

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: STP-2640(10) Habersham
P.I. No.: 132100
S.R. 105/U.S. 441 Widening

OFFICE: Engineering Services

DATE: May 13, 2008

FROM: Brian K. Summers, PE, Project Review Engineer *REN*

TO: Russell McMurry, P.E., District Engineer, Gainesville

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

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

ALT #	Description	Potential Savings/LCC	Implement	Comments
TYPICAL SECTIONS (TS)				
TS-1	Provide all 11-ft. through lanes throughout the entire project	\$1,163,951	Yes	This should be done.
TS-2	Provide all 11-ft. through lanes within the town of Cornelia	\$231,523	N/A	These savings were already included in VE Alternative "TS-1"
TS-5	Change SR 105 curb and gutter size to 6 in. x 24 in.	Design Suggestion	No	There are numerous driveways that will be serviced by large multi unit trucks that will be crossing over the 6" thick curb and gutter. The 8" thick curb and gutter would hold up better to this truck traffic.
TS-6	Change SR 105 curb and gutter size to 8 in. x 24 in.	Design Suggestion	Yes	This should be done.

ALT #	Description	Potential Savings/LCC	Implement	Comments
TYPICAL SECTIONS - continued				
TS-7	From Station 149+00 to 192+00 shift alignment north 1.5 ft. to accommodate a 12-ft. urban shoulder	-\$34,766 (cost increase)	No	Results in a cost increase not including the redesign costs which would be another \$106,000+.
TS-9	Use 10-ft. urban shoulders in lieu of 11-ft. and 10.5-ft. throughout project	\$713,265	Yes	This should be done.
TS-10	Delay the construction of the 5-ft. sidewalk opposite the 10-ft. multi-use trail location	\$109,186	No	This project corridor is highly developed and generates pedestrian traffic on both sides of the road.
TS-11	Delay the paving of the multi-use trail, only grade	\$218,371	No	The multi-use trail has been negotiated with SHPO (State Historic Preservation Office) and will be part of the Environmental Commitments.
TS-12	Provide a 5-ft. sidewalk in lieu of the 10-ft. multi-use trail	\$109,186	No	The multi-use trail has been negotiated with SHPO (State Historic Preservation Office) and will be part of the Environmental Commitments.
TS-13	Use asphalt concrete in lieu of concrete for the multi-use trail	\$106,558	Yes	This should be done.

ALT #	Description	Potential Savings/LCC	Implement	Comments
EAST END (EE)				
EE-2	Use one-way SR 105 pairs between Camp Street Road and Clarkesville Road	\$3,813,725	No	The one-way pair scenario was studied as part of the Concept validation and it was determined that the one-way pair concept had greater impacts to the identified Historical Resources in the downtown area including 6200' of impacts to the Tallulah Falls Railroad bed.
EE-3	Eliminate the Clarkesville Street connection with SR 105	Design Suggestion	No	Closing this intersection would have a negative impact to the adjacent intersections and to the traffic circulation in the restored downtown Historic District of Cornelia. However, a right in-right out driveway will be considered during plan development.
EE-4	Revise speed limit at east end of project	Design Suggestion	Yes	This should be done.
EE-5	Improve Lee Street, Clarkesville Street and Main Street intersection spacing	Design Suggestion	No	Does not conform to the downtown Master Traffic Plan and would require a traffic study to determine if the traffic can be re-routed through downtown streets. Consideration will be given to providing right in-right out movements.

STP-2640(10) Habersham

P.I. No. 132100

Implementation of Value Engineering Study Alternatives

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A meeting was held on May 12, 2008 and Jim Graybeal and Curtis Dirton with PB World, Neil Kantner and Douglas Fadool with District One Preconstruction, and Brian Summers, Ron Wishon and Lisa Myers of Engineering Services were in attendance.

The results above reflect the consensus of those in attendance and those who provided input.

