

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

-----  
**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** STP-7073(1) Columbia  
P. I. No.: 250620  
William Few Parkway Extension

**OFFICE:** Engineering Services

**DATE:** March 3, 2008

**FROM:** Brian Summers, P.E., Project Review Engineer *RLW*

**TO:** Ben Buchan, P.E. State Urban Design Engineer

**SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES**

Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. Incorporate alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT No.	Description	Savings PW & LCC	Implement	Comments
<b>WILLIAM FEW PARKWAY (WF)</b>				
WF-2	Widen the intersection of Riverwood Parkway and William Few Parkway	Design Suggestion	No	Would result in additional right of way and construction costs.
WF-6	Relocate the Bike Lane to a Multi-Use Trail	\$22,699	No	The Bike Lane is on the paved shoulder. Placing the Bike Lane on a Multi-Use Trail will require additional Right of Way which was not included in the VE Costs.
WF-7	Reduce the Paved Shoulder width from 10'-0" to 7'-6"	\$543,472	Yes	This should be done.
WF-8	Reduce the median width from 14'-0" to 12'-0"	\$218,813	No	There will be a lot of school bus traffic using this road and Columbia County wants to keep the center turn lane at 14 feet.

ALT No.	Description	Savings PW & LCC	Implement	Comments
<b>WILLIAM FEW PARKWAY (WF) - continued</b>				
WF-11	Construct a 64' wide two lane bridge which can later be re-stripped and utilized as a four lane bridge	Design Suggestion	No	Results in additional costs. Also, there are no plans by Columbia County to widen the road to a four lane facility.
WF-13	Use 11'0" travel lanes	\$218,813	No	There will be a lot of school bus traffic using this road and Columbia County wants to keep the travel lanes at 12 feet.
WF-14	Reduce bridge span to transfer only flow of Eucheec Creek and not the back water	\$1,794,474	No	The bridge length proposed was determined to be the most cost effective way to span the wetlands and accommodate the tail water from the Savannah River. Would result in additional fill in the floodplain and wetlands.
<b>BRIDGE (BR)</b>				
BR-1	Use longer spans to reduce the number of Bents to reduce Mitigation costs	Design Suggestion	No	There would be no cost savings involved.
BR-2	Construct twin bridges on shared bents	\$124,352	No	Would require that guardrail and a guardrail attenuator be installed in the median which is not desirable.

A meeting was held on February 25, 2008 to discuss the above recommendations. Ronnie Hutto, Scott Herring and Matt Schlachter with Columbia County, Philip Green with Southern Partners, Darrell Richardson and Jan Hilliard with Urban Design, and Brian Summers, Ron Wishon and Lisa Myers with Engineering Services were in attendance.

Approved:  Date: 3/5/08  
Gerald M. Ross, P. E., Chief Engineer

BKS/REW

Attachments

c: Gus Shanine  
Todd Long  
James Magnus  
Darrell Richardson  
Jan Hilliard  
Teresa Lannon  
Paul Liles  
Bill Ingalsbe  
Bill Duvall  
Vince Wilson  
Rusty Merritt  
Michael Keene  
Alexis John  
Ken Werho  
Nabil Raad  
Lisa Myers

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

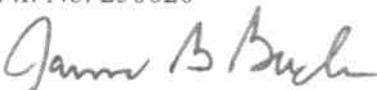
INTERDEPARTMENT CORRESPONDENCE



FILE: STP00-7073-00(001) Columbia County  
William Few Pkwy Extension from SR 104 to  
Hardy McManus Road  
P.I. No. 250620-

OFFICE: Office of Urban Design

DATE: January 29, 2008

  
FROM: James B. Buchan, P.E., State Urban Design Engineer

TO: Brian Summers, P.E., State Project Review Engineer

SUBJECT: **Value Engineering Study Responses**

The VE study held in Atlanta from September 25 to September 28, 2007 produced six (6) alternative ideas and three (3) design suggestions in the Final Report dated October 10, 2007. A summary of the VE recommendations and responses is included at the end of this letter. Our responses and recommendations are as follows:

1. Design Suggestion WF-2 Widen Riverwood Parkway At William Few Parkway Intersection. No cost savings assigned.  
***Urban Design does not recommend implementing this suggestion.***

Explanation: As a design suggestion, no cost savings were identified. This suggestion requires additional construction and right of way and would increase the cost of the project.

2. Design Alternative WF-6 Relocate Bike Lane to a Multi-use Trail  
Cost savings: \$22,699.00  
***Urban Design does not recommend implementing this alternative.***

Explanation: Currently the cross section allows for an acceptable separation between vehicular and pedestrian/bike traffic. It also maintains a consistent cross section as it traverses the bridge. The addition of a multi-use trail will require that the bike traffic move to the shoulder to cross the bridge. This change may lead to unexpected conflicts between vehicular and bike traffic.

This corridor is on the Master Bike Route list for Columbia County. Due to right of way limitations on the remainder of the corridor, it is expected that the bike path will be integrated with the roadway in any future connection to S R 28 (Fury's Ferry Road). In

order to provide consistency through the corridor the bike lane was placed on the paved shoulder. The relocation of the bike lane will result in very limited cost savings (approximately 0.12% of the original project).

3. Design Alternative WF-7 Reduce the Paved Shoulder to 7'-6"  
Cost Savings: \$543,472  
***Urban Design recommends implementing this alternative.***

4. Design Alternative WF-8 Reduce Median to 12'-0"  
Cost Savings: \$218,813  
***Urban Design does not recommend implementing this alternative.***

Explanation: A two (2) foot reduction in a two-way left turn lane would negatively impact the functionality of the corridor, and the operations of turning movements particularly in relation to school bus traffic. The 14'-0" wide flush median maintains the safety and driver confidence aspects of the design.

