

# Value Engineering Study Report

## SR 140 Widening/Reconstruction

[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

### Bartow and Floyd Counties



**Value Management Team**



**Design Team:**



Parsons Brinckerhoff Quade and Douglas, Inc.

August 2007



August 16, 2007

Ms. Lisa Myers  
Design Review Engineer Manager  
Georgia Department of Transportation  
#2 Capitol Square, Room 266  
Atlanta, GA 30334

RE: Submittal of the final Value Engineering Report  
Project: SR 140 Widening/Reconstruction  
Project Nos. STP-0004-00(915) PI No. 0004915  
STP-19-1(15) PI No. 621500  
BHF-019-1(16) PI No. 621505  
Counties: Bartow and Floyd  
PBS&J Project Task Order No. 15

Dear Ms. Myers:

Please find enclosed four (4) hard copies and (1) CD of our final Value Engineering Report for the Widening and Reconstruction of SR 140 in Bartow and Floyd Counties, as referenced above.

This Value Engineering Study was performed during the week of July 30 - August 2, 2007. The VE Team, fielded by PBS&J, was able to identify **27 Alternative Ideas**, of which **14 are recommended for implementation**. The VE Team also identified **15 Design Suggestion Ideas** which are recommended for the Engineer to consider in his final design. We believe that the **14 Alternative Ideas** recommended may have a significant positive affect on the project.

We trust that you will find this report to be in proper order. It should be noted that the results of this workshop are volatile in that they can be overcome by the events that accompany the expeditious continuance of the design process. Accordingly, we encourage an equally expeditious implementation meeting to design the disposition of the contents of this report.

On behalf of our VE Team, we thank you very much for this opportunity to work with you and the hard working staff of the Georgia Department of Transportation.

Yours truly,

**PBS&J**

Charles R. McDuff, PE, CVS, CCE  
Project Manager -- Certified Value Specialist -- Life  
Certification No. 820102



# ***Value Engineering Study Report***

***Project –STP-0004-00(915), STP-19-1(15), BHF-019-1(16)***  
***Bartow/Floyd Counties***  
***PI No. 0004915, PI No. 621500, PI No.621505***  
***SR 140***

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## ***EXECUTIVE SUMMARY***

## **INTRODUCTION**

This report summarizes the analysis and conclusions by the PBS&J Value Engineering workshop team as they performed a VE study during the period of July 30 – 2 August, 2007 in Atlanta, at the office of the Georgia Department of Transportation. The subjects of the Value Engineering study were three projects for the Widening and Reconstruction of SR 140 in Bartow and Floyd Counties. The design for these three projects is being performed by Parsons Brinckerhoff Quade and Douglas, Inc. (PBQD) whose office is located in Atlanta. At the time of the workshop the plans had advanced to the 30 percent, preliminary design level.

## **PROJECT DESCRIPTION**

Three combined projects comprise the widening and reconstruction of SR 140 from SR 53 in Floyd County to SR 3/US 41 in Bartow County, including bridges over the Oothkalooga Creek and the CSX Railroad. The existing SR 140 within the project limits consists of two 12' lanes with rural shoulders that vary in width, and a posted speed of 55 MPH. This portion of SR 140 serves as a Surface Transportation Assistance Act (STAA) truck route providing access to I-75. Accident analysis for years 2000 through 2002 indicate a total 162 accidents along SR 140 between SR 53 and SR 3. The accidents in 2001 and 2002 included one fatality each. The fatality rate for 2001 and 2002 exceeded the average statewide fatality rate with the same functional classification. The 2003 traffic volumes range from 10,300 to 13,800 VPD. Traffic is projected to increase to 29,000 VPD by 2028. The current level of service (LOS) is at a level "D" and, without improvements, the LOS is projected to drop to a level "E" by 2028. Widening SR 140 to four lanes will provide a LOS of "C" through 2028.

Construction is proposed as follows:

### **STP-0004-00(915) Bartow-Floyd Counties**

The proposed project consists of the widening and reconstruction of SR 140 from SR 3 (Floyd) to 0.3 mile west of Oothkalooga Creek (Bartow). This 6.2 miles project proposes a rural divided 4-lane typical section with a 44' depressed grassed median. The proposed widening transitions to an urban typical section of 4 lanes with a 20' raised median near the end of the project. Side roads will be improved and realigned as needed to provide safe intersections.

The projected construction cost is \$30,726,610 not including 10% E&C and inflation to mid-point of construction.

### **STP-019-1(15) Bartow County**

The proposed project consists of widening and reconstruction of SR 140 from 0.3 miles west of Oothkalooga Creek to SR 3/US 41. The 0.9 mile project will involve constructing an urban divided 4-lane facility with a 20' raised median. Side roads will be improved and realigned as needed.

The projected construction cost is \$5,705,800 not including 10% E & C and inflation to the mid-point of construction.

### **BHF-019-1(16) Bartow County**

This project is intended to replace the bridges on SR 140 over Oothkalooga Creek and CSX Railroad. This project will be contained in and be an exception to project STP-019-1(15).

The projected construction cost is \$1,869,000 not including 10% E & C and inflation to the mid-point of construction.

This project is fully described in the documentation that is located in Tab 5 of this report, entitled *Project Description*.

## **PROJECT CONCERNS AND OBJECTIVES**

Some of the information from the concept report and the designer's presentation indicated the following important points about the projects:

- There will be a need for a 404 permit from the Corps of Engineers
- Letting of the projects is expected in 2011 with right-of-way acquisition starting in 2008
- It is expected that there will be a need to obtain a design exception for an inadequate skew where SR 140 meets US 41
- A design exception will be required to position traffic signals at SR 140 and Main Street (Old Dixie Highway)
- Truck traffic on the alignment is intense (25%)
- Old US 41 is a historic roadway and CSX Railway is a historic location
- There are some important environmental concerns in the form of several creeks
- The alignment and future right-of-way has been archaeologically cleared

## VALUE ENGINEERING PROCESS

The Value Engineering team followed the seven step Value Engineering job plan as promulgated by the Georgia Department of Transportation. This seven step job plan includes the following:

- Investigative
- Analysis
- Speculation
- Evaluation
- Development
- Recommendation
- Presentation

This report is a component of the Presentation Phase. As part of the VE workshop in Atlanta, the team made an informal presentation of their results on the last morning of the workshop. This report is intended to formalize the workshop results and set the stage for a formal implementation meeting in which alternatives and design suggestions will typically be accepted, accepted with modifications, or rejected for cause. The worksheet that follows, along with the formally developed alternatives and design suggestions can be used as “score sheet” for the implementation meeting. It is also included in this report to identify, on a summary basis, the results of the workshop. The reader is encouraged to visit the third tabbed section of this report for a review of the details of the study results. Tabbed section number four includes information about the project itself and tabbed section number five goes into more detail about the process of Value Engineering, as used in this workshop.

Again, as mentioned earlier, the enclosed Summary of Alternatives and Design Suggestions, coupled with the documentation of the developed alternatives in the tabbed section of the report entitled *Study Results*, should provide the reader with the information required to fully evaluate the merits of the alternatives that the VE team documented during their work in the study.

## CONCLUSIONS AND RECOMMENDATIONS

The Value Engineering job plan worked well during this team effort. The information phase included an excellent presentation by the Project Delivery Team from Georgia DOT and by their consultant design team representatives from Parsons Brinckerhoff Quade & Douglas. What was highlighted in that presentation and in the analyses subsequently performed by the VE team was that the following items emerged as the high cost centers of interest for this Value Engineering workshop:

- Right-of-Way
- Asphalt Pavement
- Earthwork
- Bridge Construction

Weighing heavily on the final cost estimate for the four of the items listed above, was the make-up of the typical section for the roadway. Most notably, most of the “typical section” application calls for the use of a 44’ wide, depressed median, necessitating a 200’ wide final right-of-way width. This right-of-way width and 44’ roadway section combine to stiffen the cost of acquiring the necessary right-of-way and adding to the large amount of earthwork required to accommodate the design. Some of the offerings by the VE team help address all of these key costs, are depicted in the third tabbed section of this report entitled *Study Results* and are summarized below:

**Asphalt Pavement** – the team noted in Design Suggestion AP-2 that there appeared to be an opportunity to reduce the cost of the pavement through a reduction in the thickness of the Graded Aggregate Base (GAB). The current design is quite heavy and may well warrant a review to this end. Alternatives AP-3A and 3B suggest two ways to reduce the cost of pavement for the project. AP-3A suggests reducing the shoulder pavement thickness and AP-3B suggests a reduction in the thickness of the part of the shoulder supporting the bicycle pathway. Since the pavement design is rather heavy, these two options may well be worth considering. If either of these alternatives is implemented, then cost savings would be in the realm of \$300,000.

**Earthwork** – the current design calls for the necessity to waste hundreds of thousands of cubic yards of excavated material. The VE team developed two alternatives designed to reduce the quantity of waste materials. Alternative EW-1 raises the proposition of using a bifurcated roadway profile grade in selected areas, in order to reduce the construction cost by approximately \$110,000. Alternative EW-2 calls for raising the profile grade to help balance the earthwork. This could reduce the cost of construction by approximately \$253,000.

**Construction of Bridges** – there are four alternatives that relate to the bridges that are to be constructed. Alternatives BR-1 (shorten the CSX Bridge), BR-4 (eliminate the left turn lane on the same bridge) and BR-6 (use single span with walled abutments on the CSX bridge) could be implemented together, reducing the construction cost by approximately \$340,000.

**Right-of-Way** – the largest potential cost savings is based on very significant reductions in the right-of-way width. This would be accomplished through the reduction of the depressed median width to 24 feet (from 44') and substitution of a raised median for the entire length of the rural portion of the project. This is a rather radical departure from the current roadway typical section, however, the cost of this decision is more than \$1,000,000.

These and the other alternatives and design suggestions may be reviewed more thoroughly where they are documented in the third tab of this report entitled *Study Results*.

**SUMMARY OF ALTERNATIVES & DESIGN SUGGESTIONS**

**Georgia Department of Transportation**

[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

Alternative Number	Description of Alternative	Initial Cost Savings
<b>(AP) ASPHALT PAVEMENT</b>		
AP-1	Use concrete in lieu of asphalt paving	Design Suggestion
AP-2	Reduce G.A.B. thickness	Design Suggestion
AP-3A	Reduce shoulder thickness	\$643,077
AP-3B	Reduce shoulder thickness for bicycle lane	\$396,805
AP-4	Relocate the bike lane to a multi-use trail in urban section	Design Suggestion
AP-7	Eliminate bicycle lanes	\$281,317
AP-8	Utilize existing roadway to be removed	Design Suggestion
AP-10	Increase turning radii for trucks	Design Suggestion
AP-11	Re-evaluate the location of "Eyebrow Pavement"	Design Suggestion
AP-12	Use Type "B" median crossovers	Design Suggestion
AP-13	Eliminate intersection @Old Dixie Highway (Old US 41) and retain right in - right out (Also see BR-4)	\$67,060
AP-14	Remove the connection of CR320 @ Station 303+99.60	Design Suggestion
AP-15	Increase outside shoulder to 12' with 10' paved	Design Suggestion
<b>(EW) EARTH WORK</b>		
EW-1	Use a "Bifurcated" Profile Grade in selected areas	\$110,138
EW-2	Raise the Profile Grade in selected areas	\$253,000
EW-3	Use more Retaining Walls (or Keystone™ Walls) in select areas	Design Suggestion
EW-5	Identify local waste areas	Design Suggestion
<b>(BR) BRIDGES</b>		
BR-1	Shorten CSX Bridge	\$49,934
BR-3	Use separate structures for bikes and pedestrians	Design Suggestion
BR-4	Eliminate left turn lane from CSX Bridge (Also see AP-13)	\$113,992
BR-6	Use single span with walled abutments on CSX Bridge	\$181,728
BR-8	Combine bike and pedestrian walkway to 8' in-lieu of 6' shoulder and 3' bike lane	\$7,588
BR-9	Reduce Oothkalooga Creek Bridge width by reducing median width	\$212,679
BR-10	Use Keystone™ in-lieu of concrete retaining walls	\$1,071,224
<b>(RW) RIGHT-OF-WAY</b>		
RW-1	Modify ROW @ Station 187+50	Design Suggestion
RW-3A	Reduce median widths in rural sections	\$757,347
RW-3B	Reduce median widths to 24' in rural sections	\$1,261,882
<b>(DR) DRAINAGE</b>		
DR-1	Acquire temporary drainage easements	Design Suggestion
DR-6	Relocate Cattle Crossing structure @ Station 205+80	Design Suggestion

## ***Study Results***

# *Study Results*

## **Introduction**

This section includes the study results presented in the form of fully developed Value Engineering alternatives that include descriptions of the original design, description of the alternative design configurations, comments on the technical justifications, opportunities and risks associated with the alternatives. For each alternative, sketches, calculations and a cost worksheet have been included. For the most part, these fully developed alternatives represent an array of choices that clearly could have an impact on the eventual cost and performance of the finished project.

The documented alternatives also include Design Suggestions (DS). As their name implies, these are short write-ups making note of VE perspectives on technical issues and sharing some thoughts for consideration as the design moves forward.

This introductory sheet is followed by a *Summary of Alternatives & Design Suggestions* table. It should be noted that the alternatives that are included, which have cost estimates attached are not necessarily representative of the final cost outcome for each alternative. Some of these alternatives have components that are mutually exclusive so they may not be added together.

The users of this report are asked to consider these alternatives and design suggestions as a smorgasbord of choices for selection and use as the project moves forward. The following *Summary of Alternatives & Design Suggestions* may also be used as a “score sheet” within the bounds of an implementation meeting.

## **Cost Calculations**

The cost calculations are intended only as a guide to the approximate results that might be expected from implementation of the alternatives. They should be helpful in making clear choices as to the pursuit of individual alternatives.

A composite mark-up of 10% for the construction cost comparisons was derived from the cost estimate for the project. This estimate can be found in the section of this report entitled *Project Description*.

**SUMMARY OF ALTERNATIVES & DESIGN SUGGESTIONS**

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[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

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# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**AP -1**

DESCRIPTION: USE CONCRETE IN LIEU OF ASPHALT PAVING

SHEET NO.: 1 of 1

## Original Design:

The original design calls for 9.5” of ACP on 12” of GAB and the preliminary pavement design analysis shows designs as thick as 13.5” ACD on 12” GAB.

## Alternative:

The alternative would be to evaluate the use of a concrete pavement design.

## Opportunities:

- Reduced life cycle costs

## Risks:

- Additional initial cost
- Increased construction time
- Moderate increase in design effort

## Technical Discussion:

Due to the fact the ACP design is so thick, in order to accommodate the high volume of trucks, it may be prudent for the designer to evaluate the use of concrete pavement to determine if it would provide any life cycle cost savings.

# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.: **AP-2**

DESCRIPTION: **REDUCE G.A.B. THICKNESS**

SHEET NO.: 1 of 1

## Original Design:

The original pavement design calls for 12” of G.A.B. with 9.5” of asphalt buildup.

## Alternative:

The alternative is to evaluate the pavement design to see if a lesser thickness of G.A.B. could be used in place of the existing 12” prescribed.

## Opportunities:

- Cost savings
- Project time savings

## Risks:

- Minimal design impact
- Sufficiency of revised pavement

## Technical Discussion:

Reduction of G.A.B. from 12” nominal thickness to 9” nominal thickness would realize a cost savings of \$1,237,500 based on initial cost estimates.

# Value Analysis Design Alternative



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**AP -3A**

DESCRIPTION: **REDUCE SHOULDER THICKNESS**

SHEET NO.: 1 of 4

**Original Design:**

The original design calls for “full depth” shoulders consisting of 12” GAB, 6.0” of 25 mm Superpave, 3.0” of 19mm Superpave and 1.5” of 12.5mm Superpave.

**Alternative:**

The alternative design will reduce the pavement buildup on the outside shoulders in the rural section by utilizing 6” of GAB, 4.0” of 25 mm Superpave, 2.0” of 19mm, 1.5” of 12.5 mm Superpave and 1.5” of 12mm Superpave.

**Opportunities:**

- Reduce Paving Cost
- Reduce Construction Time

**Risks:**

- Shoulder Removal Required for future widening

**Technical Discussion:**

The proposed pavement buildup is extremely thick to accommodate the high percentage of trucks. As a result, the cost for utilizing full depth build up on the shoulders is much more expensive than on a typical project.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 1,505,831	\$	\$ 1,505,831
ALTERNATIVE	\$ 862,754	\$	\$ 862,754
SAVINGS	\$ 643,077	\$	\$ 643,077

# Illustrations

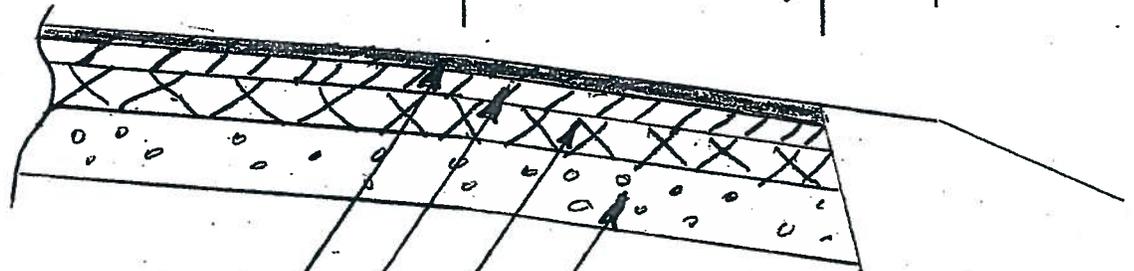
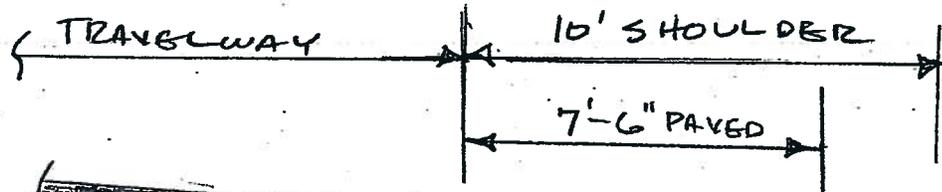


PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
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[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
AP - 3A

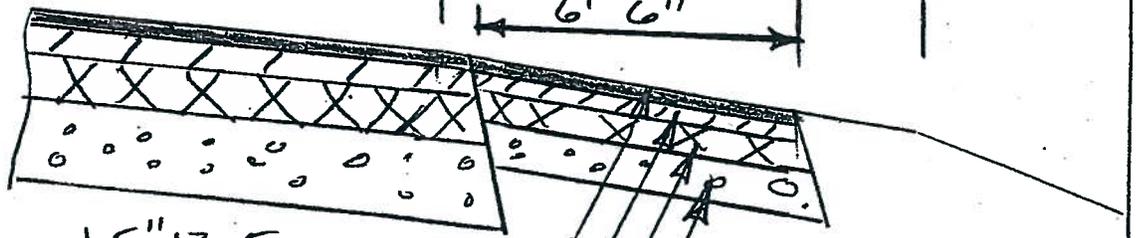
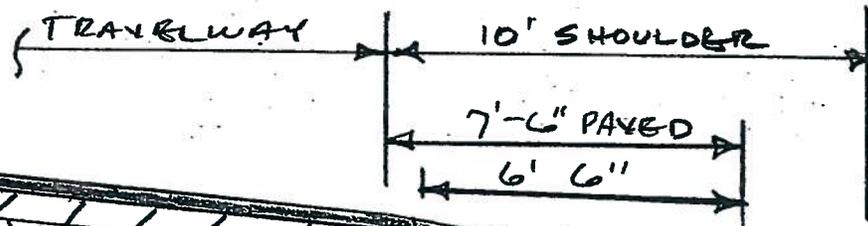
DESCRIPTION: REDUCE SHOULDER THICKNESS

SHEET NO.: 2 of 4



1.5" 12.5mm  
SUPERPAVE  
3.0" 19.0mm  
SUPERPAVE  
6.0" 25mm  
SUPERPAVE  
12.0" GAB

ORIGINAL  
DESIGN



1.5" 12.5mm  
SUPERPAVE  
2.0" 19.0mm  
SUPERPAVE  
4.0" 25.0mm  
SUPERPAVE  
6" GAB

ALTERNATIVE  
DESIGN

# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction - Bartow-Floyd Counties  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
 AP - 3A

DESCRIPTION: REDUCE SHOULDER THICKNESS

SHEET NO.: 3 of 4

STATION 43+00 TO 417+50  $\Rightarrow$  32,450

GAB (USE 150#/CF)  
 ORIGINAL

$$(6.5' \times 2)(1.0')(32,450')(150\#/CF) / 2000\#/TN \Rightarrow 31,640 \text{ TNS}$$

ALTERNATIVE

$$(6.5' \times 2)(0.5')(32,450')(150\#/CF) / 2000\#/TN \Rightarrow 15,320 \text{ TNS}$$

$$31,640 \text{ TNS} - 15,320 \text{ TNS} \Rightarrow \underline{\underline{15,320 \text{ TNS}}}$$

25mm

$$(6.5' \times 2)(32,450') / (9 \text{ SF/SY}) \Rightarrow 23,440 \text{ SY}$$

ORIGINAL

$$[(23,440 \text{ SY})(110\#/SY-IN)(6'')] / 2000\#/TN \Rightarrow 7735 \text{ TN}$$

ALTERNATIVE

$$[(23,440 \text{ SY})(110\#/SY-IN)(4'')] / 2000\#/TN \Rightarrow 5157 \text{ TN}$$

19mm

$$(6.5' \times 2)(32,450') / (9 \text{ SF/SY}) = 23,440 \text{ SY}$$

ORIGINAL

$$[(23,440 \text{ SY})(110\#/SY-IN)(3.0'')] / 2000\#/TN \Rightarrow 3868 \text{ TN}$$

ALTERNATIVE

$$[(23,440 \text{ SY})(110\#/SY-IN)(2'')] / 2000\#/TN \Rightarrow 2578 \text{ TN}$$



# Value Analysis Design Alternative



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
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 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**AP -3B**

DESCRIPTION: **REDUCE SHOULDER THICKNESS FOR BIKE LANE**

SHEET NO.: 1 of 3

**Original Design:**

The original design calls for “Full Depth” shoulders consisting of 12” GAB, 6.0” of 25 mm Superpave, 3.0” of 19mm Superpave and 1.5” of 12.5 mm Superpave.

**Alternative:**

The alternative will reduce the pavement buildup on the bike lane portion of the outside shoulders in the rural section by utilizing 6” of GAB, 4.0” of 25 mm Superpave, 2.0” of 19mm Superpave, and 1.5” of 12.5 mm Superpave.

**Opportunities:**

- Reduce paving cost
- Reduce construction time

**Risks:**

- Shoulder removal required for future widening

**Technical Discussion:**

The proposed pavement buildup is extremely thick to accommodate the high percentage of trucks. As a result, the cost for utilizing full depth build up on the shoulders is much more expensive than on a typical project.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 926,627	\$	\$ 926,627
ALTERNATIVE	\$ 529,822	\$	\$ 529,822
SAVINGS	\$ 396,805	\$	\$ 396,805

# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction - Bartow-Floyd Counties  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

AP-3B

DESCRIPTION: REDUCE SHOULDER THICKNESS FOR BIKE LANE

SHEET NO.: 2 of 3

STATION 93+00 TO STATION 417+50  $\Rightarrow$  32,450'

GAB (USE 150#/CF)

ORIGINAL

$$[(4.0' \times 2)(1.0')(32,450')(150\#/CF)] / 2000\#/TN \Rightarrow 19,470\text{ TONS}$$

ALTERNATIVE

$$[(4.0' \times 2)(0.5')(32,450')(150\#/CF)] / 2000\#/TN \Rightarrow 9,430\text{ TONS}$$

25mm SUPERPAVE

$$(4.0' \times 2)(32,450') / (9SF/SY) \Rightarrow 14,425\text{ SY}$$

ORIGINAL

$$[(14,425\text{ SY})(110\#/SY-IN)(6'')] / 2000\#/TON \Rightarrow 4,760\text{ TONS}$$

ALTERNATIVE

$$[(14,425\text{ SY})(110\#/SY-IN)(4'')] / 2000\#/TON \Rightarrow 3,174\text{ TONS}$$

19mm SUPERPAVE

$$(4.0' \times 2)(32,450') / (9SF/SY) \Rightarrow 14,425\text{ SY}$$

ORIGINAL

$$[(14,425\text{ SY})(110\#/SY-IN)(3.0'')] / 2000\#/TON \Rightarrow 2,380\text{ TONS}$$

ALTERNATIVE

$$[(14,425\text{ SY})(110\#/SY-IN)(2.0'')] / 2000\#/TON \Rightarrow 1,586\text{ TONS}$$



# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**AP - 4**

DESCRIPTION: **RELOCATE THE BIKE LANE TO A MULTI - USE IN  
URBAN SECTION**

SHEET NO.: 1 of 1

## Original Design:

The original design provides for a 4' bike lane on the roadway, and a 12' shoulder with a 2'-6" C&G, a 2' buffer, a 5' sidewalk and a 2'-6" outer separation.

## Alternative:

The alternative is to remove the 4' bike lane from the roadway and relocate it to a 10' multi - use trail in a 17' shoulder area consisting of a 2'-6" C&G, 2' buffer, 10' multi -use trail and a 2 - 6" outer separation.

\*See AP-7 for potential savings.

## Opportunities:

- Reduce paving costs

## Risks:

- Increase sidewalk/trail cost
- Moderate increase in design effort

## Technical Discussion:

Accommodating bike traffic on a multi-use trail is more desirable than on the roadway.

# Value Analysis Design Alternative



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
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 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**AP -7**

DESCRIPTION: **ELIMINATE BICYCLE LANES**

SHEET NO.: 1 of 7

**Original Design:**

The original design proposes a 4’-0” bicycle lane to be constructed in conjunction with the outside paved shoulder in the rural section, with a 3’ bicycle lane adjacent to the travel lane in the urban sections.

**Alternative:**

The alternative would be to eliminate the construction of bicycle lanes throughout the project, constructing paved shoulder to design standards. Remove bicycle lanes in urban sections adjacent to travel lanes.

**Opportunities:**

- Reduce pavement costs.
- Reduce construction time.

**Risks:**

- Loss of use of bicycle lane.
- Minimal design impacts.

**Technical Discussion:**

Eliminate bicycle lanes in both the rural and urban roadway sections throughout the project. This would save 3’ of full buildup pavement in urban sections and save 1’ of full buildup in rural shoulder sections per side. The rural shoulder sections could be built at 6.5’ paved and would adhere to GDOT Design Standards.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 12,374,000	\$	\$ 12,374,000
ALTERNATIVE	\$ 12,092,683	\$	\$ 12,092,683
SAVING	\$ 281,317	\$	\$ 281,317

# Illustrations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

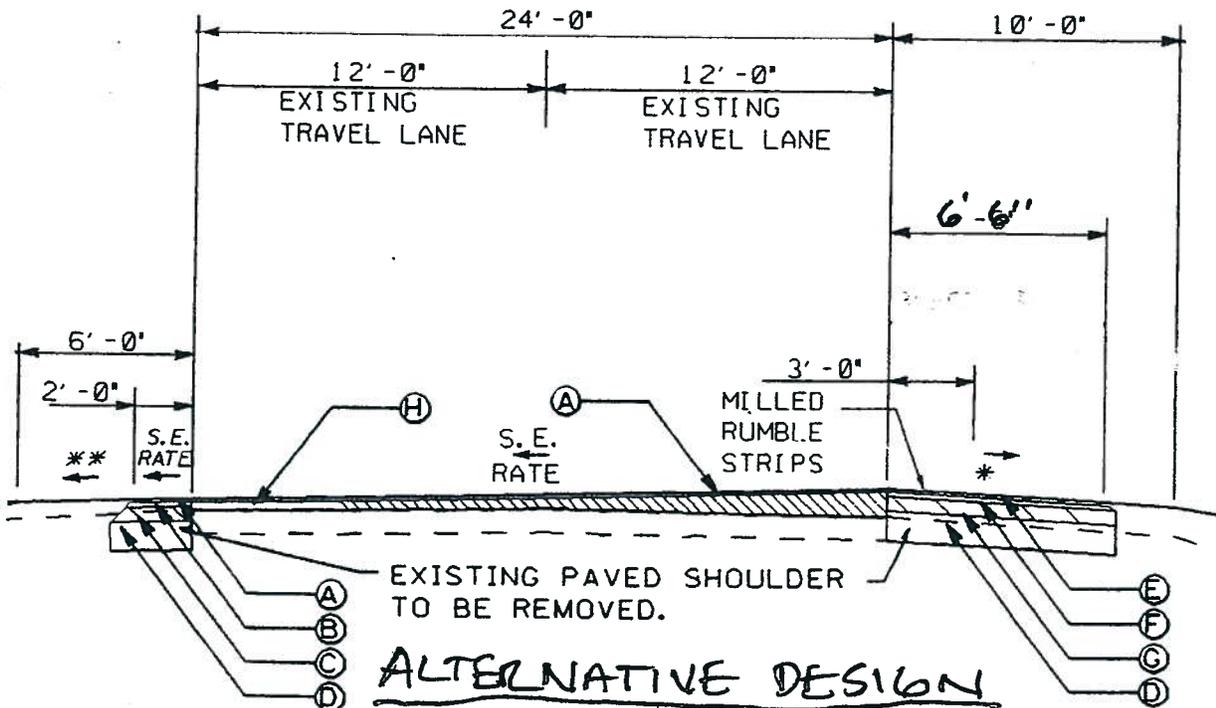
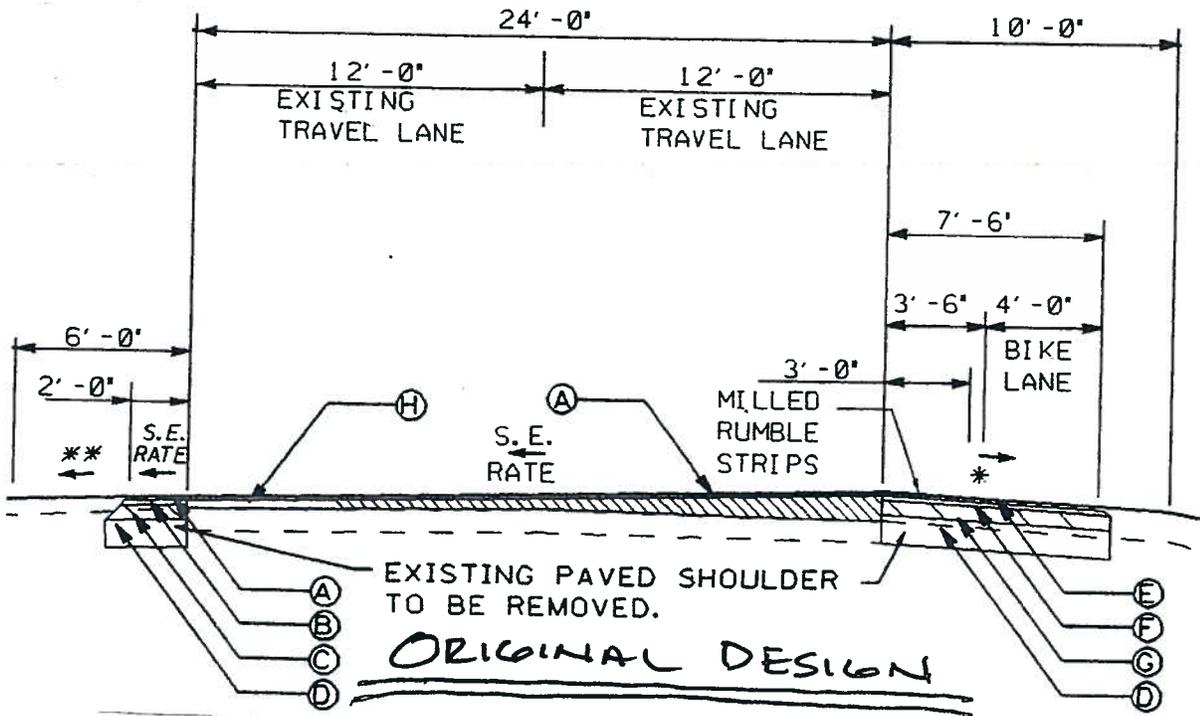
ALTERNATIVE NO.:

AP - 7

DESCRIPTION: ELIMINATE BICYCLE LANES - RURAL

SHEET NO.:

2 of 7



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

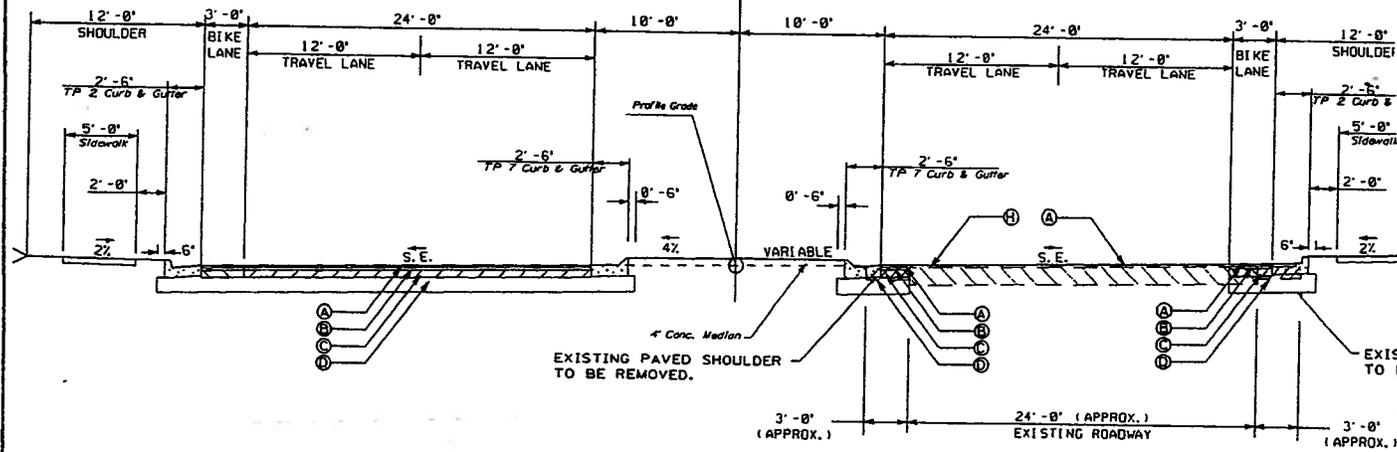
AP - 7

DESCRIPTION: ELIMINATE BICYCLE LANES - URBAN

SHEET NO.:

3 of 7

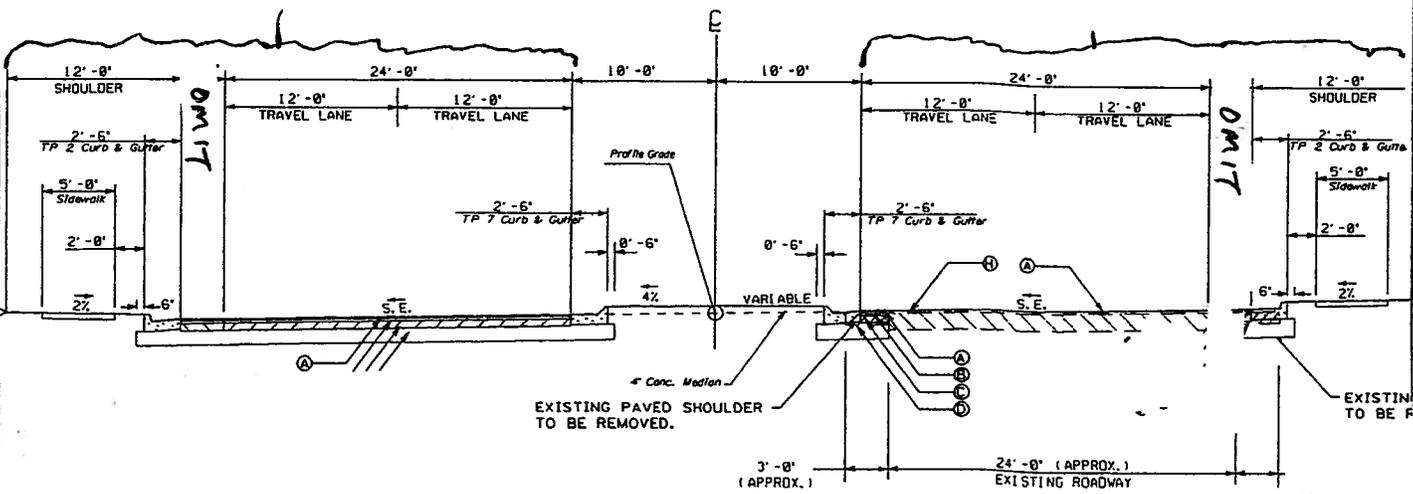
## TYP 11 SUPER ELEVATED SECTION ORIGINAL DESIGN



SR 140  
STA. 417+49.25 TO 432+67.21

## PROPOSED DESIGN

### TYP 11 SUPER ELEVATED SECTION



SR 140  
STA. 417+49.25 TO 432+67.21

# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction - Bartow-Floyd Counties  
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ALTERNATIVE NO.:  
AP - 7

DESCRIPTION: ELIMINATE BICYCLE LANES

SHEET NO.: 4 of 7

## RURAL SECTION

Eliminate 1' of fill buildup to eliminate bicycle lane while constructing outside paved shoulder to 6.5' to adhere to GDOT Design Standards.