Approved:  Date: 5/17/08
Gerald M. Ross, P. E., Chief Engineer

BKS/REW

Attachments

c: Gus Shanine
Todd Long
Russell McMurry
Robert Mahoney
Neil Kantner
Doug Fadool
Kim Cooley
Randall Davis
Jeff Woodward
Paul Liles
Bill Ingalsbe
Bill DuVall
Lyn Clements
Ken Werho
Stenley Mack
Lisa Myers

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: STP - 2640(10), Habersham County
SR 105/US 441 Interchange Widening Improvements
P.I. No. 132100

OFFICE: Consultant Design

DATE: April 18, 2008

FROM: Neil Kantner, P.E., District Design Engineer

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

SUBJECT: **Value Engineering Study-Responses**

Reference is made to the recommendations that were contained in the Value Engineering Study- Final Report dated January 2008 for the above referenced project. Our responses and recommendations are as follows:

1. **Value Engineering Recommendation No. TS-1** – Provide all 11-ft. through lanes throughout the entire project, Initial Cost Saving (\$1,163,951).
 - *Approval of the VE Recommendation No. TS-1 is recommended. AASHTO recommends 12-ft lanes due to safety, comfort of driving and desirable clearances between vehicles where potential right of way impacts and environmental constraints are not a factor. AASHTO guidance also indicates that 11-ft lanes are acceptable in urban areas where pedestrian crossings, right of way or existing development become stringent controls. The roadway typical section will be modified to reflect 11-ft travel lanes throughout the project. The width will remain at 12-ft for a center two way left turn lane. This modification will have a beneficial cost savings effect to right-of-way widths and construction cost. Use of 11-ft lane widths will require approval of a design variance.*
2. **Value Engineering Recommendation No. TS-2** –, Provide all 11-ft. through lanes within the town of Cornelia, Initial Cost Savings (\$231,523).
 - *Approval of the VE Recommendation No. TS-2 is recommended. AASHTO guidance indicates that 11-ft lanes are acceptable in urban locations where pedestrian crossings, right of way or existing development become stringent controls. The roadway typical section will be modified to reflect 11-ft travel lanes within the town of Cornelia. The width will remain at 12-ft for a proposed center two way left turn lane. This modification will have a beneficial cost savings effect to right-of-way widths and construction cost. Use of 11-ft lane widths will require approval of a design variance.*

3. **Value Engineering Design Suggestion No. TS-5** – Change SR 105 curb and gutter size to 6 in. x 24 in.
 - *Approval of the VE Design Suggestion No. TS-5 is not recommended. The 6 in. dimension indicates the thickness of the proposed concrete gutter. This project is located in a highly commercialized area along S.R. 105 with numerous driveway openings in the curb and gutter on both sides of the road. Most of the businesses are serviced by large multi unit trucks. The weight of these vehicles could cause the 6 in. concrete to fail and would create a maintenance problem. It is recommended to utilize 8 in. x 24 in. concrete curb and gutter throughout project.*

4. **Value Engineering Design Suggestion No. TS-6** – Change SR 105 curb and gutter size to 8 in. x 24 in.
 - *Approval of the VE Design Suggestion No. TS-6 is recommended. It is recommended to utilize 8 in. x 24 in. concrete curb and gutter throughout project. The proposed 8 in. thick concrete gutter will provide sufficient loading capacity to handle the weight of the multi unit truck traffic. The 24 in. wide curb and gutter will provide 1.5 feet of gutter capacity (less than a 30 in. curb and gutter) which may require that additional inlets be provided to keep the allowable gutter spread within design. The 24 in. width will allow for an additional 6 inches of useable shoulder width and reduce the overall right of way width and cost.*

5. **Value Engineering Recommendation No. TS-7** – From Station 149+00 to 192+00 shift alignment north 1.5 ft. to accommodate a 12 ft. shoulder, Additional Project Cost (VE STUDY Recalculated \$1,288) (Additional Preliminary Engineering Cost \$106,000).
 - *Approval of the VE Recommendation No. TS-7 is not recommended. The project will consist of 11-ft. travel lanes and 10' shoulders on the south side through the project in this area. Due to the reduction in lane width and shoulder width the construction limits remain inside the existing Right of Way with adequate areas remaining for the utility relocations. This alignment shift adds only minimal additional costs to the project. However, the additional cost to redo the preliminary engineering through this area will be a substantial increase to the overall project costs.*

