

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** STP-F001-00(098) Oconee **OFFICE:** Engineering Services  
P. I. No.: 0001098  
Jennings Mill Parkway Extension **DATE:** January 14, 2008

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

**TO:** Brent Story, P.E. State Road 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>EARTHWORK (EW)</b>				
EW-3	Use Guardrails to steepen side slopes	Design Suggestion	No	The cost of the guardrail would negate any savings from the reduced earthwork.
<b>STORM PIPING AND RELATED TOPICS (SP)</b>				
SP-2	Change Frontage Road East from Urban to Rural Design	\$218,269	No	The future land use in this area is commercial. Development is expected upon completion of the project.
<b>CONCRETE ITEMS (CI)</b>				
CI-2	Reduce Sidewalk runs (Sidewalk would only be installed on the east side of Frontage Road East)	\$95,161	No	Future development is imminent. There are no mid-block crossings to accommodate pedestrians; therefore, sidewalk is needed on both sides of the roadway.

ALT No.	Description	Savings PW & LCC	Implement	Comments
<b>ASPHALT PAVEMENT (AP)</b>				
AP-1	Use Asphaltic Concrete in lieu of PCC Pavement on Ramps	Proposed \$246,404 Actual \$120,870	Yes	The PCC typical section will be retained, but OMR has indicated that it is permissible to eliminate the 3' asphalt layer within the concrete section. This will reduce the proposed savings, but still provide some savings.
AP-2	Selectively decrease pavement width from Sta. 140+59 to Sta. 161+50 from 76' wide to 70' wide	\$152,304	No	The current design allows for the placement of a 20 foot raised median in the future. Decreasing the proposed width would require extensive reconstruction if a median were to be added. This would add a significant cost to the installation of the median.
AP-3	Relocate Bike Lanes to a Multi-Use Trail on the shoulder	\$180,153	No	Right of way is currently being purchased. Eliminating the bike lanes and creating a multi-use trail would require extensive redesign and would delay the project.
AP-7	Reduce Pavement width (transition from 38' to 24') on Frontage Road between Sta. 404+00 and Sta. 406+45 and between Sta. 422+10 and Sta. 424+55. Road will be 24' wide from Sta. 406+45 to Sta. 422+10	\$198,548	No	Reducing the pavement width would negatively impact future development and the proposed left turn lanes. The long range plan by the local MPO would also be affected. Any changes to pavement width would delay the letting of the project.
<b>BRIDGE ITEMS (BI)</b>				
BI-1	Eliminate two 40' end spans and use walled abutments	\$663,365	No	The bridges have been designed and any redesign would delay the project.
BI-2	Eliminate 4'-2" raised median and use striping to demarcate the Left Turn Lanes	\$107,756	No	The bridges have been designed and any redesign would delay the project.

ALT No.	Description	Savings PW & LCC	Implement	Comments
<b>BRIDGE ITEMS (BI) - continued</b>				
BI-5	Eliminate 2 degree skew on bridge	Design Suggestion	No	The bridges have been designed and any redesign would delay the project.
BI-6	Combine shoulder and Bike Lane on bridge	\$163,795	No	The bridges have been designed and any redesign would delay the project.
<b>MISCELLANEOUS ITEMS (MI)</b>				
MI-1A	Change Cast-in-Place Concrete Barrier Wall type to MSE Wall	\$34,298	No	The cost for the required barrier face because of Clear Zone requirements negates the proposed savings. Based on a new estimate provided by the Project Manager the VE Alternative would be more expensive.
MI-1B	Change Cast-in-Place Concrete Barrier Wall type to Modular Block Wall	\$216,495	No	The cost for the required barrier face because of Clear Zone requirements reduces the proposed savings to \$122,000. The redesign would delay the letting of the project.
MI-3	Mid-Point of Construction for Cost Estimate	Design Suggestion	Yes	This should be done.
MI-5	Use Roundabouts at Ramp ends	\$460,325	No	The Jennings Mill Parkway Interchange has been designed as a tight diamond interchange. Because of this the Roundabouts would encroach upon the bridge and would require additional Right of Way.

