

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** EDS-441(20) Laurens  
P. I. No.: 262027  
U.S. 441/S.R. 31 Widening/Reconstruction

**OFFICE:** Engineering Services

**DATE:** October 31, 2007

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

**TO:** Babs Abubakari, P.E. State Consultant Design Engineer

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

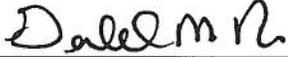
Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. Incorporate alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT No.	Description	Savings PW & LCC	Implement	Comments
<b>PAVEMENT (A)</b>				
A-2.1	Reevaluate the width on C.R. 249/CR 165 – delete left turn lanes	\$134,000	Yes	This should be done.
A-2.2	Reevaluate the reconstruction on C.R. 248 – use existing alignment and typical section	\$122,100	Yes	This should be done.
A-2.3	Reevaluate the width on S.R. 117/CR 195 – delete left turn lanes and shift intersection to the south to minimize the realignment on S.R. 117	\$335,700	No	The Stopping Sight Distance would be compromised on S.R. 117 if the alignment were shifted. In addition, there would be additional impacts to wetlands adjacent to CR 195 if the alignment were shifted as recommended.
A-2.4	Reevaluate the reconstruction on C.R. 302 – use existing alignment and typical section	\$88,500	Yes	This should be done.

ALT No.	Description	Savings PW & LCC	Implement	Comments
<b>PAVEMENT (A) - continued</b>				
A-2.5	Reevaluate the reconstruction and widening on C.R. 292/CR 521 – use existing alignment and typical section	\$318,600 (Proposed)  \$174,000 (Revised)	Yes	This should be modified by keeping as much of the CR 292 existing alignment as possible.
A-2.6	Reevaluate the alignment on C.R. 157 – shift alignment to the north to minimize the length of realignment and relocate the median opening accordingly	\$152,600	No	This would result in additional impacts to a Public Camping Area on Parcel 94.
A-2.7	Reevaluate the median opening location at Dominy Camphouse Road/CR 355 – Delete median opening	\$89,000	No	This particular Median Opening location has been shown to the public on three separate occasions.
A-4	Delete Leveling for removal of adverse crowns on existing pavement in areas noted in the VE Report	\$219,000	No	This would result in a typical section that is not uniform. Part of the existing roadway would have a crown while the parts that are to be reconstructed would have a consistent cross slope.
A-5	Revise pavement design for Side Roads – reduce pavement thickness	\$1,060,000	Yes	This should be done.
<b>RIGHT OF WAY (B)</b>				
B-1	Reduce median width from 44' to 20'	\$367,000 (Proposed) \$325,000 (Revised)	No	Based on information from the Design Consultant, the costs for redesign will exceed the VE Savings. Would result in an 18 month delay in the schedule.
<b>BASE MATERIAL (C)</b>				
C-1	Use Soil-Cement Base Course Material as an Alternate to the Graded Aggregate Base Course	\$1,023,000	Yes	This should be done.

ALT No.	Description	Savings PW & LCC	Implement	Comments
<b>EARTHWORK (D)</b>				
D-1	Reduce the Design Speed on the south end of the project from 65 mph to 55 mph	\$109,000	No	Due to the possibility of this route being signed at 65 mph, the Design Office recommends that the Design Speed not be changed.
<b>BRIDGE WIDENING (I)</b>				
I-1	Retain the existing width for the Turkey Creek Bridge – don't widen at this time	\$459,400	Yes	This should be done.
I-2	Replace Turkey Creek Bridge with a new one now	-\$505,500 cost increase	No	This results in a cost increase.

A meeting was held on October 17, 2007 to discuss the above recommendations. Raju Shah with R.K. Shah and Associates, Mike Haithcock with Consultant Design, and Brian Summers, Ron Wishon and Lisa Myers with Engineering Services were in attendance. Additional information was provided on October 30 and 31, 2007.

Approved:  Date: 11/6/07  
**Gerald M. Ross, P. E., Chief Engineer**

BKS/REW

Attachments

c: Gus Shanine  
Todd Long  
James Magnus  
Mike Haithcock  
Joe King  
Rusty Merritt  
Daniel Smith  
Ken Werho  
Nabil Raad  
Paul Condit  
Lisa Myers

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA



INTERDEPARTMENT CORRESPONDENCE

FILE: EDS 441 (20), Laurens County OFFICE: Consultant Design  
Widening and Reconstruction of SR 31/US 441  
P.I. Number 262027- DATE: September 13, 2007  
FROM: *M. Babs Abubakari* (signature) Mohammed A. (Babs) Abubakari, P.E., State Consultant Design Engineer  
TO: Brian Summers, P.E., Project Review Engineer  
SUBJECT: **Responses to Value Engineering Study**

The VE team's recommendations are noted below in italics and our responses follow:

1. *A-2.1 Reevaluate width of side road at CR/CR 165*

This Intersection has a four way approach and providing the 12 foot wide sideroad will allow for future signalization without reconstruction of the intersection. This typical section for CR 249/CR 165 was approved by GDOT in Concept Validation.

2. *A-2.2 Re-evaluate the reconstruction of side road at CR 248*

GDOT policy requires that paved unposted sideroads be designed for a speed limit of 55 mph. CR 248 is designed for Design Speed of 45 mph which was approved by GDOT during Concept Validation. Please note that CR 248 follows the existing horizontal alignment with only minor adjustments and that keeping the existing vertical profile would create an undesirable shoulder breakpoint.

3. *A-2.3 Re-evaluate width of side road at SR 117/CR 195*

This Intersection has a four way approach and providing a 12 foot wide lane on the sideroad will allow for future signalization without reconstruction of this intersection. The typical Section for SR 117 / CR 195 was approved by GDOT in Concept Validation. SR 177 and CR 195 are paved side roads. Department policy requires paved side roads to be designed for a speed limit or 55 mph. The design speed for SR 177 and CR 195 were approved by GDOT during Concept Validation. Please note that shifting the intersection to the south has potential of impacting Wet Land # 47A in significant way.

4. A-2.4 Re-evaluate reconstruction of side road at CR 302

GDOT policy requires that paved unposted sideroads be designed for a speed limit of 55 mph. CR 302 is therefore designed for 55 mph which was approved by GDOT during Concept Validation. Please note that CR 302 follows the existing horizontal alignment with only minor adjustment and that the proposed typical section provides for a 30 foot clear zone.

5. A-2.5 Re-evaluate reconstruction and widening of side road at CR 292 and CR 521

This Intersection has a four way approach and providing a 12 foot wide lane on the side road will allow for future signalization without any reconstruction of intersection. The proposed realignment improves the angle of intersection to 90 degrees and the typical Section for CR 292 / CR 521 was approved by GDOT during Concept Validation.

GDOT policy requires that paved unposted sideroads be designed for a speed limit of 55 mph. CR 302 and CR 521 are therefore designed for 55 mph which was approved by GDOT during Concept Validation.

6. A-2.6 Re-evaluate alignment of side road at CR 157

GDOT policy requires that paved unposted sideroads be designed for a speed limit of 55 mph. CR 157 is designed for 45 mph which was approved by GDOT during Concept Validation. Please also note that shifting the intersection to the north will have a significant impact on Parcel 94 and provide less than 1320 ft. between median openings.

7. A-2.7 Re-evaluate median opening for side road at Dominy Camphouse Road

This project provides for median openings at every public street and the project layout has been shown to the public at three separate open house meetings. Deleting this median opening may create a public relation issue. Please note that deleting the median opening at this location puts the distance between openings almost a mile (4,980 feet) apart.

8. A-4 Delete concrete leveling used to remove adverse crown on existing pavement.

To keep the existing cross slope on the mainline alignment would increase the surface runoff in the median and require additional median drop inlets and storm drain pipe. It is estimated that 20% of the existing roadway is being reconstructed to improve vertical alignment. If this recommendation is implemented, it would result in various cross slopes throughout the project (part of the road draining to the outside and part towards the median).

9. A-5 reduce thickness of cross road paving.

This corridor is often used by truckers and heavy farm equipment. However, if OMR recommends the use of a thinner pavement section for side roads, we will use it in the plans.

10. B-1 reduce median width

The standard median width for GRIP corridor projects is 44 feet because this is our safest typical section. A 20 foot raised median would add 39,600 L.F. of curb and gutter to the project and the depressed grass median has been shown to public at three separate public meetings. Right of Way plans for this project has been submitted for approval for the third time and expected to be approved. Revising the median width at this stage of plan development would result in redesign and significant delays.

11. C-1 Use Soil-Cement base course as bid alternate.

We agree with this recommendation. However potential saving will depend upon Bid Price at the time of Letting of this project to construction.