6. **Value Engineering Recommendation No. TS-9** – Use 10-ft. urban shoulder in lieu of 11-ft. and 10.5 ft. throughout project, Initial Cost Savings (\$713,265).
 - *Approval of the VE Recommendation No. TS-9 is recommended. The shoulder width will be reduced to 10-ft. throughout the project with the exception of approximately 6350 lineal feet from Station 135+09.92 Lt. to Station 198+56.81 Lt.. Within the limits of these 6350 feet, the shoulder width is proposed to be 16 feet wide to provide a 10 foot wide multi-use path that has been negotiated with SHPO (State Historic Preservation*

Organization) as mitigation for encroachment on the 4-F historic railroad bed. A 10 foot shoulder width through a large portion of the project should not create problems with relocating the utilities since the existing Right of Way extends well outside of the toe of slope in most areas.

7. **Value Engineering Recommendation No. TS-10** – Delay the construction of the 5-ft. sidewalk opposite the 10-ft. multi-use trail location, Initial Cost Savings (\$109,186).
 - *Approval of the VE Recommendation No. TS-10 is not recommended. This project is classified as an urban minor arterial roadway. This project is in a highly commercialized and retail developed area along existing S.R. 105 which does support pedestrian traffic on both sides of the road. Even though the project will have several signalized intersection locations that provide pedestrian cross walks, the spacing is not conducive for servicing both sides of the roadway. Also the width of the roadway in this area varies from 3 and 4 lanes wide on either side of the proposed median (36 to 48 feet of pavement width). Both from visual observations and evidence of a foot path in the existing shoulders, this suggests and indicates that sidewalks on both sides would be utilized and provide a safe refuge area for the pedestrian traffic in this area.*

8. **Value Engineering Recommendation No. TS-11** – Delay the paving of the multi-use trail, only grade, Initial Cost Savings (\$218,371).
 - *Approval of the VE Recommendation No. TS-11 is not recommended. The shoulder width will be reduced to 10-ft. throughout the project with the exception of approximately 6350 lineal feet from Station 135+09.92 Lt. to Station 198+56.81 Lt.. Within the limits of the 6350 feet, the shoulder width is proposed to be 16 feet wide to provide a 10 foot wide multi-use path that has been negotiated with SHPO (State Historic Preservation Organization) as mitigation for encroachment on the 4-F historic railroad bed. The construction of the multi-use path is a part of the MOA submitted with the Environmental Assessment.*

9. **Value Engineering Recommendation No. TS-12** – Provide a 5-ft. sidewalk in lieu of the 10-ft. multi-use trail, Initial Cost Savings (\$109,186).
 - *Approval of the VE Recommendation No. TS-12 is not recommended. The shoulder width will be reduced to 10-ft. throughout the project with the exception of approximately 6350 lineal feet from Station 135+09.92 Lt. to Station 198+56.81 Lt.. Within the limits of the 6350 feet, the shoulder width is proposed to be 16 feet wide to provide a 10 foot wide multi-use path that has been negotiated with SHPO (State Historic Preservation Organization) as mitigation for encroachment on the 4-F historic railroad bed. The construction of the multi-use path is a part of the MOA submitted with the Environmental Assessment.*

10. Value Engineering Recommendation No. TS-13 – Use asphalt concrete in lieu of concrete for the multi-use trail, Initial Cost Savings (\$106,558).

- *Approval of the VE Recommendation No. TS-13 is not recommended. Asphalt pavement does not provide an adequate pavement life before routine maintenance activities would have to be initiated. The routine maintenance costs would reduce the initial cost savings over time. Also an asphalt path in some cases would not meet pedestrian expectancy with regards to many of the ADA requirements. The remainder of the project provides for concrete sidewalk.*

11. Value Engineering Recommendation No. EE-2 – Use one-way pair for SR 105 between Camp Creek Road and Clarkesville Street, Initial Cost Savings (\$3,813,725).

