

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: STP00-0001-00(420) Lee **OFFICE:** Engineering Services
P.I. No.: 0001420
Leesburg North Bypass **DATE:** April 4, 2011

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

TO: Bobby K. Hilliard, PE, State Program Delivery Engineer
Attn.: Douglas Fadool

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held November 30 – December 3, 2010. Revised responses were received on April 1, 2011. 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
BR-1	Reduce the span of the bridge on the west end	\$164,232	No	The Bridge Design Office does not recommend MSE walls at bridge abutments. The west span would require a spill through abutment which increases this span by 21 feet.
BR-2	Reduce the span of the bridge on the east end by providing an MSE walled abutment	Proposed = \$116,300 Actual = \$131,993	Yes	The end span will be reduced, but the end roll will be utilized instead of the MSE wall proposed by the VE Team. The east span will be reduced by 37 feet. The bridge cost would be reduced by \$159,298 but additional paving, guardrail and backfill costs would be \$27,305 for a total savings of \$131,993.
BR-6	Eliminate east end span by providing an MSE walled abutment, reduce west end span by shifting the abutment east, and provide a two span bridge	\$424,607	No	The Bridge Design Office does not recommend MSE walls at bridge abutments. Long term, there are more maintenance issues with MSE walls and the approach roadway than there are with typical spill through abutments. MSE wall abutments limit the possibility of future expansion.

BR-7	Eliminate east end span by providing an MSE walled abutment	\$238,622	No	The Bridge Design Office does not recommend MSE walls at bridge abutments. Long term, there are more maintenance issues with MSE walls and the approach roadway than there are with typical spill through abutments. MSE wall abutments limit the possibility of future expansion.
RD-7	Use 4 ft paved shoulder instead of 6.5 ft	\$152,425	Yes	Because this route is not a designated bike route, and the projected ADT is low, this recommendation will be implemented.

The Office of Engineering Services concurs with the Project Manager's responses.

Approved:  Date: 4-4-11
Gerald M. Ross, PE, Chief Engineer

REW/LLM
Attachments

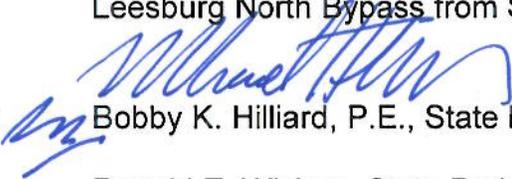
- c: Ben Buchan
Bobby Hilliard/Mike Haithcock/Douglas Fadool
Paul Liles/Ben Rabun/Bill Duvall
Alexis John
Joe Sheffield/Brent Thomas/Scott Chambers/Tim Warren/Van Mason/Tony Cravey
Ken Werho
Lisa Myers
Matt Sanders

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA



INTERDEPARTMENT CORRESPONDENCE

FILE STP00-0001-00(420), Lee County **DATE** March 28, 2011
P.I. No. 0001420
Leesburg North Bypass from SR 3/US 19 to SR 195

FROM  Bobby K. Hilliard, P.E., State Program Delivery Engineer

TO Ronald E. Wishon, State Project Review Engineer
Attn.: Lisa Myers

SUBJECT Responses to Value Engineering Study Alternatives

Attached are the responses for the referenced Value Engineering Study. This office concurs with the responses.

If you have any questions, please contact Douglas Fadool, Project Manager at 404-308-1353.

BKH/MAH/DF
C: Ben Buchan



Stantec Consulting Services Inc.
3160 Main Street Suite 100
Duluth GA 30096
Tel: (770) 813-0882
Fax: (770) 813-0688

Stantec

March 24, 2011

Georgia Department of Transportation
600 West Peachtree St, NW
Atlanta, GA 30308

**Reference: Leesburg North Bypass - VE responses
STP00-0001-00(420)**

Dear Mr. Douglas Fadool:

Attached are our VE responses. Per the GDOT Bridge memo dated 3-3-11, all of the bridge alternatives will not be implemented per their recommendation. However, the length of the bridge can be reduced to 320' by our calculations, not the 277'-0" noted in the attached letter. The recommended span lengths with spill through abutments would be 126', 146', and 48' there by shortening the overall bridge length by 16'. Attached is an email from Bill DuVall concurring with the 320' bridge length.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Maureen Nerenbaum

Maureen Nerenbaum, PE

Tel: (770) 813-0882
Fax: (770) 813-0688
Maureen.Nerenbaum@stantec.com

Attachment: VE Responses, GDOT Bridge Letter, Bill DuVall email

c. file 178202011

Nerenbaum, Maureen

Subject: FW: Draft VE responses- Leesburg N. Bypass

From: DuVall, Bill [<mailto:bduvall@dot.ga.gov>]
Sent: Thursday, March 24, 2011 7:01 AM
To: Nerenbaum, Maureen
Subject: RE: Draft VE responses- Leesburg N. Bypass

That's good; thanks.

