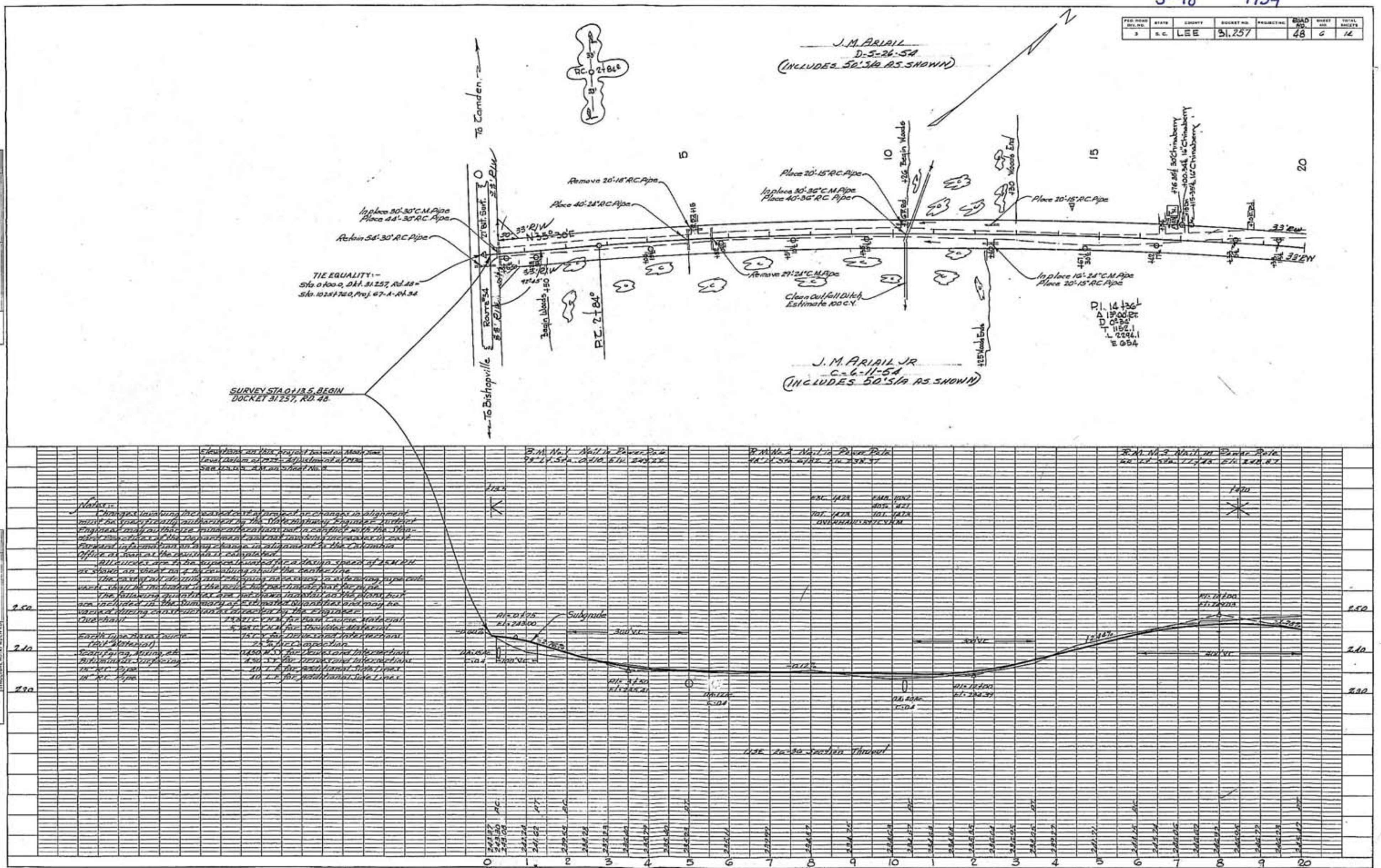

FED. ROAD DIV. NO. 3 | STATE S.C. | COUNTY LEE | FILE 31.313 | PROJECT NO. C-313 | ROAD NO. 111 | SHEET NO. 5 | TOTAL SHEETS 10
MRS. JULE HANCOCK D. 6.9.67
D.A. & (MRS.) WILMA W. KIRKPATRICK D. 6.10.67
JOHN L. & GRACE D. O'KELLY D. 6.9.67
Cult.
Woods
Place 20'-15" R.C. pipe.
N 47° 00' E
N 62° 09' E
33' R/W
To Route no. 341
P.I. 14+86
Δ 15°-09'
D 4°-00'
T 190
L 378
E 12
45 ft. Precast Concrete Bridge to be constructed from Sta. 13+28.5 to Sta. 13+73.5 by the S.C. State Highway Dept. as S.P. No. C-313.1, FILE No. 31.313.1
Survey Sta. 0+10.0, Beginning of S.P. No. C-313, FILE No. 31.313, Rd. S-111 at Int. Rd. S-156.
PLAN
PROFILE
NOTE
Changes involving increased cost of project or changes in alignment must be specifically authorized by the State Highway Engineer. District Engineer may authorize minor alterations not in conflict with the Standard Practices of the Department and not involving increases in cost. Forward information on any change in alignment to the Columbia Office as soon as the revision is completed.
All curves are to be superelevated for a design speed of 45 MPH as shown on Sheet No. 4 by revolving about the center line.
The following quantities are not shown in detail on the plans, but are included in the Summary of Estimated Quantities as directed by the Engineer.
Overhaul 12,352 CY.H.M. for Base Course Material
856 CY.H.M. for Shoulder Material
Earth Type Base Course (All Material) 70 CY for Intersections and drives
25% for Compaction
Bituminous Surfacing 350 SY for Intersections and drives
15" R.C. Pipe 20 LF for Additional Side lines
18" R.C. Pipe LF for Additional Side lines
-0.12%
PI 9+46
PI 19+00
PT 14+00
DST 38-40 SECTION THRUOUT SEE SHEET NO. 2
400'
150
140
130
120
K+E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO.
Lee County
Road no. 111

SC 341 1939


J. F. REAMES, ET AL.
E. W. TISDALE
BISHOPVILLE, S.C.
FEDERAL LAND BANK (MTGEE)
G. O. ROGERS
LEE COUNTY PROPERTY
Clean Outfall Ditch
EST. 300 C.Y.
Dig Outfall Ditch
EST. 20 C.Y.
E. W. TISDALE
BISHOPVILLE S.C.
FEDERAL LAND BANK (MTGEE)
USE 24' SPECIAL SECTION FROM STA. 0+00 TO STA. 113+00
550
540
530
520
PROFILE
PLATE 1-PLAN-PROFILE


S-21 1977
LT. COL. T. M. ARIAL
By: J. M. ARIAL
D. 7-8-52
E. W. TISDALE
C. 7-29-52
Sta. 0+00 Nail in Cap in Bit. Surfacing
TO BISHOPVILLE
STA. 0+00-BEGINNING OF SURVEY AT APPROXIMATE P.C. RT. 341
P.I. 8+03.2
Hubs
Place 20-15" R.C. Pipe
Place 40-18" R.C. Pipe on 90° Skew
17+60 - 2 Lines 32'-24" Conc. Pipe
Retain 64-24" R.C. Pipe
Add 16-24" R.C. Pipe
PASTURE
ROSA ELMORE
D. 6-25-52
MRS. WILTON BRASLEY
D. 6-25-52
E. W. TISDALE
C. 7-29-52
(Includes 50' R/W as shown)
RT. 341 TO BETHUNE
Field Road
SURVEY STA. 2+40 BEG
F.A.P. FILE 31.367
ROAD S-21
NOTE:
See Sheet No. 1A for General Construction Note.
The following quantities are not shown in detail on the plans, but are included in the Summary of Estimated Quantities and may be varied during construction as directed by the Engineer:
Overhaul — 2985 C.Y.Sta. for Base Course Material
— 2087 C.Y.Sta. for Shoulder Material
Earth Type Base Course — 180 C.Y. for Drives & Intersections
(Pit Material) — 25 C.Y. for Compaction
Scarifying, Mixing, etc. — 900 M.S.Y. for Drives & Intersections
Bituminous Surfacing — 900 S.Y. for Drives & Intersections
15" R.C. Pipe — 20 L.F. for Additional Side Lines
18" R.C. Pipe — 20 L.F. for Additional Side Lines
Reset Fence — 1800 L.F. where directed by Engineer
USE 20' SECTION THROUGHOUT EXCEPT WHERE NOTED
PLAN
PROFILE