- *Approval of the VE Recommendation No. EW-2 is not recommended. The one way pair concept was studied in this area as part of the Concept review and validation process. It was determined that a one way pair roadway section would have greater impacts to the identified historical resources in the downtown area where the one way pair was located. The one way pair concept would impact 6200 linear ft of the Tallulah Falls railway bed whereas the proposed alternate only impacts 3000 lineal feet. The railroad bed has been determined as a historic feature. Also the one way pair would impact the view shed of 5 eligible historic resources with residential use eliminated on two of the eligible resources, while the proposed design presented for the VE Study would have no adverse effect on 11 eligible historic resources. The one way pair alignment would require considerable extra involvement with SHPO to minimize impacts, in particular the additional 3200 feet of rail bed impact. A one way pair design usually is defined by a separation of one or more city blocks between the opposing roadways. The width between the parallel streets of S.R.105 and Stonecypher Street does not provide adequate storage lengths for the circulation of traffic using the downtown business area. The design of the one way pair as studied would require the acquisition of most of the businesses between the parallel streets. It was also determined that the proposed design as compared to the one way pair alternate would minimize other related environmental impacts associated with environmental justice and cumulative impacts. We determined that the Camp Creek Road and Stonecypher Street intersections would require additional study and design modification to meet acceptable intersection levels of service if the one way pair was to be implemented. Utilizing sections of Stonecypher Street for the westbound lanes of the one way pair would introduce additional costs associated with developing acceptable vertical and horizontal geometric alignments required to meet design criteria. Meeting the design criteria for the one way pair in this area will require additional R/W and the possible use of retaining walls. The cost for these items was not fully addressed in the VE Study and would have some effect to the cost savings indicated by the VE Team.*

12. Value Engineering Design Suggestion No. EE-3 – Eliminate the Clarkesville Street connection with SR 105

- *Approval of the VE Recommendation No. EE-3 is not recommended. Closing the Clarkesville Street intersection would have a negative impact on the adjacent intersections at Lee Street and Main Street along S. R. 105 and to the traffic circulation in the restored downtown Historic District of Cornelia. Also this closing does not conform to the downtown Master Plan to revitalize Cornelia. However, the intersection will be re-studied to see if a right in/ right out movement would be justified.*

13. Value Engineering Design Suggestion No. EE-4 – Revise speed limit at east end of project.

- *Approval of the VE Design Suggestion No. EE-4 is recommended. The current design of the project with regards to the horizontal and vertical geometry from Cannon Bridge Road on the west, to Camp Creek Road is 45 MPH. From Camp Creek Road to the end of the project at Main Street the design meets 35 MPH. As a result of the 11 foot lane widths and the transition of the widened S.R. 105 back to the existing Main Street intersection the speed limit can be reduced if supported by a speed study done for the area.*

14. Value Engineering Design Suggestion No. EE-5 – Improve Lee Street, Clarkesville Street and Main Street intersection spacing.

- *Approval of the VE Design Suggestion No. EE-5 is not recommended. Moving the intersection locations does not conform to the downtown Master Plan and would require a traffic study to determine if the traffic can be re-routed through the downtown streets. Also these improvements could have a negative impact to the historical resources in the area. Design considerations will be given to providing right-in / right-out traffic movements for these streets to provide safe and cost effected intersection improvements.*



Preconstruction Status Report By PI Number

Print Date: 05/12/2008

PROJ ID	COUNTY	DESCRIPTION	MGMT. ROW DATE	SCHED DATE	MGMT. LET DATE
132100-	Habersham	SR 105/US 441BU FM CANNON BRIDGE RD TO WALNUT ST/CORNELIA	Feb-09	Jun-10	Feb-11

STP00-2640-00(010)	FIELD DIST: 1		Phase	Approved	Proposed	Cost	Fund	Status
TIP #:	TWIN:	US: 441B	PE	1992	1992	1,878,400.00	Q24	AUTHORIZED
MPO: Not Urban		EST DATE: 3/26/2008	ROW	2009	2009	14,176,960.00	L240	PRECST
MODEL YR:			ROW	2008	2008	2,500,000.00	1.Y20S	PRECST
PROJ MGR: Kantner, Neil		PROJ LENGTH: 2.74	CST	LR	LR	36,295,847.05	L240	PRECST
PROG: Reconstruction/Rehabili		TYPE: Widening						
TYPE: tation		WORK:						
CONCEPT: ADD 4U(MED 20)		LET RESP: DOT						