12. D-1 Design Clear Zone on a 55 mph design speed in lieu of 65

The Department's instruction is to design the project to for 65 mph, but post the mainline at 55 mph. By doing this the corridor could be posted at 65 mph at some point in the future and meet AASHTO criteria. Redesigning the project for a 55 mph speed design would require significant redesign.

13 I-1 Retain the existing width for Turkey Creek Bridge

The existing bridge would not provide the required width for outside shoulder. This would be a safety concern.

14 I-2 Replace Turkey Creek bridge with new bridge

We agree with this recommendation. If additional funds are available this is a prudent course of action. This will require redesign of the bridge and revised stage construction plans.

If you have any questions, please call Michael Haithcock, P.E. at (404) 657-9758.

MBA:mh

cc: Lisa Myers

## Wishon, Ron

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**From:** Raju K. Shah [raju.shah@rkshah.com]  
**Sent:** Wednesday, October 31, 2007 10:18 AM  
**To:** Haithcock, Michael; Wishon, Ron  
**Subject:** Re: EDS-441(20) Laurens --- {P.I. No. 262027}

Ron:

A 2.5 will save \$ 174,000 compared to \$ 213, 600.00 of VE Study cost saving.

Redesign Cost:

A2.5 - Estimated \$ 25,000.00

B.1- Estimated \$ 550,000.00-Redesign Preliminary Plans and Right of Way Plans. No Concept work included.

Redesign Fee is just and estimate only.

Raju K. Shah  
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Fax: 770-436-5410  
[raju.shah@rkshah.com](mailto:raju.shah@rkshah.com)

----- Original Message -----

**From:** [Wishon, Ron](mailto:Wishon, Ron)  
**To:** [Raju K. Shah](mailto:Raju K. Shah)  
**Sent:** Wednesday, October 31, 2007 7:05 AM  
**Subject:** RE: EDS-441(20) Laurens --- {P.I. No. 262027}

Raju:  
Is the cost of A2.5 now \$174,000 (compared to \$213,600) or is the savings \$174,000 (compared to \$318,600)? Also, what would the redesign cost be for this one as well as B1?  
Ron

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**From:** Raju K. Shah [mailto:raju.shah@rkshah.com]  
**Sent:** Tuesday, October 30, 2007 5:16 PM  
**To:** Wishon, Ron  
**Cc:** Haithcock, Michael  
**Subject:** Re: EDS-441(20) Laurens --- {P.I. No. 262027}

Ron:

I revisited Item # A2.5 and B.1

Item # A2.5-CR 292/CR 521

1. Removing all work on CR 292 would save \$ \$ 107,700.00
2. CR 521 - reducing pavement width to 24 ft. will save 67,000.00

To implement VE recommendation at this intersection will save total \$ 174,700.00 and not \$ 213,600.00. This does not include redesign cost.

However, please note that, turning movement at this intersection are the second highest within the project limit. Center lane on side street will operate as shared lane (Through and Left Turn) with "STOP CONTROL".

Item # B.1-Median Width

1. Reducing median width to 20 ft. will save \$ 325,000.00 not as estimated \$ 367,000.00
2. 20 ft. raised median will take away future inside widening, when needed.
3. This project at present has gone through three public hearing and awaiting Right of Way Approval.
4. Implementing 20 ft. raised median will set back project Let Schedule, minimum of 18 months.
5. Implementing 20 ft. raised median will require significant redesign effort.

In our opinion, current design should remain.

Please let me know, if this is sufficient information for you to process the VE Study.

Do I still need to comply with the Mike Haithcock request to resubmit the response ?

If, yes, please let me know.

Raju K. Shah

R.K. SHAH & ASSOCIATES, INC.

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[raju.shah@rkshah.com](mailto:raju.shah@rkshah.com)

----- Original Message -----

**From:** Wishon, Ron

**To:** [raju.shah@rkshah.com](mailto:raju.shah@rkshah.com)

**Cc:** Myers, Lisa ; Summers, Brian

**Sent:** Thursday, October 25, 2007 2:42 PM

**Subject:** EDS-441(20) Laurens --- {P.I. No. 262027}

Raju:

Aren't we waiting on something else from you on the VE Implementation on the above project?. I got the half size cover sheet but I thought we were waiting on revised responses/costs on A-2.5 and B-1? I've got it ready to go pending these other things.

*Ron Wishon*

*Assistant Project Review Engineer*

*Engineering Services*

*Room 261*

*404-651-7470*

*404-463-6131 (FAX)*