5. Design Suggestion WF-11 Construct a 60' Wide Two-lane Bridge Which Can Later Be Re-striped and Utilized as a 4-lane Bridge  
***No cost savings assigned.***  
***Urban Design does not recommend implementing this design suggestion.***

Explanation: There is no need for a 4-lane wide bridge and the additional construction costs are not warranted. Hardy McManus Road, which is the eastern terminus of William Few Parkway, is projected to be a maximum three lane section in the Columbia County long range plans. Therefore, William Few Parkway as a three lane section is consistent with the proposed long range plans in addition to supporting the projected traffic volumes. Also, based on the acceptance of WF-7, the cross section will be reduced to 53' in width. The VE suggestion was based on the original 58' wide cross section that would only require an additional 2' of width to reach 60'. However, using the 53' cross section, there would be an additional 7' of width. This would further increase the cost to construct a 60' wide bridge.

6. Design Alternative WF-13 Use 11'-0" Travel Lanes  
Cost Savings: \$218,813  
***Urban Design does not recommend implementing this alternative.***

Explanation: The termini at each end of this proposed project connect to roadways that currently have lanes at least 12 feet in width. In order to maintain consistency and maintain a better level of operation, particularly with the number of school buses that will use the corridor, it is recommended to keep the 12 foot wide lanes.

7. Design Alternative WF-14 Reduce Bridge Span to Transfer Only Flow of Euechee Creek and not Back Water  
Cost Savings: \$1,794,474  
***Urban Design does not recommend implementing this alternative.***

Explanation: The bridge length was determined to be the most cost effective way to span the wetlands and accommodate the tail water from the Savannah River. Shortening the bridge will result in additional fill in the flood plain and wetlands areas, which will require additional permitting and mitigation. The cost for additional mitigation is \$7500 per wetland credit and \$75 per stream credit. Current mitigation costs are estimated at \$61,598 for stream and wetland credits. The additional wetland mitigation required would cost approximately \$25,000. In addition, there will be some downstream impacts to the flood plain that will require further study. The approved EA Document will have to be revised to address the wetlands, ecology and flood plain issues.

8. Design Suggestion BR-1 Use Longer Spans to Reduce the Number of Bents to Reduce Mitigation Costs  
***No cost savings assigned.***  
***Urban Design does not recommend implementing this design suggestion.***

Explanation: Due to the required excavation for footings, the environmental and mitigation impacts may not be reduced. Other items of consideration are:

- a. If switched to 60 foot spans with type II beams, there would be a need to have 9 intermediate bents, each with four footings, for a total of 36 footings to be excavated, as opposed to driving the piles. Assuming 16 inch PSC piles, the total footprint would be approximately 14 bents x 16 in x 16 in x 9 piles/bent=172 sf. Assuming 8x8 square footings for the alternative the footprint would be 8 x 8 x 36=2304 sf.
- b. If switched to 80 foot spans with type II beams, there would be a need to have 7 intermediate bents, each with 4 footings for a total of 28 footings, as opposed to driving piles. Assuming 16 inch PSC piles, the total footprint would be approximately 14 bents x 16 in x 16 in x 9 piles/bent=172 sf. Assuming 8x8 square footings for the alternative the footprint would be 8 x 8 x 28=1792 sf.

Brian Summers, P.E.  
STP00-7073-00(001) Columbia County  
William Few Pkwy Extension Value Engineering Responses  
P.I. No. 250620-  
January 29, 2008  
Page 4

The cost would be basically trading the cost of piles for the cost of concrete. There would be much less piles to drive, but there would be much more substructure concrete. Additionally, there could be the need for cofferdams, seal concrete thru certain areas, etc, which are expensive. Finally we are not sure that construction time would be reduced very much as more concrete forming would be needed instead of driving piles.

9. Design Alternative BR-2 Construct Twin Bridges on Shared Bents  
Cost Savings: \$124,352  
*Urban Design recommends implementing this alternative.*

Explanation: This alternative will be adapted to accommodate the new 7'-6" shoulder width and the use of 12' travel lanes. The alternative identified an outside dimension of 26'-10" for each bridge. The revised outside dimension will be 24'-4". All remaining dimensions will remain the same. The prorated cost savings for the new section is \$203,693.

JBB:PG:JCH<sup>ms</sup>  
Attachment

SUMMARY OF VE ALTERNATIVES  
 STP00-7073-00(001) Columbia County  
 William Few Parkway Extension  
 P.I No 250620

Project	William Few Parkway Extension Columbia County, Georgia			
Alt. No.	Description		VE Study Calculated Savings	Response
<b>William Few Parkway (WF)</b>				
WF-2	Widen Riverwood Parkway At William Few Parkway Intersection		DS	Disagree
WF-6	Relocate Bike Lane To A Multi-use Trail		\$22,699	Disagree
WF-7	Reduce The Paved Shoulder To 7'-6"		\$543,472	Agree
WF-8	Reduce Median To 12'-0"		\$218,813	Disagree
WF-11	Construct A 60' Wide Two-lane Bridge Which Can Later Be Re-striped And Utilized As A 4-lane Bridge		DS	Disagree
WF-13	Use 11'-0" Travel Lanes		\$218,813	Disagree
WF-14	Reduce Bridge Span to Transfer Only Flow of Euchee Creek and not Back Water		\$1,794,474	Disagree
<b>Bridge (BR)</b>				
BR-1	Use Longer Spans To Reduce The Number Of Bents To Reduce Mitigation Costs		DS	Disagree
BR-2	Construct Twin Bridges on Shared Bents		\$124,352	Agree

Total VE cost savings: \$2,922,623  
 Total agreed alternatives: \$1,246,439