A meeting was held on January 14, 2008 to discuss the above recommendations. Melvin Davis, Oconee County Commission Chairman, Dan Wilson and Emil Beshara with Oconee County Public Works, Brad Hale with Moreland Altobelli, Ken Timpson with McGee Partners, Jason McCook and Brad McManus with Road Design, and Brian Summers, Ron Wishon and Lisa Myers with Engineering Services were in attendance.

Additional information was provided by the Project Manager on January 16, 2008.

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

Approved:  Date: 1/10/07  
Gerald M. Ross, P. E., Chief Engineer

BKS/REW

Attachments

c: Gus Shanine  
Todd Long  
Paul Liles  
Randall L. Hart  
Randall Davis  
Jason McCook  
Brad McManus  
Jennifer Harris-Dunham  
Laura Rish  
Ken Werho  
Lisa Myers

## Wishon, Ron

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**From:** McManus, Brad  
**Sent:** Wednesday, January 16, 2008 9:49 AM  
**To:** Myers, Lisa; Wishon, Ron  
**Cc:** Brad Hale; M.J. Sheehan; Ken Timpson; McCook, Jason  
**Subject:** PI No. 0001098 Jennings Mill Parkway, VE study revised Road Design Response  
**Attachments:** 0001098 VE study Road Design response.docx

Lisa, I have attached the revised Road Design Response to the VE study recommendations. I revised CI-2 and AP-2 to take out references to GDOT policy and add discussion about pedestrian safety on C1-2. The expected cost of implementation of M1-1B and M1-1A was added to each alternative. I left AP-7 as it was since I felt that the VE implementation team has overridden my recommendation and you will submit it as one not to implement. I will walk the 1/2 sized cover sheet down. Please let me know if you need anything else to present to the Chief. Thank you.

Brad McManus, PE  
Design Group Manager  
GDOT, Office of Road and Airport Design  
Phone 404 656 5407  
fax 404 657 0653

Office of Road Design's response to the VE study report on  
GDOT project STP-F001-00(098), Oconee County

PI No. 0001098

**Alternative EW-3**

**Description:** Use guardrail to steepen side slopes

**Cost savings:** N/A

**Response:** The design of this project currently proposes to use guardrail only where the side slopes exceed 10 feet in height. The alternative would mostly apply to low fill slopes. The cost of guardrail is \$18/ft and will more than outweigh the savings in earthwork (estimated at \$4-\$8 per foot). Also having an area to recover without an obstacle (guardrail is considered an obstacle) is safer than placing guardrail.

**The recommendation of the Road Design Office is:** Not to implement this recommendation.

**Alternative SP2**

**Description:** Change Frontage Road East from Urban to Rural Road

**Cost Savings:** \$219,269

**Response:** While this alternative would save money on drainage structures the future land use in this area will be commercial. The savings in right of way will offset some of the savings in drainage. An urban section is more appropriate in this location to accommodate future development.

**The recommendation of the Road Design Office is:** Not to implement this recommendation.

**Alternative CI-2**

**Description:** Reduce sidewalk runs

**Cost Savings:** \$95,161

**Response:** Current and future development plans for this area are for retail stores. This will generate a significant amount of pedestrian traffic on both sides of Frontage Road. The only cross walks that could be provided would be at the two intersections on either side of the road relocation. This would mean those on foot or in wheelchairs that wish to continue on the east side would be forced to either negotiate without a side walk or to cross the road twice in order to utilize the sidewalk on the west side of the road.

**The recommendation of the Road Design Office is:** Not to implement this recommendation.

### Alternative AP-1

**Description:** Use asphalt in lieu of PC concrete pavement on ramps.

**Cost Savings:** \$290,169

**Response:** Ramps which are constructed with asphaltic pavement often incur undesirable deformation and cracking which leads to additional maintenance. GDOT has preferred PC concrete pavement over asphalt on all ramps. OMR has asked that we retain the PC pavement design but could modify it to eliminate the 3" of asphalt interlayer. This will save \$120,870.

**The recommendation of the Road Design Office is:** Remove the 3 inch asphalt interlayer.

### Alternative AP-2

**Description:** Reduce the pavement width of Jennings Mill Parkway from station 140+59 to station 161+50 by 6 feet. This would give a total pavement width of 70 feet.

**Cost Savings:** \$152,304

**Response:** The current design allows for the implementation of a 20 foot raised median section along this stretch of the project. The alternative does not allow for this. Currently the Epps Bridge Jennings Mill Parkway intersection is has heavy retail use. County planners expect this type of land use to continue along the affected area (Sta 140+50 to Sta 161+50). This heavy commercial development will warrant a 20 foot raised median in the near future. The cost of modifying the urban shoulder and right of way cost will be exorbitant.

**The recommendation of the Road Design Office is:** Not to implement this recommendation.

### Alternative AP-3

**Description:** Relocate the bicycle lanes to multi-use trails located on the shoulders along Jennings Mill Parkway.

**Cost Savings:** \$180,153

**Response:** The benefits of using a multi-use trail as opposed to having a bicycle lane adjacent to traffic are inconclusive. While separating bicycles from vehicles is better in terms of errant vehicle accidents it may not be safer when there are a number of driveways where the persons in the vehicles are not expecting to see bicycles on the sidewalk. In addition this alternative would require more right of way than is currently proposed. This project has many of the parcels already purchased.

**The recommendation of the Road Design Office is:** Not to implement this recommendation.

### Alternative AP-7

**Description:** Reduce pavement width on Frontage Road.

**Cost Savings:** \$198,548

**Response:** The right of way is already being purchased along this section. Although this would preclude utilizing the extra pavement width as a left turn lane in the future it would however place that burden onto the developer as is customary with GDOT policy.

**The recommendation of the Road Design Office is:** To implement this recommendation.

### Alternative BI-1

**Description:** Eliminate end spans and use walled abutments.

**Cost Savings:** \$663,365

**Response:** GDOT Bridge Office has rejected this proposal. They cite the increased maintenance cost associated with walled abutments.

**The recommendation of the Road Design Office is:** Not to implement this recommendation.

### Alternative BI-2

**Description:** Eliminate the 4'2" raised median on the bridge.

**Cost Savings:** \$107,756

**Response:** Eliminating the raised median across the bridge would be inconsistent with the roadway section. There would be no positive barrier separating queued traffic turning left onto SR 10 Loop and those travelling eastbound on Jennings Mill Parkway. Also the driver would experience a slight shift in the alignment as he traveled across the bridge.

**The recommendation of the Road Design Office is:** Not to implement this recommendation.

### Alternative BI-5

**Description:** Eliminate the 2° skew on the bridge.

**Cost Savings:** None were given in the report.

**Response:** The benefits of implementing the recommendation are that the diaphragms would be easier to construct and the beam ends would not require the high tolerances needed for skewed

## Wishon, Ron

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**From:** McManus, Brad  
**Sent:** Wednesday, January 09, 2008 3:15 PM  
**To:** M.J. Sheehan  
**Cc:** McCook, Jason; Story, Brent; Brad Hale; Ken Timpson; Summers, Brian; Wishon, Ron; Myers, Lisa  
**Subject:** RE: Road Design's response to the VE study for PI No. 0001098 Jennings Mill Parkway Oconee County  
**Attachments:** Concrete Pavement Design by Steve Pahno 10-12-2007.pdf

M.J., OMR gave us the recommendation to remove the 3" interlayer. We are recommending to keep the PC pavement but do what OMR is suggesting and remove the 3" of asphalt in between the PC and the GAB. The approved

I have attached the approved PC pavement design. The removal of the asphalt has not been finalized and therefore has not been approved.

### Alternative AP-1

**Description:** Use asphalt in lieu of PC concrete pavement on ramps.

**Cost Savings:** \$290,169

**Response:** Ramps which are constructed with asphaltic pavement often incur undesirable deformation and cracking which leads to additional maintenance. GDOT has preferred PC concrete pavement over asphalt on all ramps. OMR has asked that we retain the PC pavement design but could modify it to eliminate the 3" of asphalt interlayer. This will save \$120,870.

**The recommendation of the Road Design Office is:** Remove the 3 inch asphalt interlayer.

Brad McManus, PE  
Design Group Manager  
GDOT, Office of Road and Airport Design  
Phone 404 656 5407  
fax 404 657 0653

**From:** M.J. Sheehan [mailto:mjsheehan@maai.net]  
**Sent:** Wednesday, January 09, 2008 3:06 PM  
**To:** McManus, Brad  
**Cc:** McCook, Jason; Story, Brent; Brad Hale; Ken Timpson; Summers, Brian; Wishon, Ron; Myers, Lisa  
**Subject:** RE: Road Design's response to the VE study for PI No. 0001098 Jennings Mill Parkway Oconee County

Brad,  
Can you furnish us the approved ramp pavement design for the ramps per the AP-1 recommendation. Is OMR aware and agreeing to this change?

Sincerely,  
MJ Sheehan

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

**From:** McManus, Brad [mailto:bmcmanus@dot.ga.gov]  
**Sent:** Wednesday, December 26, 2007 2:56 PM  
**To:** Wishon, Ron; Myers, Lisa  
**Cc:** McCook, Jason; Story, Brent; Brad Hale; M.J. Sheehan; Ken Timpson; Summers, Brian  
**Subject:** Road Design's response to the VE study for PI No. 0001098 Jennings Mill Parkway Oconee County

Ron and Lisa,

I have attached my office's response to the VE study that was conducted on Jennings Mill Parkway STP-F001-00(098) PI No. 0001098 in Oconee County. Please schedule the VE implementation team at your earliest convenience. This project has an April 2008 let date. I will make sure the consultant is present. Thank you.

Brad McManus, PE  
Design Group Manager  
GDOT, Office of Road and Airport Design  
Phone 404 656 5407  
fax 404 657 0653

# DEPARTMENT OF TRANSPORTATION

## STATE OF GEORGIA

### INTERDEPARTMENTAL CORRESPONDENCE

FILE STP-F001-00(098) Oconee  
PI No. 0001098

OFFICE Materials and Research  
DATE October 19, 2007

FROM  Georgene M. Geary, P. E., State Materials and Research Engineer

TO Brent Story, P. E., State Road and Airport Design Engineer  
Attention: Brad McManus, P.E., Project Manager

SUBJECT Rigid Pavement Design  
Ramps from Jennings Mill Parkway to SR 10 Loop

As requested, we have prepared a full depth rigid pavement design for the  
aforementioned project. The results of this work are attached.

The design is summarized in the table below and is based on the following:

- Traffic diagrams that have been approved by OEL.
- A k-value of 150 pci and a 10 inch graded aggregate base layer recommended in the Soil Survey Summary.
- A 3 inch 19 mm Superpave Asphalt Concrete Interlayer.

Ramps: Jennings Mill Parkway to SR 10 Loop				
PAY ITEM NUMBER	MATERIAL	COURSE	THICKNESS	SPREAD RATE
439-0026	Portland Cement Concrete (Class 3)	Surface	8 inches	N/A
402-3190	19 mm Superpave	Asphalt Interlayer	3 inches	330 lbs/yd <sup>2</sup>
310-1101	Graded Aggregate Base	Base	10 inches	N/A

STP-F001-00(098) Oconee  
Ramps from Jennings Mill Parkway to SR 10 Loop  
Page 2 of 2

If additional information is needed, please contact Steve Pahnó of the Pavement Management Branch at 404-363-7620.

GMG: JTR: AJJ: SVP

Attachments:  
Full-Depth Rigid Design

Copy: file  
Russell McMurry, P.E., District Engineer, Gainesville  
Attention: Johnny Emmett, Area Engineer, Athens  
Myron Banks, State Concrete Engineer, Forest Park

## Rigid Pavement Design Analysis

Based On AASHO Interim Guide For The Design of Rigid Pavement Structures

P.I. No.	0001098	Project No.	STP-F001-00(098)	County	Oconee
Description	Ramps	Location	Jennings Mill Parkway to SR 10 Loop	Type Section	PCC
Begin Project	-	End Project	-	Project Length	-

Traffic Data			
Begin Design Year	2009	Begin one way AADT, VPD	3600
End Design Year	2029	Ending one way AADT, VPD	5950
		Mean one way AADT, VPD	4775

Design Loading							
Mean one way AADT		LDF		24 hr Trucks, %		ESAL Factor	
4775	*	100	*	0.93	*	0.004	= 18
4775	*	100	*	0.03	*	0.50	= 72
4775	*	100	*	0.04	*	2.68	= 128
Total Daily ESAL's							218
Total Design Period ESALs		=	218*365*20=1,590,896				

Design Data					
Terminal Serviceability, (Pt)	2.5	Working Stress	450 psi	Soil Support Value	3.0
Subgrade Modulus, k	150	Subbase Modulus, k <sub>1</sub>	215 pci on 10 inches GAB	Subbase Modulus, k <sub>2</sub>	270 pci on 3 inches AC
Trial Depth of PCC Pavement, inches		8	Calculated Stress from Equation		383.9 psi
Percent Understressed	14.7	Percent Overdesigned	17.2	Balanced Thickness	7.16

### Recommended Rigid Pavement Structure

- 8 inches Plain Portland Cement Concrete with 1<sup>1</sup>/<sub>4</sub> inch diameter dowel bars
- 3 inches of 19 mm Superpave Asphaltic Concrete Interlayer
- 10 inches Graded Aggregate Base

Prepared By Steve V. Pahno Date 10/12/2007  
State Pavement Design Engineer

Recommended By \_\_\_\_\_ Date \_\_\_\_\_  
Office Head

Approved By \_\_\_\_\_ Date \_\_\_\_\_  
State Pavement Engineer

## Wishon, Ron

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**From:** Dan Wilson [dwilson@oconee.ga.us]  
**Sent:** Tuesday, January 08, 2008 5:19 PM  
**To:** Wishon, Ron; McManus, Brad; McCook, Jason; Story, Brent; Summers, Brian; Myers, Lisa  
**Cc:** Alan Theriault; Emil Beshara; mjsheehan@maai.net  
**Subject:** VE Recommendation, Jennings Mill Parkway, STP-F001-00(098), Oconee County, P.I. No. 0001098  
**Attachments:** Jennings Mill Parkway Report 01.08.08.pdf; Alternate 4.pdf

Oconee County would like to present additional information for your consideration regarding VE alternate AP-7 for the Jennings Mill Parkway Project, STP-F001-00(098), Oconee County, P.I. No. 0001098. This VE recommendation to reduce the pavement width on Frontage Road is not consistent with nor does it support the Jennings Mill Parkway Corridor that is in the MACORTS 2005-2030 Long Range Transportation Plan and described in the attached "Concept Validation Report", Alternate 4.

The Jennings Mill Parkway as described in this concept validation is intended to provide a connection between Jennings Mill Road and the Jennings Mill Parkway Extension. This project is intended to provide access between the Atlanta Highway area of Athens -Clarke County and the SR 316/Epps Bridge Road area in Oconee County and to provide an alternate route to the heavily congested Atlanta Highway corridor and the SR 316/SR 10 Loop interchange.

It should be noted that Athens-Clarke County has completed construction of the four lane Jennings Mill Parkway between New Jimmy Daniels Road and Commerce Boulevard as well as acquired ROW between Commerce Boulevard and the SR 10 Loop. The portion between SR 10 loop and the County line has been placed in the MACORTS TIP. As you can see the Frontage Road portion of the Jennings Mill Parkway Extension Project is not a local service road but a connector and an important part of the Jennings Mill Parkway corridor.

Oconee County also has concerns about possible delay to this project, the \$50,000 additional design cost to the County and the proposed sacrifice of necessary quality of the project.

We look forward to attending the meeting with you on January 14 to discussing this further and providing any further information that you may need.

Dan Wilson, PE  
Assistant County Engineer  
Oconee County Public Works  
[DWILSON@OCONEE.GA.US](mailto:DWILSON@OCONEE.GA.US)  
706-769-2937

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ALTERNATE 4



GO  
 TRANSPORTATION  
 AND  
 CONSTRUCTION  
 SERVICES, INC.