S-48 1954



Lee County
Rd. #48
Docket 31

APPENDIX D

SCDOT

TO: Chad E. Amick, Planning-APPR

FROM: Wayne D. Roberts, Chief Archaeologist

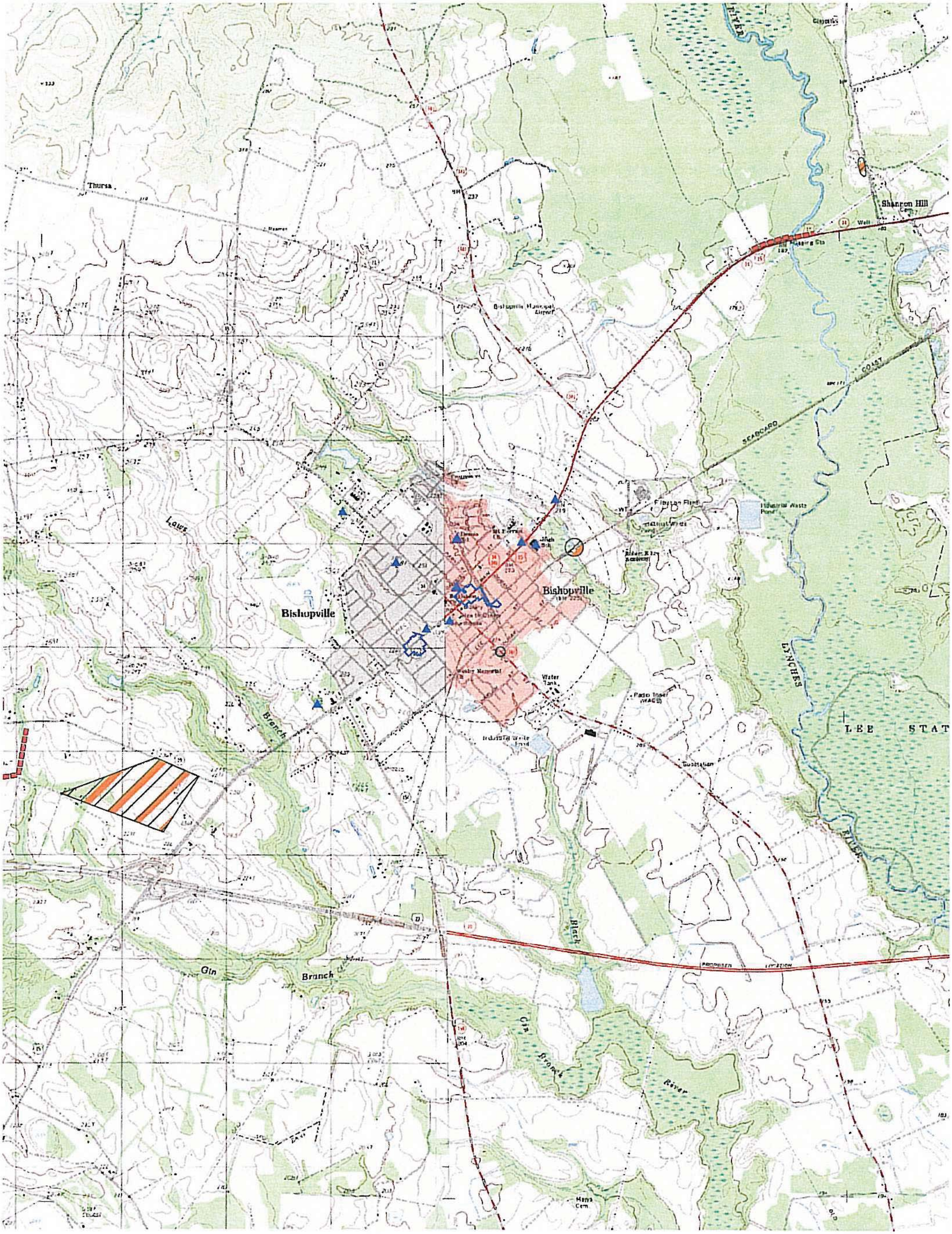
DATE: April 8, 2008

SUBJECT: Review of APPR for Bishopville Bypass, Lee County.

I have received your email of March 13, 2008 and I have reviewed the four attached maps of the project area. I have also reviewed the Bishopville topographic map with the cultural resources data layer (see attached). Which brings up the question, why did your map for cultural resources not include the GIS cultural resources data layer? This information is available and has been on the past several APPR maps? Concerning cultural resources, there are approximately 10 individually listed National Register sites and two National Register Historic Districts in Bishopville. The two alternate corridors do not appear to affect any of these National Register of Historic Places properties. The two alternates cross several areas that are high probability for archaeological sites location. Therefore, I would not be surprised if the archaeological survey identified sites in these areas. Any significant sites would have to be dealt with through avoidance or data recovery excavations.

Concerning wetlands, there is a potential problem with several tributaries of the Lynches and Black Rivers. There are several stream crossings on both alternates. However, Alternate 1 is shown on the Natural Resources map running right along one stream between S. C. Route 34 and S. C. Route 341 (see attached). This should be realigned. We will not be able to run along a stream or floodplain as is shown on this map. There are no endangered species sites shown on the Natural Resources map. Is this the case, or, is this a problem of not providing the existing GIS data like with the Cultural Resources map? According to our records there are three endangered species in Lee County. These include the Red Cockaded Woodpecker, Chaffseed, and Canby's Dropwort. The Red Cockaded Woodpecker and Chafseed prefer open, mature pine forests. Canby's Dropwort is found in wetland areas. If memory serves me correct, habitats for all three species are located in the general project area.

There are several underground storage tanks shown of the DHEC Sites map. These may have to be dealt with. There is also an arf site shown on Alternate 1. An environmental site assessment will provide more information on these sites when the time comes.



Thursa
Shannon Hill
Bishopville
Bishopville
Laws
Branch
Gin
Branch
Gin
Branch
Black
River
LYNCHES
SEABOARD
COAST
LEE STAT
Water Tank
Industrial Waste Pond

D H E C

PROMOTE PROTECT PROSPER

Promoting and protecting the health of the public and the environment

March 17, 2008

S. C. Department of Transportation
Attn: Nick V. Rad, P.E.
C/O Ron Patton, Director
Planning and Environmental
955 Park Street
Room 515
P. O. Box 191
Columbia, SC 29202-0191

Re: Bishopville Bypass from I-20 to S-29, Lee County

Dear Mr. ~~Rad~~ N.V.R.

The South Carolina Department of Health and Environmental Control (SCDHEC) is providing comments regarding the above project following the site visit on March 12, 2008, as requested. As you are aware, SCDHEC's Bureau of Water administers applicable regulations pertaining to water quality standards and classifications, including wetland protection, in accordance with the South Carolina Pollution Control Act, the Federal Clean Water Act, the State Stormwater Management and Sediment Reduction Act, Construction in Navigable Waters Permitting, and associated regulations for all of these statutes.