Length of Rural Section = 32450 LF

G.A.B. SAVINGS -

$$32450(1)(1) = 32450 \text{ CF}$$

GAB @ 150#/CF

$$32450 \times 150 = 4867500 / 2000$$

2433.75 TONS  
G.A.B. SAVED RURAL

Length of URBAN Section = 7600 LF

Eliminate 3' of fill buildup to eliminate bicycle lane.

$$7600(1)(1) = 7600 \text{ CF}$$

$$7600 \times 150 \# / \text{CF} = 1,140,000 / 2000 =$$

570.00 TONS  
G.A.B. SAVED URBAN  
EBR

+ 3003.75 EBR  
3003.75 WBR

6007.50 TONS  
G.A.B. total

3003.75  
TONS

# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction - Bartow-Floyd Counties  
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ALTERNATIVE NO.:  
 AP - 7

DESCRIPTION: ELIMINATE BICYCLE LANES

SHEET NO.: 5 of 7

## 25mm Superpave Rural Section - 1' width

Rural Section = 32450 LF

25mm Application Rate = 660# / SY

$$32450 \times 1 = 32450 \text{ SF}$$

$$32450 / 27 =$$

$$1201.85 \times 660 =$$

$$793,222.22 / 2000 =$$

URBAN SECTION = 7600 LF / 3' width

$$7600 \times 3 = 22800 \text{ SF} / 27 = 844.44$$

$$844.44 \times 660 =$$

$$557,333.33 / 2000 =$$

278.67 TONS  
 URBAN EBR

396.61 TONS  
 RURAL EBR

675.28 TONS EBR  
 675.28 TONS WBR  
 1350.56 TONS TOTAL

## 19mm Superpave

Rural - 1' width

$$32450 \times 1 = 32450 \text{ SF} / 27 =$$

$$1201.85 \text{ SY} \times 220 \# / \text{SY} =$$

$$264407 / 2000 = 132.20 \text{ TONS EBR}$$

URBAN - 3' width

$$7600 \text{ LF} \times 3 =$$

$$22800 / 27 =$$

$$844.44 \times 220 =$$

$$185,777.78 / 2000 =$$

132.20  
 TONS  
 EBR

92.89  
 TONS  
 EBR

225.09 EBR  
 225.09 WBR  
 450.18 TONS  
 TOTAL

# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
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ALTERNATIVE NO.:

AP - 7

DESCRIPTION: ELIMINATE BICYCLE LANES

SHEET NO.:

6 of 7

12.5 mm Superpave - Rural Section - 1' width

$$32450 \times 1 = 32450 / 27 = 1201.85 \text{ SY} \times 165 = 198,305.25 / 2000 =$$

99.15 tons rural  
EBR

Urban Section - 3' width

$$7600 \times 3 = 22800 / 27 = 844.44 \text{ SY} \times 165 = 139,333.33 / 2000 =$$

69.67 tons  
EBR

. EBR. 168.82 TONS

W.B.R. - 168.82 TONS

---

337.64 TONS  
TOTAL



# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
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ALTERNATIVE NO.:  
**AP-8**

DESCRIPTION: **UTILIZE EXISTING ROADWAY TO BE REMOVED**

SHEET NO.: 1 of 1

## Original Design:

The original design shows the removal or abandonment of approximately 5,300 feet of roadway.

## Alternative:

The alternative would be to remove and reuse the existing pavement as part of the new pavement.

## Opportunities:

- May serve to reduce pavement costs
- Reduces the amount of material to be hauled

## Risks:

- Will require contractor action

## Technical Discussion:

Use or disposal of the existing road is not addressed in the plans or the estimate. With the large quantity of GAB and ACP required for the construction of the project, use of recycled pavement should result in significant cost savings.

# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**AP-10**

DESCRIPTION: **INCREASE TURNING RADII FOR TRUCKS**

SHEET NO.: 1 of 1

## Original Design:

The original design utilizes 60', 75', 80', + 100' radii at the major intersections.

## Alternative:

The alternative calls for increasing all intersection turning radii to a minimum of 100'.

## Opportunities:

- Improve traffic operations

## Risks:

- Increased paving costs
- Increased Right-of-Way

## Technical Discussion:

With the extremely large percentage of trucks (25%), larger turning radii should be of significant benefit to traffic operations. The original design already requires the Right-of-Way acquisition and impacts a few of the adjacent properties. Increasing the radii will only require incremental increases in Right-of-Way and paving costs and will not incur additional impacts.

# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**AP - 11**

DESCRIPTION: **RE-EVALUATE THE LOCATION OF “EYEBROW  
PAVEMENT”**

SHEET NO.: 1 of 1

## Original Design:

The original design provides “eyebrow pavement” in a limited number of locations where u- turn movements are permitted.

## Alternative:

The alternative design would provide “eyebrow pavement” at additional locations where u-turns are permitted.

## Opportunities:

- Improve safety and operations by enhancing u-turn Movements
- Reduce maintenance cost by protecting the shoulder and pavement from trucks driving off the pavement edge

## Risks:

- Additional pavement cost

## Technical Discussion:

Due to the extremely large volume of truck traffic, efficient operation of the permitted u-turns is critical not only from a safety and operations standpoint, but to protect the pavement and reduce maintenance.

# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
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ALTERNATIVE NO.:  
**AP - 12**

DESCRIPTION: USE TYPE “B” MEDIAN CROSSOVERS

SHEET NO.: 1 of 2

## Original Design:

The original design utilizes type “A” Crossovers. See Enclosed Sketch.

## Alternative:

The alternative design would utilize type “B” Crossovers. See Enclosed Sketch.

## Opportunities:

- Reduce left turn accidents

## Risks:

- Increased paving cost

## Technical Discussion:

The Type “B” Crossover is recommended by GDOT Policy in situations where a project has a wide median or heavy congestion, and an increase in the “offset” of opposing left turns will improve sight distance for the turning vehicles. With a 44’ median and an extremely high volume of trucks, this project is a strong candidate for the use of type “B” Crossovers.



# Value Analysis Design Alternative



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**AP -13**

DESCRIPTION: **ELIMINATE INTERSECTION @ OLD DIXIE HIGHWAY  
 (OLD US 41) AND RETAIN RIGHT IN - RIGHT OUT**

SHEET NO.: 1 of 4

**Original Design:**

The original design provides a signalized intersection at SR 140 and Old Dixie Highway.

**Alternative:**

The alternative would retain the existing condition (Right In – Right Out) at SR 140 and Old Dixie Highway. In addition, this alternative suggests extending the left turn lanes for eastbound SR 140@US 41 to increase storage.

**Opportunities:**

- Reduce paving cost
- Improve operations
- Eliminate potential safety issue due to sight distance

**Risks:**

- Minimal increase in design effort

**Technical Discussion:**

The introduction of an intersection in such close proximity to US 41 will create operational problems. Left turn queues @US 41 will be sufficiently large enough to block the through lanes of SR 140. It appears that queues will possibly extend through the adjacent intersections. The traffic signals are closer (775') than the recommended minimum. The proposed design shows a required double left turn to Old Dixie Highway South and, this roadway is not designed to receive dual turns.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 81,535	\$	\$ 81,535
ALTERNATIVE	\$ 14,475	\$	\$ 14,475
SAVINGS	\$ 67,060	\$	\$ 67,060

# Illustrations



PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**AP-13**

DESCRIPTION: **ELIMINATE INTERSECTION @ OLD DIXIE HIGHWAY (OLD US 41) AND RETAIN RIGHT IN – RIGHT OUT**

SHEET NO.: **2** of **4**

THIS PHOTO SHOWS THE QUEUE ALONG SR 140 @ OLD US 41 AT 2:00 PM. INSPECTION OF THE TRAFFIC REPORT SUGGESTS THAT ADDING THE INTERSECTION AT SR 140 AND OLD DIXIE HIGHWAY WILL POTENTIALLY CREATE NEGATIVE IMPACTS ON TRAFFIC OPERATIONS.



# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction - Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
AP - 13

DESCRIPTION: ELIMINATE INTERSECTION @ OLD DIXIE HIGHWAY (OLD  
US 41) AND RETAIN RIGHT IN - RIGHT OUT

SHEET NO.: 3 of 4

EAST BOUND TURN LANE -

$$\text{TAPER } (180' \times \frac{12+0}{2}) = 1080 \text{ SF}$$

$$\text{STORAGE } (250' \times 12) = 3000 \text{ SF}$$

$$\text{INTERSECTION AREA} \\ (150' \times 44) = 6600 \text{ SF}$$

WEST BOUND TURN LANE - ELIMINATE 24' BUT ADD BACK 12'  
TO THE US 41 TURN LANE -

$$(240' \times 12') = 2880 \text{ SF}$$

$$\text{TOTAL } \underline{\underline{13,560 \text{ SF}}} \quad \text{OR } 13,560 / 27 \Rightarrow \underline{\underline{502 \text{ SY}}}$$

GAB

$$(13560 \text{ SF} \times 1.0' \text{ THICK}) (150 \# / \text{CF}) (2000 \# / \text{TN}) = 1017 \text{ TONS}$$

25mm ACP

$$(502 \text{ SY}) (660 \# / \text{SY}) (2000 \# / \text{TN}) \Rightarrow 166 \text{ TONS}$$

19mm ACP

$$(502 \text{ SY}) (220 \# / \text{SY}) (2000 \# / \text{TN}) \Rightarrow 55 \text{ TONS}$$

12.5mm ACP

$$(502 \text{ SY}) (165 \# / \text{SY}) (2000 \# / \text{TN}) \Rightarrow 42 \text{ TONS}$$

CURB & GUTTER

$$(150 \times 2) = 300'$$

$$\text{FILL } (13560 \text{ SF} \times 2.5 \text{ FT} / 27 \text{ CF / CY}) \Rightarrow 1255 \text{ CY}$$



# Value Analysis Design Suggestion



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ALTERNATIVE NO.:  
**AP - 14**

DESCRIPTION: REMOVE THE CONNECTION OF CR 320 @STATION  
303+99+60

SHEET NO.: 1 of 1

## Original Design:

The original design plans are unclear as to whether the connection of CR 320 is to be rebuilt.

## Alternative:

The alternative suggests to remove the connection of CR 320.

## Opportunities:

- Eliminate a skewed intersection

## Risks:

- None

## Technical Discussion:

The roadway provides little if any increased accessibility. Adjacent properties are equally served by the improved/realigned CR 317.

# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
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ALTERNATIVE NO.:  
**AP - 15**

DESCRIPTION: INCREASE OUTSIDE SHOULDER TO 12' W/10' PAVED

SHEET NO.: 1 of 1

## Original Design:

The original design utilizes a 10' improved shoulder with 7'-6" paved.

## Alternative:

The alternative design proposes using a 12' improved shoulder with 10' paved.

## Opportunities:

- Improve safety and operations

## Risks:

- Increased paving cost
- Increased excavation
- Increased Right-of -Way
- Minimal increase in design effort

## Technical Discussion:

The large percentage of trucks on this project is a cause for concern. A wider shoulder may prove beneficial by providing a larger refuge for stopped trucks and an additional "buffer" for stopped cars being passed by trucks.

# Value Analysis Design Alternative



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 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**EW-1**

DESCRIPTION: USE A “BIFURCATED” PROFILE GRADE IN SELECTED AREAS SHEET NO.: 1 of 4

### Original Design:

The original design utilizes a common profile grade for both the eastbound and westbound roadways.

### Alternative:

The alternative proposes bifurcating the profile grade in the large cut areas in order to raise the westbound roadway approximately 1’.

### Opportunities:

- Reduce total cut
- Reduce Right-of-Way
- Reduce waste material and improve earthwork balance for the project

### Risks:

- Moderate increase in design effort

### Technical Discussion:

Bifurcating the profile by approximately 1’ will reduce the required roadway excavation and should not pose any significant negative impacts on the design. This alternative could be combined with alternative EW-2 to achieve higher cost savings.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 110,138	\$	\$ 110,138
ALTERNATIVE	\$ 0	\$	\$ 0
SAVINGS	\$ 110,138	\$	\$ 110,138

# Illustrations

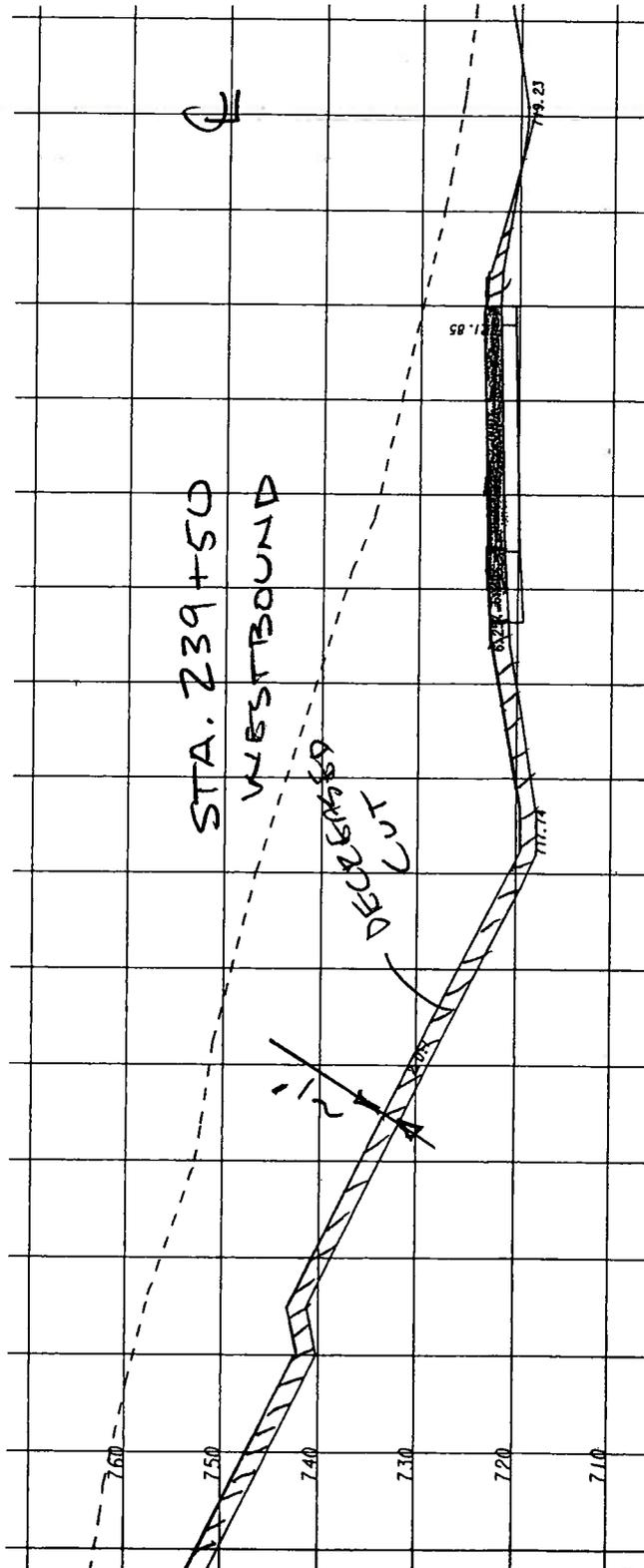


PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
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ALTERNATIVE NO.:  
**EW-1**

DESCRIPTION: USE A "BIFURCATED" PROFILE GRADE IN SELECTED AREAS

SHEET NO.: 2 of 4



# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
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ALTERNATIVE NO.:

**EW-1**

DESCRIPTION: USE A “BIFURCATED” PROFILE GRADE IN SELECTED AREAS

SHEET NO.:

3 of 4

## Assumptions:

Bifurcation of 1 foot

Cut area an average width of 150 feet

## Reduced Cut

$$(150' \times 4000' \times 1') / 27CF/CY = > 22,250$$



# Value Analysis Design Alternative



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 SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
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ALTERNATIVE NO.: EW-2

DESCRIPTION: RAISE THE PROFILE GRADE IN SELECTED AREAS

SHEET NO.: 1 of 4

## Original Design:

In the original design, the area from Station 217+00 to Station 257+00 shows the horizontal alignment was offset approximately 36' to alleviate impacts on the stream running parallel to the project. The profile grade was set to match the existing roadway even though it is to be removed.

## Alternative:

The alternative is to raise the profile from 0' to 5' in this section of the roadway. Additional areas should be evaluated in order to identify other areas of potential savings.

## Opportunities:

- Reduce total cut
- Reduce “waste material” and improve earthwork balance for the project
- Reduce Right-of-Way

## Risks:

- Moderate increase in design effort

## Technical Discussion:

Raising the profile will improve the earthwork balance and should not pose any significant negative impacts on the design. The 36' offset should provide sufficient distance to tie the driveways and the side street connections. By connecting the new foreslope to the existing foreslope of the old roadway, one can maintain the existing drainage patterns.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 253,000	\$	\$ 253,000
ALTERNATIVE	\$ 0	\$	\$ 0
SAVINGS	\$ 253,000	\$	\$ 253,000

# Illustrations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
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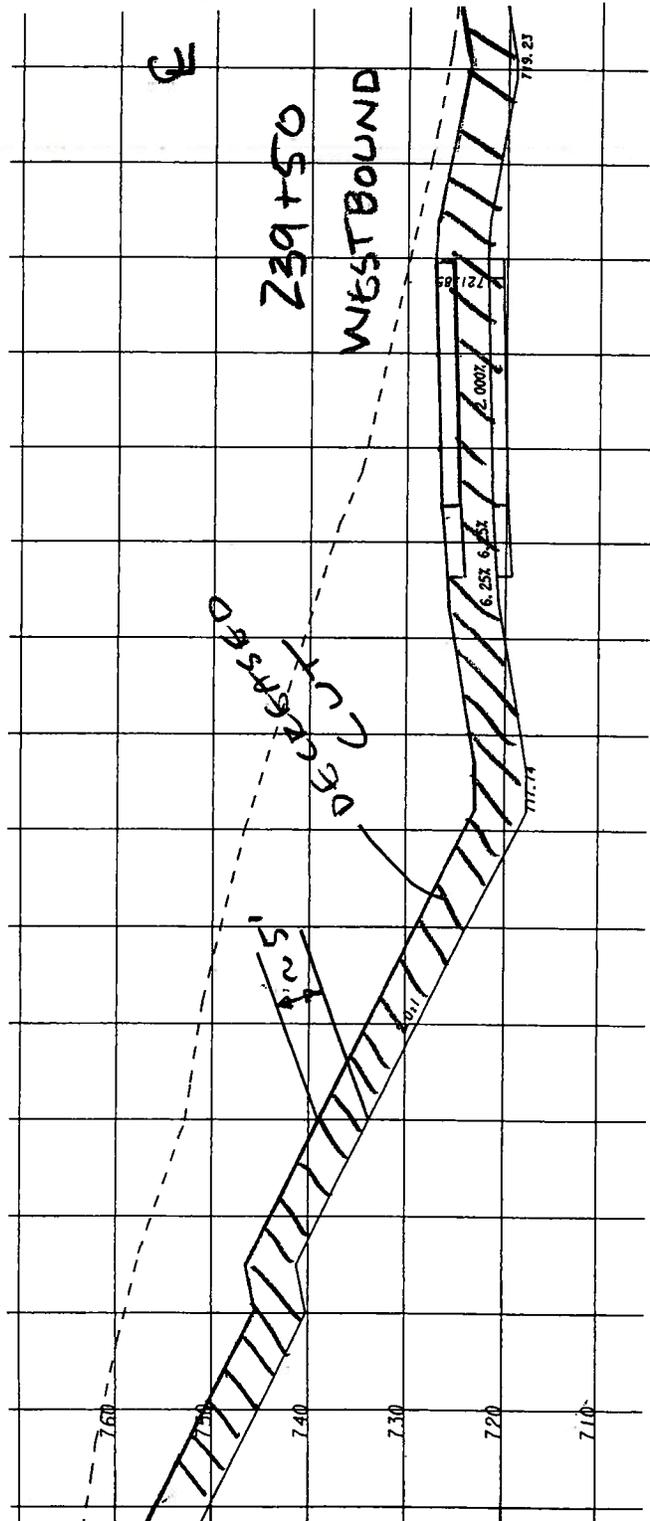
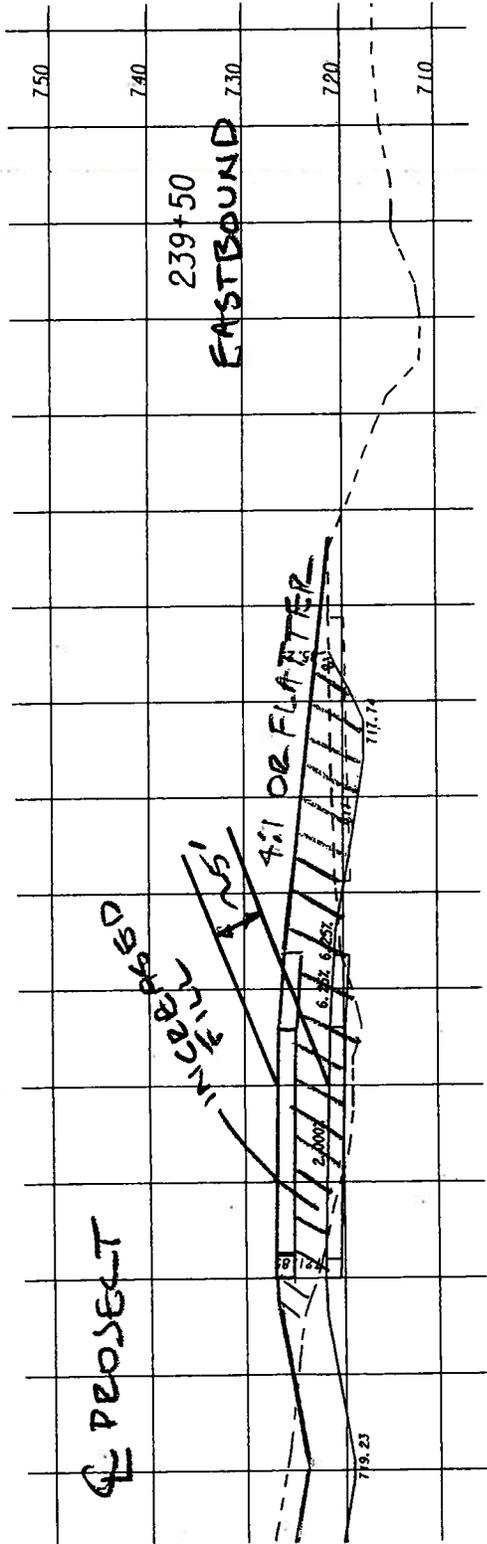
ALTERNATIVE NO.:

EW-2

DESCRIPTION: RAISE THE PROFILE GRADE IN SELECTED AREAS

SHEET NO.:

2 of 4



# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction - Bartow-Floyd Counties  
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ALTERNATIVE NO.:  
EW-2

DESCRIPTION: RAISE THE PROFILE GRADE IN SELECTED AREAS

SHEET NO.: 3 of 4

## ASSUMPTIONS -

PROFILE GRADE RAISED AN AVERAGE OF 3'

FILL AREA AN AVERAGE WIDTH OF 60'

CUT AREA AN AVERAGE WIDTH OF 150'  
RIGHT OF WAY 10' LESS

STATION 257+00 - 217+00 = 4000'

## REDUCED CUT

$$(150' \times 4000' \times 3') / 27 \text{ CF/CY} = 66,667 \text{ CY}$$

## INCREASED FILL

$$(60' \times 4000' \times 3) / 27 \text{ CF/CY} = 26,667 \text{ CY}$$

NET REDUCED CUT 40,000 CY

## REDUCED RIGHT OF WAY

$$(10' \times 4000') / 43560 \text{ SF/AC} \Rightarrow 1 \text{ ACRE}$$



# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
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[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
EW-3

DESCRIPTION: USE MORE RETAINING WALLS IN SELECT AREAS

SHEET NO.: 1 of 1

## Original Design:

The original design shows large cut areas throughout the site that have slopes proposed at a 2:1 slope to the point where they tie to natural ground.

## Alternative:

The alternative would be to use retaining walls in select areas to reduce the amount of unclassified/rock excavation. Additionally, it could reduce the width of the Right-of-Way required.

## Opportunities:

- Reduces amount of R.O.W. acquisition
- Reduces unclassified excavation quantities

## Risks:

- Minor design impacts

## Technical Discussion:

This alternative would enable the fore slopes to be tied to natural ground, closer to the proposed roadway. The select use of retaining walls could be a great benefit if used in large cut areas north of Sta 216+00 – 220+00 and Sta 234+50 – 237+00. This would result in cost savings in unclassified excavation by not having to cut slopes to 2:1.

# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

**EW-5**

DESCRIPTION: **IDENTIFY LOCAL WASTE AREAS**

SHEET NO.: 1 of 1

## Original Design:

The original design does not show any local waste areas identified on the site.

## Alternative:

The alternative suggestion is to research areas located on or near the site that might be suitable for use as a waste area for excess excavation.

## Opportunities:

- Removes uncertainty from potential bid documents
- Could lower bid price for unclassified excavation

## Risks:

- Finding no potential locations

## Technical Discussion:

This project has 992,200 CY of soil excavation and 10,000 CY of rock excavation. Only 375,000 CY of the excavation will be utilized as embankment, leaving approximately 627,200 CY of material to be wasted. Identifying local waste sites would likely result in lower bid prices for excavation, and would allow contractors to utilize hauling methods other than trucking.

# Value Analysis Design Alternative



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**BR-1**

DESCRIPTION: **SHORTEN CSX BRIDGE**

SHEET NO.: 1 of 4

## Original Design:

The original design calls for the replacement of the existing 3 span, 120' long, 34.75' wide bridge across CSX RR with a 3 span (58'+58'+58'), 174' long, 104'-5" wide bridge to accommodate 6' shoulders, 2' buffers, 3' bike lanes on both sides of the bridge, two 12' West bound travel lanes, four East bound travel lanes (including left and right turn lanes) along with a 4' raised concrete median and 2' buffer on either side of it. The superstructure is comprised of a 8.125" thick concrete deck and 14 Type II PSC Beams evenly spaced.

## Alternative:

The alternative proposes the reduction of the length of Span 3 by approximately 8'.

All other geometry is maintained as in the original design.

## Opportunities:

- Bridge Cost savings by reducing total bridge length
- May provide an opportunity for reduced Right-of-way requirements
- May provide an opportunity for improved safety and traffic operations at the intersection of SR 140 and Main St.

## Risks:

- Re-design effort will require minimal or no additional time as it is currently in the concept phase
- Roadway alignments may require minor modifications

## Technical Discussion:

The reduction in span length can be achieved by shifting the toe of the sloped paving closer to the RR embankment (mirror of the left section). The horizontal clearance requirements for railroad and all other geometry will be maintained as in the current design. The same beam depth and configuration as in the original design can be used for the alternate.

**Additionally, the current design provides a 26' (approximate) vertical clearance to the CSX RR. There appears to be a potential to lower the bridge profile by approximately 2' which would result in further cost savings.**

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 49,934	\$ 0	\$ 49,934
ALTERNATIVE	\$ 0	\$ 0	\$ 0
SAVINGS	\$ 49,934	\$ 0	\$ 49,934

# Illustrations



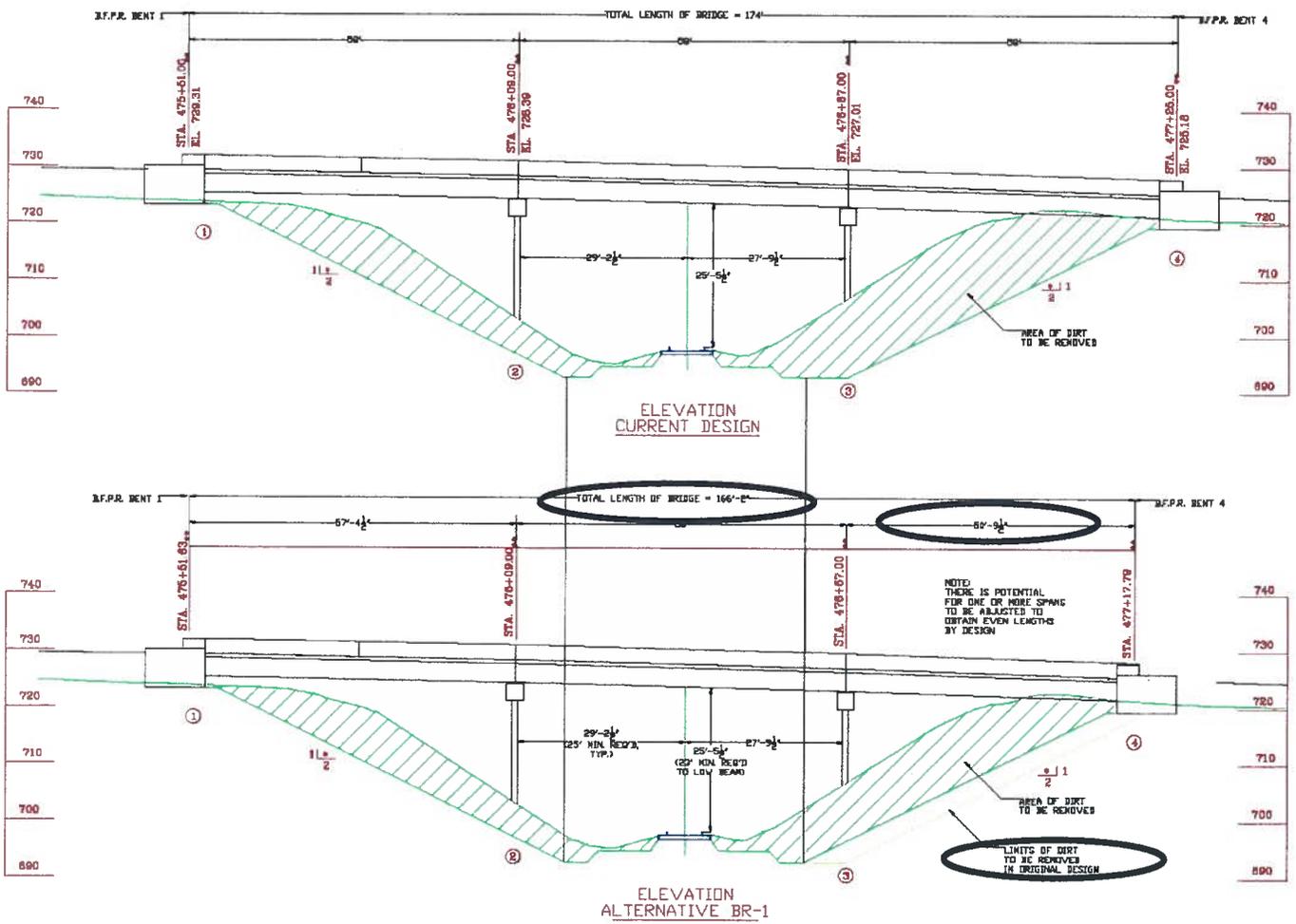
PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

**BR-1**

DESCRIPTION: **SHORTEN CSX BRIDGE**

SHEET NO.: 2 of 4



# Calculations



PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

**BR-1**

DESCRIPTION: **SHORTEN CSX BRIDGE**

SHEET NO.:

3 of 4

**Note:**

- 1) The VE team is cognizant of the fact that the project design is in its concept phase.
- 2) Calculations below are based on the Bridge Cross sections provided at the time of the VE study.
- 3) Costs savings are based on reduction of structure width from the current design.
- 4) Further cost savings may be realized due to reduction in sub structure components but these components were not addressed since the substructure design had not been completed at the time of the VE study.

**Current Design:**

3 span (58'+58'+58'), 174' long, 104'-5" wide bridge with 8.125' thick concrete deck and 14 Type II PSC beams.

**Alternative BR-1:**

This alternative proposes the reduction of Span 3 by 8'.

Reduction in length of Class AA Deck Concrete = 8'

Volume of reduced Class AA Concrete =  $[8' \times (8.125''/12)' \times 104.42'] / 27 = 20.95 \text{ CY}$

Volume of reduced Class AA Sidewalk Concrete =  $[8' \times (6''/12)' \times 2 \times 6'] / 27 = 1.78 \text{ CY}$

Total reduction in Class AA Concrete = 22.73 CY

Reduction in Area of Concrete Grooving =  $8' \times (104.42' - 22.25') / 9 = 73 \text{ SY}$

Reduction in length of Type II PSC =  $8' \times 14 = 112'$

Reduction in length of barrier rails =  $2 \times 8' = 16'$

NOTE: Reduction from current design = savings for alternate.



# Value Analysis Design Suggestion



PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

**BR-3**

DESCRIPTION: **USE SEPARATE STRUCTURES FOR PEDESTRIANS AND BICYCLISTS IN-LIEU OF 6' SIDEWALKS AND 3' BIKE LANES**

SHEET NO.: 1 of 2

## Original Design:

The current design for the two bridges at CSX RR and Oothkalooga Creek accommodates 6' raised shoulders for pedestrians and 3' bike lanes on the bridge deck on both sides of the bridges.

## Alternative:

The alternative proposes the use of separate pre-manufactured pedestrian cum bicycle bridges alongside the road bridges in-lieu of providing sidewalks and bike lanes on the road bridges. The resulting required cross section of the road bridge will be less than that in the current design.

All other geometry is maintained as in the original design.

## Opportunities:

- Bridge cost savings by reducing total bridge width will more than offset cost of separate pedestrian structures
- Improved safety of pedestrians and bicyclists by directing them off the road bridge, especially given the volume of trucks on the route
- Architecturally enhanced and environmentally friendly structures may be more appealing to the public

## Risks:

- Re-design effort will require minimal or no additional time as it is currently in the concept phase
- Roadway alignments may require minor modifications

## Technical Discussion:

The suggested alternative will reduce the width of the bridges by 18'. The resulting cost savings (@ \$83 per sq.ft. of bridge) will more than compensate for the cost of prefabricated pedestrian bridges (@ \$650 per LF).

# Illustrations



PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**BR-3**

DESCRIPTION: **USE SEPARATE STRUCTURES FOR PEDESTRIANS AND BICYCLISTS IN-LIEU OF 6' SIDEWALKS AND 3' BIKE LANES**

SHEET NO.: 2 of 2



# Value Analysis Design Alternative



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**BR-4**

DESCRIPTION: ELIMINATE LEFT TURN LANE FROM CSX BRIDGE

SHEET NO.: 1 of 4

## Original Design:

The original design calls for the replacement of the existing 3 span, 120' long, 34.75' wide bridge across CSX RR with a 3 span (58'+58'+58'), 174' long, 104'-5" wide bridge to accommodate 6' shoulders, 2' buffers, 3' bike lanes on both sides of the bridge, two 12' west bound travel lanes, four east bound travel lanes (including left and right turn lanes) along with a 4' raised concrete median and 2' buffer on either side of it. The superstructure is comprised of an 8.125" thick concrete deck and 14 Type II PSC beams evenly spaced.

## Alternative:

The alternative proposes the elimination of the left turn lane from the bridge thus reducing the bridge width by 12'.

All other geometry is maintained as in the original design.

## Opportunities:

- Bridge cost savings by reducing total bridge width
- Reduced construction time
- May provide an opportunity for reduced Right-of-way requirements
- May provide an opportunity for improved safety and traffic operations at the intersection of SR 140 and Main St.

## Risks:

- Re-design effort will require minimal or no additional time as it is currently in the concept phase
- Roadway alignments may require minor modifications
- Traffic analysis may have to be re-done at this intersection

## Technical Discussion:

The suggested alternative will reduce the required out-to-out width of the bridge by 12'. The resulting 92'-5" cross section will accommodate the same lane and shoulder/bike lane configuration as in the current design except for the east bound left turn lane.

The superstructure may be comprised of an 8.125" concrete deck and 12 Type II PSC Beams evenly spaced.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 113,992	\$ 0	\$ 113,992
ALTERNATIVE	\$ 0	\$ 0	\$ 0
SAVINGS	\$ 113,992	\$ 0	\$ 113,992

# Illustrations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

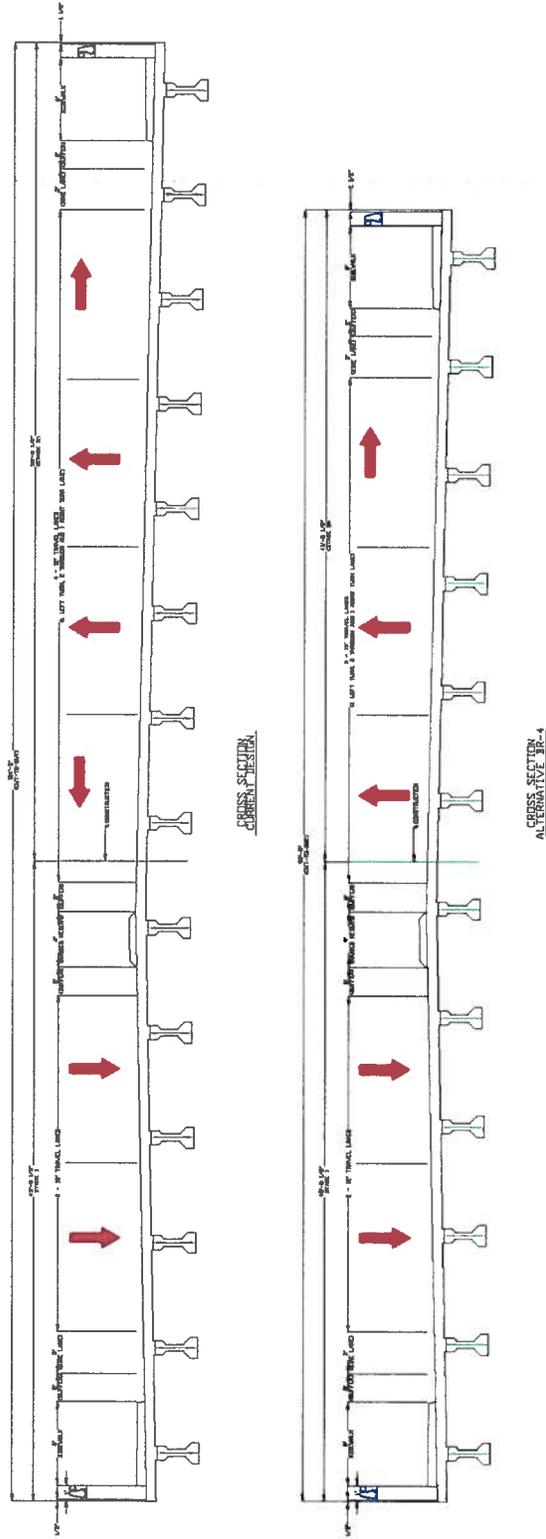
ALTERNATIVE NO.:

**BR-4**

DESCRIPTION: ELIMINATE LEFT TURN LANE FROM CSX BRIDGE

SHEET NO.:

2 of 4



# Calculations



PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**BR-4**

DESCRIPTION: **ELIMINATE LEFT TURN LANE FROM CSX BRIDGE**

SHEET NO.: 3 of 4

## Note:

- 1) The VE team is cognizant of the fact that the project design is in its concept phase.
- 2) Calculations below are based on the Bridge Cross sections provided at the time of the VE study.
- 3) Costs savings are based on reduction of structure width from the current design.
- 4) Further cost savings may be realized due to reduction in sub structure components but these components were not addressed since the substructure design had not been completed at the time of the VE study.

## Current Design:

3 span (58'+58'+58'), 174' long, 104'-5" wide bridge with 8.125' thick concrete deck and 14 Type II PSC beams.

## Alternative BR-4:

This alternative proposes similar geometry but with a bridge cross section of 92'-5" with the elimination of the left turn lane.

Reduction in width of Class AA Deck Concrete =  $104'-5'' - 92'-5'' = 12'$

Volume of reduced Class AA Concrete =  $[12' \times (8.125''/12)' \times 174'] / 27 = 52.36 \text{ CY}$

Reduction in width of Concrete Grooving = 12'

Area of reduced Concrete Grooving =  $[12' \times 174'] / 9 = 232 \text{ SY}$

Reduction in length of Type II PSC beams (by using 12 beams evenly spaced in-lieu of 14) =  $174' \times 2 = 348'$

NOTE: Reduction from current design = savings for alternate.



# Value Analysis Design Alternative



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

**BR-6**

DESCRIPTION: USE SINGLE SPAN WITH WALLED ABUTMENTS ON CSX BRIDGE

SHEET NO.: 1 of 4

## Original Design:

The original design calls for the replacement of the existing 3 span, 120' long, 34.75' wide bridge across CSX RR with a 3 span (58'+58'+58'), 174' long, 104'-5" wide bridge to accommodate 6' shoulders, 2' buffers, 3' bike lanes on both sides of the bridge, two 12' west bound travel lanes, four east bound travel lanes (including left and right turn lanes) along with a 4' raised concrete median and 2' buffer on either side of it. The superstructure is comprised of a 8.125" thick concrete deck and 14 Type II PSC Beams evenly spaced.

## Alternative:

The alternative proposes the elimination of the 58' end spans by providing a walled abutment at the location of the current Bents 2 and 3.

All other geometry is maintained as in the original design.

## Opportunities:

- Bridge cost savings by reducing total bridge length
- Reduced construction time
- May provide an opportunity for improving sight distance
- May provide an opportunity for improved safety and traffic operations at the intersection of SR 140 and Main St.

## Risks:

- Re-design effort will require minimal or no additional time as it is currently in the concept phase
- Roadway alignments and profile may require minor modifications
- This configuration is typically used in urban areas where availability of right-of-way is limited.

## Technical Discussion:

Special design for MSE walls will be required. The horizontal clearance requirements for Railroad and all other geometry will be maintained as in the current design. The same beam depth and configuration as in the original design can be used for the alternate.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 723,984	\$ 0	\$ 723,984
ALTERNATIVE	\$ 542,256	\$ 0	\$ 542,256
SAVINGS	\$ 181,728	\$ 0	\$ 181,728

# Illustrations

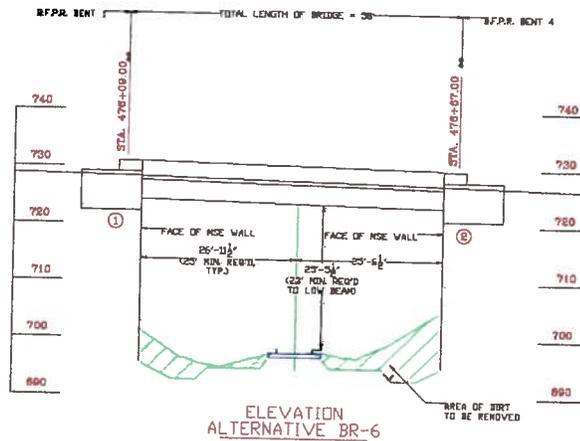
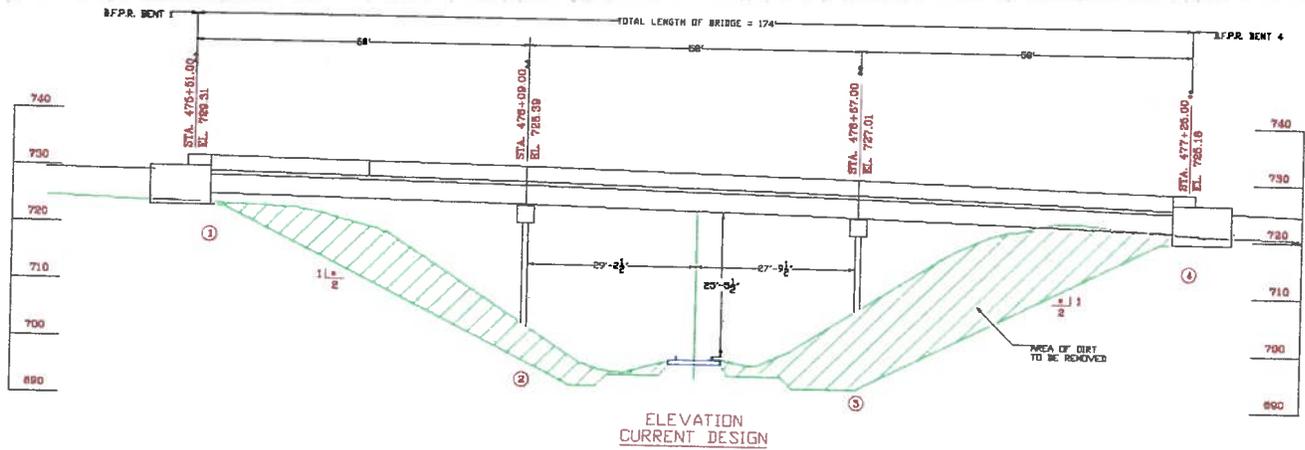


PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**BR-6**

DESCRIPTION: **USE SINGLE SPAN WITH WALLED ABUTMENTS ON CSX BRIDGE**

SHEET NO.: 2 of 4



# Calculations



PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

**BR-6**

DESCRIPTION: **USE SINGLE SPAN WITH WALLED ABUTMENTS ON CSX BRIDGE**

SHEET NO.:

3 of 4

## Note:

- 1) The VE team is cognizant of the fact that the project design is in its concept phase.
- 2) Calculations below are based on the Bridge Cross sections provided at the time of the VE study.
- 3) Costs savings are based on reduction of structure width from the current design.
- 4) Further cost savings may be realized due to reduction in sub structure components but these components were not addressed since the substructure design had not been completed at the time of the VE study.

## Current Design:

3 span (58'+58'+58'), 174' long, 104'-5" wide bridge with 8.125' thick concrete deck and 14 Type II PSC beams.

## Alternative BR-6:

This alternative proposes the elimination of the end spans and providing walled abutments at the location of the current Bents 2 and 3.

Reduction in length of Class AA Deck Concrete =  $2 \times 58' = 116'$

Volume of reduced Class AA Concrete =  $[116' \times (8.125''/12)' \times 104.42'] / 27 = 303.75 \text{ CY}$

Volume of reduced Class AA Sidewalk Concrete =  $2X[116' \times (6''/12)' \times 6'] / 27 = 25.78 \text{ CY}$

Total reduction in Class AA Concrete = 329.53 CY

Reduction in Area of Concrete Grooving =  $116' \times (104.42' - 22.25') / 9 = 1059 \text{ SY}$

Reduction in length of Type II PSC =  $116' \times 14 = 1624'$

Reduction in length of barrier rails =  $2 \times 116' = 232'$

Added area of MSE walls (assume 25' wrap around and 15' average height on sides and 30' high in front of abutment) =  $2X[108' \times 30' + 4X25' \times 15'] = 9480 \text{ SF}$

NOTE: Reduction from current design = savings for alternate.

# COST WORKSHEET



PROJECT:	GEORGIA DEPARTMENT OF TRANSPORTATION	ALTERNATIVE NO.:	<b>BR-6</b>				
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]							
DESCRIPTION:	<i>USE SINGLE SPAN WITH WALLED ABUTMENTS ON CSX BRIDGE</i>	SHEET NO.:	4 of 4				
CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
ITEM	UNITS	NO. OF UNITS	COST/UNIT	TOTAL	NO. OF UNITS	COST/UNIT	TOTAL
Class "AA" Concrete (Sup)	CY	329.53	1122.40	369864.47	0.00	1122.40	0.00
Concrete Grooving	SY	1059.00	4.17	4416.03	0.00	4.17	0.00
Type II PSC Beam	LF	1624.00	126.13	204835.12	0.00	126.13	0.00
Barrier Rail	LF	232.00	340.74	79051.68	0.00	340.74	0.00
MSE Wall	SF	0.00	52.00	0.00	9480.00	52.00	492960.00
(This is the cost that would be incurred for the current design)							
<b>Sub-total</b>				<b>\$658,167</b>			<b>\$492,960</b>
<b>Mark-up at 10.00%</b>				<b>\$65,817</b>			<b>\$49,296</b>
<b>TOTAL</b>				<b>\$723,984</b>			<b>\$542,256</b>

# Value Analysis Design Alternative



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION SR 140 Widening/Reconstruction – Bartow-Floyd Counties [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]	ALTERNATIVE NO.: <b>BR-8</b>
DESCRIPTION: COMBINE BIKE AND PEDESTRIAN WALKWAY TO 8’ IN-LIEU OF 6’ SHOULDER AND 3’ BIKE LANE	SHEET NO.: 1 of 4

**Original Design:**

The original design calls for provision of 6’ raised shoulders and 3’ bike lanes adjacent to the travel lanes on the bridge deck on either side of the bridge. This geometry is provided at both, the bride at CSX RR and the bridge at Oothkalooga Creek. The superstructure is comprised of an 8.125” thick concrete deck and Type II and Type III PSC Beams at these locations respectively.

**Alternative:**

The alternative proposes to remove the bike lane from the bridge deck and adjacent to the travel lane and combine it with the shoulder by providing an 8’ shoulder.

All other geometry is maintained as in the original design.

**Opportunities:**

- Bridge cost savings by reducing total bridge width
- Improved safety for bicyclist by rerouting them onto the sidewalk and away from the truck traffic
- Reduced construction time
- May provide an opportunity for reduced Right-of-way requirements

**Risks:**

- Re-design effort will require minimal or no additional time as it is currently in the concept phase
- Roadway alignments may require minor modifications

**Technical Discussion:**

The suggested alternative will reduce the required out-to-out width of the bridges by 2’. The resulting cross section will accommodate the same travel lanes configuration as in the current design while providing additional **safety** to bicyclists .

Additionally, it is suggested that tube railing be provided on the barrier walls for a safety of pedestrians and bicyclists.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 25,601	\$ 0	\$ 25,601
ALTERNATIVE	\$ 18,013	\$ 0	\$ 18,013
SAVINGS	\$ 7,588	\$ 0	\$ 7,588

# Illustrations



PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

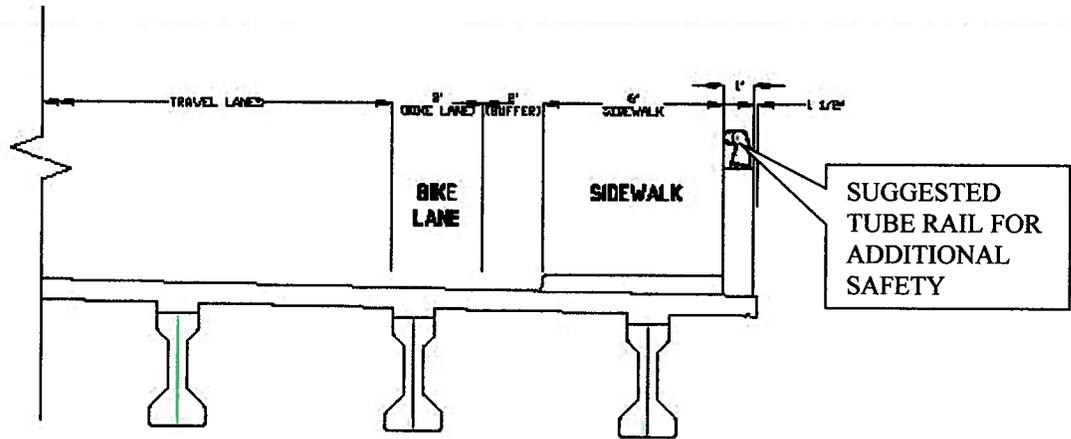
ALTERNATIVE NO.:

**BR-8**

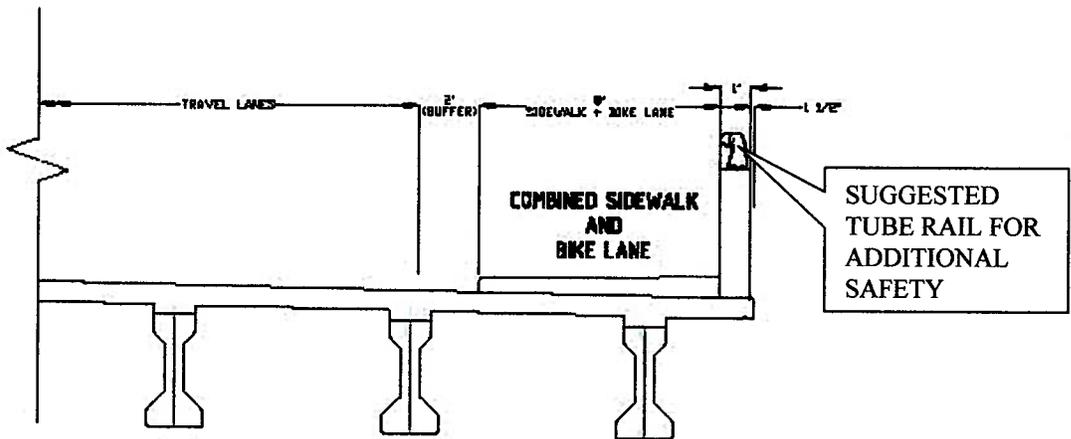
DESCRIPTION: **COMBINE BIKE AND PEDESTRIAN WALKWAY TO 8' IN-LIEU OF 6' SHOULDER AND 3' BIKE LANE**

SHEET NO.:

2 of 4



TYPICAL PARTIAL CROSS SECTION  
CURRENT DESIGN BOTH BRIDGES



TYPICAL PARTIAL CROSS SECTION  
ALTERNATIVE BR-8, BOTH BRIDGES

# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

**BR-8**

DESCRIPTION: COMBINE BIKE AND PEDESTRIAN WALKWAY TO 8' IN-LIEU OF 6'  
SHOULDER AND 3' BIKE LANE

SHEET NO.:

3 of 4

## Note:

- 1) The VE team is cognizant of the fact that the project design is in its concept phase.
- 2) Calculations below are based on the Bridge Cross sections provided at the time of the VE study.
- 3) Costs savings are based on reduction of structure width from the current design.
- 4) Further cost savings may be realized due to reduction in sub structure components but these components were not addressed since the substructure design had not been completed at the time of the VE study.

## Current Design:

3 span (70'+80'+70'), 220' long, 92'-5" wide bridge with 8.125' thick concrete deck and 12 Type III PSC beams at Oothkalooga Creek and 3 span (58'+58'+58'), 174 long, 104'-5" wide bridge with 8.125' thick concrete deck and 14 Type II PSC beams at CSX RR.

## Alternative BR-8:

This alternative proposes similar geometry but with bridge cross sections reduced by 2' by combining the shoulder and bike lanes for a 8' multi-use trail.

Reduction in width of Class AA Deck Concrete = 2'

Volume of reduced Class AA Concrete =  $2' \times [174' + 220'] \times (8.125'' / 12)' / 27 = 19.76 \text{ CY}$

Increase in width of sidewalk = 2'

Volume of increased Class AA Sidewalk Concrete =  $2' \times [174' + 220'] \times (6'' / 12)' / 27 = 14.59 \text{ CY}$

Reduction in width of Concrete Grooving =  $2 \times 3' = 6'$

Area of reduced Concrete Grooving =  $6' \times [174' + 220'] / 9 = 262.67 \text{ SY}$

NOTE: Reduction from current design = savings for alternate.



# Value Analysis Design Alternative



PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**BR-9**

DESCRIPTION: **REDUCE OOTHKALOOGA CREEK BRIDGE WIDTH BY REDUCING  
 RAISED MEDIAN WIDTH TO 4'**

SHEET NO.: 1 of 4

## Original Design:

The original design calls for the replacement of the existing 4 span, 160' long, 34.25' wide bridge across Oothkalooga Creek with a 3 span (70'+80'+70'), 220' long, 92'-5" wide bridge to accommodate 6' shoulders, 2' buffers, 3' bike lanes, two 12' travel lanes on each half of the bridge along with a 16' raised concrete median and 2' buffer on either side of it. The superstructure is comprised of an 8.125" thick concrete deck and 12 Type III PSC Beams evenly spaced.

## Alternative:

The alternative proposes the reduction of the 16' raised median to 4'.

Note: Portions of the raised median along SR 140 between I-75 and US-41 have a 4' raised median.

All other geometry is maintained as in the original design.

## Opportunities:

- Bridge cost savings by reducing total bridge width
- Reduced construction time
- May provide an opportunity for reduced right-of-way requirements

## Risks:

- Re-design effort will require minimal or no additional time as it is currently in the concept phase
- Roadway alignments may require minor modifications

## Technical Discussion:

The suggested alternative will reduce the required out-to-out width of the bridge by 12'. The resulting 80'-5" cross section will accommodate the same lane and shoulder/bike lane configuration as in the current design while continuing to provide positive traffic separation by virtue of the 4' raised median .

The superstructure may be comprised of an 8.125" concrete deck and 10 Type III PSC beams evenly spaced.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 212,679	\$ 0	\$ 212,679
ALTERNATIVE	\$ 0	\$ 0	\$ 0
SAVINGS	\$ 212,679	\$ 0	\$ 212,679

# Illustrations

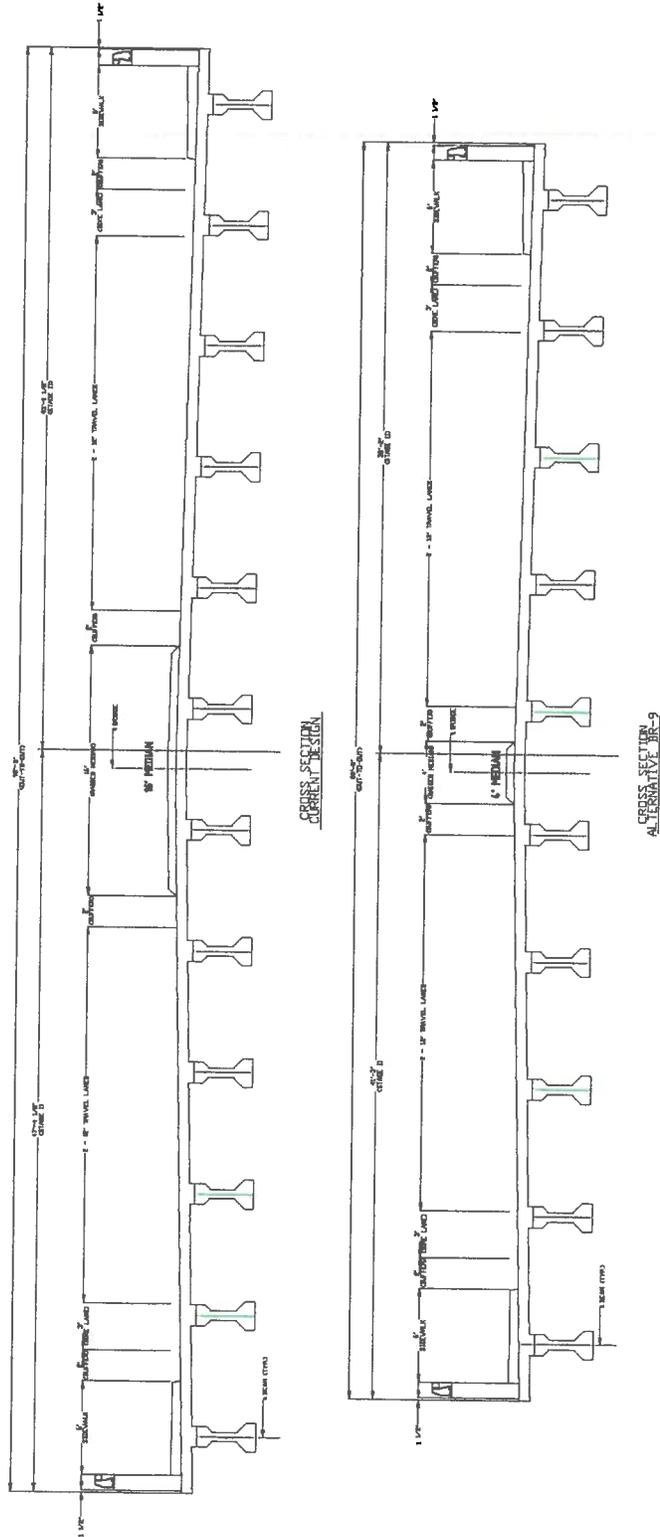


PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**BR-9**

DESCRIPTION: **REDUCE OOTHKALOOGA CREEK BRIDGE WIDTH BY REDUCING  
RAISED MEDIAN WIDTH TO 4'**

SHEET NO.: 2 of 4



# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

**BR-9**

DESCRIPTION: REDUCE OOTHKALOOGA CREEK BRIDGE WIDTH BY REDUCING  
RAISED MEDIAN WIDTH TO 4'

SHEET NO.:

3 of 4

## Note:

- 1) The VE team is cognizant of the fact that the project design is in its concept phase.
- 2) Calculations below are based on the Bridge Cross sections provided at the time of the VE study.
- 3) Costs savings are based on reduction of structure width from the current design.
- 4) Further cost savings may be realized due to reduction in sub structure components but these components were not addressed since the substructure design had not been completed at the time of the VE study.

## Current Design:

3 span (70'+80'+70'), 220' long, 92'-5" wide bridge with 8.125' thick concrete deck and 12 Type III PSC beams.

## Alternative BR-9:

This alternative proposes similar geometry but with a bridge cross section of 80'-5" with raised median reduced to 4'.

Reduction in width of Class AA Deck Concrete =  $92'-5'' - 80'-5'' = 12'$

Volume of reduced Class AA Concrete =  $[12' \times (8.125''/12)' \times 220'] / 27 = 66.20 \text{ CY}$

Reduction in width of Class AA Raised Median Concrete =  $[16'' - 4'] = 12'$

Volume of reduced Class AA Concrete Raised Median Concrete =  $[12' \times (6/12)' \times 220'] / 27 = 48.90 \text{ CY}$

Reduction in length of Type III PSC beams (by using 10 beams evenly spaced in-lieu of 12) =  $220' \times 2 = 440'$

NOTE: Reduction from current design = savings for alternate.



# Value Analysis Design Alternative



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**BR-10**

DESCRIPTION: USE KEYSTONE™ IN-LIEU OF CONCRETE RETAINING WALLS

SHEET NO.: 1 of 4

## Original Design:

The original design calls for concrete retaining walls on the north side of the roadway between approximate stations 208+00 to 214+50, 351+00 to 358+50 and 388+40 to 393+60. The height of wall at these locations varies between 6' and 30'. Total length of the walls is 1920'.

## Alternative:

The alternative proposes the use of Modular Block walls such as KEYSTONE™ in lieu of the cast-in-place concrete walls.

The alternative maintains the original design geometry.

## Opportunities:

- Cost savings
- Reduced construction time
- Suitable for urbanized areas
- Improved aesthetics

## Risks:

- Minimal design and coordination effort with manufacturer
- Agency (local & state) approval required

## Technical Discussion:

Modular block walls are easy to construct and have demonstrated acceptable performance and durability. It is not uncommon to use these types of walls in an Urban/Commercial environment. The system is typically designed and supervised during installation by the manufacturer. These systems also carry a warranty by the manufacturer.

Note: Calculations & Cost Analysis for Wall systems only are shown. Appurtenances (Barriers, etc.) are similar costs for both alternatives.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 1,505,504	\$ 0	\$ 1,505,504
ALTERNATIVE	\$ 434,280	\$ 0	\$ 434,280
SAVINGS	\$ 1,071,224	\$ 0	\$ 1,071,224

PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

**BR-10**

DESCRIPTION: **USE KEYSTONE™ IN-LIEU OF CONCRETE RETAINING WALLS**

SHEET NO.:

2 of 4

## KEY FEATURES

*All of the features of the Keystone Compac units plus:*

### *Inextensible Steel Reinforcement*

- ▶ Significantly reduced deflection or movement within the reinforced mass. Deflections with steel reinforcement are reduced by over 66% compared to geosynthetic reinforcement.
- ▶ Performance is not time dependent such as polymer creep effects with extensible reinforcing (geogrids).
- ▶ Backfill of up to 4" to 6" maximum size can be used. With geosynthetics, the maximum size is generally limited to approximately 3/4" due to erratic resistance and installation damage with larger particle sizes.

### *Designed to More Rigorous AASHTO Standards*

- ▶ Increased factors of safety and confidence in wall system performance.

### *Intended for the Most Demanding Applications*

- ▶ Deflection sensitive applications such as:
  - Bridge abutments
  - Tall walls
  - Walls with heavy surcharges
  - Walls where loads or structures bear on or immediately behind the reinforced mass
- ▶ Transportation or other projects requiring AASHTO compliance.
- ▶ HITEC Evaluation #40478.



**Note:** Literature and Illustrations obtained from KEYSTONE's (A CONTECH Company) website, [www.kestonewalls.com](http://www.kestonewalls.com).



## GOVERNMENTAL

The rigorous standards for government projects are routinely met by Keystone products and services. Government agencies that use Keystone include:

- ▶ U.S. Federal Highway Administration
- ▶ State Department of Transportation Roadway and Freeway Projects
- ▶ Army Corps of Engineers
- ▶ Department of Transportation for individual U.S. states



# Calculations



PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

**BR-10**

DESCRIPTION: **USE KEYSTONE™ IN LIEU OF CONCRETE RETAINING WALLS**

SHEET NO.:

3 of 4

## Current Design (Concrete Retaining Walls)

### **Note:**

Assumed all wall segments to be between 6' to 30' high.

From Station 208+00 to 214+50 = 650 LF

From Station 351+00 to 358+50 = 750 LF

From Station 388+40 to 393+60 = 520 LF

Total length of walls = 1920 LF

Total area of Concrete Retaining Walls (per estimate provided at the time of VE Study) = 26,320 SF

## Alternative (Modular Block Walls)

Total area of Modular Block Walls (same as Concrete Retaining Walls) = 26,320 SF

Cost of concrete wall installed per latest GDOT Item Means = \$54 per SF

Cost of KEYSTONE™ Wall installed per manufacturer = \$15 per SF



# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:

**RW-1**

DESCRIPTION: **MODIFY RIGHT-OF-WAY AT STATION 187+50**

SHEET NO.: 1 of 1

## Original Design:

The original design shows that the construction limits fall outside Right-of-Way limits at approximately Station 187+50 left of center line.

## Alternative:

The alternative would be to adjust the Right-of-Way limits to capture the portion to be used, or obtain a temporary construction easement to facilitate work.

## Opportunities:

- Omits chance of trespassing

## Risks:

- Minor redesign

## Technical Discussion:

A portion of the construction limits falls outside of the Right-of-Way to be acquired. Additional Right-of-Way can be acquired, or a temporary construction easement can be obtained in order to minimize the possibility of construction encroachment onto private property.

# Value Analysis Design Alternative



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**RW – 3A**

DESCRIPTION: **REDUCE MEDIAN WIDTH TO 32' IN RURAL SECTIONS**

SHEET NO.: 1 of 4

### Original Design:

The original design calls for a 44' grassed depressed median for rural sections of this project.

### Alternative:

The alternative suggests reducing the median width to 32', which is the minimum median width for an arterial route with a 55 mph speed limit.

### Opportunities:

- ROW cost savings
- Earthwork cost savings

### Risks:

- Moderate design impacts.

### Technical Discussion:

Reduction of median width from 44' to 32' would result in cost savings for R.O.W. acquisition as well as savings on earthwork costs.

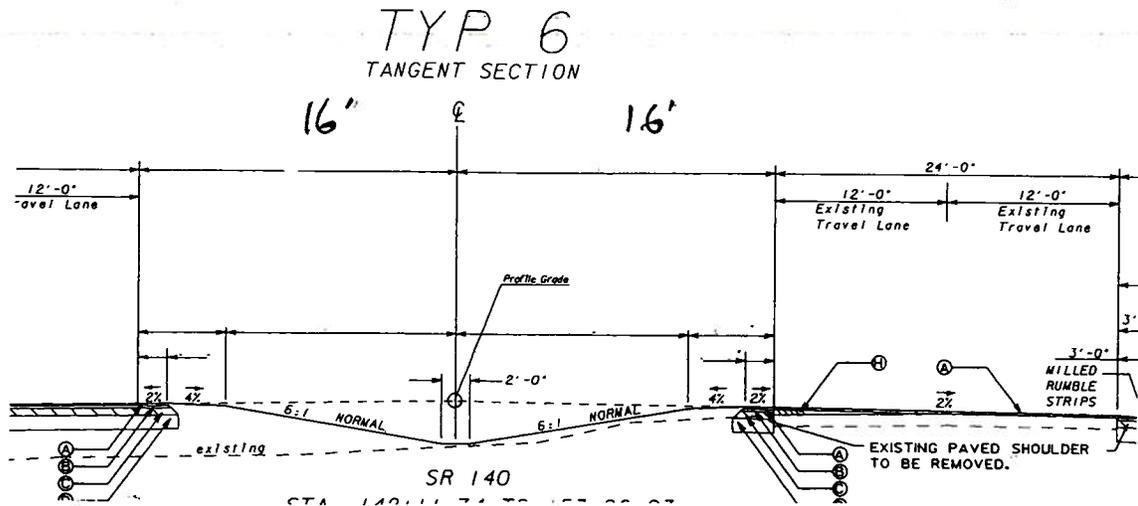
COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 757,347	\$	\$ 757,347
ALTERNATIVE	\$ 0	\$	\$ 0
SAVINGS	\$ 757,347	\$	\$ 757,347

PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**RW-3A**

DESCRIPTION: **REDUCE MEDIAN WIDTH TO 32' IN RURAL SECTIONS**

SHEET NO.: 2 of 4



Reduce proposed rural median section from 44' width to 32' width. Maintain 2' flat bottom for ditch.

# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction - Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
RW-3A

DESCRIPTION: REDUCE MEDIAN WIDTH TO 32' IN RURAL SECTIONS

SHEET NO.: 3 of 4

## R.O.W Savings

Design - 44' width  
Proposed - 32' width  
△ - 12'

Rural Section = 31500 LF  
1 Acre = 43560 SF

$$31500 \times 12 = 378,000 / 43560 = 8.68 \text{ Acres}$$

## Earthwork Savings-

Soil excavation estimate -  
992,200 CY

Urban section length - 8150 LF  
Rural Section length - 31,500 LF  
Total - 39650 LF

$$992,200 / 39650 = \underline{25.02 \text{ CY/LF AVERAGE}}$$

Avg. width finished roadway = 210 LF

$$44 - 32 = 12 \text{ LF} \rightarrow 12 / 210 = 5.7\% \text{ area savings}$$

$$992,200 \times 0.057 = 56,555 \text{ CY saved}$$



# Value Analysis Design Alternative



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**RW-3B**

DESCRIPTION: **REDUCE MEDIAN WIDTHS TO 24' IN RURAL SECTIONS** SHEET NO.: 1 of 4

**Original Design:**

The original design calls for a 44' grassed depressed median for rural sections of this project.

**Alternative:**

The alternative calls for reducing the median width to 24' raised median throughout rural sections of this project.

**Opportunities:**

- Right-of-Way cost savings
- Earthwork cost savings

**Risks:**

- Moderate design impacts
- Requires design exception
- Potentially requires curb and gutter

**Technical Discussion:**

Reducing median sections from 44' grassed depressed median to 24' raised median would result in approximately 14.46 acres That would not be required for Right-of-Way. Additional savings would be realized by reducing the amount of earthwork to complete the proposed narrower ditch sections. However, a 24' raised median may require curb and gutter throughout these sections, negating cost savings realized by utilizing the 24' median section.

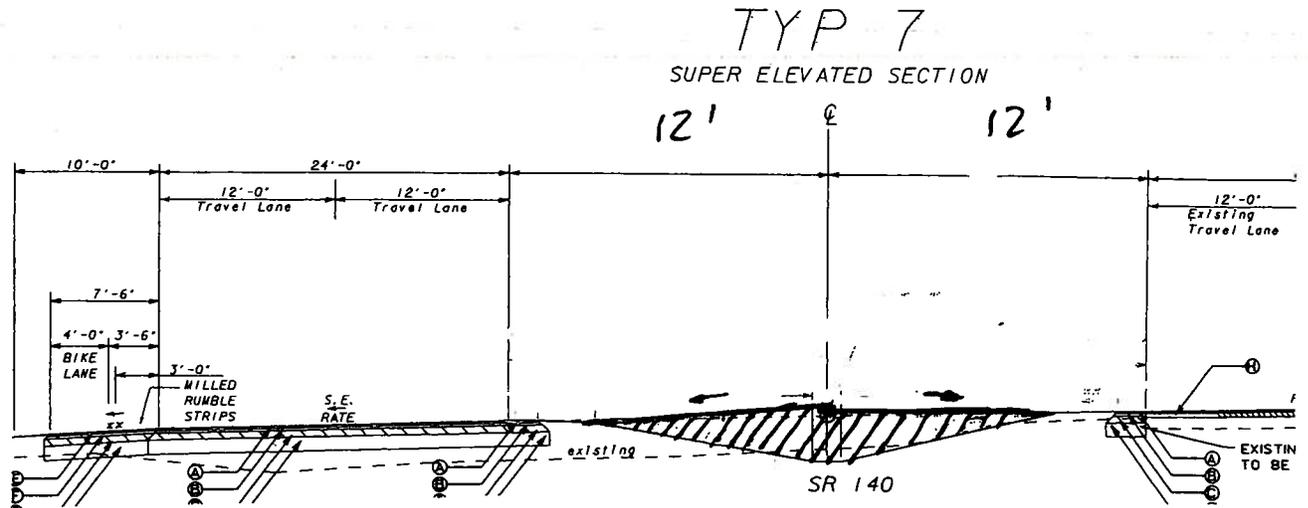
COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	\$ 1,261,882	\$	\$ 1,261,882
ALTERNATIVE	\$ 0	\$	\$ 0
SAVINGS	\$ 1,261,882	\$	\$ 1,261,882

PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**RW-3B**

DESCRIPTION: **REDUCE MEDIAN WIDTHS TO 24' IN RURAL SECTIONS**

SHEET NO.: 2 of 4



- Reduce rural median width from a proposed 44' width to a 24' width. Median section will be changed from a depressed grassed median ditch to a 24' raised grassed median due to drainage issues.

# Calculations



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction - Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
RW-3B

DESCRIPTION: REDUCE MEDIAN WIDTHS TO 24' IN RURAL SECTIONS SHEET NO.: 3 of 4

## K.O.W. Savings

Design - 44' width  
Proposed - 24' width  
 $\Delta$  - 20'

Rural section = 31500 LF  
1 Acre = 43560 SF

$$31500 \times 20 = 630,000 / 43560 = 14.46 \text{ Acres}$$

## Earthwork Savings-

Soil Excavation Estimate - 992,200 CY  
Urban Section Length - 8,150 LF  
Rural Section Length - 31,500 LF

39650 LF TOTAL

$$992200 / 39650 = 25.02 \text{ CY/LF AVG.}$$

Avg. width finished roadway = 210 LF

Design median width = 44'  
Proposed median width = 24'

$$44' - 24' = 20' = \Delta$$

$$20 \text{ LF} / 210 \text{ LF (AVG)} = 9.5\% \text{ SAVINGS}$$

$$992,200 \times 0.095 = 94,259 \text{ CY SAVINGS}$$



# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
**DR - 1**

DESCRIPTION: **ACQUIRE TEMPORARY DRAINAGE EASEMENTS**

SHEET NO.: 1 of 1

## Original Design:

Original design calls for a 25' storm buffer to protect stream meandering in and out of R.O.W. south of E.B. roadway from STA 206+00 to STA 227+00.

## Alternative:

Obtain temporary drainage easement for stream locations adjacent to proposed R.O.W..

## Opportunities:

- Additional protection for stream areas adjacent to and outside of R.O.W.

## Risks:

- Minimal design changes.

## Technical Discussion:

Potential sediment discharge issues may be minimized by obtaining temporary drainage easements along the stream south of STA 206+00 - STA 227+00. The easements could be utilized with the proposed 25' stream buffer to implement Best Management Practices to ensure that all areas of stream contact will be protected during construction phase.

# Value Analysis Design Suggestion



PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
SR 140 Widening/Reconstruction – Bartow-Floyd Counties  
[STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

ALTERNATIVE NO.:  
DR - 6

DESCRIPTION: RELOCATE CATTLE CROSSING STRUCTURE @STA  
205+80

SHEET NO.: 1 of 1

## Original Design:

Proposed design builds cattle crossing at STA 205+80, near intersection of SR 140 and Whatley Orchard Road. Cattle crossing is in very close proximity to concurrent construction of a proposed 3 barrel 10'x10' culvert.

## Alternative:

Move cattle crossing to the west to simplify construction by moving away from the intersection and concurrent construction of a large adjacent drainage structure.

## Opportunities:

- Reduce length of structure
- Facilitate construction by moving structure away from intersection and large culvert construction.

## Risks:

- Minimal design impact.

## Technical Discussion:

Relocating the proposed cattle crossing to the west should ease constructability conflicts with other concurrent construction in the adjacent areas. Moving the crossing to the west will also shorten the overall length of the structure, as the proposed outfall passes through a section of "eyebrow pavement" on the NW corner of the SR 140/Whatley Orchard Road location.

## ***Project Description***

## **PROJECT DESCRIPTION**

This project consists of three projects addressing the widening and reconstruction of SR 140 from SR 53 in Floyd County to SR 3/US 41 in Bartow County, including bridges over the Oothkalooga Creek and the CSX Railroad. The existing SR 140 within the project limits consists of two 12' lanes with rural shoulders that vary in width, and a posted speed of 55 MPH. This portion of SR 140 serves as a Surface Transportation Assistance Act (STAA) truck route providing access to I-75. Accident analysis for years 2000 through 2002 indicate a total 162 accidents along SR 140 between SR 53 and SR 3. The accidents in 2001 and 2002 included one fatality each. The fatality rate for 2001 and 2002 exceeded the average statewide fatality rate with the same functional classification. The 2003 traffic volumes range from 10,300 to 13,800 VPD. Traffic is projected to increase to 29,000 VPD by 2028. The current level of service (LOS) is at a level "D" and, without improvements, the LOS is projected to drop to a level "E" by 2028. Widening SR 140 to four lanes will provide a LOS of "C" through 2028.

Construction is proposed as follows:

### **STP-0004-00(915) Bartow-Floyd Counties**

This project consists of the widening and reconstruction of SR 140 from SR 3 (Floyd) to 0.3 mile west of Oothkalooga Creek (Bartow). This 6.2 mile project proposes a rural divided 4-lane typical section with a 44' depressed grassed median. The proposed widening transitions to an urban typical section of 4 lanes with a 20' raised median near the end of the project. Side roads will be improved and realigned as needed to provide safe intersections.

The projected construction cost is \$30,726,610 not including 10% E&C and inflation to mid-point of construction.

### **STP-019-1(15) Bartow County**

The proposed project consists of widening and reconstruction of SR 140 from 0.3 miles west of Oothkalooga Creek to SR 3/US 41. The 0.9 mile project will involve constructing an urban divided 4-lane facility with a 20' raised median. Side roads will be improved and realigned as needed.

The projected construction cost is \$5,705,800 not including 10% E & C and inflation to the mid-point of construction.

### **BHF-019-1(16) Bartow County**

This project is intended to replace the bridges on SR 140 over Oothkalooga Creek and CSX Railroad. This project will be contained in and be an exception to project STP-019-1(15).

The projected construction cost is \$1,869,000 not including 10% E & C and inflation to the mid-point of construction.

### **REPRESENTATIVE DOCUMENTS**

- Georgia Department of Transportation
  - The Concept Plans of Proposed **STP-0004-00(915) PI No. 0004915; STP-19-1(15) PI No. 621500; BHF-019-1(16) PI 621505; Bartow and Floyd Counties**
  - Construction Cost Estimates

The VE Team utilized the supplied project materials noted above, along with the design documents prepared by Parsons Brinckerhoff Quade and Douglas, Inc.. The Team was also provided with the current GDOT standard drawings, details and specifications.

Bar Reinf. Steel	540	LB@	\$1.03	\$556.20
			<b>SUBTOTAL</b>	<b>\$723,231.68</b>

**STP-019-1(15)**

**CONSTRUCTION COST ESTIMATE SUMMARY**

A. Right of Way	\$1,200,000.00
B. Reimbursable Utilities	\$98,000.00

**CONSTRUCTION COST SUMMARY**

C. Clearing And Grubbing	\$158,000.00
D. Earthwork	\$407,000.00
E. Base and Paving	\$1,269,000.00
F. Drainage	\$85,000.00
G. Concrete Work	\$784,000.00
H. Traffic Control	\$50,000.00
I. Erosion Control	\$750,000.00
J. Guardrail	\$74,000.00
K. Signs, Striping, Signals, Lighting	\$104,000.00
L. Grassing/Landscaping	\$2,000.00
M. Miscellaneous	\$800.00

**ROADWAY SUBTOTAL** \$4,981,800.00

N. Major Structures	\$724,000.00
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**CONSTRUCTION TOTAL** \$5,705,800.00

10% E & C	\$570,580.00
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\$313,819.00  
\$329,509.95

Inflation (5% @ 2 years)	\$643,328.95
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**CONSTRUCTION ESTIMATE TOTAL** \$6,919,708.95

**CONSTRUCTION COST ESTIMATE**

DATE: 6/8/2006 PREPARED BY: PB

PROJECT NO: STP-019-1(15) FILE NAME:

I.D. NO 621500 MILEAGE:

PROJECT DESCRIPTION/CONCEPT: Horizontal alignment

EXISTING ROADWAY: Yes

TRAFFIC: CURRENT ADT 8,900

- ( ) PROGRAMMING PROCESS  
 (X) CONCEPT DEVELOPMENT  
 ( ) DURING PROJECT DEVELOPMENT

**PROJECT COSTS**

	Quantity	Units	Unit Cost	Total
A. RIGHT OF WAY	1	LUMP SUM	\$1,200,000.00	\$1,200,000.00
			<b>SUBTOTAL</b>	<b>\$1,200,000.00</b>
B. UTILITIES	1	LUMP SUM	\$97,519.00	\$97,519.00
			<b>SUBTOTAL</b>	<b>\$97,519.00</b>
C. CLEARING AND GRUBBING	21	AC@	\$7,500.00	\$157,500.00
			<b>SUBTOTAL</b>	<b>\$157,500.00</b>
D. EARTHWORK				
<u>Embankment</u>				
Unclassified Excavation	85,400	CY@	\$4.50	\$384,300.00
Borrow Incl Haul		CY@	\$6.00	\$0.00
<u>Excavation</u>				
Soil	7,400	CY@	\$4.50	\$12,000.00
Rock	-	CY@	\$21.25	\$0.00
<u>Miscellaneous</u>				
Wick Drains	-	LF@	\$1.00	\$0.00
Filter Fabric	-	SY@	\$7.00	\$0.00
Drainage Material	-	CY@	\$6.00	\$0.00
Drill Holes	-	LF@	\$2.00	\$0.00
<u>Earthwork</u>	-	LUMP SUM		\$10,000.00
			<b>SUBTOTAL</b>	<b>\$406,300.00</b>
E. BASE AND PAVING				
<u>Concrete &amp; Asphalt Paving</u>				
12.5 mm superpave	2,620	TN@	\$56.54	\$148,134.80
19 mm superpave	3,500	TN@	\$58.55	\$204,925.00
25mm superpave	7,000	TN@	\$56.81	\$397,670.00
GAB	22,000	TN@	\$22.22	\$488,840.00
Leveling	500	TN@	\$46.61	\$23,305.00
Tack Coat	3,200	GA@	\$1.70	\$5,440.00
			<b>SUBTOTAL</b>	<b>\$1,268,314.80</b>
F. DRAINAGE				
<u>Cross Drain System</u>				
15" Conc. Pipe		LF@	\$25.27	\$0.00
18" Conc. Pipe	140	LF@	\$32.18	\$4,505.20

24" Conc. Pipe		LF@	\$35.92	\$0.00
30" Conc. Pipe		LF@	\$47.73	\$0.00
36" Conc. Pipe		LF@	\$51.60	\$0.00
42" Conc. Pipe		LF@	\$62.16	\$0.00
48" Conc. Pipe		LF@	\$83.24	\$0.00
15" F.E.S.		EA@	\$397.88	\$0.00
18" F.E.S.	2	EA@	\$428.86	\$857.72
24" F.E.S.		EA@	\$508.82	\$0.00
30" F.E.S.		EA@	\$606.09	\$0.00
36" F.E.S.		EA@	\$783.13	\$0.00
42" F.E.S.		EA@	\$996.30	\$0.00
48" F.E.S.		EA@	\$1,950.00	\$0.00
<b>Longitudinal System</b>				
15" Conc. Pipe	154	LF@	\$29.61	\$4,559.94
18" Conc. Pipe	300	LF@	\$35.25	\$10,575.00
<b>Drainage Structures</b>				
Catch Basins	30	EA @	\$1,914.01	\$57,420.30
Drop Inlets	2	EA @	\$2,092.71	\$4,185.42
Manholes	1	EA @	\$2,303.36	\$2,303.36
			<b>SUBTOTAL</b>	<b>\$84,406.94</b>
<b>G. CONCRETE WORK</b>				
Class A Concrete incl. Steel	-	CY@	\$832.98	\$0.00
Approach Slabs	250	SY@	\$148.52	\$37,130.00
Median Barrier	-	LF@	\$35.92	\$0.00
Curb and Gutter (Type 2 )	9,700	LF@	\$25.04	\$242,888.00
Valley Gutter	275	SY@	\$46.49	\$12,784.75
Sidewalk	5,350	SY@	\$51.69	\$276,541.50
Median Paving	6,100	SY@	\$35.06	\$213,866.00
Ditch Paving	-	SY@	\$53.50	\$0.00
			<b>SUBTOTAL</b>	<b>\$783,210.25</b>
<b>H. TRAFFIC CONTROL</b>				
	1	lump sum	\$50,000.00	\$50,000.00
			<b>SUBTOTAL</b>	<b>\$50,000.00</b>
<b>I. EROSION CONTROL</b>				
	1	lump sum	\$750,000.00	\$750,000.00
			<b>SUBTOTAL</b>	<b>\$750,000.00</b>
<b>J. GUARDRAIL</b>				
W-Beam Rail	3,200	LF@	\$16.96	\$54,272.00
T-Beam Rail	170	LF@	\$54.20	\$9,214.00
Type 1 Anchors	5	EA@	\$591.49	\$2,957.45
Type 12 Anchors	4	EA@	\$1,704.40	\$6,817.60
			<b>SUBTOTAL</b>	<b>\$73,261.05</b>
<b>K. SIGNS, STRIPING, SIGNALS, LIGHTING</b>				
Striping	1	lump sum	\$30,000.00	\$30,000.00
Road Signs	1	lump sum	\$1,000.00	\$1,000.00
Overhead Signs w/Lights	-	EA@	\$61,000.00	\$0.00
Traffic Signals	2	EA@	\$36,400.00	\$72,800.00
Lighting		lump sum		\$0.00
			<b>SUBTOTAL</b>	<b>\$103,800.00</b>
<b>L. GRASSING/LANDSCAPING</b>				
	-	lump sum	\$2,000.00	\$2,000.00
			<b>SUBTOTAL</b>	<b>\$2,000.00</b>
<b>M. MISCELLANEOUS</b>				
Field Engineer Office (Type 3)		EA@	\$48,740.68	\$0.00
Detour Bridge	-			
Right-of-Way Markers	10	EA@	\$79.58	\$795.80
			<b>SUBTOTAL</b>	<b>\$795.80</b>
<b>N. MAJOR STRUCTURES</b>				
Bridge	10,900	SF@	\$65.00	\$708,500.00
Grooved Concrete	1,210	SY@	\$6.08	\$7,356.80
Retaining Wall	-	SF@	\$40.00	\$0.00
Rem. Detour Rdwy & Br.	-			
<b>Box Culverts</b>				
Concrete	11	CY@	\$619.88	\$6,818.68

N. MAJOR STRUCTURES

Bridge		SF@	\$65.00	\$0.00
Retaining Wall	2,930	SF@	\$44.00	\$128,920.00
Rem. Detour Rdwy & Br.	-			
<u>Box Culverts</u>				
Concrete	910	CY@	\$619.88	\$564,090.80
Bar Reinf. Steel	104,400	LB@	\$1.03	\$107,532.00
			<b>SUBTOTAL</b>	<b>\$800,542.80</b>

STP-000-00(915)

**CONSTRUCTION COST ESTIMATE SUMMARY**

A. Right of Way		\$6,500,000.00
B. Reimbursable Utilities		\$2,472,000.00
<b>CONSTRUCTION COST SUMMARY</b>		
C. Clearing And Grubbing		\$975,000.00
D. Earthwork		\$6,375,000.00
E. Base and Paving		\$11,532,000.00
F. Drainage		\$652,000.00
G. Concrete Work		\$1,100.00
H. Traffic Control		\$164,000.00
I. Erosion Control		\$750,000.00
J. Guardrail		\$231,000.00
K. Signs, Striping, Signals, Lighting		\$198,000.00
L. Grassing/Landscaping		\$2,000.00
M. Miscellaneous		\$73,000.00
	<b>ROADWAY SUBTOTAL</b>	<b>\$29,925,100.00</b>
N. Major Structures		\$801,000.00
	<b>CONSTRUCTION TOTAL</b>	<b>\$30,726,100.00</b>
10% E & C		\$3,072,610.00
	\$1,689,935.50	
	\$1,774,432.28	
Inflation (5% @ 2 years)		\$3,464,367.78
	<b>CONSTRUCTION ESTIMATE TOTAL</b>	<b>\$37,263,077.78</b>

**CONSTRUCTION COST ESTIMATE**

DATE: 6/8/2006

PREPARED BY:

PB

PROJECT NO: STP-000-00(915)

FILE NAME:

I.D. NO 4915

MILEAGE:

PROJECT DESCRIPTION/CONCEPT: Horizontal alignment

EXISTING ROADWAY: Yes

TRAFFIC: CURRENT ADT 8,900

- ( ) PROGRAMMING PROCESS
- (X) CONCEPT DEVELOPMENT
- ( ) DURING PROJECT DEVELOPMENT

**PROJECT COSTS**

	Quantity	Units	Unit Cost	Total
A. RIGHT OF WAY	1		LUMP SUM \$6,500,000.00	\$6,500,000.00
			<b>SUBTOTAL</b>	<b>\$6,500,000.00</b>
B. UTILITIES	1		LUMP SUM \$2,471,780.00	\$2,471,780.00
			<b>SUBTOTAL</b>	<b>\$2,471,780.00</b>
C. CLEARING AND GRUBBING	130		AC@ \$7,500.00	\$975,000.00
			<b>SUBTOTAL</b>	<b>\$975,000.00</b>
D. EARTHWORK				
<u>Embankment</u>				
Unclassified Excavation	375,000		CY@ \$4.50	\$1,687,500.00
Borrow Incl Haul			CY@ \$6.00	\$0.00
<u>Excavation</u>				
Soil	992,200		CY@ \$4.50	\$4,464,900.00
Rock	10,000		CY@ \$21.25	\$212,500.00
<u>Miscellaneous</u>				
Wick Drains	-		LF@ \$1.00	\$0.00
Plastic Filter Fabric	-		SY@ \$5.01	\$0.00
Rip Rap	-		SY@ \$48.50	\$0.00
Drainage Material	-		CY@ \$6.00	\$0.00
Drill Holes	-		LF@ \$2.00	\$0.00
<u>Earthwork</u>	-		LUMP SUM	\$10,000.00
			<b>SUBTOTAL</b>	<b>\$6,374,900.00</b>
E. BASE AND PAVING				
<u>Concrete &amp; Asphalt Paving</u>				
12.5 mm superpave	23,850		TN@ \$56.54	\$1,348,479.00
19 mm superpave	31,800		TN@ \$58.55	\$1,861,890.00
25mm superpave	63,550		TN@ \$56.81	\$3,610,275.50
GAB	199,300		TN@ \$22.22	\$4,428,446.00
Leveling	5,000		TN@ \$46.61	\$233,050.00
Tack Coat	28,900		GA@ \$1.70	\$49,130.00
			<b>SUBTOTAL</b>	<b>\$11,531,270.50</b>
F. DRAINAGE				

Cross Drain System

15" Conc. Pipe	-	LF@	\$35.54	\$0.00
18" Conc. Pipe	6,200	LF@	\$37.00	\$229,400.00
24" Conc. Pipe	850	LF@	\$49.02	\$41,667.00
30" Conc. Pipe	-	LF@	\$57.61	\$0.00
36" Conc. Pipe	850	LF@	\$86.44	\$73,474.00
42" Conc. Pipe	170	LF@	\$105.55	\$17,943.50
48" Conc. Pipe	510	LF@	\$117.32	\$59,833.20
15" F.E.S.	-	EA@	\$426.39	\$0.00
18" F.E.S.	91	EA@	\$549.27	\$49,983.57
24" F.E.S.	-	EA@	\$642.19	\$0.00
30" F.E.S.	-	EA@	\$745.89	\$0.00
36" F.E.S.	-	EA@	\$920.73	\$0.00
42" F.E.S.	-	EA@	\$1,278.71	\$0.00

Longitudinal System

15" Conc. Pipe		LF@	\$29.61	\$0.00
18" Conc. Pipe		LF@	\$35.25	\$0.00

Drainage Structures

Catch Basins	-	EA @	\$1,914.01	\$0.00
Drop Inlets	85	EA @	\$2,092.71	\$177,880.35
Manholes	-	EA @	\$2,303.36	\$0.00
Spring Box	1	EA @	\$1,550.33	\$1,550.33

Drainage Lump Sum

Cost Per Mile	-	MI@	\$402,335.00	\$0.00
			<b>SUBTOTAL</b>	<b>\$651,731.95</b>

## G. CONCRETE WORK

Class A Concrete incl. Steel	-	CY@	\$832.98	\$0.00
Approach Slabs	-	SY@	\$148.52	\$0.00
Median Barrier	-	LF@	\$35.92	\$0.00
Curb and Gutter (Type 2 )	-	LF@	\$25.04	\$0.00
Valley Gutter	-	SY@	\$46.49	\$0.00
Sidewalk	-	SY@	\$51.69	\$0.00
Median Paving	-	SY@	\$35.06	\$0.00
Ditch Paving	20	SY@	\$53.50	\$1,070.00
			<b>SUBTOTAL</b>	<b>\$1,070.00</b>

## H. TRAFFIC CONTROL

1	lump sum	\$163,973.62	\$163,973.62
		<b>SUBTOTAL</b>	<b>\$163,973.62</b>

## I. EROSION CONTROL

1	lump sum	\$750,000.00	\$750,000.00
		<b>SUBTOTAL</b>	<b>\$750,000.00</b>

## J. GUARDRAIL

W-Beam Rail	11,300	LF@	\$16.96	\$191,648.00
T-Beam Rail		LF@	\$54.20	\$0.00
Type 1 Anchors	16	EA@	\$591.49	\$9,463.84
Type 12 Anchors	17	EA@	\$1,704.40	\$28,974.80
			<b>SUBTOTAL</b>	<b>\$230,086.64</b>

## K. SIGNS, STRIPING, SIGNALS, LIGHTING

Striping	1	lump sum	\$160,000.00	\$160,000.00
Road Signs	1	lump sum	\$1,000.00	\$1,000.00
Overhead Signs w/Lights	-	EA@	\$61,000.00	\$0.00
Traffic Signals	1	EA@	\$36,400.00	\$36,400.00
Lighting		lump sum		\$0.00
			<b>SUBTOTAL</b>	<b>\$197,400.00</b>

## L. GRASSING/LANDSCAPING

-	lump sum	\$2,000.00	\$2,000.00
		<b>SUBTOTAL</b>	<b>\$2,000.00</b>

## M. MISCELLANEOUS

Field Engineer Office (Type 3)	1	EA@	\$63,087.76	\$63,087.76
Detour Bridge	-			
Right-of-Way Markers	90	EA@	\$100.82	\$9,073.80
			<b>SUBTOTAL</b>	<b>\$72,161.56</b>

CONSTRUCTION COST ESTIMATE

DATE: 6/8/2006 PREPARED BY: PB

PROJECT NO: STP-019-1(16) FILE NAME:

I.D. NO 621505 MILEAGE:

PROJECT DESCRIPTION/CONCEPT: Horizontal alignment

EXISTING ROADWAY: Yes

TRAFFIC: CURRENT ADT 8900

- ( ) PROGRAMMING PROCESS  
 (X) CONCEPT DEVELOPMENT  
 ( ) DURING PROJECT DEVELOPMENT

PROJECT COSTS

	Quantity	Units	Unit Cost	Total
A. RIGHT OF WAY	1	LUMP SUM	\$0.00	\$0.00
		<b>SUBTOTAL</b>		<b>\$0.00</b>
B. UTILITIES	1	LUMP SUM	\$96,899.00	\$96,899.00
		<b>SUBTOTAL</b>		<b>\$96,899.00</b>
C. CLEARING AND GRUBBING		AC@	\$7,500.00	\$0.00
		<b>SUBTOTAL</b>		<b>\$0.00</b>
D. EARTHWORK				
<u>Embankment</u>				
In-Place Embankment		CY@	\$7.00	\$0.00
Borrow Incl Haul		CY@	\$6.00	\$0.00
<u>Excavation</u>				
Soil		CY@	\$4.00	\$12,000.00
Rock		CY@	\$10.00	\$0.00
<u>Miscellaneous</u>				
Wick Drains		LF@	\$1.00	\$0.00
Filter Fabric		SY@	\$7.00	\$0.00
Drainage Material		CY@	\$6.00	\$0.00
Drill Holes		LF@	\$2.00	\$0.00
<u>Earthwork</u>		LUMP SUM		\$10,000.00
		<b>SUBTOTAL</b>		<b>\$10,000.00</b>
E. BASE AND PAVING				
<u>Aggregate Base</u>				
Graded Aggregate		TN@	\$20.99	\$0.00
<u>Concrete &amp; Asphalt Paving</u>				
Plain PC Conc Pvmnt, 12 Inch Thk		SY@	\$60.00	\$0.00
19 mm superpave		TN@	\$45.75	\$0.00
25mm superpave		TN@	\$44.27	\$0.00
Leveling		TN@	\$40.05	\$0.00
Tack Coat		GA@	\$0.96	\$0.00
		<b>SUBTOTAL</b>		<b>\$0.00</b>
F. DRAINAGE				

<u>Cross Drain System</u>			
15" Conc. Pipe	LF@	\$25.27	\$0.00
18" Conc. Pipe	LF@	\$32.18	\$0.00
24" Conc. Pipe	LF@	\$35.92	\$0.00
30" Conc. Pipe	LF@	\$47.73	\$0.00
36" Conc. Pipe	LF@	\$51.60	\$0.00
42" Conc. Pipe	LF@	\$62.16	\$0.00
48" Conc. Pipe	LF@	\$83.24	\$0.00
15" F.E.S.	EA@	\$397.88	\$0.00
18" F.E.S.	EA@	\$428.86	\$0.00
24" F.E.S.	EA@	\$508.82	\$0.00
30" F.E.S.	EA@	\$606.09	\$0.00
36" F.E.S.	EA@	\$783.13	\$0.00
42" F.E.S.	EA@	\$996.30	\$0.00
48" F.E.S.	EA@	\$1,950.00	\$0.00
<u>Longitudinal System</u>			
15" Conc. Pipe	LF@	\$29.61	\$0.00
18" Conc. Pipe	LF@	\$35.25	\$0.00
60" Conc. Pipe	LF@	\$36.88	\$0.00
<u>Drainage Structures</u>			
Catch Basins	EA @	\$1,702.67	\$0.00
Drop Inlets	EA @	\$1,460.08	\$0.00
Manholes	EA @	\$2,295.00	\$0.00
<u>Drainage Lump Sum</u>			
Cost Per Mile	MI@	\$402,335.00	\$0.00
		<b>SUBTOTAL</b>	<b>\$0.00</b>
<b>G. CONCRETE WORK</b>			
Approach Slabs	SY@	\$94.44	\$0.00
Median Barrier	LF@	\$30.00	\$0.00
Curb and Gutter (Type 2 )	LF@	\$12.55	\$0.00
Valley Gutter	SY@	\$40.94	\$0.00
Sidewalk	SY@	\$34.44	\$0.00
Median Paving	SY@	\$23.00	\$0.00
Ditch Paving	SY@	\$25.00	\$0.00
		<b>SUBTOTAL</b>	<b>\$0.00</b>
H. TRAFFIC CONTROL	1	lump sum	\$50,000.00
		<b>SUBTOTAL</b>	<b>\$50,000.00</b>
I. EROSION CONTROL	1	lump sum	\$750,000.00
		<b>SUBTOTAL</b>	<b>\$750,000.00</b>
<b>J. GUARDRAIL</b>			
W-Beam Rail	LF@	\$11.44	\$0.00
T-Beam Rail	LF@	\$61.93	\$0.00
Type 1 Anchors	EA@	\$483.43	\$0.00
Type 12 Anchors	EA@	\$1,363.83	\$0.00
		<b>SUBTOTAL</b>	<b>\$0.00</b>
<b>K. SIGNS, STRIPING, SIGNALS, LIGHTING</b>			
Striping	lump sum	\$30,000.00	\$0.00
Road Signs	lump sum	\$1,000.00	\$0.00
Overhead Signs w/Lights	EA@	\$61,000.00	\$0.00
Traffic Signals	EA@	\$36,400.00	\$0.00
Lighting	lump sum		\$0.00
		<b>SUBTOTAL</b>	<b>\$0.00</b>
L. GRASSING/LANDSCAPING		lump sum	\$2,000.00
		<b>SUBTOTAL</b>	<b>\$2,000.00</b>
<b>M. MISCELLANEOUS</b>			
Field Engineer Office (Type 3)	EA@	\$48,740.68	\$0.00
Detour Bridge			
Right-of-Way Markers	EA@	\$79.58	\$0.00
		<b>SUBTOTAL</b>	<b>\$0.00</b>

## N. MAJOR STRUCTURES

Bridge	14,580.00	SF@	\$65.00	\$947,700.00
Grooved Concrete	1,620	SY@	\$6.08	\$9,849.60
Retaining Wall		SF@	\$40.00	\$0.00
Rem. Detour Rdwy & Br.				
<b>Box Culverts</b>				
Concrete		CY@	\$350.00	\$0.00
Bar Reinf. Steel		LB@	\$1.00	\$0.00
		<b>SUBTOTAL</b>		<b>\$957,549.60</b>

## STP-019-1(16)

## CONSTRUCTION COST ESTIMATE SUMMARY

A. Right of Way		\$0.00	
B. Reimbursable Utilities		\$97,000.00	
CONSTRUCTION COST SUMMARY			
C. Clearing And Grubbing		\$0.00	
D. Earthwork		\$12,000.00	
E. Base and Paving		\$0.00	
F. Drainage		\$0.00	
G. Concrete Work		\$0.00	
H. Traffic Control		\$50,000.00	
I. Erosion Control		\$750,000.00	
J. Guardrail		\$0.00	
K. Signs, Striping, Signals, Lighting		\$0.00	
L. Grassing/Landscaping		\$2,000.00	
M. Miscellaneous		\$0.00	
	<b>ROADWAY SUBTOTAL</b>	<b>\$911,000.00</b>	<b>\$911,000.00</b>
N. Major Structures		\$958,000.00	
	<b>CONSTRUCTION TOTAL</b>	<b>\$1,869,000.00</b>	
10% E & C		\$186,900.00	
		\$102,795.00	
		\$107,934.75	
Inflation (5% @ 2 years)		\$210,729.75	
	<b>CONSTRUCTION ESTIMATE TOTAL</b>	<b>\$2,266,629.75</b>	

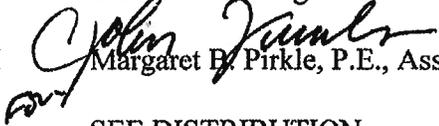
ORIGINAL TO GENERAL FILES

D.O.T. 66

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

**FILE** STP-0004-00(915);STP-19-1(15);BHF-019-1(16) **OFFICE** Preconstruction  
Bartow-Floyd County P. I. Nos. 0004915; 621500; 621505  
SR 140 Widening and Reconstruction **DATE** March 1, 2005

**FROM**  Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

**TO** SEE DISTRIBUTION

**SUBJECT** PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project.

MBP/cj

Attachment

**DISTRIBUTION:**

David Mulling  
Harvey Keepler  
Ken Thompson  
Jamie Simpson  
Michael Henry  
Keith Golden  
Joe Palladi (file copy)  
Paul Liles  
Babs Abubakari  
Kent Sager  
BOARD MEMBER

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE** STP-0004-00(915); STP-019-1(15); BHF-019-1(16) **OFFICE** Preconstruction  
 Bartow-Floyd Counties, P.I. Nos. 0004915; 621500; 621505  
 SR 140 Widening and Reconstruction **DATE** February 21, 2005

**FROM** *John Kunkle*  
 Margaret B. Finkle, P.E., Assistant Director of Preconstruction

**TO** *Fat* Paul V. Mullins, P.E., Chief Engineer

**SUBJECT PROJECT CONCEPT REPORT**

These combined projects comprise the widening and reconstruction of SR 140 from SR 53 in Floyd County to SR 3/US 41 in Bartow County including bridges over Oothkalooga Creek and CSX Railroad. The existing SR 140 within the project limits consists of two, 12' lanes with rural shoulders that vary in width, and a posted speed of 55 MPH. This portion of SR 140 serves as a Surface Transportation Assistance Act (STAA) truck route providing access to I-75. Accident analysis for years 2000 through 2002 indicate a total of 162 accidents along SR 140 between SR 53 and SR 3. The accidents in 2001 and 2002 included one fatality each. The fatality rates for 2001 and 2002 exceeded the average statewide fatality rates for the same functional classification. The 2003 traffic volumes range from 10,300 to 13,800 VPD. Traffic is projected to increase to 29,000 VPD by 2028. The current level of service (LOS) is at a level "D," and without improvements, the LOS is projected to drop to a level "E" by 2028. Widening SR 140 to four lanes will provide a LOS "C" through 2028.

Construction is proposed as follows:

**STP-0004-00(915) Bartow-Floyd Counties**

The proposed project consists of the widening and reconstruction of SR 140 from SR 3 (Floyd) to 0.3 mile west of Oothkalooga Creek (Bartow). This 6.2 miles project proposes a rural divided 4 lane typical section with a 44' depressed grassed median. The proposed widening transitions to a urban typical section of 4 lanes with a 20' raised median near the end of the project. Side roads will be improved and realigned as needed to provide safe intersections.

**STP-019-1(15) Bartow County**

The proposed project consists of widening and reconstruction of SR 140 from 0.3 mile west of Oothkalooga Creek to SR 3/US 41. The 0.9 mile project will involve constructing a urban divided 4 lane facility with a 20' raised median. Side roads will be improved and realigned as needed.

**BHF-019-1(16) Bartow County**

This project is the bridge replacement on SR 140 over Oothkalooga Creek and CSX Railroad. This project will be contained in and be an exception to project STP-019-1(15).

Environmental concerns include requiring a COE 404 Permit: an Environmental Assessment will be

Paul V. Mullins

Page 2

STP-0004-00(915); STP-019-1(15); BHF-019-1(16) Bartow-Floyd  
February 22, 2005

The estimated costs for these projects are:

**STP-0004-00(915) P.I. No. 0004915**

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C and inflation)	\$27,370,000	\$27,369,000	Q25	2010
Right-of-Way	\$ 6,500,000	\$14,000,000	Q25	2008
Utilities*	\$ 2,472,000	----		

**STP-019-1(15) P.I. No. 621500**

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C and inflation)	\$4,774,000	\$4,774,000	Q25	LR
Right-of-Way	\$1,200,000	\$6,000,000	Q25	2008
Utilities*	\$ 98,000	----		

**STP-019-1(16) P.I. No. 621505**

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C and inflation)	\$1,362,000	\$2,058,000	Q10	LR
Right-of-Way	-0-	----		
Utilities*	\$ 97,000	----		

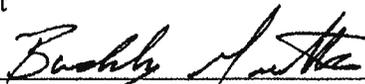
\*LGPA to be sent.

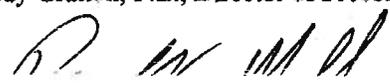
I recommend these project concepts be approved.

MBP:JDQ/cj

Attachment

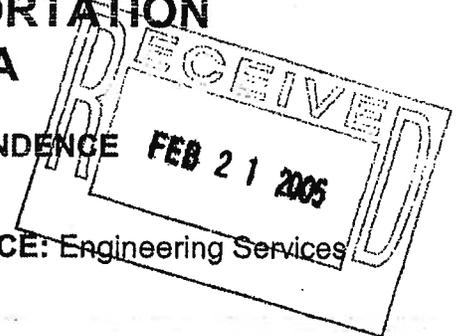
CONCUR

  
Buddy Gratton, P.E., Director of Preconstruction



**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENTAL CORRESPONDENCE**



**FILE:** STP-0004-00(915) Bartow/Floyd  
STP-019-1(15) Bartow  
BHF-019-1(16) Bartow  
P.I. Nos. 0004915, 621500, & 621505  
S.R. 140 widening/reconstruction

**OFFICE:** Engineering Services

**DATE:** February 18, 2005

**FROM:** David Mulling, Project Review Engineer *DM*

**TO:** Meg Pirkle, Assistant Director of Preconstruction

**SUBJECT: CONCEPT REPORT**

We have reviewed the Concept Report submitted November 17, 2004 by the letter from Kent Sager dated November 16, 2004 and the additional information that was submitted on January 7, 2005 and February 18, 2005, and have no comments.

The costs for these projects are:

**(0004915)**

Construction	\$22,568,000
Inflation	\$2,313,220
E&C	\$2,488,122
Reimbursable Utilities	\$2,471,780
Right of Way	\$6,500,000

**(621500)**

Construction	\$3,936,400
Inflation	\$403,481
E&C	\$433,990
Reimbursable Utilities	\$07,510

**Concept Report Review**  
**STP-0004-00(915), STP-019-1(15), & BHF-019-1(16) Bartow/Floyd**  
**Page 2.**

**(621505)**

Construction	\$1,122,740
Inflation	\$115,081
E&C	\$123,782
Reimbursable Utilities	\$96,899
Right of Way	Purchased under Project STP-019(15) Bartow

**NOTE: Sufficiency Ratings were over 50 and the bridges will be replaced. The replacement costs shown above were lower than the widening costs, therefore; all the costs for replacement are eligible for BR funds.**

REW

c: Kent Sager, Attn.: David Moore

### SCORING RESULTS AS PER MOG 2440-2

<b>Project Number:</b> STP-0004-00(915), STP-019-1(15), & BHF-019-1(16)		<b>County:</b> Bartow/Floyd		<b>PI No.:</b> 0004915, 621500, & 621505	
<b>Report Date:</b> November 16, 2004		<b>Concept By:</b> DOT Office: District 6			
<input checked="" type="checkbox"/> Concept Stage		Consultant: N/A			
<b>Project Type:</b> Choose One From Each Column		<input type="checkbox"/> Major <input checked="" type="checkbox"/> Minor	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural	<input type="checkbox"/> ATMS <input checked="" type="checkbox"/> Bridge Replacement <input type="checkbox"/> Building <input type="checkbox"/> Interchange Reconstruction <input type="checkbox"/> Intersection Improvement <input type="checkbox"/> Interstate <input type="checkbox"/> New Location <input type="checkbox"/> Widening & Reconstruction <input type="checkbox"/> Miscellaneous	
<b>FOCUS AREAS</b>	<b>SCORE</b>	<b>RESULTS</b>			
Presentation	100				
Judgement	100				
Environmental	100				
Right of Way	100				
Utility	100				
Constructability	100				
Schedule	100				

Department of Transportation  
State of Georgia

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INTERDEPARTMENTAL CORRESPONDENCE

File: STP-0004-00(915) Bartow/Floyd Counties      Office: Traffic Safety & Design  
STP-019-1 (15) & BHF-019-1 (16) Bartow County      Atlanta, Georgia  
P.I. Nos. 0004915, 621500 & 621505      Date: December 01, 2004

From: <sup>PMA/SZ</sup> Phillip M. Allen, State Traffic Safety and Design Engineer

To: Meg Pirkle, Assistant Director of Preconstruction

Subject: Project Concept Report Review

We have reviewed the above referenced concept report for the widening and reconstruction on SR 140 from SR 53 to US 41 and bridge over CSX Railroad and Oothkalooga Creek.

The Office of Traffic Safety and Design finds this report satisfactory for approval because it will improve safety and traffic operations within this area.

PMA/SZ/nr

Attachment (signature page)

Cc: Harvey Keepler, State Environment /Location Engineer  
David Mulling, State Review Engineer  
Joe Palladi, State Transportation Planning Administrator  
Jamine Simpson, Financial Management Administrator  
Paul Liles, State Bridge Design Engineer  
Andy Rikard, District Planning/Programming Engineer  
Kent L. Sager, District Engineer  
Attn.: Curtis D. Comer, Assistant District Engineer  
General Files  
Office Files

11-18-04

# DEPARTMENT OF TRANSPORTATION

## STATE OF GEORGIA

### INTERDEPARTMENT CORRESPONDENCE

NOV 17 2004

**FILE:** STP-0004-00 (915), Bartow/Floyd Counties      **OFFICE:** Cartersville, Georgia  
STP-019-1 (15) & BHF-019-1 (16) Bartow County  
P.I. Nos. 0004915, 621500 & 621505  
Widening & Reconstruction on SR 140 from      **DATE:** November 16, 2004  
SR 53 to US 41 and bridges over CSX Railroad  
And Oothkalooga Creek

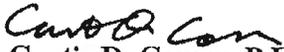
**FROM:** Kent L. Sager, District Engineer

**TO:** Meg Pirkle, Assistant Division Director of Preconstruction

**SUBJECT:** Project Concept Report

Attached is a copy of the concept report for the above mentioned projects. Copies have been forwarded to the appropriate offices for review and comment.

If additional information is needed, please call Curtis D. Comer at 770-387-3619. As always, your assistance is greatly appreciated.

  
Curtis D. Comer, P.E.  
Assistant District Engineer

KLS/CDC/DPM/sbm

Attachments:

cc:

David Mulling, Project Review Engineer  
Phillip Allen, State Traffic Safety & Design Engineer  
Harvey Keepler, State Environmental/Location Engineer  
Joseph Palladi, State Planning Administrator

Paul Liles, State Bridge & Structural Engineer  
Andy Rikard, District Planning/Programming Engineer  
File

Project Concept Report  
Project Numbers: STP-0004-00(915), STP-019-1(15), BHF-019-1(16)  
P. I. Numbers: 0004915, 621500, 621505  
Counties: Bartow/Floyd

## DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

Project Number: STP-0004-00 (915), STP-019-1 (15), and BHF-019-1 (16)

Counties: Bartow/Floyd

P. I. Numbers: 0004915, 621500, and 621505

Federal Route Number: None

State Route Number: SR 140

Widening & Reconstruction on SR 140 from SR 53 in Floyd  
County to SR 3/US 41 in Bartow County to include bridges  
over Oothkalooga Creek and CSX Railroad. ]

Recommendation for approval:

DATE 11-16-04

Curtis D. Combs  
Project Manager

DATE 11/16/04

[Signature]  
Office Head/District Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Improvement Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Programming Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environmental/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Bridge Engineer

Project Review Engineer

Project Concept Report  
Project Numbers: STP-0004-00(915), STP-019-1(15), BHF-019-1(16)  
P. I. Numbers: 0004915, 621500, 621505  
Counties: Bartow/Floyd

**Need and Purpose: See Attachment**

**Description of the proposed projects:** These projects are the widening and reconstruction of SR 140 from 2 to 4 lanes in Bartow and Floyd Counties. This project will begin at the intersection of SR 140 and SR 53 in Floyd County and continue east on SR 140 to SR 3/US 41 in Bartow County to include bridges over Oothkalooga Creek and CSX Railroad. The total length will be approximately 7.1 miles. Project STP-000-00 (915) will begin at intersection of SR 140 and SR 53 and continue east on SR 140 to approximately 0.3 miles west of Oothkalooga Creek for a project length of approximately 6.2 miles. Project STP-019-1 (15) will begin 0.3 miles west of Oothkalooga Creek and continue east on SR 140 to the intersection of SR 140 and SR 3/US 41 for a project length of approximately 0.9 miles. Project BHF-019-1 (16) will be contained in and be an exception to project STP-019-1 (15).

**Is the project located in a Non-attainment area? No**

**PDP Classification: Major X Minor \_\_\_\_\_**

**Federal Oversight: Full Oversight ( ), Exempt(X), State Funded ( ), or Other ( )**

**Functional Classification: Rural Minor Arterial**

**U. S. Route Number(s): None**

**State Route Number(s): 140**

**Traffic (AADT):**

Current Year: (2008) 17800

Design Year: (2028) 29000

**Existing design features:**

- Typical Section: 2 – 12 ft. lanes with variable shoulders
- Posted speed: 55 mph, 45 mph from Oothkalooga Creek Bridge to US 41/SR 3
- Maximum grade: 7% Maximum degree of curvature: 6
- Width of right of way: Approximately 80 to 120 ft.
- Major structures: (1) 160' X 28' Concrete & Steel Bridge over Oothkalooga Creek, Location ID # 115-00140D-003.91E, Structure ID # 115-0048-0, Sufficiency Rating 68.21.  
(2) 114' X 28' Concrete & Steel Bridge over CSX Railroad, Location ID # 115-00140D-004.30E, Structure ID # 115-0049-0, Sufficiency Rating 80.00.  
(3) Triple 10' X 10' Concrete Bridge Culvert
- Major interchanges or intersections along the project: SR 53 Floyd County and US 41 in Bartow County
- Existing length of roadway segment and beginning mile log from each county segment: Project STP-0000-00 (915) will begin at approximate MP 7.7 and end at approximate MP 10.4 for approximately 2.7 miles in Floyd County and continue from MP 0.00 and end at approximate MP 3.5 for approximately 3.5 miles in Bartow County. Project STP-019-1 (15) will begin at approximate MP 3.5 and continue to approximate MP 4.4 for

approximately 2.7 miles and approximately 4.4 miles in Bartow County.



Project Concept Report  
Project Numbers: STP-0004-00(915), STP-019-1(15), BHF-019-1(16)  
P. I. Numbers: 0004915, 621500, 621505  
Counties: Bartow/Floyd

- Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes ( ), No ( X ),
  - Categorical Exclusion Anticipated (NO),
  - Environmental Assessment/Finding of No Significant Impact (FONSI), 4F, and EA ( X ), or
  - Environmental Impact Statement (EIS) (NO).
  
- Utility involvements: Expected to be normal.

**Project responsibilities:**

- Design: GDOT
- Right of Way Acquisition: GDOT
- Relocation of Utilities: By Permit
- Letting to contract: GDOT
- Supervision of construction: GDOT
- Providing material pits: contractor
- Providing detours: Not Required

**Coordination**

- Initial Concept Meeting date and brief summary: See attachments
- Public involvement: Will hold Public Information Open House
- Local government comments:
- Other projects in the area:
- Other coordination to date:

**Scheduling – Responsible Parties' Estimate**

- Time to complete the environmental process: 24 Months.
- Time to complete preliminary construction plans: 18 Months.
- Time to complete right of way plans: 6 Months.
- Time to complete the Section 404 Permit: 12 Months
- Time to complete final construction plans: 12 Months.
- Time to complete to purchase right of way: 18 Months.
- List other major items that will affect the project schedule: None

**Other alternates considered: No Build**

**Comments:**

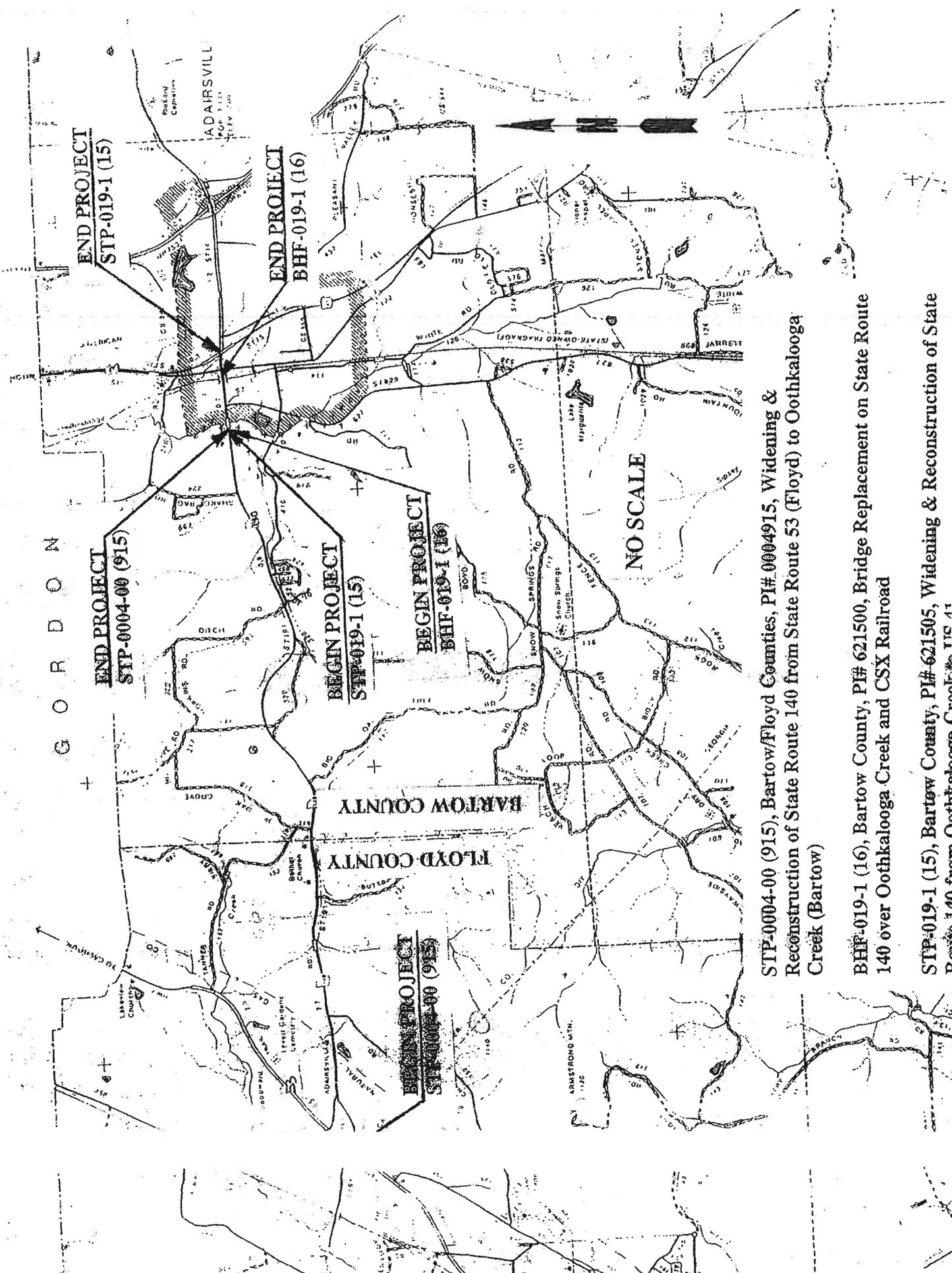
Project Concept Report  
Project Numbers: STP-0004-00(915), STP-019-1(15), BHF-019-1(16)  
P. I. Numbers: 0004915, 621500, 621505  
Counties: Bartow/Floyd

**Attachments:**

1. Cost Estimates:
  - a. Construction including E&C,
  - b. Right of Way, and
  - c. Utilities.
2. Sketch location map,
3. Typical sections,
4. Accident summaries,
5. Bridge Inventory,
6. Minutes of Initial Concept and Concept meetings,
7. Traffic Data,
8. Capacity analysis.

Concur: \_\_\_\_\_  
Director of Preconstruction

Approve: \_\_\_\_\_  
Chief Engineer



STP-004-00 (915), Bartow/Floyd Counties, PI# 0004915, Widening & Reconstruction of State Route 140 from State Route 53 (Floyd) to Oothkalooga Creek (Bartow)

BHF-019-1 (16), Bartow County, PI# 621500, Bridge Replacement on State Route 140 over Oothkalooga Creek and CSX Railroad

STP-019-1 (15), Bartow County, PI# 621505, Widening & Reconstruction of State Route 140 from Oothkalooga Creek to TTC 41

11-1

State Route 140 Widening  
STP-0004-00(915); STP-019-1 (15); BHF-019-1 (16)  
Bartow/Floyd  
PI# 0004915, 621500 and 621505

**Existing Conditions**

The existing characteristics of State Route 140 from SR-53 in Floyd County to SR 3/US 41 in Bartow County consists of two 12-foot lanes with a rural section that includes grass shoulders that varies in width and a posted speed of 55 miles per hour. The land use along this section of SR 140 is primarily residential and agricultural in Floyd County; undeveloped and residential in Bartow; and residential, commercial, industrial, and public land use in Adairsville. SR 140 serves as a Surface Transportation Assistance Act (STAA) truck route providing access to I-75. It also serves as a local school bus route. However, it is not presently part of a local or state bike plan.

A portion of SR 140 lies inside the Floyd-Rome Urbanized area. The section of SR 140 in Floyd County is inside the urbanized area, thus project 0004915 falls within the urban planning process. This project is in Rome's 2030 Transportation Plan. The 2030 Transportation Plan also includes a project to widen the section of SR 140 from SR 1 to SR 53.

**Logical Termini**

Project 0004915 begins at SR 53 in Floyd County where another widening project is proposed. SR 53 at its intersection with SR 140 is four lanes and west of the intersection volumes on SR 140 are less than the eastern side (10,300 AADT). Traffic volumes drop to 5580 AADT at the TC Station west of the intersection. The drop in traffic volume, the proposed widening of SR 140 west of SR 53 and the four lane section of SR 53 provides a logical west terminus for project 0004915.

The east terminus of project 0004915 is widening project 621500. Project 621500 terminates east of Cass Street (City Street 051701) at milepost 4.6. The east terminus of project 621500 is the four-lane section of SR 140.

**Traffic**

The 2003 traffic volumes range from an AADT of 10,300 vehicles to 13,800 vehicles. Traffic volumes (10,300 AADT) are lowest in Floyd County and increase to 13,800 in Bartow County. Traffic is projected to increase to 29,000 AADT by 2028.

As traffic continues to increase the Level of Services (LOS) is expected to decrease. The current LOS is at a Level D, and without improvements, the LOS is projected to drop to a Level E by 2028. Increasing the number of lanes from two-lanes to four-lanes will enable SR 140 to function at a Level C through 2028.

### **Accident Information**

There were 162 accidents along SR 140 between SR 53 and SR 3 between 2000 and 2002. The accidents increased by approximately 12% per year during the same period. There were 48 accidents in 2000, 54 in 2001 and 60 in 2002. The accidents in 2001 and 2002 included one fatality each.

From the total 162 accidents, 117 of the accidents occurred along a 5-mile section (Milepost 0.00 – 5.00) of SR 140 in Bartow County and 45 accidents occurred in Floyd County along a 2.88 mile section of SR 140. There are not a high percentage of accidents occurring in clusters along the section of SR 140. However, a large percentage of the accidents were either rear end or single vehicle type accidents. In Floyd County, rear end accidents accounted for 42% of the accidents and single vehicle type accidents accounted for 37%. In Bartow, approximately one-quarter of the accidents were rear end, another quarter were single vehicle and angle type accidents accounted for an additional quarter of the accidents.

The accident rates for 2001 and 2002 are below the statewide average for Rural Minor Arterials, and the 2000 accident rate is above the statewide average. The accident rates for SR 140 were 186 in 2002, 183 in 2001 and 193 in 2000. The statewide accident rates were 199, 186 and 182 for 2002, 2001 and 2000 respectively.

The one fatality in 2001 and 2002 resulted in fatality rates that exceed the average statewide fatality rates for the same functional classification. The fatality rate is 3 for both years and the statewide fatality rate is 2.32 for 2001 and 2.5 for 2002. The injury rates are below the statewide injury rates for all three years.

### **Bridges**

There are two bridges located along the section of SR 140 in Bartow County. Work on the two bridges is being done under project 621505. One of the bridges is located over the CSX railroad and the other over Oothkalooga Creek. Both bridges have a sufficiency rating above 50. The bridge over CSX sufficiency rating is 80 and is not currently on the Highway Bridge Replacement and Rehabilitation Program (HBRRP) Selection List. The bridge over CSX is expected to be added to the HBRRP selection List in April 2005 at which time it will be eligible for federal funds. The Oothkalooga Creek bridge has a sufficiency rating is 68.21 and is on the HBRRP Selection List. The Oothkalooga Creek Bridge currently meets the Department's policy 2405-1 for replacement and the bridge over CSX is expected to be in compliance in April 2005.

Projects 0004915, 621500 and 621505 are able to function independent of other projects and they do not limit future improvements in the area. There are no projects in the immediate area.

The widening of SR-140 will accommodate both the current and projected traffic along the corridor. This will allow the corridor to function at an acceptable Level of Service through 2028 and address the majority of accident types which are along this corridor.

A initial concept meeting was held May 27, 2004 for projects BHF 019 – (16), STP 019 – 1 (15), and STP 004 – 00 (915). The meeting was held in the District Six conference room and the following topics were discussed:

1. An open house will need to be held for the projects. Jim Shell will organize the event and invitees should include:
  - a. Representatives from local government including state representative
  - b. Special interest groups
  - c. Someone from Environmental Justice
  - d. Federal Agencies including FHWA
2. A Value Engineering study will need to be done on the whole project.
3. A planning study was done and the project was recommended due to traffic and truck traffic.
4. SHPO will be involved after the historic survey is complete.
5. The PDP classification needs to be checked (thought to be Exempt)
6. Due to high truck volume (14%), the following needs to be investigated:
  - a. including eyebrows at turn-around
  - b. pavement design
  - c. grade on existing road
  - d. include a median break at least every ½ mile
7. Look into replacing triple 10 x 10 culvert with bridge.
8. Have OEL delineate stream.
9. Have Traffic Ops look at intersections.
10. For the closing of a road, a letter will be written to the County and/or city (after the concept meeting but before the PIM).
11. Check to see if both bridges fall in the city limits of Adairsville.
12. Get letters from County on roads with un-posted speed limits.
13. Find out if Utilities will need to be attached to bridges.
14. The following changes needed to be made to the concept report:
  - a. under “level of environmental analysis:
    - i. “No” to time saving procedures
    - ii. “No” to categorical exclusion anticipated
    - iii. add Environmental Assessment / FONSI
  - b. Clarify who will be responsible for utilities
  - c. Under “Coordination – Public involvement” add “PIM and Open House”
  - d. Under “Scheduling” change ROW purchase to 18 months.
15. The existing gas line needs to be shown on the plans.
16. Include existing drainage calculations as well as proposed drainage calculations in Design data book.
17. Make sure sediment basins are placed as required.

# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

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September 10, 2004

To: See attached list

From: DeWayne Comer, P.E., Assistant District Engineer

Subject: Minutes from the Concept Team Meeting held September 8, 2004 for  
Projects: STP-0004-00 (915), STP-019-1 (15) & BHF-019-1 (15)  
PI #: 0004915, 621500 & 621505  
Counties: Bartow & Floyd

The meeting proceeded as follows:

- Introductions of those in attendance were made.
- A brief overview of the project was presented.
- The Draft Concept Report was reviewed along with the following additional information:
  - Possible historic properties and other environmental concerns.
  - Crash data along the projects.
  - Cost estimates for the projects.
- The floor was then turned over to questions and comments, of which there were none.

Please review this and submit any additional comments you may have to me at the District Six Preconstruction Office. Thank you for your attendance and comments.

JMC

Attendees:

Patrick Bowers – GDOT  
David Moore – GDOT  
Larry Pratt – City of Adairsville  
Kathy Spradley – GDOT  
Lisa Crawford – GDOT  
Stanley Horton – GDOT  
Kerry Bonner – GDOT  
Harlan Conley - GDOT  
Joe Ciavarro – GDOT  
Julie Smith – GDOT  
Kenny Beckworth – GDOT  
James Hughes – GDOT  
Andy Rikard – GDOT  
Pam Dingsby – GDOT

Paul Smith – State Representative  
Joey Davidson – Rome / Floyd County MPO  
Kevin Poe – Floyd County  
John Boyd – Floyd County  
Stanley McCarley – GDOT  
DeWayne Comer - GDOT  
Tom Bennett – Floyd County Commissioner

**PRELIMINARY COST ESTIMATE**

DATE: 3-May-04  
PROJECT: STP - 019 - 1 (15), Bartow County  
P.I. NO.: 621500

DESCRIPTION: This Project is for the widening and reconstruction of SR 140 from approximately 0.3 miles west of Oothkalooga Creek to US 41.

PROPOSED CONCEPT

EXISTING ROAD (If applicable)

TRAFFIC: Existing: 17800 Design: 29000

( ) PROGRAMMING PROCESS ( X ) CONCEPT DEVELOPMENT ( ) DURING PROJECT DEVELOPMENT

**PROJECT COST**

A. RIGHT OF WAY

- 1. PROPERTY (Land and Easements)
- 2. DISPLACEMENTS
- 3. OTHER COSTS

**SUBTOTAL: See Attached Sheet**

B. REIMBURSABLE UTILITIES

- 1. RAILROAD
- 2. TRANSMISSION LINES
- 3. SERVICES

**SUBTOTAL: See Attached Sheet**

C. MAJOR STRUCTURES

- 1. WALLS \$0.00
- 2. BRIDGE STREAM CROSSINGS \$0.00
- 3. BRIDGE OVER/UNDERPASS \$0.00
- 4. BOX CULVERTS \$75,400.00

## D. GRADING AND DRAINAGE

1. EARTHWORK		\$0.00
	Included in roadway project	
2. DRAINAGE		
	a. Cross drain pipes (exc. Box culverts)	\$0.00
	b. Curb & Gutter	\$0.00
	c. Longitudinal System (incl. Catch Basins)	\$0.00

**SUBTOTAL:** \$0.00

## E. BASE AND PAVING

1. AGGREGATE BASE		\$0.00
	0 tons @ \$0.00 / ton	
2. ASPHALT PAVING		\$0.00
	0 tons @ \$0.00 / ton	
3. CONCRETE PAVING		\$0.00
4. OTHER		\$0.00

**SUBTOTAL:** \$0.00

## F. LUMP ITEMS

1. TRAFFIC CONTROL		\$25,000.00
2. CLEARING AND GRUBBING		\$8,000.00
	2 acres @ \$4,000.00 / acre	
3. LANDSCAPING		\$0.00
4. EROSION CONTROL		\$20,000.00
5. DETOURS (Incl. Temp. Bridges)		\$0.00

**SUBTOTAL:** \$53,000.00

## G. MISCELLANEOUS

1. LIGHTING		\$0.00
2. SIGNING - STRIPING		\$1,000.00
3. GUARDRAIL		\$0.00
4. OTHER		\$10,000.00

## H. SPECIAL FEATURES

**SUBTOTAL:** \$0.00

**ESTIMATE SUMMARY**

A. RIGHT OF WAY	See Attached Sheet
B. REIMBURSABLE UTILITIES	See Attached Sheet

**CONSTRUCTION COST SUMMARY**

C. MAJOR STRUCTURES	\$1,632,800.00
D. GRADING AND DRAINAGE	\$0.00
E. BASE AND PAVING	\$0.00
F. LUMP ITEMS	\$53,000.00
G. MISCELLANEOUS	\$11,000.00
H. SPECIAL FEATURES	\$0.00
<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$1,696,800.00</b>
<b>E &amp; C (10%)</b>	<b>\$169,680.00</b>
<b>INFLATION (5% PER YEAR FOR 2 YEARS)</b>	<b>\$191,314.20</b>
<b>TOTAL CONSTRUCTION COST</b>	<b>\$2,057,794.20</b>
<b>GRAND TOTAL COST</b>	<b>\$0.00</b>

## PRELIMINARY COST ESTIMATE

DATE: 5-Apr-04  
PROJECT: STP-0000-00 (915), Floyd/Bartow Cc  
P.I. NO.: 4915

DESCRIPTION: This project is for the widening and reconstruction of SR 140 from SR 53 to approximately 0.3 miles west of Oothkalooga Creek.

### PROPOSED CONCEPT

EXISTING ROAD (If applicable)

TRAFFIC: Existing: 8900 Design: 14500

( ) PROGRAMMING PROCESS ( X ) CONCEPT DEVELOPMENT ( ) DURING PROJECT DEVELOPMENT

### PROJECT COST

#### A. RIGHT OF WAY

1. PROPERTY (Land and Easements)
2. DISPLACEMENTS
3. OTHER COSTS

**SUBTOTAL: See Attached Sheet**

#### B. REIMBURSABLE UTILITIES

1. RAILROAD
2. TRANSMISSION LINES
3. SERVICES

**SUBTOTAL: See Attached Sheet**

#### C. MAJOR STRUCTURES

1. WALLS	\$67,500.00
300' x 12' @ \$460/CY Concrete	
2. BRIDGE STREAM CROSSINGS	\$332,000.00
3. BRIDGE OVER/UNDERPASS	\$0.00
4. BOX CULVERTS	\$250,000.00

## D. GRADING AND DRAINAGE

1. EARTHWORK		\$3,750,000.00
	750,000 Cu Yds @ \$5.00	
2. DRAINAGE		
a. Cross drain pipes (exc. Box culverts)		\$384,400.00
	4 -18" FES, 340' of 18" Storm Drain Pipe	
	10-24 FES, 850' of 24" Storm Drain Pipe	
	10-36" FES, 850' of 36" Storm Drain Pipe	
	2-42" FES, 170' of 42" Storm Drain Pipe	
	6-48" HW, 510' of 48" Storm Drain Pipe	
	154-18" SE, 3850' of Side Drain Pipe, 12-48" SE, 300' of	
	48" Side Drain Pipe 2-60" HW, 100' Side Drain Pipe	
b. Curb & Gutter		\$0.00
c. Longitudinal System (incl. Catch Basins)		\$0.00
	<b>SUBTOTAL:</b>	<b>\$4,134,400.00</b>

## E. BASE AND PAVING

1. AGGREGATE BASE		\$4,950,000.00
	198000 tons @ \$25.00 / ton	
2. ASPHALT PAVING		\$11,000,000.00
	220000 tons @ \$50.00 / ton	
3. CONCRETE PAVING		
4. OTHER		
	<b>SUBTOTAL:</b>	<b>\$15,950,000.00</b>

## F. LUMP ITEMS

1. TRAFFIC CONTROL		\$50,000.00
2. CLEARING AND GRUBBING		\$624,000.00
	156 acres @ \$4,000.00 / acre	
3. LANDSCAPING		
4. EROSION CONTROL		\$750,000.00
5. DETOURS (Incl. Temp. Bridges)		
	<b>SUBTOTAL:</b>	<b>\$1,424,000.00</b>

## G. MISCELLANEOUS

1. LIGHTING	
2. SIGNING - STRIPING	\$160,000.00
3. GUARDRAIL	\$250,000.00
4. OTHER	

<b>SUBTOTAL:</b>	<b>\$410,000.00</b>
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## H. SPECIAL FEATURES

<b>SUBTOTAL:</b>	<b>\$0.00</b>
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## LATE SUMMARY

A. RIGHT OF WAY	See Attached Sheet
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B. REIMBURSABLE UTILITIES	See Attached Sheet
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## CONSTRUCTION COST SUMMARY

C. MAJOR STRUCTURES	\$649,500.00
D. GRADING AND DRAINAGE	\$4,134,400.00
E. BASE AND PAVING	\$15,950,000.00
F. LUMP ITEMS	\$1,424,000.00
G. MISCELLANEOUS	\$410,000.00
H. SPECIAL FEATURES	\$0.00

<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$22,567,900.00</b>
-----------------------------------	------------------------

<b>E &amp; C (10%)</b>	<b>\$2,256,790.00</b>
------------------------	-----------------------

<b>INFLATION (5% PER YEAR FOR 2 YEARS)</b>	<b>\$2,544,530.73</b>
--	-----------------------

<b>TOTAL CONSTRUCTION COST</b>	<b>\$27,369,220.73</b>
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<b>GRAND TOTAL COST</b>	<b>\$0.00</b>
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**PRELIMINARY COST ESTIMATE**

DATE: 3-May-04  
PROJECT: BHF - 019 - 1 (16), Bartow County  
P.I. NO.: 621505

DESCRIPTION: This project is for the bridge replacement of SR 140 over Oothkalooga Creek and CSX Railroad

PROPOSED CONCEPT

EXISTING ROAD (If applicable)

TRAFFIC: Existing: 17800 Design: 29000

( ) PROGRAMMING PROCESS ( X ) CONCEPT DEVELOPMENT ( ) DURING PROJECT DEVELOPMENT

**PROJECT COST**

A. RIGHT OF WAY

- 1. PROPERTY (Land and Easements)
- 2. DISPLACEMENTS
- 3. OTHER COSTS

**SUBTOTAL:** See Attached Sheet

B. REIMBURSABLE UTILITIES

- 1. RAILROAD
- 2. TRANSMISSION LINES
- 3. SERVICES

**SUBTOTAL:** See Attached Sheet

C. MAJOR STRUCTURES

- 1. WALLS \$0.00
- 2. BRIDGE STREAM CROSSINGS \$889,200.00  
(2) 180' x 38' bridges @ \$65 sq. ft.
- 3. BRIDGE OVER/UNDERPASS \$743,600.00  
130' x 88' bridge @ \$65 sq. ft.
- 4. BOX CULVERTS \$0.00

## D. GRADING AND DRAINAGE

1. EARTHWORK	\$540,000.00
90000 Cu Yds @ \$6.00	
2. DRAINAGE	
a. Cross drain pipes (exc. Box culverts)	\$16,000.00
400' of 18" pipe, 16 safety end sections (18")	
b. Curb & Gutter	\$150,000.00
(Including median)	
c. Longitudinal System (incl. Catch Basins)	\$180,000.00
<b>SUBTOTAL:</b>	<b>\$886,000.00</b>

## E. BASE AND PAVING

1. AGGREGATE BASE	\$785,000.00
31400 tons @ \$25.00 / ton	
2. ASPHALT PAVING	\$1,760,000.00
35200 tons @ \$50.00 / ton	
3. CONCRETE PAVING	\$0.00
4. OTHER	\$0.00
<b>SUBTOTAL:</b>	<b>\$2,545,000.00</b>

## F. LUMP ITEMS

1. TRAFFIC CONTROL	\$50,000.00
2. CLEARING AND GRUBBING	\$100,000.00
25 acres @ \$4,000.00 / acre	
3. LANDSCAPING	\$0.00
4. EROSION CONTROL	\$150,000.00
5. DETOURS (Incl. Temp. Bridges)	\$0.00
<b>SUBTOTAL:</b>	<b>\$300,000.00</b>

## G. MISCELLANEOUS

1. LIGHTING	\$60,000.00
2. SIGNING - STRIPING	\$30,000.00
3. GUARDRAIL	\$30,000.00
4. OTHER	\$10,000.00

## H. SPECIAL FEATURES

<b>SUBTOTAL:</b>	<b>\$0.00</b>
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**DEPARTMENT OF TRANSPORTATION**

**STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

**FILE** STP-0004-00(915) Floyd/Bartow **OFFICE** Environment/Location  
STP-01901(15) Bartow  
P.I. Nos. 0004915 & 621500 **DATE** October 16, 2003

**FROM** Harvey D. Keepler, State Environmental/Location Engineer

**TO** Kent Sager, P.E., District Engineer, Cartersville  
**Attn: DeWayne Comer**

**SUBJECT** Design Traffic Data for SR 140 FM SR 53/Floyd TO SR3/US 41/Bartow

Design traffic for the above project is in the attached Micro-station file.

If you have any questions, please call Teresa Williamson @ (404) 699-4458.

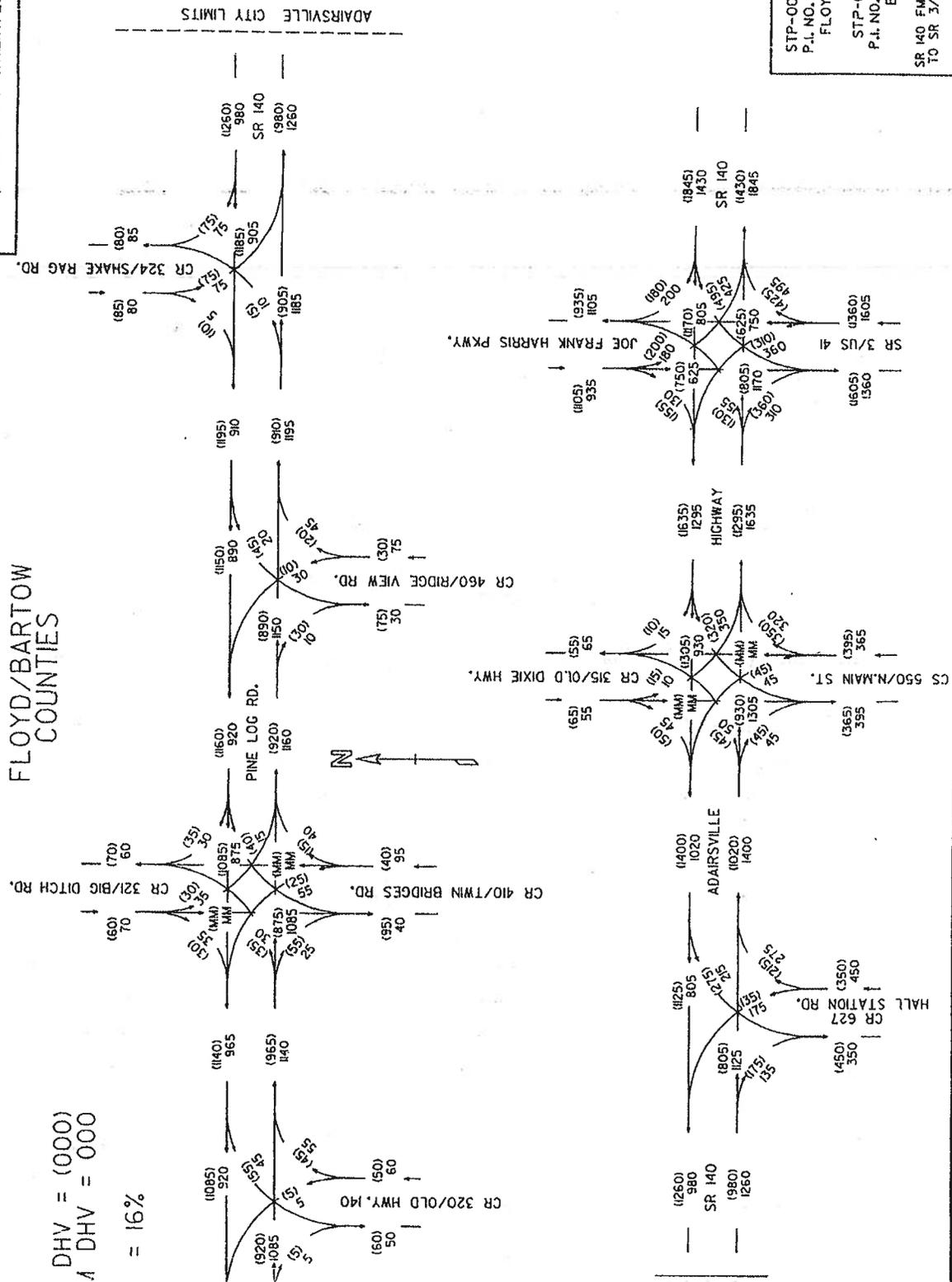
HDK/TJW

Attachment



FLOYD/BARTOW  
COUNTIES

2028 DHV = (000)  
2021 DHV = 000  
= 16%



STP-0004-00(915)  
P.L. NO. 0004915  
FLOYD-BARTOW  
&  
STP-019-(115)  
P.L. NO. 621500  
BARTOW  
SR 140 FM SR 53/FLCY  
TO SR 3/US 41/BARTOW

**ESTIMATE SUMMARY**

A. RIGHT OF WAY	See Attached Sheet
B. REIMBURSABLE UTILITIES	See Attached Sheet

**CONSTRUCTION COST SUMMARY**

C. MAJOR STRUCTURES	\$75,400.00
D. GRADING AND DRAINAGE	\$886,000.00
E. BASE AND PAVING	\$2,545,000.00
F. LUMP ITEMS	\$300,000.00
G. MISCELLANEOUS	\$130,000.00
H. SPECIAL FEATURES	\$0.00
<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$3,936,400.00</b>
<b>E &amp; C (10%)</b>	<b>\$393,640.00</b>
<b>INFLATION (5% PER YEAR FOR 2 YEARS)</b>	<b>\$443,829.10</b>
<b>TOTAL CONSTRUCTION COST</b>	<b>\$4,773,869.10</b>
<b>GRAND TOTAL COST</b>	<b>\$0.00</b>

**McCarley, Stanley**

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**From:** Digsby, Pam  
**Sent:** Tuesday, February 10, 2004 3:11 PM  
**To:** McCarley, Stanley  
**Subject:** STP-0004-00(915) & STP-019-1(15) & (16) Floyd/Bartow

Stan,

The R/W cost for the above projects is \$3.2 million.

Pam

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE**            STP-0004-00(915)    P.I. 0004915  
                    STP-019-1(15)        P.I. 621500  
                    BHF-019-01(16)      P.I. 621505  
                    Widening & Reconstruction on SR 140  
                    From SR 53 to US 41 and bridges over CSX  
                    Railroad and Oothkalooga Creek

**FROM**           Kerry D. Bonner  
                    District Utilities Engineer

**DATE**           July 23, 2004

**SUBJECT**       PRELIMINARY UTILITY COST ESTIMATE

As requested by your office, we are furnishing you with a Preliminary Utility Cost estimates for each utility with facilities potentially located within the project limits.

FACILITY OWNER	NON- REIMBURSABLE	REIMBURSABLE	LOCAL GOVT. COST
Floyd County Water	\$668,310.00		
Southern Natural Gas	\$630,620.00		
Georgia Power	\$820,000.00		
BellSouth	\$487,800.00		
Bartow County Water	\$55,997.00		
City of Adairsville	\$2,470.00		
<b>Totals</b>	<b>\$2,665,197.00</b>		

Total Preliminary Utility Cost Estimate \$2,665.197.00

If you have any questions, please contact Stanley Horton at 770-382-3616

KDB/lsh

cc: Jeff Baker, State Utilities Engineer

FILE/Estimating BOOK

File



# GEORGIA DEPARTMENT OF TRANSPORTATION

## Culvert Bridge Inspection Report

District: 6  
Bridge Inspector: Danny Mealer  
Location ID: 115-00140D-009.66F  
Structure ID: 115-0056-0

Inspection Date: 10/24/2003  
Over: WOODWARD CREEK TRIB.  
County: Floyd  
Road Name: SR 140

Inspection Area: 06  
Bridge Status: 06  
Skew: 30

### EVALUATION & DEFICIENCIES

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Construction Date: 1964

Year Reconstructed: 0000

Culvert Type: Q-RCBC - Reinforced concrete bridge culvert.

0-No Apron present.

3 Barrels at 10.00 X 10.00 Barrel Length: 62.00 Ft. Under 4 Feet of Fill.

Pipe Beveled: Inlet () Outlet () Toe Wall: Inlet (X) Outlet (X)

#### Channel Bed Probing: (Location of Probing & Findings)

The channel bed was probed both upstream & downstream for soundness.

The channel bed is a firm soil with a high gravel content with 1' or less penetration.

#### Channel Bed Scour: (Scour Description & Extent)

Inlet end - minor scour of 1.5' to 2.3' at the rear wing and barrel #1 with 1' of undermining.  
1' of scour at the intermediate wall of barrel #2 and #3.

Outlet end - .3' at the rear wing and barrel #1.

#### Inspection Procedures & Findings

The culvert has no aprons present.

The culvert is in satisfactory condition except for minor cracking present inside of all barrels and wing connectors with efflorescence.

Minor gravel build up of 1' to 3' in barrels #2 and #3.

The channel alignment has changed since construction.

Gravel build up has shifted.

Culvert Condition Code:

6-Initial deterioration, chloride contamination, efflorescence, or spalls.

Scour Condition Code 6-Slight scour present.

\*\*\*Shool Bus Route.\*\*\*

**Structure Does Not Require Posting**

# GEORGIA DEPARTMENT OF TRANSPORTATION

## Bridge Inspection Report

District: 6  
 Bridge Inspector: Darryl Mealer  
 Location ID: 015-00140D-004.30E  
 Structure ID: 015-0049-0

Inspection Date: 10/7/2002  
 Over: CSX RAILROAD (340492V)  
 County: Bartow  
 Road Name: SR 140

Inspection Area: 06  
 Bridge Status: 07

### EVALUATION & DEFICIENCIES

**SubStructure:**

Year Painted: 1980

Concrete cap units founded on (4 - 12") driven steel "H" piling.  
 The piling were last painted in 1980 with a lead paint system.

The substructure inventory capacity = HS-20 (design)

Both abutments have minor cap cracking.  
 Bent #3 on the bottom of the right end of the cap is a minor crack up the face due to shallow re-bar.  
 Minor corrosion on all piling in bents #2 and #3.

**SuperStructure:**

Year Painted: 0000

3 spans with (4) concrete "T" beams per span.

The superstructure inventory capacity = HS-20 (design)

The superstructure has very minor deflection cracking.

**Deck:**

7" concrete slab.

The deck inventory capacity = HS-20 (design)

The deck has minor surface cracking.  
 Minor deck spall in span #3 of 2 square feet requires repair.

Spans #2 and #3 have several small areas which have been cut out and repaired.  
 The joints have several areas of failure, require sealing.

**General:**

Built in 1961 with project # S-0828 (4)  
 Proposed project # BHF-019-1 (16)

This structure is in good condition with only minor deficiencies.

Equipment used during this inspection, hand tools and binoculars.  
 Due to schedule this bridge will be snooper at later date.

**Condition Rating**

Temp Shored: No

Component	Material	Rating	Truck Type	Gross/H-Mod	HSMOD	Tand	3-S-2	Log	Piggy
Substructure	Steel / Conc.	7	Calculated Posting	20	25	28	40	36	40
Superstructure	Concrete	7	Posting Required	No	No	No	No	No	No
Deck	Concrete	7	Existing Posting	00	00	00	00	00	00

\*\*\*School Bus Route.\*\*\*

Structure Does Not Require Posting

# GEORGIA DEPARTMENT OF TRANSPORTATION

## Bridge Inspection Report

District: 6  
Bridge Inspector: Danny Mealer  
Location ID: 015-00140D-003.91F  
Structure ID: 015-0048-0

Inspection Date: 10/2/2002  
Over: OOTHKALOOGA CREEK  
County: Bartow  
Road Name: SR 140

Inspection Area: 06  
Bridge Status: 07

### EVALUATION & DEFICIENCIES

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#### SubStructure:

Year Painted: 1994

Bent #3 has (2) concrete columns founded on spread footings.  
All other units are on (4 - 12") driven steel "H" piling.  
The piling were last painted in 1994 with a non lead paint system.

The substructure inventory capacity = HS-20 (design)

#### Minor cracks in abutment #1.

Bent #2 pile were encased by maintenance with a 2' high encasement which was place on the channel bed and is now undermined.  
The concrete encasements should be removed and encased 2' below the mud line.

Bent #4 cap has several minor cracks as detailed below.

Crack out from pile #2 and up each face 8".

At the right edge of beam #2 on the rear face a crack extends from the top down and across the bottom.

Under beam #3 a crack begins at the top and runs down the rear face and across the bottom to the right edge of pile #3.

At the right edge of beam #3 a crack begins 9" below the top of the cap rear face and extends across the bottom and up the forward face to the same location as the beginning.

2 small cracks under beam #4 from the top of the cap down 18" on both faces.

None of these cracks require sealing at this time.

All piling in bents #2 and #4 have minor corrosion at the ground line.

#### SuperStructure:

Year Painted: 0000

4 spans with (4) concrete "T" beams per span.

The superstructure inventory capacity = HS-20 (design)

The superstructure has very minor deflection cracks.

#### Deck:

7" concrete slab.

The deck inventory capacity = HS-20 (design)

The deck is good except for very minor surface deterioration and cracking.

#### General:

Built in 1961 with project # S-0828 (4)

Proposed project # BHF-019-1(16)

This structure is in good condition with only minor deficiencies.

Equipment used during this inspection , hand tools .

# GEORGIA DEPARTMENT OF TRANSPORTATION

## Bridge Inspection Report

District: 6  
 Bridge Inspector: Danny Mealer  
 Location ID: 015-00140D-003.91E  
 Structure ID: 015-0048-0

Inspection Date: 10/2/2002  
 Over: OOTHKALOOGA CREEK  
 County: Bartow  
 Road Name: SR 140

Inspection Area: 06  
 Bridge Status: 07

### EVALUATION & DEFICIENCIES

#### Condition Rating

Temp Shored: No

Component	Material	Rating	Truck Type	Gross/H-Mod	HMod	Tand	3-S-2	Log	Piggy
Substructure	Steel / Conc.	7	Calculated Posting	20	25	28	40	36	40
Superstructure	Concrete	7	Posting Required	No	No	No	No	No	No
Deck	Concrete	7	Existing Posting	00	00	00	00	00	00

\*\*\*School Bus Route.\*\*\*

Structure Does Not Require Posting





# RC \* Web\* INFO

## Requested Information for Floyd County

Route Type 1

Route Number 014000

Route Type	Route Number	Begin Measure	End Measure	Speed Limited	Func. Class	ROW	Truck %	Prev AADT	AADT	Intersect Road 1
1	014000	7.59	7.65	55	6	120-E	15%-E	5000	5300	
1	014000	7.65	7.67	55	6	120-E	15%-E	5000	5300	
1	014000	7.67	7.7	55	6	120-E	15%-E	5000	5300	
1	014000	7.7	7.76	55	6	84-E	15%-E	6200	7300	CALHOUN HWY <del>RS</del>
1	014000	7.76	7.84	55	6	80-E	15%-E	6200	7300	
1	014000	7.84	8.03	55	6	80-E	15%-E	6200	7300	
1	014000	8.03	8.22	55	6	80-E	15%-E	6200	7300	
1	014000	8.22	8.64	55	6	80-E	15%-E	6200	7300	OLD ADAIRSVILLE RD
1	014000	8.64	8.87	55	6	80-E	15%-E	6200	7300	
1	014000	8.87	9.05	55	6	80-E	15%-E	6200	7300	RUSH CHAPEL RD
1	014000	9.05	9.49	55	6	80-E	15%-E	6200	7300	
1	014000	9.49	9.88	55	6	80-E	15%-E	6200	7300	WOODWARD CREEK?
1	014000	9.88	10.04	55	6	80-E	15%-E	6200	7300	BUTTRAM RD
1	014000	10.04	10.06	55	6	80-E	15%-E	6200	7300	
1	014000	10.06	10.38	55	6	80-E	15%-E	6200	7300	
1	014000	10.38	10.38	55	6	80-E	15%-E	6200	7300	

### QUERY SUMMARY

For Year(s): 1995,1996,1997,1998,1999,2000,2001,2002

Year	County	Route Type	Route Number	Beginning Milelog	Ending Milelog	No. Accidents	No. Vehicles	No. Injuries	No. Fatalities
1995	Floyd	State Route	014000	7.60	999.99	8	12	5	0
1995 SubTotal						8	12	5	0
1996	Floyd	State Route	014000	7.60	999.99	12	15	4	0
1996 SubTotal						12	15	4	0
1997	Floyd	State Route	014000	7.60	999.99	13	23	7	2
1997 SubTotal						13	23	7	2
1998	Floyd	State Route	014000	7.60	999.99	7	9	2	0
1998 SubTotal						7	9	2	0
1999	Floyd	State Route	014000	7.60	999.99	7	11	1	0
1999 SubTotal						7	11	1	0
2000	Floyd	State Route	014000	7.60	999.99	13	22	12	0
2000 SubTotal						13	22	12	0
2001	Floyd	State Route	014000	7.60	999.99	13	24	11	0
2001 SubTotal						13	24	11	0
2002	Floyd	State Route	014000	7.60	999.99	17	29	5	0
2002 SubTotal						17	29	5	0
<b>All Year(s)Total</b>						<b>90</b>	<b>145</b>	<b>47</b>	<b>2</b>

Based on the above table you may now run the Accident Rates and/or Pre-Defined and User-Defined Reports

<u>Accident Rates</u>	
<b>PRE-DEFINED REPORTS</b>	<b>USER-DEFINED REPORTS</b>
<a href="#">Analysis Report 1</a> <a href="#">Analysis Report 2 (without Ramp Information)</a> <a href="#">Analysis Report 3</a>	<a href="#">Go to Field Selection</a> (to select or view fields selected)  <a href="#">Run Detail Report</a>
You may CHANGE the Route(s) and/or Year(s) for both the PRE-DEFINED and USER-DEFINED Reports by clicking on the links below.	
<a href="#">Route Selection</a> <a href="#">Year Selection</a>	
<a href="#">Home Page</a>	

Case No.	Date/Time	Floyd Route	State Route	Time	Count	Angle	Location	Motion	Lighting	Weather						
9990073240060	11:27:00.0	Floyd Route	014000	8.22	2	015300	0 0	Angle	Roadway	Motion	Daylight	Dry	S	W	04	02
9990072640395	1997-10-12 01:58:00.0	Floyd Route	014000	8.78	0 0			Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	W	05		
9990072640449	1997-10-26 10:09:00.0	Floyd Route	014000	8.87	2	015000	0 0	Head On	On Roadway	Motor Vehicle in Motion	Daylight	Wet	E	W	08	05
9990073240111	1997-12-13 23:24:00.0	Floyd Route	014000	8.87	2	015000	0 0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	E	05		
9990072170488	1997-08-12 16:49:00.0	Floyd Route	014000	9.88	2	015100	1 0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	01	05
9990072640379	1997-10-09 13:34:00.0	Floyd Route	014000	9.88	2	015100	1 0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	01	09
9990072640424	1997-10-21 15:56:00.0	Floyd Route	014000	9.88	2	015100	1 0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Wet	E	E	01	05
9990072940505	1997-11-26 05:45:00.0	Floyd Route	014000	9.98	0 0			Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	E	05		
9990072540405	1997-11-04 19:49:00.0	Floyd Route	014000	999.99	0 0			Sideswipe - Opposite Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	04	05
9990073320840	1997-12-08 15:25:00.0	Floyd Route	014000	999.99	0 0			Sideswipe - Opposite Direction	On Roadway	Motor Vehicle in Motion	Daylight	Wet	E	W	05	09
9990072710355	1997-10-04 19:21:00.0	Floyd Route	014000	999.99	0 0			Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Dusk	Dry	E	02		
9990081700645	1998-06-04 17:08:00.0	Floyd Route	014000	7.92	0 0			Sideswipe - Opposite Direction	On Roadway	Motor Vehicle in Motion	Daylight	Wet	E	W	10	10
9990080180920	1998-01-16 23:00:00.0	Floyd Route	014000	8.17	1 0			Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dark-Not Lighted	Dry	W	10		
9990081260215	1998-05-12 09:28:00.0	Floyd Route	014000	8.22	2	015300	0 0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	S	S	04	05
9990081820362	1998-07-02 04:37:00.0	Floyd Route	014000	8.25	1 0			Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Dark-Not Lighted	Dry	W	05		
9990081820449	1998-07-27 00:52:00.0	Floyd Route	014000	8.52	0 0			Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Dark-Not Lighted	Dry	W	05		
9990081260212	1998-05-11 23:45:00.0	Floyd Route	014000	9.88	2	015100	0 0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	W	05		
9990081530394	1998-06-18 06:54:00.0	Floyd Route	014000	10.38	0 0			Not A Collision With A Motor Vehicle	On Roadway	Deer	Daylight	Dry	E	05		
92860899	1999-12-17 00:00:00.0	Floyd Route	014000	7.80	0 0			Angle	On Roadway	Motor Vehicle in Motion	Dark-Lighted	Dry	S	W	11	05
91970141	1999-11-30 00:00:00.0	Floyd Route	014000	7.95	0 0			Angle	On Roadway	Deer	Dark-Not Lighted	Dry	E	W	10	10
92280307	1999-10-13 00:00:00.0	Floyd Route	014000	8.22	2	015300	0 0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Daylight	Wet	E	05		
92860920	1999-12-21 00:00:00.0	Floyd Route	014000	8.87	2	015000	0 0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Wet	E	E	05	05
91970126	1999-11-26 00:00:00.0	Floyd Route	014000	8.87	2	015000	0 0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dusk	Dry	W	05		
92710135	1999-08-23 00:00:00.0	Floyd Route	014000	9.27	1 0			Not A Collision With A Motor Vehicle	Off Roadway	Culvert	Daylight	Dry	E	E	05	05
91970083	1999-11-19 00:00:00.0	Floyd Route	014000	9.88	2	015100	0 0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	W	05		

Case No.	Date/Time	State Route	County	Time	Accident Type	Severity	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet E W 05 01
14210507	2001-08-12 00:00:00.0	Floyd	Floyd	014000 10.37		2	0	0	0	0	0
23190305	2002-10-07 00:00:00.0	Floyd	Floyd	014000 7.64	Not A Collision With A Motor Vehicle	1	0	0	0	0	0
24070196	2002-12-08 00:00:00.0	Floyd	Floyd	014000 7.80	Rear End	0	0	0	0	0	0
21220087	2002-04-15 00:00:00.0	Floyd	Floyd	014000 7.90	Not A Collision With A Motor Vehicle	0	0	0	0	0	0
20920843	2002-05-16 00:00:00.0	Floyd	Floyd	014000 8.10	Not A Collision With A Motor Vehicle	1	0	0	0	0	0
22890681	2002-09-25 00:00:00.0	Floyd	Floyd	014000 8.54	Not A Collision With A Motor Vehicle	0	0	0	0	0	0
21500858	2002-05-15 00:00:00.0	Floyd	Floyd	014000 8.57	Rear End	1	0	0	0	0	0
22570077	2002-08-29 00:00:00.0	Floyd	Floyd	014000 8.87	Rear End	2	0	0	0	0	0
22570035	2002-08-20 00:00:00.0	Floyd	Floyd	014000 8.87	Rear End	2	0	0	0	0	0
23190337	2002-10-17 00:00:00.0	Floyd	Floyd	014000 8.87	Not A Collision With A Motor Vehicle	2	0	0	0	0	0
21500902	2002-05-29 00:00:00.0	Floyd	Floyd	014000 8.97	Not A Collision With A Motor Vehicle	0	0	0	0	0	0
23540599	2002-11-23 00:00:00.0	Floyd	Floyd	014000 9.46	Not A Collision With A Motor Vehicle	0	0	0	0	0	0
23190320	2002-10-13 00:00:00.0	Floyd	Floyd	014000 9.79	Angle	1	0	0	0	0	0
20930060	2002-03-28 00:00:00.0	Floyd	Floyd	014000 9.98	Not A Collision With A Motor Vehicle	0	0	0	0	0	0
23540527	2002-11-07 00:00:00.0	Floyd	Floyd	014000 10.13	Rear End	0	0	0	0	0	0
21220094	2002-04-16 00:00:00.0	Floyd	Floyd	014000 10.13	Rear End	0	0	0	0	0	0
21790725	2002-06-11 00:00:00.0	Floyd	Floyd	014000 10.18	Rear End	1	0	0	0	0	0
22060660	2002-07-27 00:00:00.0	Floyd	Floyd	014000 10.28	Angle	0	0	0	0	0	0
				Total Accidents: 90	Total Vehicles: 145			Total Injuries: 47			Total Fatalities: 2

ANALYSIS REPORT 1

<b>Go To</b>
List of Routes
Query Summary
Year Selection

Number of Records: 182

Accident #	Date	County	Rt Type	Route Mile	Int Rt Type	Int Rt Ramp	Inj Fatal	Manner of Collision	LOC	First Harmful Event	Light	Surface D1	D2	VMI	VM2
9990052130865	1995-09-01 21:37:00.0	Bartow	State Route	014000 0.15	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Overturn	Dark-Not Lighted	Wat	W	10		
9990052020057	1995-05-15 16:46:00.0	Bartow	State Route	014000 0.17	3	1	Head On	On Roadway	Motor Vehicle in Motion	Daylight	Wet	E	W	05	05
9990052660344	1995-11-17 12:04:00.0	Bartow	State Route	014000 0.30	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	10	12
9990052130955	1995-09-19 18:46:00.0	Bartow	State Route	014000 0.50	2	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	09	02
9990050660464	1995-03-07 07:45:00.0	Bartow	State Route	014000 0.70	4	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Wet	W	W	04	05
9990050210505	1995-01-16 07:55:00.0	Bartow	State Route	014000 0.78	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	05	12
9990050660569	1995-03-24 16:01:00.0	Bartow	State Route	014000 0.88	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	05	05
9990050430921	1995-02-07 00:13:00.0	Bartow	State Route	014000 0.98	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Highway Traffic Sign Post	Dark-Not Lighted	Snowy	E	10		
9990052130873	1995-09-05 08:16:00.0	Bartow	State Route	014000 1.08	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Fence	Daylight	Dry	E	10		
9990050910707	1995-04-16 06:11:00.0	Bartow	State Route	014000 1.09	2	0	Not A Collision With A Motor Vehicle	Off Roadway	Overturn	Dawn	Dry	W	10		
9990051140539	1995-05-13 15:00:00.0	Bartow	State Route	014000 1.09	2	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	N	10	01
9990051380690	1995-06-11 19:12:00.0	Bartow	State Route	014000 1.09	2	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Wet	E	W	10	10
9990052660358	1995-11-19 13:29:00.0	Bartow	State Route	014000 2.11	3	0	Angle	On Shoulder	Motor Vehicle in Motion	Daylight	Dry	E	E	12	05
9990052910250	1995-12-07 23:25:00.0	Bartow	State Route	014000 2.24	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dark-Not Lighted	Dry	N	05		
9990052500326	1995-10-13 15:10:00.0	Bartow	State Route	014000 2.49	2	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	09	01
9990052500373	1995-10-21 07:48:00.0	Bartow	State Route	014000 2.70	4	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dawn	Dry	E	05		
9990050120036	1995-01-23 06:40:00.0	Bartow	State Route	014000 2.94	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Lighted	Wet	E	W	01	05
9990051860883	1995-08-11 06:20:00.0	Bartow	State Route	014000 3.49	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Lighted	Dry	E	05		
9990050910678	1995-04-10 14:45:00.0	Bartow	State Route	014000 3.58	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	04	05
9990051670060	1995-07-20 23:30:00.0	Bartow	State Route	014000 3.88	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	E	05		
9990051980944	1995-09-26 18:23:00.0	Bartow	State Route	014000 4.06	2	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	S	W	01	05
9990050120032	1995-01-11 12:39:00.0	Bartow	State Route	014000 4.28	2	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Wet	S	E	05	05
	1995-06-02	State						On							

990061720499	1996-07-14 18:08:00.0	State Route	Bartow	014000	3.98	2	062700	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	N	02	04
990060360188	1996-02-07 11:19:00.0	State Route	Bartow	014000	4.28	2	051500	1	0	Not A Collision With A Motor Vehicle	On Roadway	Other Non-Collision	Daylight	Dry	E	N	05	02
990060390692	1996-03-01 12:05:00.0	State Route	Bartow	014000	4.28	2	031500	1	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	W	01	05
990061830400	1996-07-28 22:50:00.0	State Route	Bartow	014000	4.43	3	0	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Mailbox	Dark-Not Lighted	Dry	N	N	10	
990062880623	1996-11-05 06:53:00.0	State Route	Bartow	014000	4.43	1	0	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	W	02	01
990071080399	1997-04-20 17:00:00.0	State Route	Bartow	014000	0.05	1	0	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Daylight	Dry	E	E	05	
990073300744	1997-12-17 09:40:00.0	State Route	Bartow	014000	0.30	0	0	0	0	Sideswipe - Same Direction	On Roadway	Parked Motor Vehicle	Daylight	Dry	E	E	08	10
990072690348	1997-10-26 14:58:00.0	State Route	Bartow	014000	0.50	2	011700	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Other Non-Collision	Daylight	Wet	W	W	10	
990070310356	1997-01-27 19:43:00.0	State Route	Bartow	014000	0.98	2	032000	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Wet	E	E	10	
990071570525	1997-06-19 16:35:00.0	State Route	Bartow	014000	0.99	1	0	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Wet	W	W	01	05
990072490686	1997-09-07 19:40:00.0	State Route	Bartow	014000	1.62	0	0	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Daylight	Dry	W	W	05	
990071570598	1997-06-30 14:25:00.0	State Route	Bartow	014000	2.74	0	0	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Daylight	Dry	E	E	05	
990070580387	1997-02-21 00:33:00.0	State Route	Bartow	014000	3.14	2	0	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dark-Not Lighted	Dry	W	W	05	
990070190054	1997-01-24 15:22:00.0	State Route	Bartow	014000	3.98	2	062700	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Wet	W	W	05	01
990070860002	1997-03-13 15:09:00.0	State Route	Bartow	014000	3.98	2	062700	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Wet	W	W	09	01
990070860006	1997-03-25 08:12:00.0	State Route	Bartow	014000	3.98	2	062700	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	E	01	05
990072630859	1997-10-14 14:39:00.0	State Route	Bartow	014000	3.98	2	062700	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	N	01	01
990072150469	1997-08-07 06:25:00.0	State Route	Bartow	014000	3.98	2	062700	0	0	Not A Collision With A Motor Vehicle	On Roadway	Animal	Dawn	Dry	E	W	05	05
990070450391	1997-02-14 12:38:00.0	State Route	Bartow	014000	4.28	2	031500	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Wet	W	N	07	05
990072920528	1997-11-19 15:26:00.0	State Route	Bartow	014000	4.28	2	031500	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	N	05	01
990070450393	1997-02-18 09:35:00.0	State Route	Bartow	014000	4.28	2	031500	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	09	01
990081680080	1998-07-16 11:12:00.0	State Route	Bartow	014000	0.41	1	1	1	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Wet	W	E	10	10
990081390427	1998-05-24 23:00:00.0	State Route	Bartow	014000	1.16	1	0	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Guardrail Face	Dark-Not Lighted	Dry	E	E	10	
990081060355	1998-04-01 09:42:00.0	State Route	Bartow	014000	3.54	1	0	0	0	Sideswipe - Opposite Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	E	05	05
990081950747	1998-07-05 17:08:00.0	State Route	Bartow	014000	3.54	1	0	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Overturn	Daylight	Dry	E	E	05	05

2000446	2000-07-27 00:00:00.0	Barrow State Route	014000	3.98	2	062700	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	02	02
11310407	2000-04-05 00:00:00.0	Barrow State Route	014000	3.98	2	062700	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	05	04
3500896	2000-12-01 00:00:00.0	Barrow State Route	014000	4.04			0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Lighted	Dry	W	W	05	04
12510492	2000-10-23 00:00:00.0	Barrow State Route	014000	4.28	2	031500	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	N	02	02
2230629	2000-06-14 00:00:00.0	Barrow State Route	014000	4.30			0	0	Not A Collision With A Motor Vehicle	On Shoulder	Other Fixed Object	Daylight	Dry	E	E	05	05
3760472	2000-10-17 00:00:00.0	Barrow State Route	014000	4.32			0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	W	01	05
2960060	2000-09-30 00:00:00.0	Barrow State Route	014000	4.33			0	0	Angle	On Roadway	Motor Vehicle in Motion - In Other Roadway	Daylight	Dry	W	E	01	05
3600261	2000-11-20 00:00:00.0	Barrow State Route	014000	4.34			0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	05	05
2510484	2000-10-02 00:00:00.0	Barrow State Route	014000	4.38			0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	E	01	05
00400772	2000-02-25 00:00:00.0	Barrow State Route	014000	4.39			2	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	S	E	01	05
1800430	2000-06-23 00:00:00.0	Barrow State Route	014000	4.40			0	0	Angle	On Roadway	Motor Vehicle in Motion - In Other Roadway	Daylight	Dry	N	E	01	05
29600057	2000-09-28 00:00:00.0	Barrow State Route	014000	4.45			0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	05	05
14140528	2001-12-07 00:00:00.0	Barrow State Route	014000	0.10	2	031800	1	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	10	04
11170300	2001-05-13 00:00:00.0	Barrow State Route	014000	0.20			0	0	Not A Collision With A Motor Vehicle	Off Roadway	Mailbox	Dawn	Dry	W	W	10	10
11170222	2001-05-04 00:00:00.0	Barrow State Route	014000	0.50	2	011700	2	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	E	01	05
14200330	2001-11-03 00:00:00.0	Barrow State Route	014000	0.59			0	0	Not A Collision With A Motor Vehicle	On Shoulder	Ditch	Daylight	Dry	W	W	12	12
11130269	2001-06-10 00:00:00.0	Barrow State Route	014000	0.70			1	0	Not A Collision With A Motor Vehicle	On Shoulder	Ditch	Daylight	Dry	W	W	05	05
12430001	2001-01-03 00:00:00.0	Barrow State Route	014000	0.79			2	1	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	06	05
14040235	2001-11-06 00:00:00.0	Barrow State Route	014000	0.88			2	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dark-Not Lighted	Dry	W	W	10	10
14200290	2001-11-29 00:00:00.0	Barrow State Route	014000	0.99			0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	10	04
10940474	2001-05-13 00:00:00.0	Barrow State Route	014000	1.09	2	031700	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	02	05
11100362	2001-08-22 00:00:00.0	Barrow State Route	014000	1.29			0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	05	01
11130365	2001-06-21 00:00:00.0	Barrow State Route	014000	2.20	2	032100	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	S	01	05
11200337	2001-04-19 00:00:00.0	Barrow State Route	014000	3.20			0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Non-Collision	Daylight	Dry	W	E	05	05
11070234	2001-07-09 00:00:00.0	Barrow State Route	014000	3.24	2	032400	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	05	05

2260693	2002-04-28 00:00:00.0	Barrow State Route	014000	0.51	2	0	Head On	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	W	10	10
4190271	2002-11-05 00:00:00.0	Barrow State Route	014000	0.60	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Culvert	Daylight	Wet	E	E	05	05
1700018	2002-07-10 00:00:00.0	Barrow State Route	014000	0.97	0	1	Not A Collision With A Motor Vehicle	On Roadway	Ditch	Daylight	Dry	W	W	10	10
2320712	2002-06-27 00:00:00.0	Barrow State Route	014000	0.98	2	0	Angle	On Roadway	Motor Vehicle in Motion	Dusk	Wet	W	W	01	10
0750405	2002-01-26 00:00:00.0	Barrow State Route	014000	1.02	1	0	Not A Collision With A Motor Vehicle	On Shoulder	Guardrail End	Daylight	Dry	W	W	10	10
2290318	2002-05-03 00:00:00.0	Barrow State Route	014000	1.03	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Guardrail End	Daylight	Wet	W	W	05	05
2370523	2002-07-21 00:00:00.0	Barrow State Route	014000	1.03	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	05	05
3780314	2002-08-02 00:00:00.0	Barrow State Route	014000	1.12	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	W	01	05
4180114	2002-01-08 00:00:00.0	Barrow State Route	014000	1.92	2	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	E	01	05
4220713	2002-12-22 00:00:00.0	Barrow State Route	014000	1.92	2	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	W	01	05
0780388	2002-02-12 00:00:00.0	Barrow State Route	014000	2.19	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Culvert	Daylight	Dry	E	E	05	05
4190483	2002-11-26 00:00:00.0	Barrow State Route	014000	2.20	2	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	06	05
3780526	2002-08-25 00:00:00.0	Barrow State Route	014000	2.20	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	E	E	05	04
2350646	2002-05-15 00:00:00.0	Barrow State Route	014000	2.21	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	05	02
2370594	2002-07-30 00:00:00.0	Barrow State Route	014000	2.24	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	05	05
2350501	2002-04-10 00:00:00.0	Barrow State Route	014000	2.86	2	0	Sideswipe - Opposite Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	E	10	10
23920781	2002-10-11 00:00:00.0	Barrow State Route	014000	3.24	2	0	Angle	On Roadway	Motor Vehicle in Motion	Dusk	Dry	S	W	01	10
24190340	2002-11-13 00:00:00.0	Barrow State Route	014000	3.78	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	E	E	05	05
20430523	2002-01-09 00:00:00.0	Barrow State Route	014000	3.98	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	05	04
21740339	2002-06-20 00:00:00.0	Barrow State Route	014000	3.98	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	05	04
23500692	2002-11-07 00:00:00.0	Barrow State Route	014000	3.98	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	05	04
23130040	2002-10-26 00:00:00.0	Barrow State Route	014000	3.98	2	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	09	01
22820658	2002-09-17 00:00:00.0	Barrow State Route	014000	3.98	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	05	04
22820660	2002-09-18 00:00:00.0	Barrow State Route	014000	4.11	1	0	Head On	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	W	05	04
22820664	2002-09-26 00:00:00.0	Barrow State Route	014000	4.28	2	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Wet	W	W	05	05

HCS2000™ DETAILED REPORT													
General Information						Site Information							
Analyst	JMC					Intersection	15						
Agency or Co.	GDOT					Area Type	All other areas						
Date Performed	11/3/2004					Jurisdiction	Bartow						
Time Period	10% ADT					Analysis Year	2008						
						Project ID	STP 0004-00(915)						
Volume and Timing Input													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Number of lanes, N <sub>l</sub>	1	2	1	1	2	1	1	2	1	1	2	1	
Lane group	L	T	R	L	T	R	L	T	R	L	T	R	
Volume, V (vph)	80	625	185	255	625	105	185	380	255	105	380	80	
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P	
Start-up lost time, l <sub>1</sub>	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Arrival type, AT	3	3	3	3	3	3	3	3	3	3	3	3	
Unit extension, UE	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Initial unmet demand, Q <sub>b</sub>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0	
Lane width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N	
Parking maneuvers, N <sub>m</sub>													
Buses stopping, N <sub>B</sub>	0	0	0	0	0	0	0	0	0	0	0	0	
Min. time for pedestrians, G <sub>p</sub>	3.2			3.2			3.2			3.2			
Phasing	Excl. Left	Thru & RT	03			04			Excl. Left	Thru & RT	07		08
Timing	G = 13.4	G = 18.8	G =	G =		G =		G = 10.7	G = 10.7	G =	G =		
	Y = 5	Y = 5	Y =	Y =		Y =		Y = 5	Y = 5	Y =	Y =		
Duration of Analysis, T = 0.25						Cycle Length, C = 73.6							
Lane Group Capacity, Control Delay, and LOS Determination													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Adjusted flow rate, v	80	604	206	282	604	117	206	422	282	117	422	80	
capacity, c	320	322	101	320	322	101	202	320	339	202	320	339	
v/c ratio, X	0.27	0.75	0.27	0.86	0.75	0.15	0.79	0.80	0.44	0.45	0.80	0.14	

HCS2000™ DETAILED REPORT													
General Information						Site Information							
Analyst JMC Agency or Co. GDOT Date Performed 11/3/2004 Time Period 10% ADT						Intersection 15 Area Type All other areas Jurisdiction Bartow Analysis Year 2008 Project ID STP 019-1 (15)							
Volume and Timing Input													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Number of lanes, N <sub>1</sub>	1	2	1	1	2	1	1	2	1	1	2	1	
Lane group	L	T	R	L	T	R	L	T	R	L	T	R	
Volume, V (vph)	80	625	185	255	625	105	185	380	255	105	380	80	
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P	
Start-up lost time, I <sub>1</sub>	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Arrival type, AT	3	3	3	3	3	3	3	3	3	3	3	3	
Unit extension, UE	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Initial unmet demand, Q <sub>b</sub>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0	
Lane width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N	
Parking maneuvers, N <sub>m</sub>													
Buses stopping, N <sub>B</sub>	0	0	0	0	0	0	0	0	0	0	0	0	
Min. time for pedestrians, G <sub>p</sub>	3.2			3.2			3.2			3.2			
Phasing	Excl. Left	Thru & RT	03			04			Excl. Left	Thru & RT	07		08
Timing	G = 13.4	G = 18.8	G =			G =			G = 10.7	G = 10.7	G =		G =
	Y = 5	Y = 5	Y =			Y =			Y = 5	Y = 5	Y =		Y =
Duration of Analysis, T = 0.25							Cycle Length, C = 73.6						
Lane Group Capacity, Control Delay, and LOS Determination													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Adjusted flow rate, v	89	694	206	283	694	117	206	422	283	117	422	89	
Capacity, c	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
v/c ratio, X	0.27	0.75	0.27	0.86	0.75	0.15	0.79	0.80	0.44	0.45	0.80	0.14	

<b>HCS2000™ DETAILED REPORT</b>												
<b>General Information</b>						<b>Site Information</b>						
Analyst	JMC					Intersection	1					
Agency or Co.	GDOT					Area Type	All other areas					
Date Performed	11/2/2004					Jurisdiction	Floyd					
Time Period	10% ADT					Analysis Year	2028					
						Project ID	STP 0004-00(915)					
<b>Volume and Timing Input</b>												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N <sub>i</sub>	1	2	1	1	2	1	1	2	1	1	2	1
Lane group	L	T	R	L	T	R	L	T	R	L	T	R
Volume, V (vph)	80	300	125	455	300	35	125	1335	455	35	1335	80
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, I <sub>s</sub>	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of effective green, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival type, AT	3	3	3	3	3	3	3	3	3	3	3	3
Unit extension, UE	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Filtering/metering, I	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Initial unmet demand, Q <sub>b</sub>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N <sub>m</sub>												
Buses stopping, N <sub>B</sub>	0	0	0	0	0	0	0	0	0	0	0	0
Min. time for pedestrians, G <sub>p</sub>	3.2			3.2			3.2			3.2		
Phasing	Excl. Left	Thru & RT	03	04	Excl. Left	Thru & RT	07	08				
Timing	G = 31.9	G = 15.2	G =	G =	G = 10.2	G = 59.7	G =	G =				
	Y = 5	Y = 5	Y =	Y =	Y = 5	Y = 5	Y =	Y =				
Duration of Analysis, T = 0.25							Cycle Length, C = 137.0					
<b>Lane Group Capacity, Control Delay, and LOS Determination</b>												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	80	333	130	506	333	30	130	1483	506	30	1483	80
capacity, c	720	701	500	720	701	500	720	701	500	720	701	500
v/c ratio, X	0.21	0.83	0.39	1.20	0.83	0.11	1.04	0.94	0.44	0.29	0.94	0.08

HCS2000™ DETAILED REPORT													
General Information						Site Information							
Analyst JMC						Intersection 15							
Agency or Co. GDOT						Area Type All other areas							
Date Performed 11/3/2004						Jurisdiction Bartow							
Time Period 10% ADT						Analysis Year 2028							
						Project ID STP 019-1 (15)							
Volume and Timing Input													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Number of lanes, N <sub>i</sub>	1	2	1	1	2	1	1	2	1	1	2	1	
Lane group	L	T	R	L	T	R	L	T	R	L	T	R	
Volume, V (vph)	145	970	335	460	970	190	335	685	460	190	685	145	
% Heavy vehicles, %HV	0	0	0	0	0	0	0	0	0	0	0	0	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P	
Start-up lost time, I <sub>s</sub>	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Arrival type, AT	3	3	3	3	3	3	3	3	3	3	3	3	
Unit extension, UE	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Initial unmet demand, Q <sub>b</sub>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0	
Lane width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N	
Parking maneuvers, N <sub>m</sub>													
Buses stopping, N <sub>B</sub>	0	0	0	0	0	0	0	0	0	0	0	0	
Min. time for pedestrians, G <sub>p</sub>	3.2			3.2			3.2			3.2			
Phasing	Excl. Left	Thru & RT	03			04			Excl. Left	Thru & RT	07		08
Timing	G = 32.5	G = 33.8	G =	G =			G = 24.2			G = 31.0	G =		
	Y = 5	Y = 5	Y =	Y =			Y = 5			Y = 5	Y =		
Duration of Analysis, T = 0.25							Cycle Length, C = 141.5						
Lane Group Capacity, Control Delay, and LOS Determination													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Adjusted flow rate, v	161	1078	372	511	1078	211	372	761	511	211	761	161	
Capacity, c	161	1078	372	511	1078	211	372	761	511	211	761	161	
v/c ratio, X	0.39	1.25	0.52	1.23	1.25	0.29	1.20	0.96	0.65	0.68	0.96	0.21	

### TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JDS	Intersection	2
Agency/Co.	GDOT	Jurisdiction	FLOYD
Date Performed	11/1/2004	Analysis Year	2008
Analysis Time Period	10% ADT		
Project Description: STP-0004-00(915)			
East/West Street: SR 140		North/South Street: CR 153/OLD ADAIRSVILLE RD	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

### Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	513	0	0	513	18
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	3	513	0	0	513	18
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	1	2	0	0	2	1
Configuration	L	T			T	R
Upstream Signal		0			0	

Minor Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	18	0	3
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	0	0	0	18	0	3
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach Storage	N			N		
	0			0		
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration				LR		

### Delay, Queue Length, and Level of Service

Approach Movement	EB	WB	Northbound			Southbound		
	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
V (vph)	3						21	
Q (m) (vph)	1047						473	
W/c	0.00						0.04	
95% queue length	0.01						0.14	
Control Delay	8.4						13.0	
LOS	A						B	

### TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JDS	Intersection	4
Agency/Co.	GDOT	Jurisdiction	FLOYD
Date Performed	11/1/2004	Analysis Year	2008
Analysis Time Period	10% ADT		

Project Description: STP-0004-00(915)	
East/West Street: SR 140	North/South Street: CR 151/BUTTRAM RD
Intersection Orientation: East-West	Study Period (hrs): 0.25

#### Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	560	0	18	560	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	0	560	0	18	560	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	1	1	2	0
Configuration		T	R	L	T	
Upstream Signal		0			0	

Minor Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	18	0	0	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	0	0	18	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

#### Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration		L		LR				
v (vph)		18		18				
C (m) (vph)		1021		723				
w/c		0.02		0.02				
95% queue length		0.05		0.08				
Control Delay		8.6		10.1				
LOS		A		B				

Approach LOS

### TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JDS	Intersection	6
Agency/Co.	GDOT	Jurisdiction	BARTOW
Date Performed	11/1/2004	Analysis Year	2008
Analysis Time Period	10% ADT		
Project Description STP-0004-00(915)			
East/West Street: SR 140		North/South Street: CR 117/BIG OAK TREE RD	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

#### Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	598	3	15	598	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	0	598	3	15	598	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	1	1	2	0
Configuration		T	R	L	T	
Upstream Signal		0			0	

Minor Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	3	0	15	0	0	0
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	3	0	15	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

#### Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
V (vph)		15		18				
C (m) (vph)		986		619				
l/c		0.02		0.03				
95% queue length		0.05		0.09				
Control Delay		8.7		11.0				
LOS		A		B				

Approach LOS

### TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JDS	Intersection	8a
Agency/Co.	GDOT	Jurisdiction	BARTOW
Date Performed	11/1/2004	Analysis Year	2008
Analysis Time Period	10% ADT		

Project Description: STP-0004-00(915)	
East/West Street: SR 140	North/South Street: CR 317/OAK GROVE RD. & CR 320
Intersection Orientation: East-West	Study Period (hrs): 0.25

#### Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	613	0	11	613	35
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	15	613	0	11	613	35
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	1	2	1	1	2	1
Configuration	L	T	R	L	T	R
Upstream Signal		0			0	

Minor Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	3	11	35	3	15
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	0	3	11	35	3	15
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

#### Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
q (vph)	15	11		14			53	
C (m) (vph)	947	976		526			375	
q/c	0.02	0.01		0.03			0.14	
85% queue length	0.05	0.03		0.08			0.49	
Control Delay	8.9	8.7		12.0			16.2	
LOS	A	A		B			C	

TWO-WAY STOP CONTROL SUMMARY								
General Information			Site Information					
Analyst	JMC		Intersection	10				
Agency/Co.	GDOT		Jurisdiction	Bartow				
Date Performed	11/1/2004		Analysis Year	2008				
Analysis Time Period	10% ADT							
Project Description STP 0004-00(915)								
East/West Street: SR140			North/South Street: CR321 (Big Ditch Rd)					
Intersection Orientation: East-West			Study Period (hrs): 0.25					
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	18	628	0	0	628	18		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR	18	628	0	0	628	18		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Raised curb							
RT Channelized			0			0		
Lanes	1	2	0	0	2	1		
Configuration	L	T			T	R		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	18	0	18		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR	0	0	0	18	0	18		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	0	0	0		
Configuration					LR			
Delay, Queue Length, and Level of Service								
Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (vph)	18						36	
C (m) (vph)	949						481	
v/c	0.02						0.07	
95% queue length	0.06						0.24	
Control Delay	8.0						12.1	
Approach Delay	--	--					13.1	
Approach LOS	--	--					B	

TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	JMC			Intersection	11A		
Agency/Co.	GDOT			Jurisdiction	Bartow		
Date Performed	11/1/2004			Analysis Year	2008		
Analysis Time Period	10% ADT						
Project Description STP 0004-00(915)							
East/West Street: SR140				North/South Street: CR460 (+ CR410)			
Intersection Orientation: East-West				Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments							
Major Street	Eastbound			Westbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	0	648	13	20	648	0	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	648	13	20	648	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Raised curb						
RT Channelized			0			0	
Lanes	0	2	1	1	2	0	
Configuration		T	R	L	T		
Upstream Signal		0			0		
Minor Street	Northbound			Southbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	36	0	35	0	0	0	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	36	0	35	0	0	0	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	0	0	0	0	0	
Configuration		LR					
Delay, Queue Length, and Level of Service							
Approach	EB	WB	Northbound			Southbound	
Movement	1	4	7	8	9	10	11
Lane Configuration		L	LR				
v (vph)		20	71				
C (m) (vph)		937	467				
v/c		0.02	0.15				
95% queue length		0.07	0.53				
Control Delay		8.9	14.1				
Approach Delay	--	--	14.1				
Approach LOS	--	--	B				

TWO-WAY STOP CONTROL SUMMARY							
General Information			Site Information				
Analyst	JMC		Intersection	13			
Agency/Co.	GDOT		Jurisdiction	Bartow			
Date Performed	11/1/2004		Analysis Year	2008			
Analysis Time Period	10% ADT						
Project Description STP 019-1 (15)							
East/West Street: SR 140			North/South Street: CR627 (Hall Station Rd.)				
Intersection Orientation: East-West			Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments							
Major Street	Eastbound			Westbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	0	610	88	135	610	0	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	610	88	135	610	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Raised curb						
RT Channelized			0			0	
Lanes	0	2	1	1	2	0	
Configuration		T	R	L	T		
Upstream Signal		0			0		
Minor Street	Northbound			Southbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	88	0	135	0	0	0	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	88	0	135	0	0	0	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	1	0	1	0	0	0	
Configuration	L		R				
Delay, Queue Length, and Level of Service							
Approach	EB	WB	Northbound			Southbound	
Movement	1	4	7	8	9	10	11
Lane Configuration		L	L		R		
v (vph)		135	88		135		
C (m) (vph)		908	290		697		
v/c		0.15	0.30		0.19		
95% queue length		0.52	1.25		0.71		
Approach Delay	--	--	15.9				
Approach LOS	--	--	C				

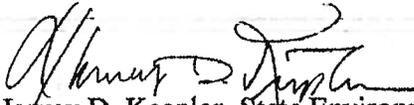
**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

NOV 29 2004

**FILE:** P.L No. 0004915, 621500, and 621505      **OFFICE:** Environment/Location

**DATE:** November 23, 2004

**FROM:**   
Harvey D. Keeper, State Environmental/Location Engineer

**TO:** Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

**SUBJECT:** **PROJECT CONCEPT REPORT**  
**STP-0004-00(915), STP-019-1(15) and BHF-019-1(16) / Bartow & Floyd Cos.**  
**Widening & Reconstruction on SR 140 from SR 53 to US 41 and bridges**  
**over CSX Railroad and Oothkalooga Creek.**

The above subject concept report has been reviewed. This project will need fish and mussel survey and depending on results, we may need to consider constructing a bridge rather than the bridge culvert. On page 3, under environmental concerns, should also list five to ten possible eligible historic resources along the corridor. On page 4, under coordination, need to also indicate that a public hearing open house or opportunity will be required in addition to public information open house.

If you have any questions, please contact me at (404) 699-4401.

HDK:lc

Attachment

cc: David Mulling, P.E., Project Review Engineer  
Kent L. Sager, District 6 Engineer

Project Concept Report  
Project Numbers: STP-0004-00(915), STP-019-1(15), BHF-019-1(16)  
P. I. Numbers: 0004915, 621500, 621505  
Counties: Bartow/Floyd

## DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

Project Number: STP-0004-00 (915), STP-019-1 (15), and BHF-019-1 (16)  
Counties: Bartow/Floyd  
P. I. Numbers: 0004915, 621500, and 621505

Federal Route Number: None  
State Route Number: SR 140

Widening & Reconstruction on SR 140 from SR 53 in Floyd  
County to SR 3/US 41 in Bartow County to include bridges  
over Oothkalooga Creek and CSX Railroad.

Recommendation for approval:

DATE 11-16-04

Curtis D. Combs

Project Manager

DATE 11/16/04

Mark J. [Signature]

Office Head/District Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Improvement Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Programming Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environmental/Location Engineer

DATE 12-2-04

Phillip M. [Signature]

State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Review Engineer

BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

-0049-0

Bartow

SUFF. RATING

80.00

Programmir

201 Project S-0828 (4)  
 202 Plans A  
 249 Prop. P1  
 250 Approv.  
 251 P.I. No.  
 252 Contrac  
 260 Seismic  
 75 Type W  
 94 Bridge I  
 95 Roadway  
 96 Total It  
 76 Imp. Le  
 97 Imp. Yr  
 114 Future

4  
 0000000000000000  
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 02/01/1901  
 00007  
 00 1  
 \$ 0  
 \$ 0  
 \$ 0  
 000000  
 0000  
 019200 Year: 2021

\* 29 ADT: 012800 Year: 2001  
 109 % Trucks: 15  
 \* 28 Lanes On: 02 Under: 00  
 210 No. Tracks On: 00 Under: 01  
 \* 48 Max. Span Length: 0038  
 \* 49 Structure Length: 114  
 51 Br. Rwdy. Width: 28.00  
 52 Deck Width: 34.80  
 \* 47 Tot. Horz. Cl: 28.00  
 50 Curb/Sdewlk Width: 2.20/2.20 //  
 32 Approach Rdwy Width: 028  
 \* 229 Shoulder Width:

Rear Lt: 2.00 Type: 2 Rt: 2.00  
 Fwrd Lt: 2.00 Type: 2 Rt: 2.00

Measurements

Ratings

65 Inventory Rating Method: 2  
 63 Inventory Rating Method: 2  
 66 Inventory Type: 2 Rating: 36  
 64 Operating Type: 2 Rating: 51  
 231 Calculated Loads  
 H-Modified: 20 0  
 HS-Modified: 25 0  
 Type 3: 28 0  
 Type 3&2: 40 0  
 Timber: 36 0  
 Piggyback: 40 0  
 261 H Inventory Rating: 20  
 262 H Operating Rating: 28  
 67 Structural Evaluation: 7  
 58 Deck Condition: 7  
 59 Superstructure Condition: 7  
 \* 227 Collision Damage: 0  
 60A Substructure Condition: 7  
 60B Scour Condition: N  
 60C Underwater Condition: N  
 71 Waterway Adequacy: N  
 61 Channel Protection Cond: N  
 68 Deck Geometry: 2  
 69 UnderCl. Horz/Vert: 5  
 72 Appr. Alignment: 8  
 62 Culvert: N

Measurements

Rear: 24.00 Type: 2  
 Fwrd: 24.00 Type: 2  
 Intersection Rear: 1 Fwrd: 1  
 36 Safety Features Br. Rail:  
 Transition:  
 App. G. Rail: 1  
 App. Rail End: 1  
 53 Minimum Cl. Over:  
 Under: R  
 \* 228 Min. Vertical Cl  
 Act. Odm Dir:  
 Oppo. Dir:  
 Posted Odm. Dir:  
 Oppo. Dir:  
 55 Lateral Undercl. Rt: R 14.00  
 56 Lateral Undercl. Lt: 0.00  
 \* 10 Max Min Vert Cl: 99 ' 99 " Dir: 0  
 39 Nav Vert Cl: 000 Horz: 0000  
 116 Nav Vert Cl Closed: 000  
 245 Deck Thickness Main: 7.00  
 Deck Thick Approach: 0.00  
 246 Overlay Thickness: 0.00  
 212 Year Last Painted: Sup: 0000 Sub: 1980

Rear Lt: 2.00 Type: 2 Rt: 2.00  
 Fwrd Lt: 2.00 Type: 2 Rt: 2.00

Hydraulic

215 Water High  
 Avg.:  
 Drain Area  
 113 Scour  
 216 Water  
 222 Slope  
 221 Spur  
 219 Fence  
 220 Dolpi  
 223 Culve  
 Type:  
 No. F  
 Width  
 Leng  
 \* 265 U/W

0000.0 Year: 1900  
 0000.0 Freq.: 00  
 00000  
 000000  
 N  
 00.0 Br. Height: 00.0  
 0  
 0 Fwrd: 0  
 0  
 0  
 000 Height: 0.00  
 0 Apron: 0  
 0 Diver: ZZZ

Rear Lt: 2.00 Type: 2 Rt: 2.00  
 Fwrd Lt: 2.00 Type: 2 Rt: 2.00

Posting Data

70 Bridge Posting Required: 5  
 41 Struct Open, Posted, Cl: A  
 \* 103 Temporary Structure: 0  
 232 Posted Load -Modified: 00  
 HS-Modified: 00  
 Type 3: 00  
 Type 3&2: 00  
 Timber: 00  
 Piggyback: 00  
 253 Notification Date 02/01/1901  
 253 Fed Notify Date: 02/01/1901

\* Location I.I

015-00140D-004.30E

Report D:

/13/04

SIA-2



# RC \* Web\* INFO

## Requested Information for Bartow County

Route Type 1

Route Number 014000

Route Type	Route Number	Begin Measure	End Measure	Speed Limited	Func. Class	ROW	Truck %	Prev AADT	AADT	Intersect Road 1
1	014000	0	0.10	55	6	80-E	15%-E	9100	11900	
1	014000	0.10	0.41	55	6	80-E	15%-E	9100	11900	W OAK GROVE RD
1	014000	0.41	0.46	55	6	80-E	15%-E	9100	11900	
1	014000	0.46	0.50	55	6	80-E	15%-E	9100	11900	
1	014000	0.50	0.84	55	6	80-E	15%-E	9100	11900	BIG OAK TREE RD
1	014000	0.84	0.89	55	6	80-E	15%-E	9100	11900	
1	014000	0.89	0.95	55	6	80-E	15%-E	9100	11900	
1	014000	0.95	0.97	55	6	80-E	15%-E	9100	11900	
1	014000	0.97	0.98	55	6	80-E	15%-E	9100	11900	
1	014000	0.98	1.06	55	6	80-E	15%-E	9100	11900	OLD HWY 140
1	014000	1.06	1.09	55	6	80-E	15%-E	9100	11900	
1	014000	1.09	1.14	55	6	80-E	15%-E	9100	11900	OAK GROVE RD
1	014000	1.14	1.22	55	6	80-E	15%-E	9100	11900	
1	014000	1.22	1.35	55	6	80-E	15%-E	9100	11900	
1	014000	1.35	1.46	55	6	80-E	15%-E	9100	11900	
1	014000	1.46	1.64	55	6	80-E	15%-E	9100	11900	
1	014000	1.64	1.79	55	6	80-E	15%-E	9100	11900	
1	014000	1.79	1.92	55	6	80-E	15%-E	9100	11900	
1	014000	1.92	1.96	55	6	80-E	15%-E	9100	11900	OLD HWY 140
1	014000	1.96	2.01	55	6	80-E	15%-E	9100	11900	
1	014000	2.01	2.18	55	6	80-E	15%-E	9100	11900	
1	014000	2.18	2.2	55	6	80-E	15%-E	9100	11900	OOTHKALOOGA CREEK TRIB
1	014000	2.2	2.28	55	6	80-E	15%-E	9100	11900	TWIN BRIDGES RD
1	014000	2.28	2.34	55	6	80-E	15%-E	9100	11900	
1	014000	2.34	2.49	55	6	80-E	15%-E	9100	11900	
1	014000	2.49	2.94	55	6	80-E	15%-E	9100	11900	RIDGE VIEW DR
1	014000	2.94	3	55	6	80-E	15%-E	9100	11900	
1	014000	3	3.24	55	6	80-E	15%-E	9100	11900	
1	014000	3.24	3.8	55	6	80-E	15%-E	9100	11900	SHAKE RAG RD
1	014000	3.8	3.82	55	6	80-E	15%-E	9100	11900	
1	014000	3.82	3.91	45	6	80-E	15%-E	9100	11900	OOTHKALOOGA CREEK

1	014000	3.98	3.99	45	6	80-E	15%-E	11100	14600	HALL STATION RD
1	014000	3.99	4.08	40	6	80-E	15%-E	11100	14600	
1	014000	4.08	4.18	40	6	80-E	15%-E	11100	14600	

1	014000	4.18	4.19	40	6	80-E	15%-E	11100	14600	CSX RR
1	014000	4.19	4.28	40	6	80-E	15%-E	11100	14600	
1	014000	4.28	4.31	40	6	80-E	15%-E	11100	14600	OLD DIXIE HWY
1	014000	4.31	4.36	40	6	80-E	15%-E	11100	14600	
1	014000	4.36	4.38	40	6	80-E	15%-E	11100	14600	
1	014000	4.38	4.42	40	6	80-E	15%-E	11100	14600	
1	014000	4.42	4.45	40	6	80-E	15%-E	11900	17900	JOE FRANK HARRIS PKWY
1	014000	4.45	4.48	50	6	101-E	15%-E	11900	17900	VS 4

ANALYSIS REPORT 1

<b>Go To</b>
List of Routes
Query Summary
Year Selection

Number of Records: 90

Accident #	Date	County	Rt Type	Route	Mile	Int Rt Type	Int Rt	Ramp	Inj Fatal	Manner of Collision	LOC	First Harmful Event	Light	Surface D1	D2	VM1	VM2
99990050370940	1995-02-15 06:15:00.0	Floyd	State Route	014000	7.64			0	0	Not A Collision With A Motor Vehicle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	W	E	05 05
99990051330325	1995-06-05 19:33:00.0	Floyd	State Route	014000	7.80			0	0	Angle	On Roadway	Motor Vehicle in Motion	Dusk	Dry	W	W	09 02
99990051090309	1995-05-04 13:01:00.0	Floyd	State Route	014000	8.87	2	015000	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Wet	W	W	01 05
99990052590472	1995-11-30 22:40:00.0	Floyd	State Route	014000	9.07			0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	W	W	05 05
99990052030509	1995-09-29 20:10:00.0	Floyd	State Route	014000	9.78			0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Dark-Not Lighted	Dry	E	E	05 05
99990051550367	1995-07-09 09:43:00.0	Floyd	State Route	014000	9.78			1	0	Not A Collision With A Motor Vehicle	Off Roadway	Fence	Daylight	Dry	W	W	10 10
99990051890043	1995-08-12 14:30:00.0	Floyd	State Route	014000	10.08			0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Daylight	Dry	E	E	05 05
99990050160330	1995-01-11 21:57:00.0	Floyd	State Route	014000	10.28			4	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Wet	W	W	01 09
99990061450805	1996-06-29 10:50:00.0	Floyd	State Route	014000	7.60			0	0	Not A Collision With A Motor Vehicle	Off Roadway	Fence	Daylight	Lry	W	W	02 02
99990062280647	1996-09-02 20:03:00.0	Floyd	State Route	014000	7.67			1	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dusk	Wet	E	E	10 10
99990060620521	1996-03-13 17:24:00.0	Floyd	State Route	014000	7.71			0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	E	01 05
99990060860882	1996-04-02 20:39:00.0	Floyd	State Route	014000	7.74			2	0	Not A Collision With A Motor Vehicle	On Shoulder	Culvert	Dark-Not Lighted	Dry	S	S	05 05
99990051760618	1996-07-16 09:20:00.0	Floyd	State Route	014000	7.79			0	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Daylight	Dry	W	W	10 10
99990060380916	1996-02-11 04:15:00.0	Floyd	State Route	014000	8.10			0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	E	E	05 05
99990063090526	1996-12-10 21:32:00.0	Floyd	State Route	014000	8.67			0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	E	E	09 01
99990062870785	1996-11-11 11:40:00.0	Floyd	State Route	014000	9.57			0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Daylight	Dry	E	E	10 10
99990062570607	1996-10-25 00:20:00.0	Floyd	State Route	014000	9.68			0	0	Not A Collision With A Motor Vehicle	On Shoulder	Mailbox	Dark-Not Lighted	Dry	E	E	05 05
99990063090509	1996-12-05 23:30:00.0	Floyd	State Route	014000	9.77			0	0	Not A Collision With A Motor Vehicle	Off Roadway	Overtum	Dark-Not Lighted	Dry	E	E	05 05
99990062280663	1996-09-08 19:07:00.0	Floyd	State Route	014000	9.88	2	015100	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Overtum	Daylight	Dry	E	E	05 05
99990062570614	1996-10-25 08:53:00.0	Floyd	State Route	014000	9.88	2	015100	0	0	Sideswipe - Opposite Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	W	10 10
99990070690439	1997-03-09 02:50:00.0	Floyd	State Route	014000	7.95			2	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Dry	W	W	10 10
99990073080011	1997-11-14 11:33:00.0	Floyd	State Route	014000	8.03			2	2	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Wet	E	W	05 10
	1997-12-03	State									On	Motor Vehicle in Motion					

02560783	2000-08-26 00:00:00.0	Floyd	State Route	014000	8.22	2	015500	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	10	10	
03380930	2000-12-30 00:00:00.0	Floyd	State Route	014000	8.22	2	015500	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Daylight	Dry	E	10	10	
01600115	2000-05-26 00:00:00.0	Floyd	State Route	014000	8.22	2	015500	1	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Daylight	Dry	W	10	10	
02560536	2000-08-26 00:00:00.0	Floyd	State Route	014000	8.22	2	015500	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	10	10	
01340557	2000-04-11 00:00:00.0	Floyd	State Route	014000	8.87	2	015000	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dawn	Dry	W	05	05	
03770427	2000-01-20 00:00:00.0	Floyd	State Route	014000	9.77	2	0	2	0	Sideswipe - Opposite Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	E	05	
03380916	2000-12-23 00:00:00.0	Floyd	State Route	014000	9.86	0	0	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	W	05	05	
01090650	2000-03-10 00:00:00.0	Floyd	State Route	014000	9.95	0	0	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Wet	E	E	01	05
01760337	2000-06-21 00:00:00.0	Floyd	State Route	014000	9.98	5	0	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	W	W	09	01
01090659	2000-03-18 00:00:00.0	Floyd	State Route	014000	9.98	2	0	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	W	05	05
02220529	2000-07-05 00:00:00.0	Floyd	State Route	014000	10.08	1	0	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	02	05
01760349	2000-06-25 00:00:00.0	Floyd	State Route	014000	10.34	0	0	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	05	05
03290564	2000-11-02 00:00:00.0	Floyd	State Route	014000	10.37	0	0	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	04	05
11760534	2001-05-21 00:00:00.0	Floyd	State Route	014000	7.90	1	0	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Dark-Not Lighted	Dry	W	10	10	
11510303	2001-04-20 00:00:00.0	Floyd	State Route	014000	8.22	2	015500	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	02	05
12380682	2001-06-27 00:00:00.0	Floyd	State Route	014000	8.22	2	015500	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	S	05	01
13940015	2001-10-18 00:00:00.0	Floyd	State Route	014000	8.32	1	0	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	04	05
14030319	2001-10-06 00:00:00.0	Floyd	State Route	014000	8.87	2	015000	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	05	05
11890641	2001-06-08 00:00:00.0	Floyd	State Route	014000	8.96	0	0	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Other Fixed Object	Daylight	Wet	W	05	05	
10850500	2001-03-16 00:00:00.0	Floyd	State Route	014000	9.58	1	0	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	01	05
13310615	2001-11-17 00:00:00.0	Floyd	State Route	014000	9.88	2	015100	3	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	04	04
11160146	2001-06-02 00:00:00.0	Floyd	State Route	014000	9.98	1	0	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	05	04
13800119	2001-12-10 00:00:00.0	Floyd	State Route	014000	10.13	0	0	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Daylight	Wet	E	10	10	
11890691	2001-06-23 00:00:00.0	Floyd	State Route	014000	10.28	0	0	0	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	W	W	09	01
14170137	2001-12-08 00:00:00.0	Floyd	State Route	014000	10.33	2	0	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dusk	Dry	W	W	09	01

### QUERY SUMMARY

For Year(s): 1995,1996,1997,1998,2000,2001,2002

Year	County	Route Type	Route Number	Beginning Milelog	Ending Milelog	No. Accidents	No. Vehicles	No. Injuries	No. Fatalities
1995	Bartow	State Route	014000	0.00	4.50	31	56	32	1
1995 SubTotal						31	56	32	1
1996	Bartow	State Route	014000	0.00	4.50	21	36	32	0
1996 SubTotal						21	36	32	0
1997	Bartow	State Route	014000	0.00	4.50	16	27	6	0
1997 SubTotal						16	27	6	0
1998	Bartow	State Route	014000	0.00	4.50	9	17	4	1
1998 SubTotal						9	17	4	1
2000	Bartow	State Route	014000	0.00	4.50	31	56	10	0
2000 SubTotal						31	56	10	0
2001	Bartow	State Route	014000	0.00	4.50	34	61	12	1
2001 SubTotal						34	61	12	1
2002	Bartow	State Route	014000	0.00	4.50	39	78	26	1
2002 SubTotal						39	78	26	1
<b>All Year(s)Total</b>						<b>181</b>	<b>331</b>	<b>122</b>	<b>4</b>

Based on the above table you may now run the Accident Rates and/or Pre-Defined and User-Defined Reports

#### Accident Rates

PRE-DEFINED REPORTS	USER-DEFINED REPORTS
<a href="#">Analysis Report 1</a> <a href="#">Analysis Report 2 (without Ramp Information)</a> <a href="#">Analysis Report 3</a>	<p style="text-align: center;">Go to <a href="#">Field Selection</a> (to select or view fields selected)</p> <p style="text-align: center;">Run <a href="#">Detail Report</a></p>
<p>You may CHANGE the Route(s) and/or Year(s) for both the PRE-DEFINED and USER-DEFINED Reports by clicking on the links below.</p> <p style="text-align: center;"> <a href="#">Route Selection</a>    <a href="#">Year Selection</a>  <a href="#">Home Page</a> </p>	

99990051280652	15:03:00.0	Barrow	Route	014000	4.28	2	031500	0	0	Rear End	Roadway	Motor Vehicle in Motion	Daylight	Wet	N	N	05	04
99990050790770	1995-04-04 08:19:00.0	Barrow	State Route	014000	4.28	2	031500	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	N	01	01
99990052240047	1995-10-27 15:20:00.0	Barrow	State Route	014000	4.28	2	031500	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	01	05
99990052790694	1995-12-06 08:08:00.0	Barrow	State Route	014000	4.28	2	031500	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	05	05
99990052240042	1995-10-01 18:54:00.0	Barrow	State Route	014000	4.28	2	031500	0	0	Not A Collision With A Motor Vehicle	On Roadway	Bridge Pier/Abutment	Daylight	Dry	W	W	05	05
99990050560464	1995-03-16 08:06:00.0	Barrow	State Route	014000	4.32			1	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	E	01	05
99990051280658	1995-06-30 17:06:00.0	Barrow	State Route	014000	4.38			0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	E	01	05
99990051140534	1995-05-12 23:15:00.0	Barrow	State Route	014000	4.44			0	0	Head On	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	W	W	07	04
99990050560463	1995-03-16 13:37:00.0	Barrow	State Route	014000	4.49			0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	02	05
99990062110261	1996-08-12 15:23:00.0	Barrow	State Route	014000	0.05			1	0	Not A Collision With A Motor Vehicle	Off Roadway	Tree	Daylight	Wet	W	W	09	09
99990063180396	1996-12-10 11:45:00.0	Barrow	State Route	014000	0.10	2	031800	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	S	W	01	10
99990063180400	1996-12-10 22:41:00.0	Barrow	State Route	014000	0.10	2	031800	3	0	Angle	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	S	W	01	05
99990065030771	1996-11-24 04:17:00.0	Barrow	State Route	014000	0.20			1	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	W	W	10	10
99990060250249	1996-01-09 00:07:00.0	Barrow	State Route	014000	0.50	2	011700	4	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dark-Not Lighted	Icy	E	E	10	10
99990060250268	1996-01-11 16:46:00.0	Barrow	State Route	014000	0.50	2	011700	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Wet	S	W	01	09
99990063030647	1996-11-07 06:40:00.0	Barrow	State Route	014000	0.50	2	011700	0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	W	W	09	01
99990065090331	1996-12-06 11:28:00.0	Barrow	State Route	014000	0.98	2	032000	4	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	E	01	05
99990062110555	1996-08-28 15:56:00.0	Barrow	State Route	014000	1.08			1	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Wet	N	E	12	05
99990061570389	1996-06-14 12:27:00.0	Barrow	State Route	014000	1.09	2	031700	2	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	W	10	10
99990060710433	1996-03-08 15:59:00.0	Barrow	State Route	014000	1.91			0	0	Not A Collision With A Motor Vehicle	Off Roadway	Other Non-Collision	Daylight	Dry	W	W	05	05
99990061830320	1996-07-13 10:25:00.0	Barrow	State Route	014000	2.00			5	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	S	W	12	10
99990061350696	1996-05-13 05:30:00.0	Barrow	State Route	014000	2.20	2	032100	0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (No: Fixed)	Dark-Not Lighted	Dry	W	W	05	05
99990061570403	1996-06-17 14:09:00.0	Barrow	State Route	014000	2.50			4	0	Sideswipe - Opposite Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	W	05	05
99990060990185	1996-04-04 22:45:00.0	Barrow	State Route	014000	2.58			0	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Dark-Not Lighted	Dry	E	E	05	05
99990061720509	1996-07-27 13:50:00.0	Barrow	State Route	014000	3.89			1	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	E	05	05

990081240375	1998-05-25 13:06:00.0	Barrow	State Route	014000	3.98	2	062700	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	05	04
990081540127	1998-06-27 17:48:00.0	Barrow	State Route	014000	3.98	2	062700	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	02	02
990081240376	1998-05-26 13:24:00.0	Barrow	State Route	014000	3.98	2	062700	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	02	02
990080410682	1998-02-02 10:31:00.0	Barrow	State Route	014000	4.28	2	031500	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	05	01
990081840003	1998-07-09 13:44:00.0	Barrow	State Route	014000	4.32			0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	01	05
00580342	2000-05-15 00:00:00.0	Barrow	State Route	014000	0.05			0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	W		05
00770611	2000-09-30 00:00:00.0	Barrow	State Route	014000	0.07			0	0	Sideswipe - Same Direction	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	05	05
00710387	2000-07-14 00:00:00.0	Barrow	State Route	014000	0.10	2	031800	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	05	01
00800711	2000-10-05 00:00:00.0	Barrow	State Route	014000	0.10	2	031800	0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	W	01
00520331	2000-01-21 00:00:00.0	Barrow	State Route	014000	0.10	2	031800	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Dawn	Dry	E		10
00610644	2000-04-27 00:00:00.0	Barrow	State Route	014000	0.10	2	031800	0	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Daylight	Dry	W		02
00610652	2000-04-28 00:00:00.0	Barrow	State Route	014000	0.30			2	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Dark-Not Lighted	Wet	W		10
00710546	2000-07-31 00:00:00.0	Barrow	State Route	014000	0.60			0	0	Not A Collision With A Motor Vehicle	On Shoulder	Highway Traffic Sign Post	Daylight	Wet	E		05
00610580	2000-04-19 00:00:00.0	Barrow	State Route	014000	0.70			0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	05	05
00580365	2000-03-20 00:00:00.0	Barrow	State Route	014000	0.98	2	032000	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Wet	W	10	10
00680387	2000-06-30 00:00:00.0	Barrow	State Route	014000	0.99			1	0	Sideswipe - Opposite Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	E	W	10
00520362	2000-01-22 00:00:00.0	Barrow	State Route	014000	1.03			0	0	Not A Collision With A Motor Vehicle	Off Roadway	Embankment	Daylight	Icy	E		10
00770456	2000-09-12 00:00:00.0	Barrow	State Route	014000	2.20	2	032100	1	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	N	S	01
02440175	2000-08-24 00:00:00.0	Barrow	State Route	014000	2.69			0	0	Sideswipe - Opposite Direction	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	E	W	10
02400649	2000-05-10 00:00:00.0	Barrow	State Route	014000	3.24	2	032400	0	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Wet	W	05	05
00770493	2000-09-15 00:00:00.0	Barrow	State Route	014000	3.24	2	032400	1	0	Rear End	On Roadway	Motor Vehicle in Motion	Daylight	Dry	E	05	05
00800820	2000-10-18 00:00:00.0	Barrow	State Route	014000	3.24	2	032400	0	0	Not A Collision With A Motor Vehicle	On Roadway	Deer	Dark-Not Lighted	Dry	W		05
00880020	2000-12-04 00:00:00.0	Barrow	State Route	014000	3.30			0	0	Not A Collision With A Motor Vehicle	Off Roadway	Ditch	Daylight	Dry	W		05
02960066	2000-09-13 00:00:00.0	Barrow	State Route	014000	3.92			0	0	Angle	On Roadway	Motor Vehicle in Motion	Daylight	Dry	W	E	05
03510005	2000-12-28 00:00:00.0	Barrow	State Route	014000	3.96			3	0	Rear End	On Roadway	Motor Vehicle in Motion	Dusk	Dry	E	E	05

Case No.	Date/Time	Barrow	State Route	Time	Count	Collision Type	Location	Weather	Lighting	Other	Severity
11100427	2001-08-31 00:00:00.0	Barrow	State Route 014000	3:34	0	Not A Collision With A Motor Vehicle	Off Roadway	Wet	Dark-Not Lighted	Ditch	E 10
14000365	2001-10-02 00:00:00.0	Barrow	State Route 014000	3:48	0	Not A Collision With A Motor Vehicle	Off Roadway	Dry	Dawn	Ditch	E 10
14040323	2001-11-13 00:00:00.0	Barrow	State Route 014000	3:78	0	Not A Collision With A Motor Vehicle	On Roadway	Dry	Dark-Not Lighted	Overtum	W 05
12900336	2001-10-30 00:00:00.0	Barrow	State Route 014000	3:98	2	Rear End	On Roadway	Dry	Daylight	Motor Vehicle in Motion	E 05
14040293	2001-11-11 00:00:00.0	Barrow	State Route 014000	3:98	2	Angle	On Roadway	Dry	Daylight	Motor Vehicle in Motion	W 07
14000432	2001-10-07 00:00:00.0	Barrow	State Route 014000	4:18	1	Rear End	On Roadway	Dry	Daylight	Motor Vehicle in Motion	E 05
10120081	2001-11-01 00:00:00.0	Barrow	State Route 014000	4:18	0	Not A Collision With A Motor Vehicle	On Shoulder	Wet	Daylight	Guardrail Face	W 05
12900327	2001-10-17 00:00:00.0	Barrow	State Route 014000	4:22	0	Rear End	On Roadway	Dry	Daylight	Motor Vehicle in Motion	E 05
12900328	2001-10-17 00:00:00.0	Barrow	State Route 014000	4:28	2	Rear End	On Roadway	Dry	Daylight	Motor Vehicle in Motion	E 05
12900329	2001-10-18 00:00:00.0	Barrow	State Route 014000	4:28	2	Angle	On Roadway	Dry	Daylight	Motor Vehicle in Motion	N 01
12390146	2001-07-17 00:00:00.0	Barrow	State Route 014000	4:28	2	Rear End	On Roadway	Dry	Daylight	Motor Vehicle in Motion	E 05
12120128	2001-07-12 00:00:00.0	Barrow	State Route 014000	4:28	2	Rear End	On Roadway	Dry	Daylight	Motor Vehicle in Motion	W 05
12270575	2001-08-10 00:00:00.0	Barrow	State Route 014000	4:30	0	Not A Collision With A Motor Vehicle	On Roadway	Dry	Dark-Not Lighted	Other Object (Not Fixed)	E 05
10410604	2001-02-13 00:00:00.0	Barrow	State Route 014000	4:33	1	Head On	On Roadway	Wet	Daylight	Motor Vehicle in Motion	E 12
10790407	2001-03-21 00:00:00.0	Barrow	State Route 014000	4:33	0	Angle	On Roadway	Wet	Dark-Lighted	Motor Vehicle in Motion - In Other Roadway	E 12
12900330	2001-10-19 00:00:00.0	Barrow	State Route 014000	4:37	0	Angle	On Roadway	Dry	Daylight	Motor Vehicle in Motion	E 12
12400037	2001-08-26 00:00:00.0	Barrow	State Route 014000	4:38	1	Sideswipe - Opposite Direction	On Roadway	Dry	Dark-Not Lighted	Motor Vehicle in Motion	E 05
13730183	2001-12-13 00:00:00.0	Barrow	State Route 014000	4:39	0	Angle	On Roadway	Wet	Daylight	Motor Vehicle in Motion	E 01
12120132	2001-07-20 00:00:00.0	Barrow	State Route 014000	4:39	0	Sideswipe - Same Direction	On Roadway	Dry	Daylight	Motor Vehicle in Motion	E 06
12690003	2001-09-06 00:00:00.0	Barrow	State Route 014000	4:43	0	Angle	On Roadway	Dry	Daylight	Motor Vehicle in Motion	E 01
10990331	2001-04-21 00:00:00.0	Barrow	State Route 014000	4:43	0	Rear End	On Roadway	Dry	Dark-Lighted	Motor Vehicle in Motion	W 05
22350418	2002-03-08 00:00:00.0	Barrow	State Route 014000	0:10	2	Rear End	On Roadway	Dry	Daylight	Motor Vehicle in Motion	W 10
24220696	2002-12-20 00:00:00.0	Barrow	State Route 014000	0:20	2	Head On	On Roadway	Wet	Dark-Not Lighted	Motor Vehicle in Motion	E 05
23780346	2002-08-07 00:00:00.0	Barrow	State Route 014000	0:50	2	Not A Collision With A Motor Vehicle	Off Roadway	Dry	Daylight	Tree	W 01
23890167	2002-09-04 00:00:00.0	Barrow	State Route 014000	0:50	2	Rear End	On Roadway	Dry	Daylight	Motor Vehicle in Motion	E 05

Case No.	Date	County	State Route	Time	Accident Type	Severity	Location	Weather	Light	Vehicle in Motion	On Roadway	Rear End	Angle	Injuries	Fatalities
22820666	2002-09-27 00:00:00.0	Barrow	State Route 014000	4.28 2	031500	0	0	0	Daylight	Motor Vehicle in Motion	On Roadway	0	0	0	0
22820659	2002-09-17 00:00:00.0	Barrow	State Route 014000	4.28 2	031500	0	0	0	Daylight	Motor Vehicle in Motion	On Roadway	0	0	0	0
23500694	2002-11-11 00:00:00.0	Barrow	State Route 014000	4.28 2	031500	0	0	0	Daylight	Motor Vehicle in Motion	On Roadway	0	0	0	0
20870095	2002-03-28 00:00:00.0	Barrow	State Route 014000	4.33		0	0	0	Daylight	Motor Vehicle in Motion	On Roadway	0	0	0	0
20870090	2002-03-14 00:00:00.0	Barrow	State Route 014000	4.37		1	0	0	Daylight	Motor Vehicle in Motion	On Roadway	0	0	0	0
20510228	2002-02-21 00:00:00.0	Barrow	State Route 014000	4.37		1	0	0	Daylight	Motor Vehicle in Motion	On Roadway	0	0	0	0
22010327	2002-07-10 00:00:00.0	Barrow	State Route 014000	4.40		1	0	0	Daylight	Motor Vehicle in Motion	On Roadway	0	0	0	0
23500695	2002-11-14 00:00:00.0	Barrow	State Route 014000	4.44		0	0	0	Daylight	Motor Vehicle in Motion	On Roadway	0	0	0	0
22820661	2002-09-20 00:00:00.0	Barrow	State Route 014000	4.44		0	0	0	Daylight	Motor Vehicle in Motion	On Roadway	0	0	0	0
21160288	2002-04-01 00:00:00.0	Barrow	State Route 014000	4.48		1	0	0	Daylight	Motor Vehicle in Motion	On Roadway	0	0	0	0
Total Accidents: 181													Total Vehicles: 331	Total Injuries: 122	Total Fatalities: 4

Total green ratio, $g/C$	0.18	0.26	0.47	0.18	0.26	0.47	0.15	0.15	0.40	0.15	0.15	0.40
Uniform delay, $d_1$	25.9	25.3	11.9	29.2	25.3	11.2	30.3	30.4	16.3	28.7	30.4	14.2
Progression factor, PF	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Incremental delay, $d_2$	2.0	5.7	0.9	24.3	5.7	0.4	20.8	12.3	2.2	5.4	12.3	0.5
Initial queue delay, $d_3$												
Control delay	27.9	30.9	12.8	53.5	30.9	11.6	51.1	42.8	18.5	34.2	42.8	14.7
Lane group LOS	C	C	B	D	C	B	D	D	B	C	D	B
Approach delay	26.9			34.7			37.1			37.2		
Approach LOS	C			C			D			D		
Intersection delay	33.6						Intersection LOS			C		

Total green ratio, g/C	0.18	0.26	0.47	0.18	0.26	0.47	0.15	0.15	0.40	0.15	0.15	0.40
Uniform delay, $d_1$	25.9	25.3	11.9	29.2	25.3	11.2	30.3	30.4	16.3	28.7	30.4	14.2
Progression factor, PF	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Incremental delay, $d_2$	2.0	5.7	0.9	24.3	5.7	0.4	20.8	12.3	2.2	5.4	12.3	0.5
Initial queue delay, $d_3$												
Control delay	27.9	30.9	12.8	53.5	30.9	11.6	51.1	42.8	18.5	34.2	42.8	14.7
Lane group LOS	C	C	B	D	C	B	D	D	B	C	D	B
Approach delay	26.9			34.7			37.1			37.2		
Approach LOS	C			C			D			D		
Intersection delay	33.6						Intersection LOS			C		

Total green ratio, g/C	0.23	0.11	0.22	0.23	0.11	0.22	0.07	0.44	0.71	0.07	0.44	0.71
Uniform delay, d <sub>1</sub>	42.4	59.6	45.4	52.5	59.6	42.5	63.4	37.0	8.7	60.0	37.0	6.3
Progression factor, PF	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Incremental delay, d <sub>2</sub>	1.1	17.8	3.2	112.8	17.8	0.6	88.0	12.6	1.3	5.4	12.6	0.1
Initial queue delay, d <sub>3</sub>												
Control delay	43.6	77.5	48.5	165.3	77.5	43.1	151.4	49.7	9.9	65.4	49.7	6.4
Lane group LOS	D	E	D	F	E	D	F	D	A	E	D	A
Approach delay	64.9			126.6			46.9			47.7		
Approach LOS	E			F			D			D		
Intersection delay	62.6						Intersection LOS			E		

Total green ratio, g/C	0.23	0.24	0.45	0.23	0.24	0.45	0.17	0.22	0.48	0.17	0.22	0.48
Uniform delay, d <sub>1</sub>	46.1	53.9	28.3	54.5	53.9	25.0	58.7	54.7	27.5	55.0	54.7	20.9
Progression factor, PF	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Incremental delay, d <sub>2</sub>	2.7	122.4	2.7	123.5	122.4	1.0	118.4	24.0	4.2	11.6	24.0	0.6
Initial queue delay, d <sub>3</sub>												
Control delay	48.8	176.2	30.9	178.0	176.2	26.1	177.1	78.7	31.8	66.6	78.7	21.5
Lane group LOS	D	F	C	F	F	C	F	E	C	E	E	C
Approach delay	129.9			159.1			86.3			68.3		
Approach LOS	F			F			F			E		
Intersection delay	115.6						Intersection LOS			F		

## TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information					
Analyst	JDS		Intersection	3				
Agency/Co.	GDOT		Jurisdiction	FLOYD				
Date Performed	11/1/2004		Analysis Year	2008				
Analysis Time Period	10% ADT							
Project Description STP-0004-00(915)								
East/West Street: SR 140			North/South Street: CR 150/RUSH CHAPEL RD					
Intersection Orientation: East-West			Study Period (hrs): 0.25					
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	530	0	25	530	0		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR	0	530	0	25	530	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Raised curb							
RT Channelized			0			0		
Lanes	0	2	1	1	2	0		
Configuration		T	R	L	T			
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	25	0	0	0		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR	0	0	25	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	0	0	0		
Configuration		LR						
Delay, Queue Length, and Level of Service								
Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (vph)		25		25				
C (m) (vph)		1048		739				
v/c		0.02		0.03				
95% queue length		0.07		0.10				
Control Delay		8.5		10.0+				
LOS		A		B				

**TWO-WAY STOP CONTROL SUMMARY**

General Information		Site Information	
Analyst	JDS	Intersection	5
Agency/Co.	GDOT	Jurisdiction	BARTOW
Date Performed	11/1/2004	Analysis Year	2008
Analysis Time Period	10% ADT		

Project Description: STP-0004-00(915)	
East/West Street: SR 140	North/South Street: CR 319/W. OAK GROVE RD
Intersection Orientation: East-West	Study Period (hrs): 0.25

**Vehicle Volumes and Adjustments**

Major Street Movement	Eastbound			Westbound		
	1 L	2 T	3 R	4 L	5 T	6 R
Volume	0	573	0	0	573	28
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	0	573	0	0	573	28
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	1	2	0	0	2	1
Configuration	L	T			T	R
Upstream Signal		0			0	

Minor Street Movement	Northbound			Southbound		
	7 L	8 T	9 R	10 L	11 T	12 R
Volume	0	0	0	0	0	28
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	0	0	0	0	0	28
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

**Delay, Queue Length, and Level of Service**

Approach	EB	WB	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
Q (vph)	0						28	
Q (m) (vph)	986						717	
Q/c	0.00						0.04	
85% queue length	0.00						0.12	
Control Delay	8.7						10.2	
LOS	A						B	

### TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JDS	Intersection	8
Agency/Co.	GDOT	Jurisdiction	BARTOW
Date Performed	11/1/2004	Analysis Year	2008
Analysis Time Period	10% ADT		
Project Description STP-0004-00(915)			
East/West Street: SR 140		North/South Street: CR 317/OAK GROVE RD.	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

#### Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	605	0	3	605	35
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	15	605	0	3	605	35
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	1	2	1	1	2	1
Configuration	L	T	R	L	T	R
Upstream Signal		0			0	
Minor Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	3	3	35	3	15
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR	0	3	3	35	3	15
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach Storage		N			N	
		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

#### Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
	1	4	7	8	9	10	11	12
Movement	L	L		LTR			LTR	
Volume (vph)	15	3		6			53	
Capacity (m) (vph)	954	983		405			390	
Delay/c	0.02	0.00		0.01			0.14	
95% queue length	0.05	0.01		0.05			0.47	
Control Delay	8.8	8.7		14.0			15.7	
LOS	A	A		B			C	

Approach LOS	--	--		D			C	
--------------	----	----	--	---	--	--	---	--

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	JMC			Intersection	9			
Agency/Co.	GDOT			Jurisdiction	Bartow			
Date Performed	11/1/2004			Analysis Year	2008			
Analysis Time Period	10% ADT							
Project Description STP 0004-00(195)								
East/West Street: SR140				North/South Street: CR320 (Old Hwy 140)				
Intersection Orientation: East-West				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	0	640	3	28	640	0		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR	0	640	3	28	640	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Raised curb							
RT Channelized			0			0		
Lanes	0	2	1	1	2	0		
Configuration		T	R	L	T			
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	3	0	28	0	0	0		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR	3	0	28	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	0	0	0		
Configuration		LR						
Delay, Queue Length, and Level of Service								
Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (vph)		28		31				
C (m) (vph)		951		627				
v/c		0.03		0.05				
95% queue length		0.09		0.16				
Control Delay		8.9		11.0				
Approach Delay	--	--	11.0					
Approach LOS	--	--	B					

TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	JMC			Intersection	11		
Agency/Co.	GDOT			Jurisdiction	Bartow		
Date Performed	11/1/2004			Analysis Year	2008		
Analysis Time Period	10% ADT						
Project Description STP 0004-00(915)							
East/West Street: SR140				North/South Street: CR460 (Ridge View Rd.)			
Intersection Orientation: East-West				Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments							
Major Street	Eastbound			Westbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	0	648	13	20	648	0	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	648	13	20	648	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Raised curb						
RT Channelized			0				0
Lanes	0	2	1	1	2		0
Configuration		T	R	L	T		
Upstream Signal		0			0		
Minor Street	Northbound			Southbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	13	0	20	0	0	0	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	13	0	20	0	0	0	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0				0
Lanes	0	0	0	0	0	0	
Configuration		LR					
Delay, Queue Length, and Level of Service							
Approach	EB	WB	Northbound			Southbound	
Movement	1	4	7	8	9	10	11 12
Lane Configuration		L		LR			
v (vph)		20		33			
C (m) (vph)		937		502			
v/c		0.02		0.07			
95% queue length		0.07		0.21			
Control Delay		8.9		12.7			
Approach Delay	--	--	12.7				
Approach LOS	--	--	B				

TWO-WAY STOP CONTROL SUMMARY								
General Information			Site Information					
Analyst	JMC		Intersection	12				
Agency/Co.			Jurisdiction	Bartow				
Date Performed	11/1/2004		Analysis Year	2008				
Analysis Time Period	10% ADT							
Project Description STP 0004-00(915)								
East/West Street: SR 140			North/South Street: CR 324 (Shake Rag Rd)					
Intersection Orientation: East-West			Study Period (hrs): 0.25					
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume	3	665	0	0	335	33		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR	3	665	0	0	335	33		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Raised curb							
RT Channelized			0			0		
Lanes	1	2	0	0	2	1		
Configuration	L	T			T	R		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume	0	0	0	33	0	3		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly Flow Rate, HFR	0	0	0	33	0	3		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	0	0	0		
Configuration					LR			
Delay, Queue Length, and Level of Service								
Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (vph)	3						36	
C (m) (vph)	1202						516	
v/c	0.00						0.07	
95% queue length	0.01						0.22	
Control Delay	8.0						12.5	
Approach Delay	--	--					12.5	
Approach LOS	--	--					B	

TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	JMC			Intersection	14		
Agency/Co.	GDOT			Jurisdiction	Bartow		
Date Performed	11/1/2004			Analysis Year	2008		
Analysis Time Period	10% ADT						
Project Description STP 019-1 (15)							
East/West Street: SR 140				North/South Street: CS550 (N. Main St) - CR315			
Intersection Orientation: East-West				Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments							
Major Street	Eastbound			Westbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	0	695	25	188	695	8	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	695	25	188	695	8	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Raised curb						
RT Channelized			0			0	
Lanes	0	2	1	1	2	1	
Configuration		T	R	L	T	R	
Upstream Signal		0			0		
Minor Street	Northbound			Southbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	25	0	188	0	0	25	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	25	0	188	0	0	25	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	1	0	1	0	0	1	
Configuration	L		R			R	
Delay, Queue Length, and Level of Service							
Approach	EB	WB	Northbound			Southbound	
Movement	1	4	7	8	9	10	11
Lane Configuration		L	L		R		R
v (vph)		188	25		188		25
C (m) (vph)		891	191		654		654
v/c		0.21	0.13		0.29		0.04
95% queue length		0.80	0.44		1.19		0.12
Control Delay		10.1	26.7		12.7		10.7
Approach LOS	--	--	B			B	

Project Concept Report  
Project Numbers: STP-0004-00(915), STP-019-1(15), BHF-019-1(16)  
P. I. Numbers: 0004915, 621500, 621505  
Counties: Bartow/Floyd

## DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

Project Number: STP-0004-00 (915), STP-019-1 (15), and BHF-019-1 (16)  
Counties: Bartow/Floyd  
P. I. Numbers: 0004915, 621500, and 621505

Federal Route Number: None  
State Route Number: SR 140

Widening & Reconstruction on SR 140 from SR 53 in Floyd  
County to SR 3/US 41 in Bartow County to include bridges  
over Oothkalooga Creek and CSX Railroad.

Recommendation for approval:

DATE 11-16-04 Curtis O. Comer  
Project Manager  
DATE 11/16/04 [Signature]  
Office Head/District Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Improvement Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_  
State Transportation Planning Administrator  
DATE 11-17-04 [Signature]  
State Transportation Programming Engineer  
DATE \_\_\_\_\_  
State Environmental/Location Engineer  
DATE \_\_\_\_\_  
State Traffic Safety and Design Engineer  
DATE \_\_\_\_\_  
Project Review Engineer

# ***Value Engineering Process***

# ***VALUE ENGINEERING PROCESS***

## **Introduction**

This report summarizes the analysis and conclusions by the PBS&J Value Engineering team as they performed a VE Study during the period of July 30- Aug. 2, 2007 in Atlanta, Georgia, for the Georgia Department of Transportation.

The Value Engineering Study team and its leadership were provided by PBS&J. This VE Team consisted of the following:

Charles McDuff, P.E., CVS-Life	Certified Value Specialist
Luke Clarke, P.E.	Highway Design Engineer
Rameish Kalvakaalva, P.E.	Bridge Structural Engineer
Kevin Martin, P.E.	Highway Construction Specialist
Ron Hale, P.E.	Highway Construction Specialist

The Value Engineering Team followed the Seven Step Value Engineering job plan as promulgated by SAVE International. This Seven Step job plan includes the following:

- **Investigation/Information Phase** – during this phase of the VE Team’s work, the team received a briefing from the designers and project delivery team representatives of the Georgia Department of Transportation (GDOT). This briefing included discussions of the design intent behind the project, the cost concerns, and was followed by a tour of the existing facilities. In the working session that followed, the VE Team developed cost models from the cost data provided by the designers and familiarized themselves with the construction drawings and other data that was available to the team. Some of the representative project information (concept report, cost estimate, and special provisions) may be found in the tabbed section of this report entitled ***Project Description***. Following this current narrative the reader will also find a cost model done in the Pareto fashion, i.e., identifying the highest costs down to the lowest costs for the larger construction cost elements. This cost model, developed by the VE Team, was used by the VE Team to help focus their week of work. The headings on the Pareto Chart also were used as headings for creative phase activities.
- **Analysis Phase** – during this phase the VE Team determined the “**Functions**” of the project. This was accomplished by reviewing the project from the simplest format in asking the questions of “What is the project suppose to do?”, and “How is it suppose to accomplish this purpose? In the Value Engineering vernacular, the answers to these questions are cast in the form of active verbs and measurable nouns. These verb/noun pairs form the basis of the function analysis which distinguishes a Value Engineering effort from a potentially damaging cost cutting exercise.

- The important functions of the project were identified as follows:
  - **Project Objective/Goals**
    - **Improve Level of Service**
    - **Increase Capacity**
    - **Separate Traffic**
    - **Provide for future growth**
  - **Project Basic Functions**
    - **Construct Additional Traffic Lanes**
    - **Construction Additional Turn Lanes**
    - **Widen Bridge**
    - **Provide Raised Median**
    - **Route Stormwater**
    - **Direct Traffic**
- **Speculation Phase** - The VE team performed a brainstorming session to identify ideas that might help meet the project objectives:
  - Improve Level of Service
  - Improve Safety
  - Increase Capacity
  - Reduce construction and life cycle costs
  - Reduce the time of construction

This brainstorming session initially identified numerous ideas that were then evaluated in the Judgment phase. The reader will find the creative worksheets enclosed. These same work sheets were also used to record the results of the Judgment/Evaluation Phase.

- **Evaluation Phase** – Once the VE Team identified the creative ideas, it was necessary to decide which alternatives should be carried forward. This is the work of the Evaluation or Judgment Phase. The VE Team reflected back on the project constraints and objectives shared with the team by the owner's representatives, in the kick-off meeting on the first day of the workshop. From that guidance, the team selected ideas that they believed would improve the project by a vote process.

- Following that selection process, the VE Team used the following values as measures of whether or not an alternative had enough merit to be carried forward in the VE process:
  - Construction Cost Savings
  - Maintainability
  - Ability to Implement the Idea
  - General Acceptability of the Alternatives
  - Constructability

Based on these measurement sticks, the VE Team evaluated the alternatives and graded them from 5 (Excellent) down to 1 (Poor). Other notes about the alternatives are annotated at the bottom of the enclosed creative and evaluation sheets.

- **Development Phase** – During this phase, the VE Team developed each of the selected design alternatives. This effort included a detailed explanation of the idea with sketches as appropriate to clarify the idea from the original concept, advantages and disadvantages, a technical explanation and an estimation of the cost and resultant savings if implemented. (see the tabbed section – Study Results)
- **Recommendation Phase** – During this phase the VE Team reviews the alternative ideas to confirm which ones are appropriate for the project, have an opportunity for success and which will improve the value of the project if implemented.
- **Presentation Phase** – As noted earlier, the team made an informal “out-briefing” on the last day of the workshop, designed to inform the Owners and the Designers of the initial findings of the VE Study. This written report is intended to formalize those findings.

The following FAST Diagram and **Function – Worth - Cost** Analysis, were utilized to focus the team and stimulate brainstorming; a copy of the **Attendance Sheets** is also attached so that the reader can be informed about who participated in the Study proceedings.



# FUNCTION ANALYSIS AND COST-WORTH

PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION

Proj. Nos. STP-0004-00(915) PI No. 0004915; STP-19-1(15) PI No. 621500; BHF-019-1(16) PI No. 621505

SHEET NO.: 1 of 2

NO.	ELEMENT	FUNCTION			COST (000)	WORTH (000)	COMMENTS
		VERB	NOUN	KIND			
1	OVERALL PROJECT	Increase	Traffic Capacity	B	22,704	19,000	C/W = 1.19
		Separate	Traffic	S			
		Enhance	Safety	S			
		Enhance	Property Access	S			
2	EARTHWORK (EW)	Match	Existing Roadway Elevation	B	6,375	5,000	C/W = 1.27
		Accommodate	New lanes & Shoulders	B			
3	DRAINAGE (DR)	Minimize	Accidents	G	737	737	C/W = 1.00
		Protect	Pavement Integrity	S			
		Convey	Storm Water	S			
4	RIGHT-OF-WAY (RW)	Accommodate	Widening	B	7,700	7,000	C/W = 1.1
		Facilitate	Utilities	RS			
		Accommodate	Amenities	S			

Function defined as: Action Verb  
Measurable Noun

Kind: B = Basic  
S = Secondary  
RS = Required Secondary  
HO = Higher Order  
LO = Lower Order

Cost/Worth Ratio =  
(Total Cost ÷ Basic Worth)



# FUNCTION ANALYSIS AND COST-WORTH

SHEET NO.: 2 of 2

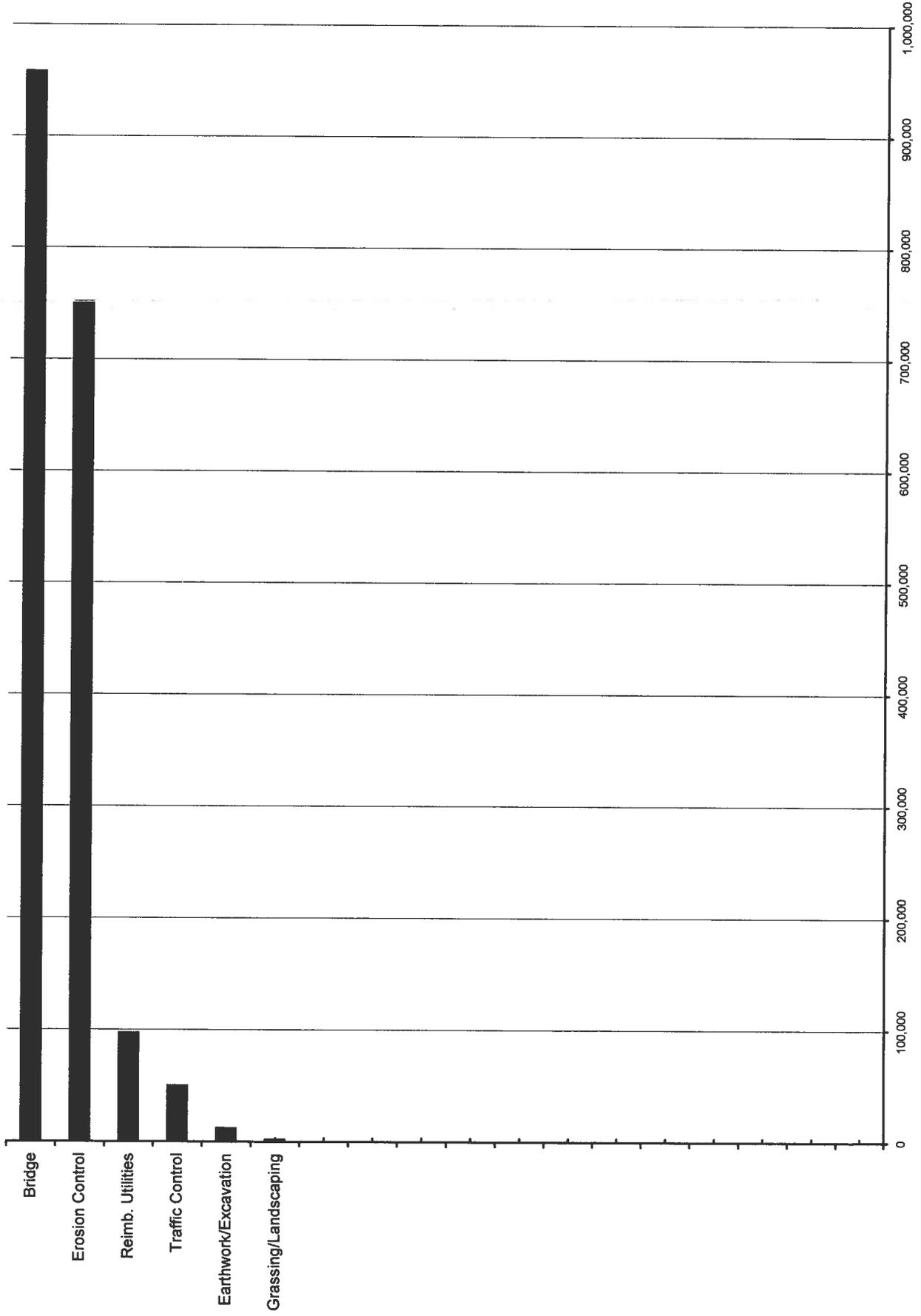
PROJECT: GEORGIA DEPARTMENT OF TRANSPORTATION  
 Proj. Nos. STP-0004-00(915) PI No. 0004915; STP-19-1(15) PI No. 621500; BHF-019-1(16) PI No. 621505

NO.	ELEMENT	FUNCTION			COST (000)	WORTH (000)	COMMENTS
		VERB	NOUN	KIND			
5	BASE & ASPHALT PAVING (BP)	Increase	Traffic Capacity	B	12,801	10,000	C/W = 1.28
		Shed	Water	S			
		Channelize	Traffic	S			
		Provide	Bicycle Access	S			
6	BRIDGES (BR)	Increase	Capacity	B	2,483	2,200	C/W = 1.12
7	TRAFFIC CONTROL (TC)	Facilitate	Safe Construction	RS	264	264	C/W = 1.00
8	SIGNING & MARKING (SM)	Enhance	Wayfinding	S	302	302	C/W = 1.00
		Maintain	Safe Traffic Operations	RS			
		Channelize	Traffic	S			

Function defined as: Action Verb Measurable Noun  
 Kind: B = Basic HO = Higher Order  
 S = Secondary LO = Lower Order  
 RS = Required Secondary  
 Cost/Worth Ratio = (Total Cost + Basic Worth)



BHF-019-1(16)  
PI No. 621505

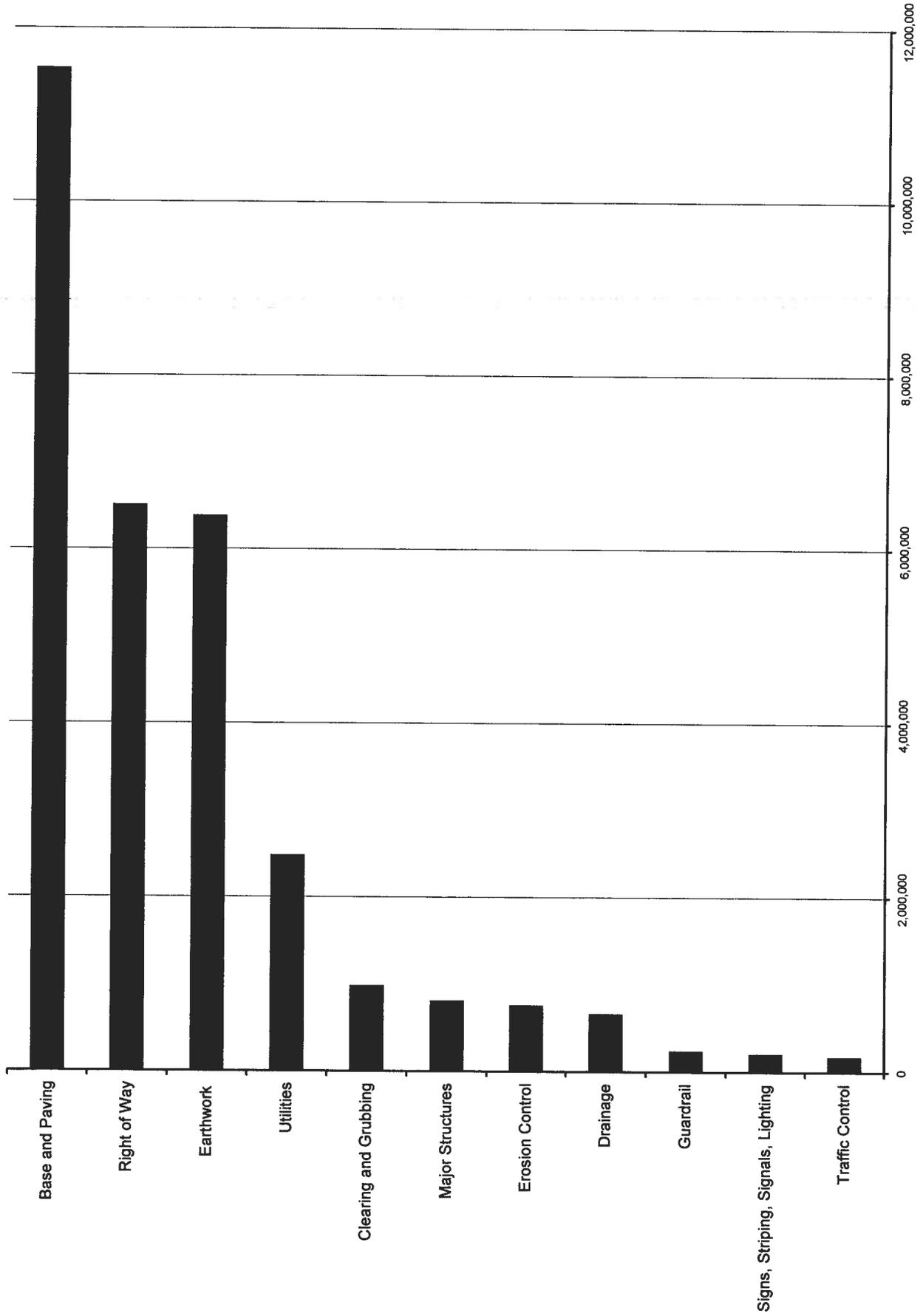








STP-0004-00(915)  
PI 0004915



# DESIGNER'S PRESENTATION MEETING PARTICIPANTS



30-Jul-07

Georgia Department of Transportation		[SFP-0004-00(9/15) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]		PHONE
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Kevin Martin	 PBS&J - Highway Construction Specialist	<a href="mailto:kimartin@pbsj.com">kimartin@pbsj.com</a>		
Ron Hale	 PBS&J - Highway Construction Specialist	<a href="mailto:rhale@pbsj.com">rhale@pbsj.com</a>	(404)275-3362	
Ramesh Kalvakaalva	 Civil Services, Inc. - Bridge Structural Engineer	<a href="mailto:rameshk@civilservicesinc.com">rameshk@civilservicesinc.com</a>	(404)685-8001	



# CREATIVE IDEA LISTING



PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION** SHEET NO.: **1 of 3**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

NO.	IDEA DESCRIPTION	RATING
<b>PAVEMENT (AP)</b>		
AP-1	Use concrete in lieu of asphalt pavement	4
AP-2	Reduce the thickness of the Graded Aggregate Base (GAB)	4
AP-3	A – Reduce shoulder thickness	4
	B – Reduce thickness of the bike lane only	4
AP-4	On curb and gutter section, move bicycle lane to multi-use trail	DS
AP-5	Reduce outside shoulder width	2
AP-6	Relocate bike lane to shoulder section	2
AP-7	Eliminate bike lanes	4
AP-8	Maximize use of existing roadway	DS
AP-9	Use eleven foot wide lanes	2
AP-10	Increase turning radii for trucks	DS
AP-11	Re-evaluate location of eyebrow pavement	DS
AP-12	Use Type “B” crossings	DS
AP-13	Eliminate intersection at Old Dixie Highway (Old 41) and retain right-in, right-out	See BR-4
AP-14	Show removal of CR 320 (West End) Station 303+35	DS
AP-15	Increase outside shoulder to 12’ (10’ of which would be paved)	DS
AP-16	Use roundabout at Old Dixie Highway	1
<b>EARTHWORK (EW)</b>		
EW-1	Use bifurcated profile grade in selected areas	4
EW-2	Raise profile grade in selected areas	5
EW-3	Use more retaining walls	DS
EW-4	Increase the use of guardrail on all fill slopes	2
EW-5	Identify local waste areas	DS
EW-6	Evaluate cost of wall versus slope at station 354+25	3

**Rating: 1→2 = Not to be Developed; 3 = Varying Degrees of Development Potential;**  
**4→5 = Most likely to be Developed; DS = Design Suggestion; ABD = Already Being Done**

# CREATIVE IDEA LISTING



PROJECT: **GEORGIA DEPARTMENT OF TRANSPORTATION**  
**SR 140 Widening/Reconstruction – Bartow-Floyd Counties**  
 [STP-0004-00(915) PI No. 0004915] [STP-19-1(15) PI No. 621500] [BHF-019-1(16) PI 621505]

SHEET NO.: **2 of 3**

NO.	IDEA DESCRIPTION	RATING
<b>MISCELLANEOUS (MS)</b>		
MS-1	Recalculate Traffic Control Plan (TCP) costs	ABD
MS-2	Use alternate type	See BR-10
<b>DRAINAGE (DR)</b>		
DR-1	Acquire temporary easements in areas of parallel streams	DS
DR-2	Reconfigure culvert at Station 206+00	DS
DR-3	Use ADS-type pipe where located outside roadway	DS
DR-4	Utilize existing triple barrel, 10 x 10 box culvert	4
DR-5	Utilize temporary slope drains	ABD
DR-6	Use ConSpan-type structure for: A – culvert B – cattle pass	3 4
<b>BRIDGES (BR)</b>		
BR-1	Shorten bridge	5
BR-2	Re-use existing bridge	1
BR-3	Use separate structures for bikes and pedestrians	DS
BR-4	Eliminate left turn lane on CSX bridge	5
BR-5	Re-use existing piers	1
BR-6	Use single-span bridge with walled abutments on CSX location	5
BR-7	Use trestle pile bents on Oothkalooga Creek bridge	2
BR-8	Put bike and pedestrian traffic together on bridge	4
BR-9	Reduce creek bridge width	4
BR-10	Use modular block walls	5

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