Bill DuVall
Bridge Design
(404) 631-1883

From: Nerenbaum, Maureen [<mailto:Maureen.Nerenbaum@stantec.com>]
Sent: Wednesday, March 23, 2011 3:43 PM
To: DuVall, Bill
Subject: FW: Draft VE responses- Leesburg N. Bypass

Bill,

I spoke with Jim Aitken this morning and he said you agreed with his new dimensions of the bridge and that your original memo dated 3-3-2011 had the wrong length of 277'-0". Can you just send me an email that you concur that the bridge with the spill through slopes and no wall is approximately 320' long (126' + 146' + 48').

I have also attached my revised responses, so please let me know if you have any comments

Thanks

Maureen Nerenbaum, PE
Stantec, formerly Street Smarts
3160 Main Street Suite 100
Duluth GA 30096
Ph: (770) 813-0882 Ext. 131
Maureen.Nerenbaum@stantec.com
stantec.com

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Alternative BR-1: Reduce the span of the bridge on the west end

This alternative design proposes reducing the west end span by 45' thus reducing the overall bridge length to 291'

Potential Savings: \$164,232

Response: No, refer to GDOT Bridge memo dated 3-3-11.

GDOT Bridge Office does not recommend MSE walls at bridge abutments. Therefore the west span would need a spill through abutment which increases this span by 21', from 105' to 126'.

Alternative BR-2: Reduce the span of the bridge on the east end

This alternative design proposes reducing the east end span by 45' by providing an MSE wall at the Railroad R/W in-lieu-of the end roll.

Potential Savings: \$116,300

Response: Yes, the end span can be reduced, but keep the end roll instead of the MSE wall. Refer to GDOT Bridge memo dated 3-3-11.

GDOT Bridge Office does not recommend MSE walls at bridge abutments. The east span can be reduced by 37', from 85' to 48'. The bridge cost would be reduced by \$159,298 but additional paving, guardrail, backfill, and coping costs would be \$27,305 for a total savings of \$131,993.

Alternative BR-6: Eliminate east end span, reduce west end span, and provide a two span bridge

Potential Savings: \$424,607

Response: No, refer to GDOT Bridge memo dated 3-3-11.

Alternative BR-7: Eliminate east end span

Potential Savings: \$238,622

Response: No, refer to GDOT Bridge memo dated 3-3-11.

VE Responses
Leesburg North Bypass
STP00-0001-00(420)
PI No: 0001420

Alternative RD-7: Use 4'0" paved shoulder instead of 6'6" paved shoulder

Potential Savings: \$152,425

Response: Yes, reducing the paved shoulder should be implemented.

Due to the low projected ADT and this route not a designated bike route the paved shoulder could be reduced.

Cost Worksheet

PROJECT: Georgia Department of Transportation
 STP00-0001-00(420) - P.I. No. 0001420
 Leesburg North Bypass from SR 3/US 19 to SR 195
 Lee County

ALTERNATIVE NO.:

BR-2

DESCRIPTION: Reduce Span Length at Bridge East End

SHEET NO.: 5 of 5

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
ITEM	UNITS	NO. OF UNITS	COST/UNIT	TOTAL	NO. OF UNITS	COST/UNIT	TOTAL
Bridge	SF	1,958	\$ 90.00	\$ 176,175	0	\$ 90.00	\$ -
Asphalt Paving	SY	0	\$ 75.00	\$ -	217.5	\$ 75.00	\$ 16,313
Guardrail	LF	0	\$ 17.34	\$ -	90	\$ 17.34	\$ 1,561
Backfill	CY	0	\$ 3.00	\$ -	3000	\$ 3.00	\$ 9,000
MSE Wall (20' Avg Height)	SF	0	\$ 40.00	\$ -	1300	\$ 40.00	\$ 52,000
Coping	LF	0	\$ 35.00	\$ -	95	\$ 35.00	\$ 3,325
4" Sloped Paving	SY	250	\$ 47.00	\$ 11,750	0	\$ 47.00	\$ -
Note: Reduction from current design = savings for alternative Assume \$90 per SF of Bridge							
Sub-total				\$ 187,925			\$ 82,198
Cons't Mark-up 10.00%				\$ 18,793			\$ 8,220
TOTAL				\$ 206,718			\$ 90,418
Estimated Savings:				\$ 116,300			