The proposed project would consist of a combination of road widening and new location road construction to provide a bypass around Bishopville from I-20 to S-29 in Lee County. The initially proposed route is preliminary and alternatives were discussed during the site visit.

In order to ensure protection and maintenance of water quality standards, including wetlands functions, SCDHEC recommends efforts be made to minimize impacts to wetlands and open water areas (e.g., stream crossings) when planning and constructing this project. Such efforts could include lengthening existing bridges and enlarging or adding to existing culverts to accommodate bank-full rain events, improve hydrologic flows and aquatic life passage. In addition, reducing road widths by utilizing 2:1 slopes in sensitive areas can minimize aquatic impacts. Specifically, it appears that proposed stream and wetlands impacts could be reduced by shifting the eastern-most portion of the road crossing Cousar Branch (in the vicinity of Bishopville Finhishing Co.) east far enough to minimize the wetland width of the crossing. Also, increasing the use of existing roads could reduce proposed impacts. An alternative route discussed during the site visit would involve shifting the northern portion of the route to SC 341, and tying that to Dennys pond Road. From there the route would proceed south to Country Manor road, which would connect at some point to Browntown Road. This alternative is depicted in the map sent by Chad Amick on March 13, 2007. After reviewing that map, I suggest that the western most terminus of the project be shifted west to minimize impacts to wetlands associated with Laws Branch.

The eastern-most crossing of Cousar Branch (in the vicinity of Bishopville Finishing Co.) is upstream of a monitoring site that is impaired due to high mercury levels in fish tissue (PD-112). However, it is not anticipated that the proposed road will significantly contribute to this impairment.

SCDHEC will review any additional information including a preferred alternative, and a thorough description (and quantification) of the stream and wetland resources that will potentially be impacted

by the proposed project. An alternatives analysis, which addresses stream and wetland impact avoidance and minimization, in addition to other factors, such as traffic volume and service. The above information will be useful in making a decision regarding 401 Water Quality Certification and a Permit For Construction in Navigable Waters (if applicable) administered by SCDHEC. If required, the Water Quality Certification may be conditioned to address specific modifications and measures that may be required to further reduce wetland and water quality impacts after a review of detailed project drawings. Also, a final mitigation plan addressing unavoidable wetland/stream impacts must be reviewed and approved by SCDHEC during the certification process.

Please call me at 898-4179 if you have any questions.

Sincerely yours,

Mark Giffin, Project Manager
Water Quality Certification and Wetlands Programs Section

cc: Chuck Hightower
EQC Region 4
Sean Connolly, SCDOT

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

REPLY TO
ATTENTION OF

May 9, 2008

Regulatory Division

Mr. Nick Vakili-Rad, P.E.
Planning Office
South Carolina Department of Transportation
955 Park Street, P.O. Box 191
Columbia, South Carolina 29202

RE: SAC# 2008-01009-DJS
Bishopville Bypass APPR
Lee County

Dear Mr. Vakili-Rad:

This is in response to your request for Corps comments on the proposed construction of the proposed bypass roadway on new alignment around Town of Bishopville. This proposed alignment would begin at the intersect I-20 and SC-341 would travel around the east, north and west side of Bishopville and terminate on Browntown Road (S-29) at a location west of the intersection US-15 and S-29, in Lee County, South Carolina. The project area is depicted on the attached location map, which SC DOT provided as part of the early coordination for this project.

Based upon office review of submitted information and other information available to the Corps, several areas along the proposed corridor appear to contain or potentially contain Waters of the U.S., including wetlands. Based upon this, the Corps of Engineers would encourage you to conduct a wetland delineation within the required Right of Way corridor for the proposed project. Once that is complete you should request a Corps representative to verify your delineation (Jurisdictional Determination). Please be aware that a Department of the Army permit will be required pursuant to Section 404 of the Clean Water Act if the project involves discharges of dredged or fill material into Waters of the U.S, including wetlands.

In future correspondence concerning this matter, please refer to SAC 2008-01009-DJS.

Your project may also need state or local assent. Prior to performing any work, you should contact the South Carolina Department of Health and Environmental Control. A copy of this letter is being forwarded to that agency for their information.

If you have any questions concerning this matter, please contact me (803) 253-3445.

Respectfully,

Stephen A. Brumagin
Project Manager

Attachment:
Location map

Copy Furnished:

Mr. Chuck Hightower
S.C. Department of Health
and Environmental Control
Bureau of Water
2600 Bull Street
Columbia, South Carolina 29201

Mr. Sean Connolly
S.C. Department of Transportation
P.O. Box 191
Columbia, South Carolina 29202-0191

United States Department of the Interior

FISH AND WILDLIFE SERVICE
176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

March 21, 2008

Mr. Chad Amick
S.C. Department of Transportation
P.O. Box 191
Columbia, SC 29202-0191

Re: Bishopville Bypass, Lee County, FWS Log No. 42410-2008-FA-0164

Dear Mr. Amick:

The Charleston Field office for the U.S. Fish and Wildlife Service (Service) received the South Carolina Department of Transportation (SCDOT) Advanced Project Planning Report (APPR) for the proposed bypass to be constructed in Lee County, SC. The proposed bypass will be a combination of new alignments and improvements to existing roadways. Service personnel recently participated in a multi-agency site visit to review the proposed bypass around the Town of Bishopville in Lee County, SC.

Initial correspondence prior to the site visit indicated a potential alignment location. It was this alignment the agencies reviewed for environmental impacts. However, during the site review, a second possible alignment was identified which utilized a greater amount of existing road ways. At this point in the project the amount of natural resource impacts remains unknown for either alignment. Impacts will definitely occur as both proposals cross multiple stream and wetlands including Laws Branch and tributaries to the Lynches River. SCDOT should consider avoidance measures such as bridging to the maximum extent possible as the project develops.

A review of the Heritage Trust Database indicates that no threatened and endangered species (T&E) occur within the project corridors. However, the federally endangered red-cockaded woodpecker, *Picoides borealis*, is known to occur within a few miles of the project. The Service recommends SCDOT perform a preliminary survey for this woodpecker and other T&E species known to occur in Lee County. Please find a list of protected species attached.

The Service appreciates the opportunity to provide input at this early stage of the project's development. If you have any questions regarding our comments, please do not hesitate to contact Mark Caldwell of the Charleston office at (843) 727-4707 ext. 215.

Sincerely,

Timothy N. Hall
Field Supervisor

TNH/MAC/km

South Carolina Distribution Records of
Endangered, Threatened, Candidate and Species of Concern
February 2008