SCHED START	SCHED FINISH	ACTIVITY	ACTUAL START	ACT/EST FINISH	PCT	DISTRICT COMMENTS
		Define Project Concept	12/15/2000	1/2/2001	100	CONSULTANT DESIGN, PB
		Concept Meeting	3/1/2001	3/1/2001	100	AMERICAS. REVISED
		Concept Submittal and Review	6/14/2001	6/22/2001	100	CONCEPT REPORT APPROVED
		Receive Preconstruction Concept Approval	6/23/2001	6/27/2001	100	4-07. EA SPECIAL STUDIES
		Management Concept Approval Complete	7/20/2001	7/27/2001	100	COMPLETE, EA COMMENTS
5/28/2008	6/3/2008	Revise or Re-validate Approved Concept	2/15/2007	4/5/2007	100	FROM FHWA 1/29/08. EA
		Value Engineering Study	9/25/2007		96	NEEDS SIGNIFICANT
		Public Information Open House Held	9/18/2001	9/18/2001	100	ADDITIONS/MODIFICATIONS.
7/29/2008	7/28/2008	Environmental Approval	2/1/2005		95	ANTICIPATE RESUBMISSION
6/30/2008	6/30/2008	Public Hearing Held			0	TO DISTRICT BY 4/1/08. NEED
		Mapping	5/4/2006	5/24/2006	100	PHOH. VE STUDY HELD
		Field Surveys/SDE	6/7/2004	12/8/2004	100	1/22/08. VE REPORT
		Preliminary Plans	3/15/2006	11/29/2007	100	PROVIDED ON 2/8/08.
		Preliminary Bridge Design	11/5/2007	11/8/2007	100	PRELIMINARY BRIDGE
		Underground Storage Tanks	4/9/2007	12/21/2007	100	DESIGN APPROVED 2/15/2008.
		PFPR Inspection	1/31/2008	1/31/2008	100	PFPR HELD ON 1/31/08. NTP
5/23/2008	6/13/2008	R/W Plans Preparation	2/1/2008		20	FOR PHASE 5 AND 6 GIVEN ON
7/11/2008	7/16/2008	R/W Plans Final Approval			0	2/1/08. RR COORDINATION
		L & D Report Development and Approval	7/27/2001	7/27/2001	100	ACTIVITES BEGUN 02-10-08
7/17/2008	4/15/2010	R/W Acquisition			0	WITH MIKE LANKFORD AND
12/9/2008	12/22/2008	Stake R/W			0	RICHARD CROWLEY. [LAST
		Soil Survey	4/1/2007	3/14/2008	100	UPDATE 03-13-08]
6/13/2008	7/18/2008	Bridge Foundation Investigation			0	
3/27/2009	3/26/2009	Final Design	2/1/2008		27	
6/23/2008	10/10/2008	Final Bridge Plans Preparation			0	
4/17/2009	4/20/2009	FFPR Inspection			0	
5/4/2009	5/15/2009	FFPR Response			0	

BIKE PROVISIONS INCLUDED?: Y MEASUREMENT SYSTEM: E CONSULTANT: C UT EST: \$ 0.00

PDD: No activity. 2/17/03. Assign to D1 w/consult. 7/2/04.
Bridge: WEI 04/01/08
Design: JLN - PB - Study Int. Traf 1-31-06/Config final 2-20-06
EIS: EA|NotApvd|NotOnSchRW|Updated5-5-08|Coley
LGPA: CORNELIA SGN 9/14/90 UTIL. HABERSHAM NOT INVOLVED|RESCISSION LETTER SENT TO CORNELIA & HABERSHAM 11-4-05.
Planning: not on SBR 85
Prog. Develop: RW STIP AMENDMENT #1 10-06
Programming: TEMP SR 946|#1 4-01|#2 3-04
Railroad: NS(ABN)
Traffic Op: \$+!FFPR sent 1/18/08 KW/NR
Utility: OCD SUE; NEED 2ND SUBMISSION PLANS 09/12/05
EMG: RECST/REHAB(WIDENING);FULL FIELD SURVEY COMPLETED BY9/15/04.

R/W INFORMATION:

PREL PARCEL CT: 79 TOTAL PARCEL CT: ACQUIRED BY: DOT ACQ MGR:
 UNDER-REVIEW CT: RELEASED CT: OPT-PEND CT: DEEDS CT: COND-PEND CT: COND-FILED CT:
 RW CERT DT: ACQUIRED CT: RELOCATION CT: