

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: BR000-0001-00(363) Thomas
P.I. No.: 0001363
SR 3 Alt. at Ochlocknee River

OFFICE: Engineering Services

DATE: April 8, 2010

FROM: Ronald E. Wishon, State Project Review Engineer *REW*

TO: Ralph S. Griffin, District Design Engineer - Tifton

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held February 16-19, 2010. Responses were received on April 7, 2010. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
ALIGNMENT (A)				
A-1	Build a new bridge (1,515 ft) on the existing alignment and detour traffic during construction	\$977,000	No	A detour route using only state routes would be approximately 20 miles long. Due to the length of the detour, this option was abandoned during the concept phase. The route proposed by the VE Team would use some off-system roads that are not structurally designed to handle truck traffic. The cost to upgrade this detour, including striping and a railroad crossing on McMillan Road is approximately \$1,186,115. A new detour route would require additional environmental studies, public meetings and railroad involvement and would delay the letting of this project. The project is currently scheduled for the June 2010 letting. If the new bridge is placed on the existing alignment, additional ROW would be required, stream buffers would be impacted, and redesign and environmental recertification would delay the project letting.

A-2	Move the project beginning point on the south end from Sta. 218+00 to Sta. 255+00	\$68,000	No	Moving the beginning of the project will not allow for traffic to remain on existing alignment with the proposed profile during stage construction. The transition to the new alignment should remain as shown in the plans.
A-3	Move the project end point on the north end from Sta. 266+22 to Sta. 263+50	\$32,600	No	The project end point should remain as designed to allow for the required superelevation runoff distance for the horizontal curve.
PROFILE (P)				
P-1	Modify the SR 3 Alternate profile to add a crest on the bridge and lower the southern approach	\$224,200	No	The final bridge design is 100% complete. Redesign of the roadway and bridge plans would delay the project letting.
P-1.1	Modify the SR 3 Alternate profile to add a crest on the bridge, lower the southern approach profile, and use 2:1 slopes with guardrails	\$267,000	No	The final bridge design is 100% complete. Redesign of the roadway and bridge plans would delay the project letting.
SECTION (S)				
S-1	Use 11 ft wide lanes in lieu of 12 ft wide lanes for the total length of the project	\$410,000	No	This project is less than one mile in length and the existing roadway utilizes 12 ft lanes. This route has 10% truck traffic. Redesign of the roadway and bridge plans would delay the project letting.
S-2	Use 2:1 slopes at guardrail locations in lieu of 4:1 slopes	\$120,000	No	Guardrail as designed meets current guidelines. Some areas of 4:1 slopes are required to transition to the 2:1 slopes behind the guardrail.

REW/LLM

Attachments

c: Ben Buchan
Brent Thomas/Sandy Griffin/Basil Dahman/Tracy Bullard/Jason Wiggins
Paul Liles/Bill Duvall/Bill Ingalsbe/
Dennis Carter
Joe Cowan/Scott Chambers
Ken Werho
Lisa Myers
Matt Sanders

A-2 Move the project beginning point on the south end from STA 218+00 to STA 225+00.

Recommendation: Do not Implement

See comments for A-1. Moving the beginning point to STA 225+00 will not allow for traffic to remain on existing alignment during Stage Construction and keep proposed profile. Transitioning to new alignment needs to remain as shown on current design.

A-3 Move the project end point on the north end from STA 266+22 to STA 262+50.

Recommendation: Do not Implement

Project end point needs to remain at 266+25 to allow the proper Superelevation runoff distance for the horizontal curve.

PROFILE (P)

P-1 Modify the SR 3 Alternate profile to add a crest on the bridge and lower the southern approach profile.

Recommendation: Do not Implement

Final Bridge design is 100 percent complete. Lowering the southern approach and adding crest to bridge will require redesign of roadway and bridge and possible design exception for not meeting required K values on vertical curve. Redesign of the bridge and roadway plans will delay the project letting. Hydraulic and structural redesign will take approximately 1 year. This is an existing pin and hanger bridge and a high priority maintenance. Redesign may also require revisions to the environmental document. If the alignment changes as per A-1, then further impacts to environmental resources will result from the proposed fill slopes. Also a minimum profile grade elevation must be maintained as required by the hydraulic study and this may be jeopardized by lowering the southern approach.

P-1.1 Modify the SR 3 Alternate profile to add a crest on the bridge, lower the southern approach profile, and use 2:1 slopes with guardrails.

Recommendation: Do not Implement

Final Bridge design is 100 percent complete. Lowering the southern approach and adding crest to bridge will require redesign of roadway and bridge and possible design exception for not meeting required K values on vertical curve. Redesign of the bridge and roadway plans will delay the project letting. Hydraulic and structural redesign will take approximately 1 year. This is a pin and hanger bridge and a high priority maintenance project. Redesign may also require revisions to the environmental document. Also a minimum profile grade elevation must be maintained as required by the hydraulic study and this may be jeopardized by lowering the southern approach.

2:1 slopes have been used in some areas; no additional 2:1 slopes will be added. Adding additional 2:1 slopes will increase the guardrail warrant area and cause the required guardrail to lengthen and shoulders to be widened to allow for the required length of 4:1 slopes to protect the warranting area. This will require additional fill and offset the proposed savings for this alternative. The guardrail currently meets guidelines; for each additional length of 2:1 slopes added, the guardrail will have to be lengthened with 4:1 slopes to protect the 2:1 slopes. Where the additional required guardrail will need to be added the shoulders will need to be widened an additional 5.5 feet to meet current guidelines. 2:1 slopes cannot be used throughout the guardrail locations and still meet

minimum guidelines. The use of 2:1 slopes on the west side will result in additional removal of cut from the existing embankment resulting in additional work and a waste project.

SECTION (S)

- S-1 Use 11 ft wide travel lanes in lieu of 12ft wide for the total length of the project, including the bridge.

Recommendation: Do not Implement

11 ft wide travel lanes will not be used. This route has 10% trucks and 8% 24-Hr trucks which we recommend 12 ft travel lane width. We are also recommending 12 ft lane width to match the existing roadway typical, since this project is only 0.913 mile in length.

Redesign of the bridge and roadway plans will delay the project letting by approximately 6 months. Also GDOT standards require a design variance for the use of 11 ft lanes on a rural collector.

- S-2 Use 2:1 slopes at guardrail locations in lieu of 4:1 slopes.

Recommendation: Do not Implement

2:1 slopes have been used in some areas; no additional 2:1 slopes will be added. Adding additional 2:1 slopes will increase the guardrail warrant area and cause the required guardrail to lengthen and shoulders to be widened to allow for the required length of 4:1 slopes to protect the warranting area. This will require additional fill and offset the proposed savings for this alternative. The guardrail currently meets guidelines; for each additional length of 2:1 slopes added, the guardrail will have to be lengthened with 4:1 slopes to protect the 2:1 slopes. Where the additional required guardrail will need to be added the shoulders will need to be widened an additional 5.5 feet to meet current guidelines. 2:1 slopes cannot be used throughout the guardrail locations and still meet minimum standards.

BRIDGE (B)

- B-3 Use five line of larger beams in lieu of six smaller beams and change from BT-72's to BT-74's.

Recommendation: Do not implement

According to the Office of Bridge Design, this alternative would require additional cost for High Performance Concrete, added bed time to achieve the higher PSC beam strengths, additional slab reinforcement, increase in pile size and additional cap depth for intermediate bents. Based on our estimate, any additional savings would be negated with the re-design. According to the Office of Bridge Design the estimated savings would be \$11,000.00. Hydraulic and structural redesign will take approximately 1 year. This is an existing pin and hanger bridge and a high priority maintenance project.

- B-6 Use all steel H-piles or all PSC concrete piles in lieu of mixing pile types.

Recommendation: Do not implement

According to the Office of Bridge Design, the plans have been developed and are consistent with the foundation recommendations. Revising the bridge plans will delay the Letting of the project. Hydraulic and structural redesign will take approximately 1 year. This is an existing pin and hanger bridge and a high priority maintenance project.

- B-12 Revise the hydraulic study to match the span configuration and bridge length shown in the final plans.

Recommendation: Do not implement

According to the Office of Bridge Design, the length of bridge was changed to meet the

site conditions. Based on this insignificant change in length no change is required for the Bridge Hydraulic Study.

If you have any questions or need additional information please contact Ralph S. (Sandy) Griffin at 229-386-3618.

Thank You,

RSG;sg

cc:

Brent Thomas, District Preconstruction Engineer
File

STATE	PROJECT NUMBER	SHEET TOTAL
G.A.	BR000-0001-00(363)	INC. SHEETS

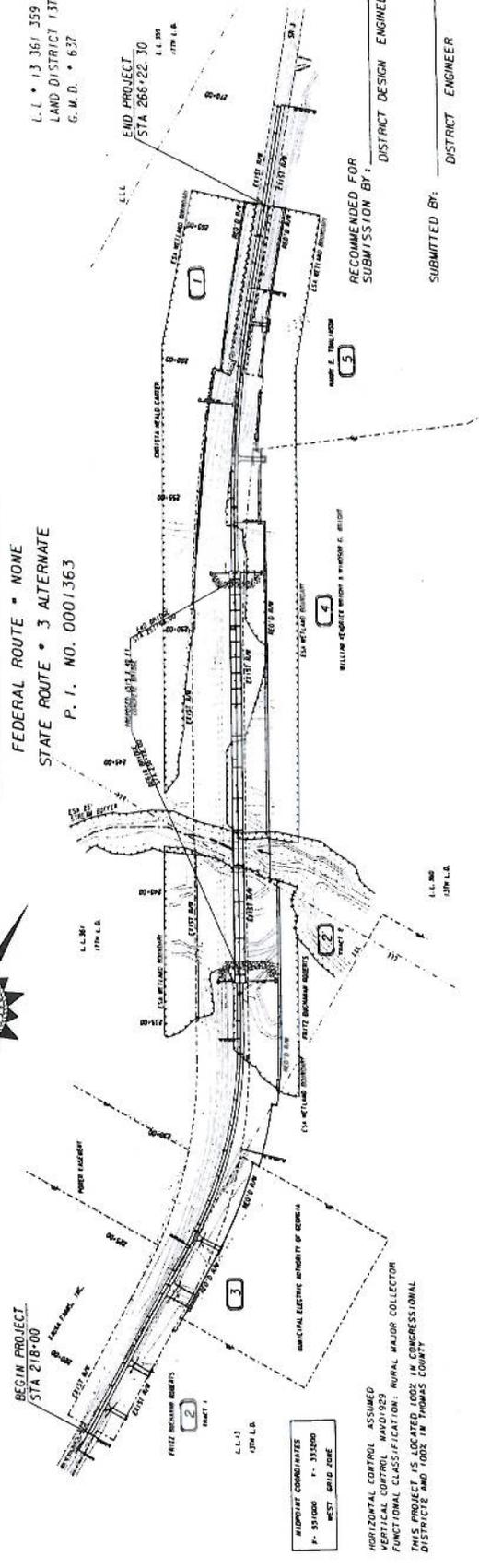
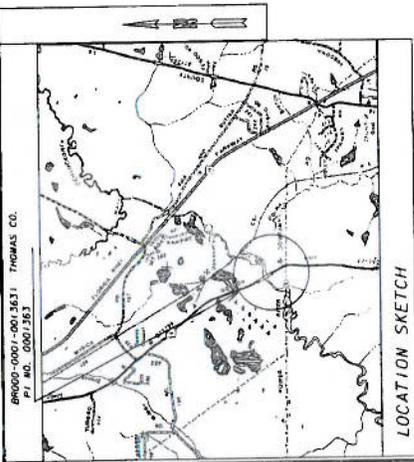
DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

**PLAN AND PROFILE OF PROPOSED
BRIDGE REPLACEMENT
SR 3 ALT. / JOHN B. GORDON HWY.
OVER OCHLOCKNEE RIVER
THOMAS CO.
FEDERAL AID PROJECT
BR000-0001-00(363)**



FEDERAL ROUTE * NONE
 STATE ROUTE * 3 ALTERNATE
 P. I. NO. 0001363

L.L. * J.S. 361 359 360
 LAND DISTRICT 13TH & 17TH
 G.M.D. * 637



NOTE:
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DESIGN DATA:	
TRAFFIC A.D.T.:	(2030) 3500
TRAFFIC A.D.T.:	(2010) 2200
DIRECTIONAL D.I.V.:	60 %
% TRUCKS:	10 %
% 24 HR TRUCKS:	8.5 %
SPEED DESIGN:	55 MPH

LENGTH OF PROJECT	
NET LENGTH OF ROADWAY	0.627
NET LENGTH OF BRIDGES	0.287
NET LENGTH OF PROJECT	0.913
GROSS LENGTH OF PROJECT	0.000
GROSS LENGTH OF PROJECT	0.913



DATE	CHIEF ENGINEER
LOCATION AND DESIGN APPROVAL DATE	12/29/08
PLANS COMPLETED DATE	
REVISIONS:	

RECOMMENDED FOR SUBMISSION BY: _____ DISTRICT DESIGN ENGINEER DATE _____
 SUBMITTED BY: _____ DISTRICT ENGINEER DATE _____

BR000-0001-00(363) THOMAS CO.

PRECONSTRUCTION STATUS REPORT FOR PI:0001363

SR 3 ALT @ OCHLOCKNEE RIVER APP 9 MIN OF JCT SR 38

MGMT LET DATE : 06/18/2010
 MGMT ROW DATE : 11/21/2008
 BASELINE LET DATE : 04/29/2010
 SCHED LET DATE : 9/13/2010
 WHO LETS? : GDOT Let
 LET WITH :

PRIORITY CODE: 4
 DOT DIST: 2
 CONG. DIST: N
 BIKE: MEASURE:
 NEEDS SCORE: 6
 BRIDGE SUFF: 39.71

PROJ ID : 0001363
 COUNTY : Thomas
 LENGTH (MI) : 0.40
 PROJ NO.: BR000-0001-00(363)
 PROJ MGR: Griffin, Ralph
 AOHD Initials:
 OFFICE : District 4
 CONSULTANT: No Consultant, GDOT In-House Design
 SPONSOR : GDOT
 DESIGN FIRM: GDOT D4 Design Office

MPO: Not Urban
 TIP #: 4
 MODEL YR :
 TYPE WORK: Bridges
 CONCEPT: Replacement
 PROG TYPE: Prov. for ITS: N
 BOND PROJ :

BASE START	BASE FINISH	LATE START	LATE FINISH	TASKS	ACTUAL START	ACTUAL FINISH	%	PROGRAMMED FUNDS				Date Auth	
								Activity	Approved	Proposed	Cost		Fund
5/22/2009	10/9/2009	4/23/2010	7/16/2010	Concept Development Concept Meeting PM Submit Concept Report Receive Preconstruction Concept Approval Management Concept Approval Complete Value Engineering Study Environmental Approval Field Surveys/SDE Preliminary Plans Preliminary Bridge Design 404 Permit Obtainment PFPR Inspection	6/25/2002 10/29/2002 12/9/2002 12/11/2002 1/15/2003 11/25/2009 3/11/2003 4/17/2002 2/15/2003 3/4/2003 10/12/2007 11/29/2007 12/20/2007	1/22/2003 10/29/2002 12/10/2002 1/6/2003 1/22/2003 8/21/2007 8/6/2002 3/13/2008 11/14/2004 10/13/2007 3/7/2008 2/12/2008	100 100 100 100 83 100 100 100 100 0 100 100 100	PE ROW CST	2002 2009 2010	2002 2009 2010	307,000.00 112,000.00 11,430,882.75	Q10 L1C0 L1C0 PRECST	1/8/2002 6/29/2009
5/22/2009	5/26/2009			R/W Plans Preparation L & D Approval R/W Authorization Stake R/W Soil Survey Bridge Foundation Investigation Final Design Final Bridge Plans Preparation PFPR Inspection Submit FFPR Responses (OES)	11/29/2007 12/20/2007 1/15/2003 6/29/2009 5/27/2008 4/13/2004 2/10/2005 1/17/2008 3/25/2005 12/9/2009	2/12/2008 6/29/2009 6/9/2008 4/13/2004 7/9/2008 2/19/2009 12/29/2005 12/9/2009	100 100 100 100 100 100 100 100 100 0	PE ROW CST	307,000.00 112,000.00 10,886,555.00	1/6/2009 1/6/2009 1/6/2009	Q10 L1C0 L1C0	0.00 150,080.00 11,430,882.75	

STIP AMOUNTS

Activity Cost Fund
 PE 0.00 Q10
 ROW 150,080.00 L1C0
 CST 11,430,882.75 L1C0

District Comments

Structure ID: 275-0003-0 Design Load Limit: H-15
 PE PROJ NO: PEBR0000100363
 VE Study Feb 16 - 19, 2010.
 Right of Way Certified on 2-3-10

Preel. Parcel CT:	5	Total Parcel in ROW System:	5	Cond. Filed:	0	Acquired by:	DOT	DEEDS CT:	4
Under Review:	0	Options - Pending:	0	Relocations:	0	Acquisition MGR:	Stewart, Chris		
Released:	4	Condemnations- Pend:	0	Acquired:	4	R/W Cert Date:	2/3/10		