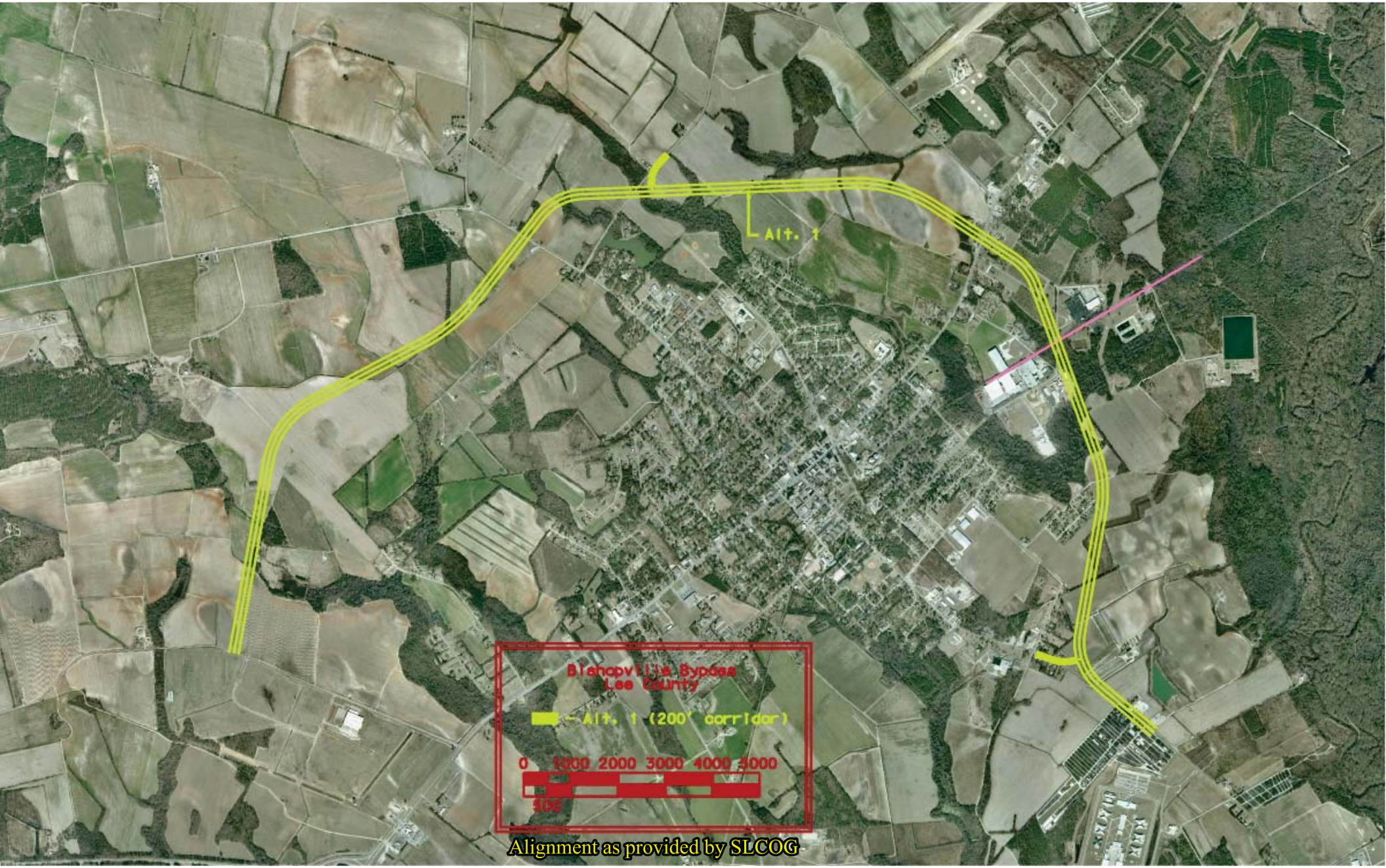
E	Federally endangered
T	Federally threatened
P	Proposed in the Federal Register
CH	Critical Habitat
BGEPA	Federally protected under the Bald and Golden Eagle Protection Act
C	The U.S. Fish and Wildlife Service or the National Marine Fisheries Service has on file sufficient information on biological vulnerability and threat(s) to support proposals to list these species
S/A	Federally protected due to similarity of appearance to a listed species
SC	Federal Species of concern. These species are rare or limited in distribution but are not currently legally protected under the Endangered Species Act.
*	Contact the National Marine Fisheries Service for more information on this species

These lists should be used only as a guideline, not as the final authority. The lists include known occurrences and areas where the species has a high possibility of occurring. Records are updated continually and may be different from the following.

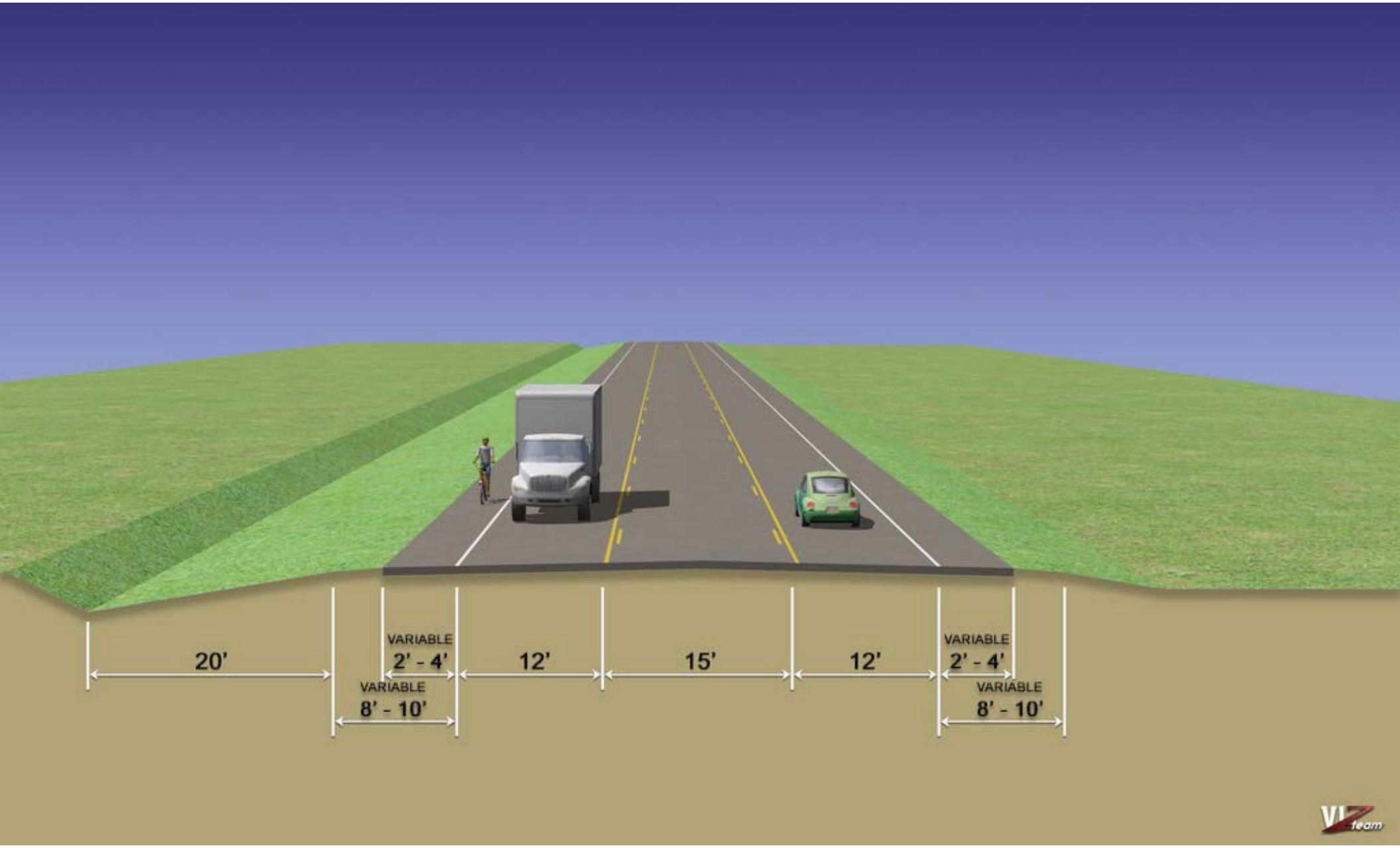
LEE COUNTY

Common Name	Scientific Name	Status	Occurrence
Red-cockaded woodpecker	Picoides borealis	E	Known
Canby's dropwort	Oxypolis canbyi	E	Known
Chaffseed	Schwalbea americana	E	Known
Southern Dusky Salamander	Desmognathus auriculatus	SC	Possible
Awned meadowbeauty	Rhexia aristosa	SC	Known
Bachman's sparrow	Aimophia aestivalis	SC	Known
Henslow's sparrow	Ammodramus henslowii	SC	Known
American kestrel	Falco sparverius	SC	Possible
Loggerhead shrike	Lanius ludovicianus	SC	Possible
Painted bunting	Passerina ciris ciris	SC	Possible
Madtom, broadtail	Noturus sp 2	SC	Possible

APPENDIX E



Alignment as provided by SLCOG


20'
VARIABLE
2' - 4'
VARIABLE
8' - 10'
12'
15'
12'
VARIABLE
2' - 4'
VARIABLE
8' - 10'

South Carolina Department of Transportation
Engineering Directive Memorandum

Number: 22

Primary Departments: Preconstruction, Traffic Engineering, Construction, Maintenance

Referrals: AASHTO, *Guide for the Development of Bicycle Facilities,* 1999

Subject: Considerations for Bicycle Facilities

On February 20, 2003, the South Carolina Department of Transportation Commission in meeting affirmed that bicycling accommodations should be a routine part of the Department's planning, design, construction, and operating activities, and will be included in the everyday operations of our transportation system. In order to provide guidance to Department personnel, the attached typical sections have been developed to supplement the following guidelines for the selection and design of bicycle facilities on all new projects. In addition, typical sections have been included to give guidance on how to restripe existing five-lane sections to accommodate bicycle facilities.

The following describes shared roadways and bike lanes/paved shoulders and gives guidance on their design requirements for new projects. Other design considerations for bicycle accommodations are also addressed.

A. Shared Roadways

Description

Shared roadways are the way most bicycle travel in the United States occurs. This type of facility can be used to accommodate bicyclists without signing and striping the roadway for bicycle travel. This type of facility works well to accommodate bicycles through urban areas that are not considered high bicycle-demand corridors or where other constraints do not allow the development of a bike lane/paved shoulder.

Design Considerations

On urban sections (curb and gutter), an outside travel lane width of fourteen (14) feet is the minimum recommended width for a shared-use lane. The gutter pan is not to be included in the width of the shared roadway. On stretches of roadways with grades greater than five percent, consideration should be given to providing a 15-foot travel lane width. Shared roadway widths greater than fourteen (14) feet that extend continuously along a stretch of roadway may encourage the undesirable operation of two motor vehicles, especially in urban areas, and are therefore not recommended as shared use roadways and consideration should be given to striping the additional width. The Department's Pedestrian

and Bicycle Coordinator and Traffic Engineering can provide assistance in determining the need for a shared roadway as opposed to bike lanes/paved shoulders.

On rural sections (shoulder), criteria should be used as described in the bike lanes/paved shoulders section of this document.

B. Bike Lanes/Paved Shoulders

Description

This type of facility incorporates bicyclists into a roadway by utilizing a bike lane/paved shoulder adjacent to the motor vehicle traffic. A bike lane should be a lane specifically signed and marked as indicated in the Manual on Uniform Traffic Control Devices (Part 9). A paved shoulder may be used to accommodate bicycle travel without specific markings and signs present. A bike lane provides for more predictable movements by the motorist and bicyclist. Bike lanes should be one-way facilities and carry bike traffic in the same direction as adjacent motor vehicle traffic. This type of facility should be used where the Department desires to provide continuity to other bicycle facilities or designate preferred routes through high demand corridors, such as any of our designated South Carolina bicycle touring routes or a municipality's bikeway. The Department's Pedestrian and Bicycle Coordinator and Traffic Engineering can provide assistance in determining the need for bike lanes as opposed to a shared roadway.

Design Considerations

On rural sections (shoulder) with ADT greater than 500, bike lanes/paved shoulders should be a minimum of four (4) feet wide in each direction to accommodate bicycle travel. The bike lanes/paved shoulders will have a cross slope of 24H:1V (4.17%). Where motor vehicle speeds exceed 50 mph or the percentage of trucks, buses, and recreational vehicles are greater than five percent of the ADT, consideration should be given to providing a minimum six (6) feet of width to accommodate bicycle travel adjacent to the higher speeds (50 mph or greater) and to lessen the effect of windblast from the larger vehicles. On rural sections (shoulder) with ADT less than 500, paving two (2) feet of the earthen shoulder will be adequate to better accommodate bicyclists.

On urban sections (curb and gutter), bike lanes/paved shoulders should be a minimum of four (4) feet wide to accommodate bicycle travel. The bike lanes/paved shoulders will have a cross slope of 24H:1V (4.17%). The gutter pan is not to be included in the width of the bike lane/paved shoulder. Where the percentage of trucks, buses, and recreational vehicles are greater than five percent of the ADT, consideration should be given to providing a minimum six (6) feet of width. Where motor vehicle speeds are 50 mph or greater, Department guidelines for shoulder widths should be utilized as defined in the SCDOT Highway Design Manual, thus giving the bicyclist either eight (8) or ten (10) feet of paved shoulder width to utilize.

C. Other Design Considerations for Bicycle Facilities

Paving Existing Shoulders

In order for a shoulder to be usable to a bicyclist, it must be paved. Adding or improving paved shoulders often can be the best way to accommodate bicyclists in rural areas and benefit motor vehicle traffic. Paved shoulders have the added benefits of not only accommodating bicyclists, but also they can extend the service life of the road surface since edge deterioration will be significantly reduced. It is currently Department policy to provide two (2) feet of paved shoulder width on all new projects utilizing earthen shoulders. Where practical and attainable, a minimum width of four (4) feet should be paved on the shoulder to provide for bicycle facilities where the ADT of the road is greater than 500.

Where constraints do not allow obtaining the indicated widths, any additional width can be beneficial to a bicyclist.

Resurfacing/Restriping Existing Roadways

When the Department desires to accommodate bicycle facilities by resurfacing/restriping existing roadways, lane or median widths may be narrowed to obtain the desired bicycle facility. Roadways designated as being on the National or South Carolina Truck Network or roadways where the percentage of trucks, buses, and recreational vehicles are greater than five percent of the ADT should have lane widths of twelve (12) feet. Where conditions allow utilizing lane widths narrower than twelve (12) feet to accommodate bicycle facilities, the impacts of the narrower lane widths to motor vehicle traffic should be determined. Guidance on selecting the proper lane width for a roadway can be found in Chapters 19 through 22 of the SCDOT Highway Design Manual.

A flush /painted median width of fifteen (15) feet is indicated by the South Carolina Highway Design Manual, but the width can be reduced to twelve (12) feet to accommodate bicycle facilities on an existing roadway or existing project. Median widths less than twelve (12) feet are not recommended where posted speeds are greater than 35 mph and the percentage of trucks, buses, and recreational vehicles is greater than five percent of the ADT.

Drainage Inlet Grates

Where practical, drainage inlets should be placed outside of the bicycle facility. Where this is not practical, hydraulically efficient, bicycle-safe grates should be utilized and should be placed or adjusted to be flush with the adjacent pavement surface. On bridges, a minimum of four (4) feet from the edge of the travel lane should be clear of drainage inlets.

Longitudinal Rumble Strips

Longitudinal rumble strips shall not be used where bicycle traffic is expected to occur.

Bridges

In general, bridge widths should match the approach roadway widths (travelway plus bike lanes/paved shoulders). However, in determining the width for major water crossings, consider the cost of the structure, traffic volume, and potential for future width requirements.

Valley Gutter Sections

The guidelines for shared roadways and bike lanes/paved shoulders will be utilized to accommodate bicycle facilities on roadways with valley gutter. Due to the fact that valley gutter sections are typically used on low volume, two-lane secondary roadways, the cross slope of the paved shoulder/bike lane should be 48H:1V (2.08%).

Submitted by: _____
Director of Preconstruction

Recommended by: _____
Deputy State Highway Engineer

Submitted by: _____
Director of Construction

Submitted by: _____
Director of Traffic Engineering

Submitted by: _____
Director of Maintenance

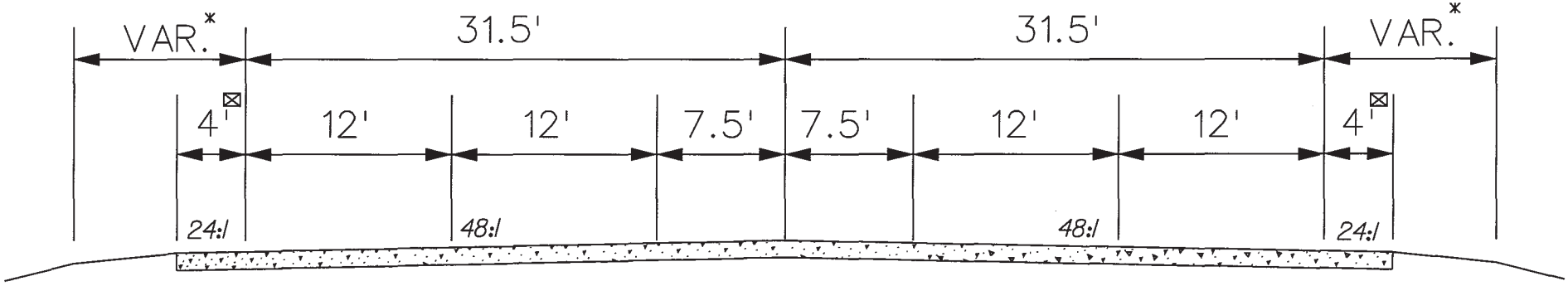
Recommended by: _____
Deputy State Highway Engineer

Approved: _____
State Highway Engineer

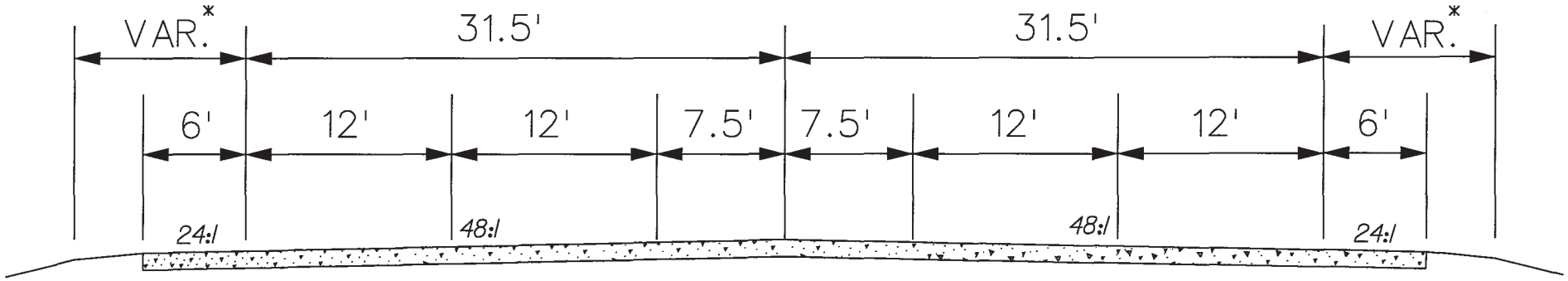
Effective Date: _____

Original signed by State Highway Engineer, D.H. Freeman, July 10, 2004. All original EDM's maintained by State Highway Engineer's Office.

BICYCLE FACILITIES
NEW CONSTRUCTION
5-LANE RURAL SECTION (SHOULDER)



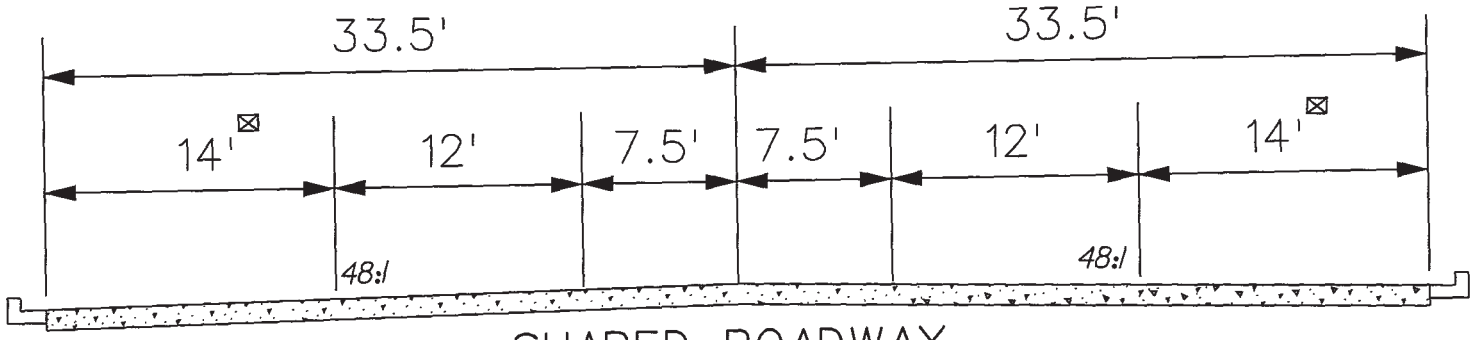
BIKE LANE - POSTED SPEED < 50 MPH OR ≤ 5% TRUCKS



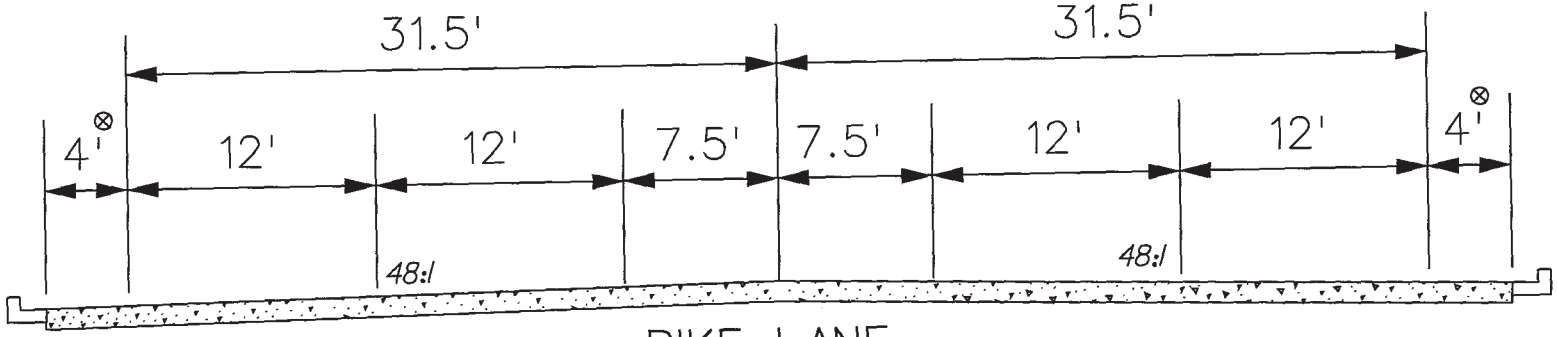
BIKE LANE - POSTED SPEED ≥ 50 MPH OR > 5% TRUCKS

* SHOULDER WIDTH PER SCDOT HIGHWAY DESIGN MANUAL
⊠ USE A 2' PAVED SHOULDER FOR A SHARED ROADWAY

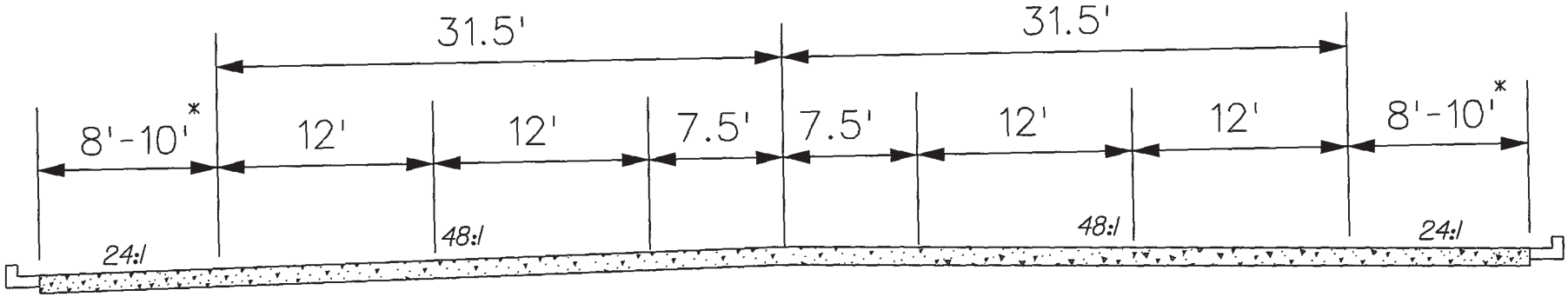
BICYCLE FACILITIES
NEW CONSTRUCTION
5-LANE URBAN SECTION (CURB AND GUTTER)



SHARED ROADWAY



BIKE LANE



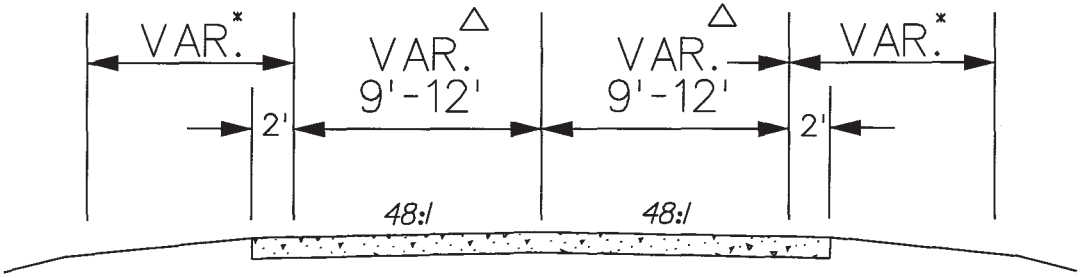
SHARED ROADWAY OR BIKE LANE ≥ 50 MPH

* SHOULDER WIDTH PER SCDOT HIGHWAY DESIGN MANUAL
⊠ CONSIDER USING 15' WHEN GRADES > 5%
⊗ CONSIDER USING 6' WHEN > 5% TRUCKS

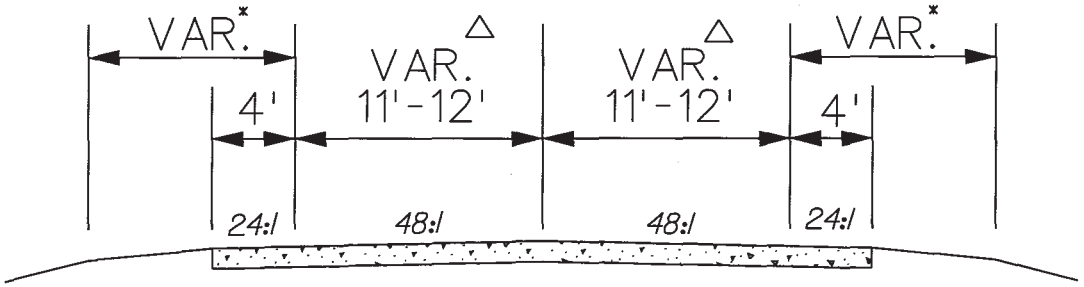
BICYCLE FACILITIES
NEW CONSTRUCTION
2-LANE RURAL SECTION (SHOULDER)

* SHOULDER WIDTH PER SCDOT HIGHWAY DESIGN MANUAL

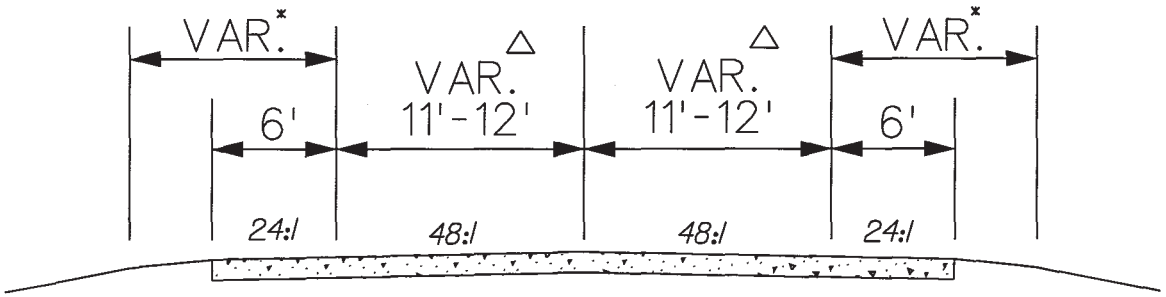
△ LANE WIDTHS PER SCDOT HIGHWAY DESIGN MANUAL



SHARED ROADWAY - LESS THAN 500 ADT

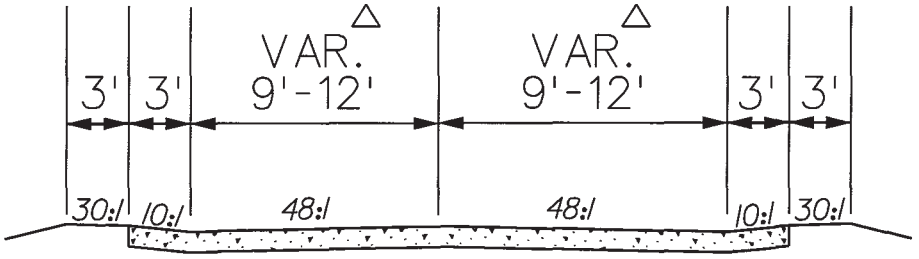


BIKE LANE - POSTED SPEED < 50 MPH OR ≤ 5% TRUCKS

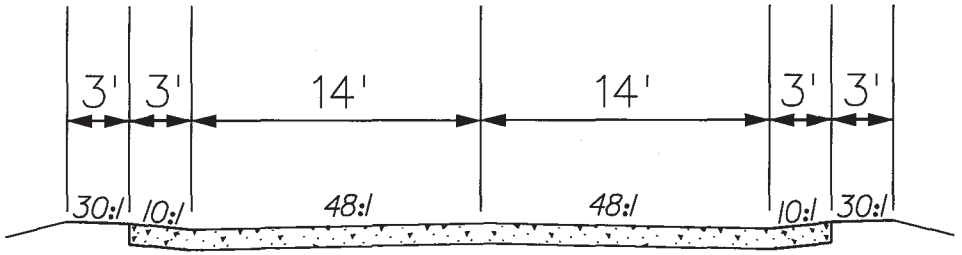


BIKE LANE - POSTED SPEED ≥ 50 MPH OR > 5% TRUCKS

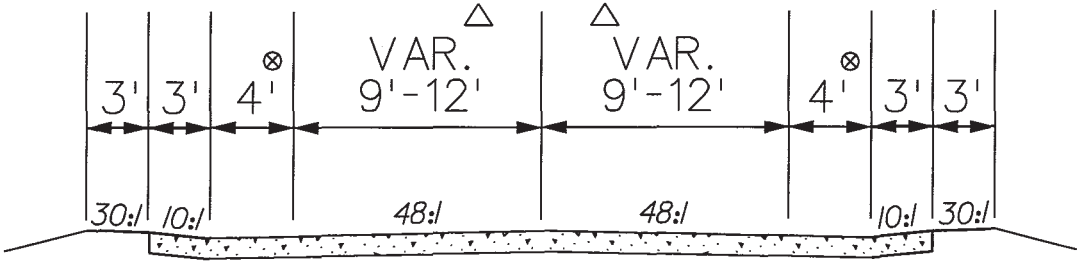
BICYCLE FACILITIES
NEW CONSTRUCTION
2-LANE VALLEY GUTTER SECTIONS



SHARED ROADWAY - LESS THAN 500 ADT



SHARED ROADWAY

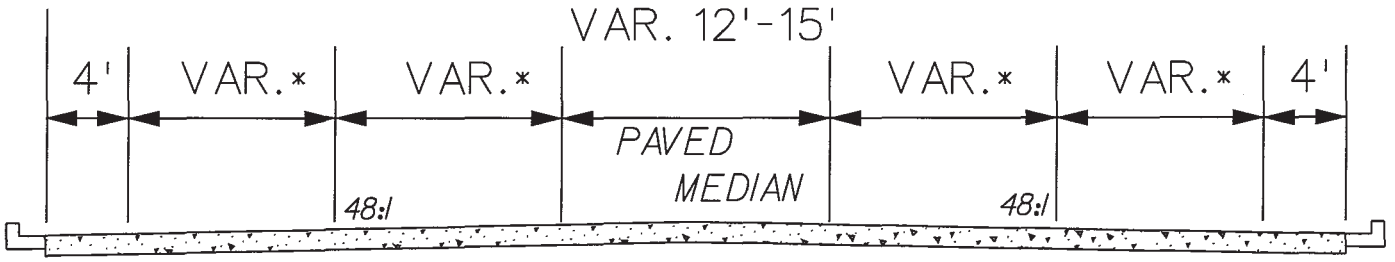


BIKE LANE

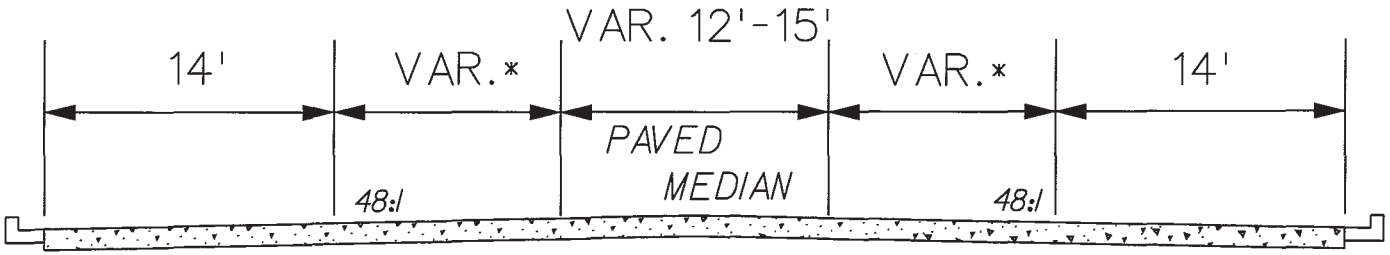
△ LANE WIDTHS PER SCDOT HIGHWAY DESIGN MANUAL

⊗ CONSIDER USING 6' WHEN > 5% TRUCKS

BICYCLE FACILITIES
RESTRIPING EXISTING 5-LANE
URBAN SECTION (CURB AND GUTTER)



BIKE LANE



SHARED ROADWAY

* 11'-12' LANE WIDTHS
(ON NATIONAL OR SOUTH CAROLINA TRUCK NETWORK USE 12' MIN. LANE WIDTH)

APPENDIX F

PRELIMINARY COST ESTIMATE

DATE: June 13, 2008

COUNTY: LEE **LENGTH:** 6.16 mi.

ROUTE/ROAD: Bishopville Bypass – Alternate 1

FILE: **PROJECT NO.**

PROJECT DESCRIPTION: Construct 3 lane roadway on new location from SC Rt. 341 east of Bishopville to Secondary Road 29 west of Bishopville. Grade separation at the railroad tracks.

ITEM	UNIT	QUANTITY	PRICE	AMOUNT
Mobilization	LS	Nec.	40,000 + 1% > 2 MIL	$ 124,460
Traffic Control	LS	Nec.	4%	$ 401,750
Clearing & Grubbing W/I Roadway	LS	6.16 mi.	$140,000/mi.	$ 862,400
CPM Progress Schedule	LS			$ 20,000
Rem. & Disp. Exist. Asph. Pavement	SY	5,000	5.00	$ 25,000
Unclassified Excavation	CY	42,000	8.00	$ 336,000
Borrow Excavation	CY	160,000	7.00	$ 1,120,000
Fine Grading	SY	181,000	2.50	$ 452,500
Graded Agg. Base Co. – 8" Unif.	SY	169,900	7.50	$ 1,274,250
Prime Coat	GAL	45,873	3.30	$ 151,380
Asph Conc. Intermed Co. (200 lbs/sy)	TON	16,592	59.00	$ 978,930
Asph. Conc. Surf. Co. (200 lbs/sy)	TON	17,034	57.00	$ 970,940
Liquid Asphalt Binder	TON	1,820	500.00	$ 910,000
18" R.C.P. Culvert (Class III)	LF	3,700	32.00	$ 118,400
24" R.C.P. Culvert (Class III)	LF	900	38.00	$ 34,200
30" R.C.P. Culvert (Class III)	LF	100	52.00	$ 5,200
36" R.C.P. Culvert (Class III)	LF	100	65.00	$ 6,500
18" Beveled End Section	EA	180	400.00	$ 72,000
24" Beveled End Section	EA	18	600.00	$ 10,800
30" Beveled End Section	EA	2	700.00	$ 1,400
36" Beveled End Section	EA	2	1,100.00	$ 2,200
Steel Beam Guardrail	LF	2,550	15.00	$ 38,250
Thrie Beam Bridge Conn.	EA	4	1,100.00	$ 4,400
End Terminal – Type T	EA	4	1,900.00	$ 7,600
End Anchor – Type B	EA	4	500.00	$ 2,000
Concrete for Culvert	CY	115	800.00	$ 92,000
Steel for Culvert	LBS	17,900	1.70	$ 30,430
Silt Fence	LF	39,000	3.00	$ 117,000
Rem. Of Silt Retained By Silt Fence	LF	9,750	3.00	$ 29,250
Replace/Repair Silt Fence	LF	3,900	3.20	$ 12,480
Permanent Vegetation, Mowing, etc		6.16 mi.	$10,000/mi.	$ 61,600
Permanent Construction Signs				$ 30,000
Pavement Markings		6.16 mi.	$25,000/mi.	$ 154,000
Moving Items		6.16 mi.	$5,000/mi.	$ 30,800
New Bridge over Tributary to Lynches River (50'x62')	SF	3,100	$80/sf	$ 248,000
New Bridge over railroad tracks (210'x62')	SF	13,020	$85/sf	$ 1,106,700
Traffic Signal @ US 15 / SC 34				$ 70,000
Misc. @ 7%				$ 657,070

			Subtotal	$ 10,569,890
Engineering and Contingencies @ 20%				$ 2,113,980
Utilities				$ 300,000
Construction Total				$ 12,983,870
			Round to	$ 13,000,000
Right Of Way				
Cost of land – 101 acres @ $10,000/acre				$ 1,010,000
Relocations/Impacts – 7 @ $100,000 each				$ 700,000
Cost to acquire right of way				$ 800,000
			Total	$ 2,510,000
			Round to	$ 2,600,000
Preliminary Engineering @ 20%				$ 2,100,000
Right Of Way				$ 2,600,000
Construction				$ 13,000,000
Total			(Cost in present day dollars)	$ 17,700,000