-37' Bridge Span Reduction Possible
 - No MSE Wall
 - 37/45 = .822

①
 $.822 \times 176,175 = \$144,816 (-)$
 $.822 \times 16,313 = \$13,409 (+)$
 $.822 \times 1,561 = \$1,283 (+)$
 $.822 \times 9,000 = \$7,398 (+)$
 No
 $.822 \times 3,325 = \$2,733 (+)$
 Same

① Cost Savings due to Reduction in Bridge length, VE proposed 45', 37' possible
 $37/45 = 0.822$
 $176,175 \times 0.822 = 144,816$
 $144,816 \times 10\% \text{ markup} = \$15,929.8$

② Cost Extras due to Bridge Reduction
 $24,823 \times 10\% \text{ markup} = \$2,730.5$

TOTAL VE COST SAVINGS:
 $159,298 - 27,305 =$
\$131,993

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE	STP00-0001-00(420) LEE COUNTY Leesburg North Bypass P.I. No. 0001420	OFFICE	Atlanta, GA
		DATE	March 3, 2011
FROM	Benjamin F. Rabun, III, P.E., State Bridge Engineer <i>BFR</i>		
TO	Bobby Hilliard, State Program Delivery Engineer Attn: Douglas Fadool		

SUBJECT BRIDGE DESIGN VALUE ENGINEERING RESPONSE

The Value Engineering Study for the above referenced project dated December 14, 2010 contained seven VE Alternatives requiring response from the Bridge Office including BR-1, BR-2, BR-3, BR-4, BR-5, BR-6 and BR-7. Below are our recommendations for these alternatives.

BR-1 thru 7 VE Alternatives – Recommendation: **Do Not Implement**. Alternatives BR-1 thru BR-7 pertains to adjusting the span lengths, number of spans and beam type. At the time of the VE Study the project was in the preliminary stages and the preliminary bridge layout was not approved by the Bridge Office. We believe that the most economical and maintainable structure would be a multi-span concrete bridge with spill-through abutments. The concept layout shows a 336'-0" bridge including one MSE abutment. A 277'-0" bridge with spill-through abutments should fit the site. If MSE abutments were utilized then the bridge length would be reduced to 210'-0". We estimate that the constructing the 277'-0" bridge would cost \$45,180 less than the 210'-0" bridge with MSE abutments.

Long term, there are more maintenance issues with MSE walls and the approach roadway than there are with typical spill through abutments. MSE wall abutments limit the possibility of future expansion for both the road being carried as well as the facility beneath the structure. Due to sequence of construction, coordination with subcontractors and equipment, bridge costs and wall costs are higher than the general bridge and wall costs for separate structures.

BFR:WMD

cc: Ron Wishon, Engineering Services
Bill DuVall, Bridge Design

PRECONSTRUCTION STATUS REPORT FOR PROJECT MANAGER :Fadool, Douglas

PROJ ID : 0001420
COUNTY : Lee
LENGTH (MI) : 1.78
PROJ NO. : STP00-0001-00(420)
PROJ MGR : Fadool, Douglas
AOHD Initials : MAH
OFFICE : Program Delivery
CONSULTANT : Consultant Design (DOT contract)
SPONSOR : GDOT
DESIGN FIRM : Street Smarts /Transportation Consulting mda, Inc.

LEESBURG NORTH BYPASS-SR RELOC FM SR 3/US 19 EAST TO SR 195
MPO : Albany
TIP # : H/R-99-5
MODEL YR : Roadway Project
TYPE WORK : NL 2R
CONCEPT : New Construction
PROG TYPE : BOND PROJ :

MGMT LET DATE : 05/15/2013
MGMT ROW DATE : 01/15/2012
BASELINE LET DATE : 5/8/2013
SCHED LET DATE : 9/17/2013
WHO LETS? : GDOT Let
LET WITH :

DOT DIST : 4
CONG. DIST : 2
BIKE : N
MEASURE : E
NEEDS SCORE : 4
BRIDGE SUFF :

BASE START	BASE FINISH	LATE START	LATE FINISH	Tasks	ACTUAL START	ACTUAL FINISH	%	PROGRAMMED FUNDS				Fund	Date Auth
								Approved	Proposed	Cost	Status		
8/13/2010	8/13/2010	4/22/2011	4/22/2011	Concept Development	8/17/2007	7/7/2010	100	2004	2004	2,158,642.69	Q20	AUTHORIZED	12/15/2003
2/21/2011	5/13/2011	9/23/2011	12/15/2011	PM Submit Concept Report Management Concept Approval Complete Public Information Open House Held Environmental Approval Pub Hear Held/Com Resp (EA/FONSI, GEPA) Database Preparation	11/5/2009 3/29/2010 7/7/2010 7/30/2007 7/30/2007 7/15/2010	11/5/2009 3/29/2010 7/7/2010	100 100 100	2012	2012	865,664.82	L200	PRECST	
9/13/2010	7/1/2011	5/23/2011	8/1/2011	Preliminary Plans			3	2012	2012	449,950.00	LY10S	PRECST	
12/20/2010	2/28/2011	8/1/2011	8/1/2011	Preliminary Bridge Design Bridge Layout Complete			0	2012	2012	5,684,448.74	L200	PRECST	
7/30/2010	12/9/2010	4/8/2011	8/18/2011	Underground Storage Tanks			0	2013	2013	326,321.46	L200	PRECST	
11/25/2011	5/10/2012	3/30/2012	9/13/2012	404 Permit Obtainment			0	2013	2013				
7/4/2011	7/29/2011	11/7/2011	12/2/2011	PFPR Request (OES)			0	2013	2013				
8/1/2011	9/23/2011	12/5/2011	12/5/2011	PFPR Inspection			0	2013	2013				
9/26/2011	1/24/2012	1/30/2012	3/29/2012	R/W Plans Preparation			0	2013	2013				
12/23/2011	1/19/2012	5/11/2012	6/7/2012	R/W Plans Final Approval R/W Authorization			0	2013	2013				
12/20/2010	8/3/2011	5/23/2011	1/4/2012	Soil Survey			0	2013	2013				
3/1/2011	8/18/2011	8/2/2011	1/19/2012	Bridge Foundation Investigation			0	2013	2013				
9/6/2011	9/17/2012	1/16/2012	1/25/2013	Final Design			0	2013	2013				
10/28/2011	8/2/2012	3/8/2012	12/12/2012	Final Bridge Plans Preparation			0	2013	2013				
10/16/2012	10/16/2012	2/25/2013	2/25/2013	PFPR Inspection			0	2013	2013				
2/26/2013	2/26/2013	7/8/2013	7/8/2013	Submit Final Plans			0	2013	2013				
3/20/2013	3/20/2013	7/30/2013	7/30/2013	Construction Authorization			0	2013	2013				

Activity	Approved	Proposed	Cost	Fund	Status	Date Auth	STIP AMOUNTS	
							Amount	Date
PE	2004	2004	2,158,642.69	Q20	AUTHORIZED	12/15/2003	832,050.00	6/25/2010
ROW	2012	2012	865,664.82	L200	PRECST		449,950.00	6/25/2010
ROW	2012	2012	449,950.00	LY10S	PRECST		307,500.00	6/25/2010
UTL	2013	2013	5,684,448.74	L200	PRECST		5,356,583.00	6/25/2010
UTL	2013	2013	326,321.46	L200	PRECST			

Cost Estimate Amount
 Activity: PE, ROW, UTL, CST
 Date: 6/25/2010, 6/25/2010, 6/25/2010, 6/25/2010
 Amount: 832,050.00, 449,950.00, 307,500.00, 5,356,583.00

District Comments
 -Initial CTM 2/29/08. Stakeholders Mtg 4/9/08
 -Concept Team Meeting conducted on 11-5-09. PIOH conducted on 2-25-10, (DF 3-22-10).
 -Tier 4, BC ratio 1.95.
 -Concept Report approved on 7-7-10.
 Draft Environmental Document submitted to OES on 9-30-10 (DF 10-25-10).
 -VE Study conducted 12-3-10, preparing responses and addressing comments from FHWA on EA (DF 2-10-11).

Acquired by: DOT
Acquisition MGR:
R/W Cert Date:

Cond. Filled:
Relocations:
Acquired:

Prel. Parcel CT: 6
Total Parcel in ROW System:
Options - Pending:
Condemnations- Pend: