# DEPARTMENT OF TRANSPORTATION
# STATE OF GEORGIA

**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** IM000-0285-01(346) Clayton
PI No.: 713210
I-75 NB C-D from Forest Pkwy to I-285

**OFFICE:** Engineering Services

**DATE:** January 31, 2012

**FROM:** Lisa L. Myers, Acting State Project Review Engineer

**TO:** Bobby K. Hilliard, PE, State Program Delivery Engineer
Attn.: Albert Shelby

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

The VE Study for the above project was held August 22 – 25, 2011. Responses were received on January 31, 2012. 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 |
|---|---|---|---|---|
| B-1 | Use alternate beam type/ spacing for bridge structure | $127,850 | No | The use of Florida I-beams as proposed by the VE Team instead of the AASHTO Type III beams in the original design, and the proposed beam spacing, has not been approved by the GDOT Office of Bridge Design. The use of the Florida I-beams would require fabricators to have appropriate beds, forms and bulk-heads and would not allow for competitive bids for those who are not set up for this work in Georgia. |
| B-4 | Place bridge deck for vehicle travel way only | $468,233 | No | Experience with braided ramps shows that eliminating the deck in areas outside of the travel way results in severe distraction to drivers due to shadow and sunlight glare. The proposed bridge will have reinforced concrete piers on opposing sides for light and ventilation. |
| B-6 | Reduce height and length of wall between frontage road and farmer's market | $201,580 | No | Since R-16 will be implemented, B-6 no longer applies. |

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|---|---|---|---|---|
| B-6.1 | Eliminate wall along frontage road where rock outcrops are present | $638,000 | No | Since R-16 will be implemented, B-6.1 no longer applies. |
| R-1 | Eliminate entrance Ramp C from Forest Parkway to I-75 N. Widen flyover loop entrance ramp to 2 lanes from Forest Parkway to I-75. Do not construct C-D system | $33,279,420 | No | A comparison was made between the no-build, build, VE Alternate R1.0, and VE Alternate R1.1 using 2010 LOS for I-75 NB for the AM peak hour. The 2010 AM peak hour was selected because it is the critical time period for the NB movements on I-75. It was concluded that if the VE alternates could not provide significant improvements for this existing condition that they would not address future traffic. As noted in the attached tables, both VE alternates still have sections of NB I-75 operating at LOS F. Based on the system operating characteristics it is evident that neither VE alternate provides the level of improvements associated with the proposed build alternate. |
| R-1.1 | Eliminate/Remove loop entrance ramp west of I-75 from Forest Parkway to I-75N. Widen Ramp C entrance ramp to 2 lanes from Forest Parkway to I-75. Do not construct C-D system. | $34,318,994 | No | See response for R-1. |
| R-2 | Build NB C-D managed lane to project NHS-0001-00(759) limits and include new Forest Parkway bridges over I-75 | ($4,105,401) Cost Increase | No | Due to budgetary constraints within the Department, it is cost-prohibitive to construct the complete future build-out along this corridor at this time. The actual costs associated with constructing the CD system as proposed under PI 0001759 is considerably greater than what was described in the VE Study report. |

| | | | | |
|---|---|---|---|---|
| R-3 | Eliminate new frontage road from Forest Parkway to Falcon Drive | $1,708,453 | No | Traffic counts show an extremely high rate of truck traffic through this Frontage Road corridor (23%). Based on these counts, it is recommended that the Frontage Road remain rather than force local traffic to use the small existing roadway network to access the businesses in and around the Farmer's Market. |
| R-5 | Eliminate sidewalk at frontage road | $77,085 | No | While the existing Frontage Road does not have a sidewalk, inspection of the site shows evidence of extensive foot traffic through the corridor. |
| R-6 | Reduce the width of the travel lanes on the 2-lane frontage road from 12 ft to 11 ft | $53,957 | No | Traffic counts show an extremely high rate of truck traffic through this Frontage Road corridor (23%). Based on these counts it is recommended that the Frontage Road lanes remain 12 feet and that the access radii continue to be designed to accommodate WB-50 vehicles. |
| R-8 | Move the frontage road toward I-75 adjacent to Ramp C | $1,064,250 | No | The location of the Frontage Road was set based on the future footprint for the managed lanes along I-75. Shifting the alignment closer to Ramp C would require reconstruction of the Frontage Road again in addition to acquiring ROW when the managed lanes are constructed in the future. |
| R-9 | Reduce the design speed of Loop Ramp A from I-75 N to I-285 W to 25 mph to avoid the need to reconstruct Ramp F | $705,930 | No | Horizontally and vertically, a 175 ft radius (25 mph design speed) can be accommodated without impacting Ramp F. However, there is a design and operational issue since the proposed radius and design speed do not meet minimum GDOT guidelines (35 mph design speed, 292 ft radius) and will utilize a radius less than existing (200 ft) for a loop ramp with a recorded history of truck over-turns. |

| | | | | |
|---|---|---|---|---|
| R-10 | Reduce paved shoulders for Ramps and C-D to AASHTO minimum of 4 ft wide inside and 10 ft wide outside | $406,200 | Yes | Since barrier is required along the majority of areas, an additional 2 ft will be required in addition to the 10 ft useable shoulder. OMR determined that the reduction in shoulder width would not have a negative impact on the pavement performance as long as full depth pavement was utilized in the shoulder. |
| R-11 | Reduce the width of the paved shoulder on the frontage road to 2 ft | $53,957 | Yes | OMR determined that the reduction in shoulder width would not have a negative impact on the pavement performance as long as full depth pavement was utilized in the shoulder. |
| R-12 | Reduce the width of the paved shoulder along I-75 NB under the I-285 bridge to 12 ft | Proposed = $31,368<br>Actual = $79,936 | Yes, with modifications | The existing condition along I-75 through this area will be maintained with no additional shoulder construction required. |
| R-13 | Eliminate the sound barrier walls per NEPA environmental assessment | $1,650,000 | Yes | Since it appears that most of the land use in the project area is commercial/industrial and GDOT does not typically abate for these land uses, sound walls will most likely not be required. This will be verified when the official noise study has been completed. |
| R-15 | Increase profile grade of Ramp B after the bridge to tie to I-75 sooner and to reduce the wall height between Ramp A and Ramp B and reduce wall height between Ramp B and I-75 | $734,386 | Yes, partially | It is possible to increase the profile for Ramp B to minimize wall height; however, the vertical curve lengths and grades recommended in the VE Study do not meet the required K values for a design speed of 55 mph on the ramp. Therefore, the optimal downgrade to use is 3.5% with a 500 ft crest vertical curve and a 800 ft sag vertical curve. The profile can also be revised slightly to minimize excess vertical clearance over Ramp A. Cost savings for this modification is not significantly different from what was proposed by the VE Study. |

| | | | | |
|---|---|---|---|---|
| R-16 | Revise the frontage road profile from Sta. 17+00 to Sta. 27+00 to follow existing grade and eliminate the wall between the frontage road and the farmer's market | Proposed = $1,047,378<br><br>Actual = $914,548 | Yes | It is possible to revise the Frontage Road profile between Sta. 17+00 and Sta. 27+00 to follow the existing grade; however, the wall between Ramp C and the Frontage Road must be extended 200 feet due to the raised grade along the Frontage Road. This will add approximately 2000 SF of MSE wall at a cost of $132,830. The savings have been adjusted to accommodate this added cost. |
| R-17 | Realign Ramp E (I-75 N to I-285 E) to tie to the existing ramp sooner and eliminate a wall and reduce work on ramp | $390,334 | No | It is not feasible to realign Ramp E to tie to existing. The profile for Ramp E cannot be raised to match the existing pavement until approximately Sta. 513+00. The proposed profile utilizes a 6% grade and a design speed of 45 mph. |
| R-20 | Use asphalt shoulders in lieu of full depth PCC for ramps and C-D | $1,301,230 | No | OMR recommends that all shoulders be designed full depth to match the mainline for ease of construction and long term maintenance. If a 13 foot wide outside lane is used, then asphalt shoulders may be used as another alternate shoulder type to PCC. Requiring asphalt instead of PCC reduces the Contractors options. |
| R-21 | Use reduced depth asphalt shoulders in lieu of full depths shoulders for the frontage road | $46,894 | No | OMR recommends that all shoulders be designed full depth to match the mainline. Full depth shoulder construction, to match the mainline pavement type, allows for more efficient construction. If minimal (2 ft) shoulder widths are used as proposed in recommendation R-11, this is the only proper way to construct a shoulder. |

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

**Approved:** _____ **Date:** 2/2/12

**Gerald M. Ross, PE, Chief Engineer**

LLM
Attachments
c: Russell McMurry
Bobby Hilliard/Stanley Hill/Albert Shelby
Paul Liles/Ben Rabun/Bill Duvall/Bill Ingalsbe
Jonathan Cox
Lee Upkins
Ken Werho
Matt Sanders

# DEPARTMENT OF TRANSPORTATION
# STATE OF GEORGIA

## INTERDEPARTMENT CORRESPONDENCE

FILE IM000-0285-01(346), Clayton County
P.I. No. 713210
I-75 north to I-285 west ramp and CD with Forest Parkway

OFFICE Program Delivery

DATE January 24, 2012

FROM S.H. for Bobby K. Hilliard, PE, State Program Delivery Engineer

TO Lisa Myers, Interim State Review Engineer

SUBJECT **Value Engineering Study Report Responses *(Revised)***

The Office of Program Delivery has received the Value Engineering Final Report dated August 25, 2011. The attached responses from the consultant of record, Atkins, are responsive to these alternatives and have the concurrence of the Offices of Bridge Design and OMR.

If there are any questions or concerns, please contact the project manager, Albert Shelby, at 404-631-1758.

S.H
BKH:SH:avs
Attachments

C: Russell McMurray, Director of Engineering

ATKINS

January 13, 2012

Bobby K. Hilliard, State Program Delivery Engineer
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, N.W.
Atlanta, Georgia 30308

*Attention: Albert Shelby*

**RE: I-75 NB C-D System from Forest Parkway to I-285**
**IM000-0285-01(346), Clayton County**
**P.I. No. 713210**
**Value Engineering Study Responses**

Dear Mr. Hilliard:

Reference is made to the recommendations that were contained in the Value Engineering Study Final Report issued August 25, 2011 for the above referenced project. Our responses and recommendations are as follows:

1. **Value Engineering Alternative No. B1.0** – Use Alternate Beam Type/Spacing for Bridge Structure. **(Cost savings: $127,850)**

**Recommendation**
*Approval of the VE Alternative No. B1.0 is not recommended.*

- *We agree there may be cost savings with utilizing the Florida I-beams versus the AASHTO Type III beams, but the use of Florida I-beam and the proposed beam spacing has not been approved by GDOT Office of Bridge Design. The use of the Florida I-beams would require fabricators to have appropriate beds, forms and bulk-heads and would not allow competitive bids for those who are not set up for this work in Georgia. The Bridge Office has reviewed the above and concurs with this response.*

2. **Value Engineering Alternative No. B4.0** – Place bridge deck for vehicle travel way only. **(Cost savings: $468,233)**

**Recommendation**
*Approval of the VE Alternative No. B4.0 is not recommended.*

- *Experience with braided ramp bridges shows that eliminating the deck in areas outside of the travel way results in severe distraction to drivers due to shadow*

*and sunlight glare. The proposed bridge will have reinforced concrete piers on opposing sides for light and ventilation.*

3. **Value Engineering Alternative No. B6.0** – Reduce height and length of wall between Frontage Road and Farmers Market. **(Cost savings: $201,580)**

**Recommendation**
*Approval of the VE Alternative No. B6.0 is not recommended.*

- *Due to the acceptance of VE Alternative R 16.0, the Frontage Road profile will be revised and this wall will be eliminated.*

4. **Value Engineering Alternative No. B6.1** – Eliminate wall along Frontage Road where rock outcrops are present. **(Cost savings: $638,000)**

**Recommendation**
*Approval of the VE Alternative No. B6.1 is not recommended.*

- *Due to the acceptance of VE Alternative R 16.0, the Frontage Road profile will be revised and this wall will be eliminated.*

5. **Value Engineering Alternative No. R1.0** – Eliminate entrance Ramp C from Forest Parkway to I-75 N. Widen flyover loop entrance ramp to 2 lanes from Forest Parkway to I-75. Do not construct C-D system. **(Cost savings: $33,279,420)**

**Recommendation**
*Approval of the VE Alternative No. R1.0 is not recommended.*

- *A comparison was made between the no-build, build, value engineering alternate R1.0, value engineering alternate R1.1 using 2010 level of service for I-75 northbound for the 2010 AM peak hour. The 2010 AM peak hour was selected because it is the critical time period for the northbound movements on I-75. It was concluded that if the value engineering alternate could not provide significant improvements for this existing condition that they would not address future traffic conditions.*

  *These levels of service were developed using a CORSIM model for the northbound freeway segments from south of the Forest Parkway interchange through the I-75 northbound to I-285 westbound exit ramp. This CORSIM network also included the ramp intersections on Forest Parkway. These levels of service for I-75 northbound are shown in Tables 1 through 4. As can be seen in Tables 3 and 4 the value engineering alternates provide only a limited measure of*

*improvement over the existing no-build condition. Both value engineering alternates still have sections of northbound I-75 operating at Level of Service F.*

*Table 5 provides a comparison of the proposed build alternate and the value engineering alternates. As can be seen in Table 5 both the value engineering alternates have substantial more vehicle hours of travel (77.1% and 43.9%) and vehicle hours of delay (793.7% and 444.8%). The value engineering alternates also have substantial lower speeds (-39.2% and -26.6%).*

*Based upon system operating characteristics it is evident that neither of the alternates provides the level of improvements associated with the proposed build alternate.*

6. **Value Engineering Alternative No. R1.1** – Eliminate/Remove loop entrance ramp west of I-75 from Forest Parkway to I-75N. Widen Ramp C entrance ramp to 2 lanes from Forest Parkway to I-75. Do not construct C-D system. **(Cost savings: $34,318,994)**

**Recommendation**

*Approval of the VE Alternative No. R1.1 is not recommended.*

- *A comparison was made between the no-build, build, value engineering alternate R1.0, value engineering alternate R1.1 using 2010 level of service for I-75 northbound for the 2010 AM peak hour. The 2010 AM peak hour was selected because it is the critical time period for the northbound movements on I-75. It was concluded that if the value engineering alternate could not provide significant improvements for this existing condition that they would not address future traffic conditions.*

  *These levels of service were developed using a CORSIM model for the northbound freeway segments from south of the Forest Parkway interchange through the I-75 northbound to I-285 westbound exit ramp. This CORSIM network also included the ramp intersections on Forest Parkway. These levels of service for I-75 northbound are shown in Tables 1 through 4. As can be seen in Tables 3 and 4 the value engineering alternates provide only a limited measure of improvement over the existing no-build condition. Both value engineering alternates still have sections of northbound I-75 operating at Level of Service F.*

  *Table 5 provides a comparison of the proposed build alternate and the value engineering alternates. As can be seen in Table 5 both the value engineering alternates have substantial more vehicle hours of travel (77.1% and 43.9%) and vehicle hours of delay (793.7% and 444.8%). The value engineering alternates also have substantial lower speeds (-39.2% and -26.6%).*

*Based upon system operating characteristics it is evident that neither of the alternates provide the level of improvements associated with the proposed build alternate.*

7. **Value Engineering Alternative No. R2.0** – Build out Northbound C-D Managed Lane Project (NHS-0001-00(759), PI No. 0001759) to include new Forest Parkway Bridges over I-75. **(Cost savings: ($4,105,401))**

**Recommendation**
*Approval of the VE Alternative No. R2.0 is not recommended.*

- *Due to budgetary constraints within the Department, it is cost-prohibitive to construct the complete future build-out along this corridor at this time.*
- *The actual costs associated with constructing the CD system as proposed under the PI 0001759 concept is considerably greater than what is described in VE report. The future CD system proposes a diverge from I-75 NB, south of the existing Forest Pkwy bridge structures, requiring the replacement of all three existing bridge structures in the Forest Pkwy/I-75 interchange. This was accounted for in the estimate but the length and width of each facility was miss-represented. The twin bridges at Forest Pkwy will be approximately 444' x 54' and the 2-lane EB flyover bridge will closer to 1370' x 36'. This will increase the cost of this concept by more than $2 million.*

8. **Value Engineering Alternative No. R3.0** – Eliminate New Frontage Road from Forest Parkway to Falcon Drive. **(Cost savings: $1,708,453)**

**Recommendation**
*Approval of the VE Alternative No. R3.0 is not recommended.*

- *Traffic counts that were ordered as part of the on-going IMR preparation shows an extremely high rate of truck traffic through this Frontage Road corridor (23% during the 24hr period recorded). Based on this information, it is recommended that the Frontage Road remain rather than force local traffic to use the small existing roadway network to access these businesses in and around Farmer's Market.*

9. **Value Engineering Alternative No. R5.0** – Eliminate sidewalk at Frontage Road. **(Cost savings: $77,085)**

**Recommendation**
*Approval of the VE Alternative No. R5.0 is not recommended.*

- *While the existing Frontage Road does not have a sidewalk, inspection of the site shows evidence of extensive foot traffic through the corridor. Recommend retaining proposed sidewalk in the design.*

10. **Value Engineering Alternative No. R6.0** – Reduce the width of the travel lanes on the 2-lane Frontage Road from 12' to 11'. **(Cost savings: $53,957)**

**Recommendation**
*Approval of the VE Alternative No. R6.0 is not recommended.*

- *Traffic counts that were ordered as part of the on-going IMR preparation shows an extremely high rate of truck traffic through this Frontage Road corridor (23% during the 24hr period recorded). Based on this information, it is recommended that the Frontage Road remain 12' and that the access radii at the intersection with Forest Parkway continue to be designed to accommodate WB-50 vehicles.*

11. **Value Engineering Alternative No. R8.0** – Move the Frontage Road toward I-75 adjacent to Ramp C. **(Cost savings: $1,064,250)**

**Recommendation**
*Approval of the VE Alternative No. R8.0 is not recommended.*

- *The location of the Frontage Rd alignment was set based on the future footprint for the Managed lanes along I-75. Shifting the alignment closer to Ramp C would require reconstructing the Frontage Rd again in addition to acquiring R/W when the Managed lanes are constructed in the future.*

12. **Value Engineering Alternative No. R9.0** – Reduce design speed of Loop Ramp 'A' from I-75N to I-285W to 25 mph to avoid need to reconstruct Ramp 'F'. **(Cost savings: $705,930)**

**Recommendation**
*Approval of the VE Alternative No. R9.0 is not recommended.*

- *Geometrically speaking (horizontally and vertically), a 175' radius (25 mph design speed) can be accommodated without impacting Ramp F. However, there is a design and operational issue since the proposed radius and design speed does not meet minimum GDOT guidelines (35 mph design speed, 292' radius) and will be utilizing a radius less than existing (200') for a loop ramp with a recorded history of truck over-turns.*

13. **Value Engineering Alternative No. R10.0** – Reduce Paved Shoulders for Ramps and C-D to AASHTO Minimum of 4 ft Wide Inside and 10 ft Wide Outside. **(Cost savings: $406,200)**

**Recommendation**
*Approval of the VE Alternative No. R10.0 is recommended.*

- *Since barrier is required along the majority of these areas, an additional 2' will be required in addition to the 10' usable shoulder.*
- *The Office of Materials & Research pavement group felt that a reduction in the shoulder width would not have a negative impact on the pavement performance as long as full depth pavement was utilized in the shoulder*

14. **Value Engineering Alternative No. R11.0** – Reduce the width of the paved shoulder on the Frontage Road to 2'. **(Cost savings: $53,957)**

**Recommendation**
*Approval of the VE Alternative No. R11.0 is recommended.*

- *The Office of Materials & Research pavement group felt that a reduction in the shoulder width would not have a negative impact on the pavement performance as long as full depth pavement was utilized in the shoulder*

15. **Value Engineering Alternative No. R12.0** – Reduce Paved Shoulder Width along I-75 NB under I-285 Bridge to 12'. **(Cost savings: $31,368)**

**Recommendation**
*VE Alternative No. R12.0 will be implemented, with modifications. The existing condition along I-75 through this area will be maintained with no additional shoulder construction required. Cost savings will increase to $79,936.*

16. **Value Engineering Alternative No. R13.0** – Eliminate Sound Barrier Walls per NEPA Environmental Assessment. **(Cost savings: $1,650,000)**

**Recommendation**
*Approval of the VE Alternative No. R13.0 is recommended.*

- *Since it appears most, if not all, of the land use in the project area is commercial/industrial and GDOT does not typically abate for these land uses, sound walls will most likely not be required. However, the official noise study has not been completed to definitively verify this.*

17. **Value Engineering Alternative No. R15.0** – Increase profile grade of Ramp 'B' after the bridge to tie to I-75 sooner and to reduce the wall height between Ramp 'A' and Ramp 'B' and reduce wall height between Ramp 'B' and I-75. **(Cost savings: $734,386)**

**Recommendation**
*Approval of the VE Alternative No. R15.0 is recommended.*

- *It is feasible to increase the profile grade for Ramp B to minimize wall height. However, the vertical curve lengths and grades recommended in the VE do not meet the required K value for a DS of 55mph on the ramp. Therefore, the optimal downgrade to use is 3.5% with a 500' crest VC and a 800' sag VC. The profile can also be revised slightly to minimize excess vertical clearance over Ramp A. Cost savings for this modification is not significant from those proposed in the VE study.*

18. **Value Engineering Alternative No. R16.0** – Revise the Frontage Road profile from STA 17+00 to STA 27+00 to follow existing grade and eliminate wall between Frontage Road and the Farmers Market. **(Cost savings: $1,047,378)**

**Recommendation**
*Approval of the VE Alternative No. R16.0 is recommended.*

- *It is feasible to revise the Frontage Rd profile between Sta. 17+00 and Sta. 27+00 to follow existing grade. However, the wall between Ramp C and the Frontage Road will need to be extended approximately 200' due to the raised grade along the Frontage Rd. This will add approximately 2000 SF of MSE wall at a cost of $132,830. This will reduce the overall cost savings to $914,548.*

19. **Value Engineering Alternative No. R17.0** – Realign Ramp 'E' (I-75N to I-285E) to tie to the existing ramp sooner and eliminate a wall and reduce rework on ramp. **(Cost savings: $390,334)**

**Recommendation**
*Approval of the VE Alternative No. R17.0 is <u>not</u> recommended.*

- *It is not feasible to realign Ramp E to tie to existing. The profile for Ramp E cannot be raised to match existing pavement until approximately Sta. 513+00. The proposed profile utilizes a 6% grade and a DS of 45mph. In addition, Ramp E will still require widening to the outside since it is currently a one lane ramp. The proposed design requires the ramp be widened to two lanes.*

20. **Value Engineering Alternative No. R20.0** – Use asphalt shoulders in lieu of full depth PCC for ramps and collector-distributor. **(Cost savings: $1,301,230)**

**Recommendation**
*Approval of the VE Alternative No. R20.0 is not recommended.*

- *OMR does not recommend approval of VE Alternative No. R20.0. OMR recommends that all shoulders be designed full depth to match the mainline for ease of construction and long term maintenance concerns. If a 13 ft wide outside lane is used, then asphalt shoulder may be used as another alternate shoulder type to PCC. Requiring asphalt instead of PCC reduces the Contractors options.*

21. **Value Engineering Alternative No. R21.0** – Use reduced depth asphalt shoulders in lieu of full depth for Frontage Road. **(Cost savings: $46,894)**

**Recommendation**
*Approval of the VE Alternative No. R21.0 is not recommended.*

- *OMR does not recommend approval of VE Alternative No. R21.0. OMR recommends full depth shoulder pavement construction as a Pavement Design recommendation. Full depth shoulder construction, to match the mainline pavement type, allows for a more efficient construction. If minimal (2 ft) shoulder widths are used as proposed in R11.0 it is really the only way to properly construct the shoulder.*

If you have any questions or comments, please contact me at (770) 933-0280.

Sincerely,

**ATKINS**

Scott M. Dubord, P.E.
Project Manager

cc: File (100020872)

## Shelby, Albert

**From:** DuVall, Bill
**Sent:** Wednesday, December 14, 2011 9:04 AM
**To:** Dubord, Scott M
**Cc:** Brown, Barry L; Myers, Lisa; Shelby, Albert
**Subject:** RE: Two issues

**Categories:** 713210 - 285@75 ramp

Scott,

Please modify your original response to include a statement that use of the Florida I-beams would require fabricators to have appropriate beds, forms and bulk-heads and would not allow competitive bids for those who are not set up for this work in Georgia. Include that the Bridge Office concurs with this response.

As to the other question below, WFI are generally not needed for standard walls. Tom Scruggs said that if the walls get over 8 feet in height then they consider doing borings.

Bill

Bill DuVall
Bridge Design
(404) 631-1883

---

**From:** Dubord, Scott M [mailto:Scott.Dubord@atkinsglobal.com]
**Sent:** Wednesday, December 14, 2011 7:21 AM
**To:** DuVall, Bill
**Cc:** Brown, Barry L
**Subject:** Two issues

Bill,

I've got a couple issues on two of my project s with GDOT that I'd like your input on. The first is the I-75 NB CD project (PI 713210) that Barry and I called you about the other day...it's the job where the VE team recommended the use of Florida I-beams to reduce cost. I didn't get into a lot of the specifics that we talked about (concerns that cost savings might be skewed since the project is in the Metro and not near FL; certain contractors might have a competitive advantage, etc.) in my formal response, but I did note that we talked/coordinated. I think Engineering services might want a more formal (letter...see attached comments for her specific request) response from your office to either specify your opinions or just document that we did indeed coordinate. Is that something you can prepare for us?

The second is regarding I-285 @Atlanta Rd (PI 752300). I have a meeting with my geotech sub today and I want to be able to answer this question for him: Does your office require WFIs for GDOT Standard side barriers? Or, does the answer depend on the height of the wall?

Let me know. Thanks in advance for your help.

**Scott M. Dubord, P.E.**
Project Manager, Roadway Design

ATKINS

1600 RiverEdge Parkway, Suite 600, Atlanta, Georgia, 30328
Tel: +1 (770) 933 0280 | Fax: +1 (770) 933 1920 | Direct: +1 (678) 247 2426 |

**Shelby, Albert**

**From:** Jubran, Abdallah (AJ)
**Sent:** Thursday, January 12, 2012 6:34 PM
**To:** Shelby, Albert
**Cc:** Scruggs, Thomas; Myers, Lisa; Jubran, Abdallah (AJ)
**Subject:** RE: VE Study responses for PI No. 731210
**Attachments:** VE Responses - PI 713210 OMR to Albert.docx

Albert,

Attached are OMRs responses to the VE study. Thanks. A J

**From:** Shelby, Albert
**Sent:** Tuesday, January 03, 2012 3:33 PM
**To:** Jubran, Abdallah (AJ)
**Cc:** Scruggs, Thomas; Myers, Lisa
**Subject:** FW: VE Study responses for PI No. 731210

Good afternoon AJ,

Can we get a response on the below? We need an answer to submit the VE responses.

Thanks,

Albert V. Shelby, III
Senior Project Manager
Office of Program Delivery
One Georgia Center
600 West Peachtree Street, Floor 25
Atlanta, GA 30308
☎ (404) 631-1758 (Office cubicle #2542)
(404) 354-0513 (blackberry)
ashelby@dot.ga.gov

**From:** Dubord, Scott M [mailto:Scott.Dubord@atkinsglobal.com]
**Sent:** Saturday, December 17, 2011 12:23 PM
**To:** Jubran, Abdallah (AJ)
**Cc:** Shelby, Albert; Morris, Ron H; Kunkle, Jason E
**Subject:** VE Study responses for PI No. 731210

AJ,

I've been asked by my GDOT PM Albert Shelby as well as Lisa Myers with Engineering Services to discuss with you some specific VE recommendations regarding reduced shoulder paving widths. Specifically, bullets 13, 14, 20 & 21 (R10 & R11, R20 & R21) in the attached report. Lisa mentioned in her attached e-mail that your office has been voicing concerns about paved shoulder reductions affecting the structural integrity of the pavement.

Would you please review the recommendations listed above and our subsequent responses and see if you have any issues with them or additional comments that we can use to supplement the response.

FYI, this project proposes to add a CD (and braided ramp) from Forest PKWY to I-285 along NB I-75 to relieve some of the weaving friction that occurs today between traffic coming onto I-75 from Forest Pkwy and I-75 NB traffic wanting to exit to I-285 both east and west.

Thanks in advance for your help. Let me know if you need any additional clarification.

**Scott M. Dubord, P.E.**
Project Manager, Roadway Design

**ATKINS**

1600 RiverEdge Parkway, Suite 600, Atlanta, Georgia, 30328
Tel: +1 (770) 933 0280 | Fax: +1 (770) 933 1920 | Direct: +1 (678) 247 2426 |
Email: scott.dubord@atkinsglobal.com | Web: www.atkinsglobal.com/northamerica www.atkinsglobal.com

**Recommendation**
*Approval of the VE Alternative No. R6.0 is not recommended.*

- *Traffic counts that were ordered as part of the on-going IMR preparation shows an extremely high rate of truck traffic through this Frontage Road corridor (23% during the 24hr period recorded). Based on this information, it is recommended that the Frontage Road remain 12' and that the access radii at the intersection with Forest Parkway continue to be designed to accommodate WB-50 vehicles.*

11. **Value Engineering Alternative No. R8.0** – Move the Frontage Road toward I-75 adjacent to Ramp C. **(Cost savings: $1,064,250)**

**Recommendation**
*Approval of the VE Alternative No. R8.0 is not recommended.*

- *The location of the Frontage Rd alignment was set based on the future footprint for the Managed lanes along I-75. Shifting the alignment closer to Ramp C would require reconstructing the Frontage Rd again in addition to acquiring R/W when the Managed lanes are constructed in the future.*

12. **Value Engineering Alternative No. R9.0** – Reduce design speed of Loop Ramp 'A' from I-75N to I-285W to 25 mph to avoid need to reconstruct Ramp 'F'. **(Cost savings: $705,930)**

**Recommendation**
*Approval of the VE Alternative No. R9.0 is not recommended.*

- *Geometrically speaking (horizontally and vertically), a 175' radius (25 mph design speed) can be accommodated without impacting Ramp F. However, there is a design and operational issue since the proposed radius and design speed does not meet minimum GDOT guidelines (35 mph design speed, 292' radius) and will be utilizing a radius less than existing (200') for a loop ramp with a recorded history of truck over-turns.*

13. **Value Engineering Alternative No. R10.0** – Reduce Paved Shoulders for Ramps and C-D to AASHTO Minimum of 4 ft Wide Inside and 10 ft Wide Outside. **(Cost savings: $406,200)**

**Recommendation**
*Approval of the VE Alternative No. R10.0 is recommended.*

- *Since barrier is required along the majority of these areas, an additional 2' will be required in addition to the 10' usable shoulder. Therefore there will be no significant savings.*

OMR Response: Shoulder width is a Geometric Design issue not a Pavement Design issue. OMR recommends full depth shoulder pavements as a Pavement Design recommendation to match the mainline for ease of construction and long term maintenance concerns.

14. **Value Engineering Alternative No. R11.0** – Reduce the width of the paved shoulder on the Frontage Road to 2'. **(Cost savings: $53,957)**

**Recommendation**
*Approval of the VE Alternative No. R11.0 is recommended.*

OMR Response: Shoulder width is a Geometric Design issue not a Pavement Design issue. OMR recommends full depth shoulder pavements as a Pavement Design recommendation to match the mainline for ease of construction and long term maintenance concerns.

15. **Value Engineering Alternative No. R12.0** – Reduce Paved Shoulder Width along I-75 NB under I-285 Bridge to 12'. **(Cost savings: $31,368)**

**Recommendation**
*VE Alternative No. R12.0 will be implemented, with modifications. The existing condition along I-75 through this area will be maintained with no additional shoulder construction required. Cost savings will increase to $79,936.*

16. **Value Engineering Alternative No. R13.0** – Eliminate Sound Barrier Walls per NEPA Environmental Assessment. **(Cost savings: $1,650,000)**

**Recommendation**
*Approval of the VE Alternative No. R13.0 is recommended.*

- *Since it appears most, if not all, of the land use in the project area is commercial/industrial and GDOT does not typically abate for these land uses, sound walls will most likely not be required. However, the official noise study has not been completed to definitively verify this.*

17. **Value Engineering Alternative No. R15.0** – Increase profile grade of Ramp 'B' after the bridge to tie to I-75 sooner and to reduce the wall height between Ramp 'A' and Ramp 'B' and reduce wall height between Ramp 'B' and I-75. **(Cost savings: $734,386)**

**Recommendation**
*Approval of the VE Alternative No. R15.0 is recommended.*

- *It is feasible to increase the profile grade for Ramp B to minimize wall height. However, the vertical curve lengths and grades recommended in the VE do not meet the required K value for a DS of 55mph on the ramp. Therefore, the optimal downgrade to use is 3.5% with a 500' crest VC and a 800' sag VC. The profile can also be revised slightly to minimize excess vertical clearance over Ramp A. Cost savings for this modification is not significant from those proposed in the VE study.*

18. **Value Engineering Alternative No. R16.0** – Revise the Frontage Road profile from STA 17+00 to STA 27+00 to follow existing grade and eliminate wall between Frontage Road and the Farmers Market. **(Cost savings: $1,047,378)**

**Recommendation**
*Approval of the VE Alternative No. R16.0 is recommended.*

- *It is feasible to revise the Frontage Rd profile between Sta. 17+00 and Sta. 27+00 to follow existing grade. However, the wall between Ramp C and the Frontage Road will need to be extended approximately 200' due to the raised grade along the Frontage Rd. This will add approximately 2000 SF of MSE wall at a cost of $132,830. This will reduce the overall cost savings to $914,548.*

19. **Value Engineering Alternative No. R17.0** – Realign Ramp 'E' (I-75N to I-285E) to tie to the existing ramp sooner and eliminate a wall and reduce rework on ramp. **(Cost savings: $390,334)**

**Recommendation**
*Approval of the VE Alternative No. R17.0 is not recommended.*

- *It is not feasible to realign Ramp E to tie to existing. The profile for Ramp E cannot be raised to match existing pavement until approximately Sta. 513+00. The proposed profile utilizes a 6% grade and a DS of 45mph. In addition, Ramp E will still require widening to the outside since it is currently a one lane ramp. The proposed design requires the ramp be widened to two lanes.*

20. **Value Engineering Alternative No. R20.0** – Use asphalt shoulders in lieu of full depth PCC for ramps and collector-distributor. **(Cost savings: $1,301,230)**

**Recommendation**
*Approval of the VE Alternative No. R20.0 is recommended, pending formal approval of the pavement section by GDOT-OMR*

OMR Response: OMR does not recommend approval of VE Alternative No. R20.0. OMR recommends that all shoulders be designed full depth to match the mainline for ease of construction and long term maintenance concerns. If a 13 ft wide outside lane is

used, then asphalt shoulder may be used as another alternate shoulder type to PCC. Requiring asphalt instead of PCC reduces the Contractors options.

21. **Value Engineering Alternative No. R21.0** – Use reduced depth asphalt shoulders in lieu of full depth for Frontage Road. **(Cost savings: $46,894)**

**Recommendation**
*Approval of the VE Alternative No. R21.0 is recommended, pending formal approval of the pavement section by GDOT-OMR*

OMR Response: OMR does not recommend approval of VE Alternative No. R21.0. OMR recommends full depth shoulder pavement construction as a Pavement Design recommendation. Full depth shoulder construction, to match the mainline pavement type, allows for a more efficient construction. If minimal (2 ft) shoulder widths are used as proposed in R11 it is really the only way to properly construct the shoulder.

If you have any questions or comments, please contact me at (770) 933-0280.

Sincerely,

**ATKINS**

Scott M. Dubord, P.E.
Project Manager

cc: File (100020872)

## Table 1
## 2010 AM Peak Hour – Existing Conditions

| Section | Direction | Type Section | CORSIM Nodes | | 2010 Volumes | | Density (Veh./Lane/Mi.) | LOS |
|---|---|---|---|---|---|---|---|---|
| | | | A | B | Design | CORSIM | | |
| I-5 Northbound South of Forest Parkway | Northbound | Basic | 20 | 18 | 8,000 | 8,000 | 32.80 | D |
| I-75 Northbound South of Forest Parkway Exit Ramp | Northbound | Merge/Diverge | 18 | 19 | 8,000 | 8,000 | 38.43 | E |
| I-75 Northbound Between Forest Pkwy Exit Ramp and Forest Pkwy EB Entrance Ramp | Northbound | Basic | 19 | 21 | 7,540 | 7,449 | 79.60 | F |
| I-75 Northbound North of EB Forest Pkwy Entrance Ramp | Northbound | Merge/Diverge | 21 | 22 | 9,370 | 9,055 | 101.27 | F |
| I-75 Northbound Between WB Forest Pkwy Entrance Ramp and EB Forest Pkwy Entrance Ramp | Northbound | Basic | 22 | 49 | 9,370 | 8,997 | 49.60 | F |
| I-75 Northbound Betweeen WB Forest Parkway Entrance and I-285 EB Exit Ramp | Northbound | Weaving | 49 | 29 | 10,590 | 10,192 | 57.96 | F |
| I-75 Northbound South of I-285 WB Exit Ramp Ramp | Northbound | Merge/Diverge | 29 | 24 | 9,690 | 9,230 | 37.55 | E |
| I-75 Northbound North of I-285 WB Exit Ramp Ramp | Northbound | Basic | 24 | 30 | 7,920 | 7,477 | 31.90 | D |

## Table 2
## 2010 AM Peak Hour – Proposed Build Alternate

| Section | Direction | Type Section | CORSIM Nodes | | 2010 Volumes | | Density (Veh./Lane/Mi.) | LOS |
|---|---|---|---|---|---|---|---|---|
| | | | A | B | Design | CORSIM | | |
| I-5 Northbound South of Forest Parkway | Northbound | Basic | 20 | 18 | 8,000 | 8,000 | 33.00 | D |
| I-75 Northbound South of Forest Parkway Exit Ramp | Northbound | Merge/Diverge | 18 | 19 | 8,000 | 7,995 | 33.16 | D |
| I-75 Northbound Between Forest Parkway and I-285 Exit Ramp | Northbound | Basic | 19 | 21 | 7,540 | 7,529 | 32.70 | D |
| I-75 Northbound South of I-285 Exit Ramp | Northbound | Merge/Diverge | 21 | 22 | 7,540 | 7,526 | 32.16 | D |
| I-75 Northbound Between I-285 Exit Ramp and Forest Parkway Entrance Ramp | Northbound | Basic | 49 | 23 | 5,820 | 5,835 | 23.60 | C |
| I-75 Northbound North of Forest Parkway Entrance Ramp | Northbound | Merge/Diverge | 29 | 24 | 7,930 | 7,983 | 41.23 | E |
| I-75 Northbound North of Forest Parkway Entrance Ramp | Northbound | Basic | 24 | 30 | 7,930 | 7,975 | 38.20 | E |
| Weaving Section Between Forest Parkway and I-285 Eastbound and Westbound Exit Ramps | Northbound | C/D Weave | 33 | 34 | 2,670 | 2,592 | 18.57 | B |

## Table 3
## 2010 AM Peak Hour – Value Engineering Alternate 1

| Section | Direction | Type Section | CORSIM Nodes | | 2010 Volumes | | Density (Veh./Lane/Mi.) | LOS |
|---|---|---|---|---|---|---|---|---|
| | | | A | B | Design | CORSIM | | |
| I-5 Northbound South of Forest Parkway | Northbound | Basic | 20 | 18 | 8,000 | 7,998 | 33.00 | D |
| I-75 Northbound South of Forest Parkway Exit Ramp | Northbound | Merge/Diverge | 18 | 19 | 8,000 | 7,996 | 33.60 | D |
| I-75 Northbound Between Forest Pkwy Exit Ramp and Forest Pkwy EB Entrance Ramp | Northbound | Basic | 19 | 21 | 7,540 | 7,479 | 64.30 | F |
| I-75 Northbound North of EB Forest Pkwy Entrance Ramp | Northbound | Merge/Diverge | 21 | 22 | 10,590 | 10,207 | 95.77 | F |
| I-75 Northbound Between WB Forest Pkwy Entrance Ramp and EB Forest Pkwy Entrance Ramp | Northbound | Basic | 22 | 49 | 10,590 | 10,095 | 96.90 | F |
| I-75 Northbound Betweeen WB Forest Parkway Entrance and I-285 EB Exit Ramp | Northbound | Weaving | 49 | 29 | 10,590 | 9,996 | 86.34 | F |
| I-75 Northbound South of I-285 WB Exit Ramp Ramp | Northbound | Merge/Diverge | 29 | 24 | 9,690 | 9,050 | 33.99 | D |
| I-75 Northbound North of I-285 WB Exit Ramp Ramp | Northbound | Basic | 24 | 30 | 7,920 | 7,383 | 31.00 | D |

## Table 4
## 2010 AM Peak Hour – Value Engineering Alternate 4

| Section | Direction | Type Section | CORSIM Nodes | | 2010 Volumes | | Density (Veh./Lane/Mi.) | LOS |
|---|---|---|---|---|---|---|---|---|
| | | | A | B | Design | CORSIM | | |
| I-5 Northbound South of Forest Parkway | Northbound | Basic | 20 | 18 | 8,000 | 8,000 | 33.00 | D |
| I-75 Northbound South of Forest Parkway Exit Ramp | Northbound | Merge/Diverge | 18 | 19 | 8,000 | 8,001 | 32.80 | D |
| I-75 Northbound Between Forest Pkwy Exit Ramp and Forest Pkwy EB Entrance Ramp | Northbound | Basic | 19 | 21 | 7,540 | 7,528 | 31.00 | D |
| I-75 Northbound North of EB Forest Pkwy Entrance Ramp | Northbound | Basic | 21 | 22 | 10,590 | 7,527 | 41.50 | E |
| I-75 Northbound Between WB Forest Pkwy Entrance Ramp and EB Forest Pkwy Entrance Ramp | Northbound | Basic | 22 | 49 | 10,590 | 7,463 | 78.90 | F |
| I-75 Northbound Betweeen WB Forest Parkway Entrance and I-285 EB Exit Ramp | Northbound | Weaving | 49 | 29 | 10,590 | 10,309 | 120.51 | F |
| I-75 Northbound South of I-285 WB Exit Ramp Ramp | Northbound | Merge/Diverge | 29 | 24 | 9,690 | 9,232 | 37.21 | E |
| I-75 Northbound North of I-285 WB Exit Ramp Ramp | Northbound | Basic | 24 | 30 | 7,920 | 7,516 | 31.80 | D |

**Table 5**
**Freeway Network CORSIM Statistics**

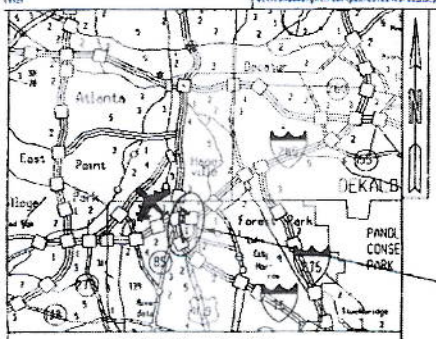
| Alternate | Vehicle Miles of Travel | % Difference vs. Proposed | Vehicle Hours of Travel | % Difference vs. Proposed | Vehicle Hours of Delay | % Difference vs. Proposed | Average Speed | % Difference vs. Proposed |
|---|---|---|---|---|---|---|---|---|
| Proposed Build | 24,691.0 | N/A | 421.6 | N/A | 36.8 | N/A | 58.6 | N/A |
| VE Alternate 1 | 26,590.9 | 7.7% | 746.5 | 77.1% | 328.9 | 793.7% | 35.6 | -39.2% |
| VE Alternate 2 | 26,078.2 | 5.6% | 606.6 | 43.9% | 200.5 | 444.8% | 43.0 | -26.6% |

# DEPARTMENT OF TRANSPORTATION
# STATE OF GEORGIA

## PLAN AND PROFILE OF PROPOSED
## I-75 NB CD SYSTEM FROM FOREST PKWY TO I-285

FEDERAL AID PROJECT
IM000-0285-01(346)
Clayton County

FEDERAL ROUTE # 75, 285
STATE ROUTE #331, 401, 407
P.I. NO. 713210



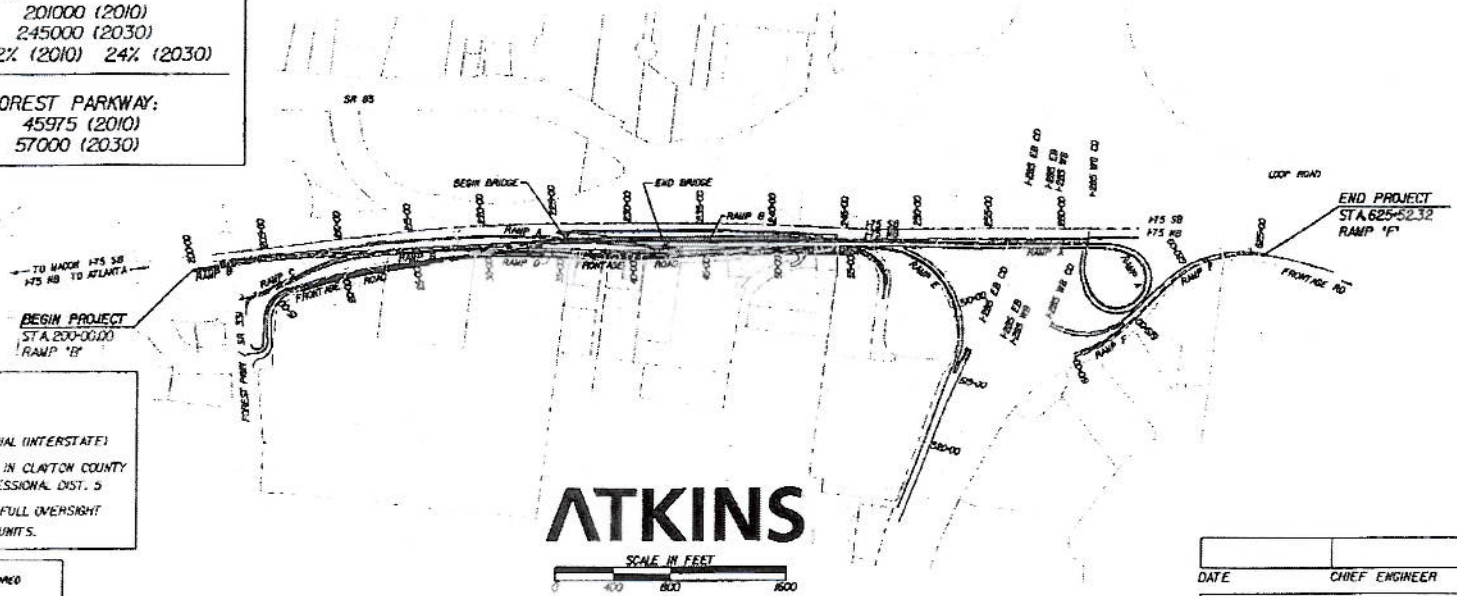

LOCATION SKETCH

PROJECT IM000-0285-01(346)
CLAYTON COUNTY

NOTE :
ALL REFERENCES IN THIS DOCUMENT, WHICH INCLUDES ALL PAPERS, WRITINGS, DOCUMENTS, DRAWINGS, OR PHOTOGRAPHS USED, OR TO BE USED IN CONNECTION WITH THIS DOCUMENT, TO "STATE HIGHWAY DEPARTMENT OF GEORGIA", "STATE HIGHWAY DEPARTMENT", "GEORGIA STATE HIGHWAY DEPARTMENT", "HIGHWAY DEPARTMENT", OR "DEPARTMENT" WHEN THE CONTEXT THEREOF MEANS THE STATE HIGHWAY DEPARTMENT OF GEORGIA, AND SHALL BE DEEMED TO MEAN THE DEPARTMENT OF TRANSPORTATION.

DESIGN DATA I-75:
TRAFFIC A.D.T.: 201000 (2010)
TRAFFIC A.D.T.: 245000 (2030)
% TRUCKS: 22% (2010) 24% (2030)

DESIGN DATA FOREST PARKWAY:
TRAFFIC A.D.T.: 45975 (2010)
TRAFFIC A.D.T.: 57000 (2030)




LOCATION & DESIGN APPROVAL DATE: N/A

FUNCTIONAL CLASS:
PRINCIPAL URBAN ARTERIAL (INTERSTATE)

THIS PROJECT IS 100% IN CLAYTON COUNTY AND IS 100% IN CONGRESSIONAL DIST. 5

PROJECT DESIGNATION: FULL OVERSIGHT

DESIGNED IN ENGLISH UNITS.

ATKINS

SCALE IN FEET
0 400 800 1600

THIS PROJECT HAS BEEN PREPARED USING THE HORIZONTAL GEORGIA COORDINATE SYSTEM OF 1984 (NAD 1983/94 WEST ZONE, AND THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

THE DATA TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS OR IN ANYWAY INDICATED THEREBY, WHETHER BY DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY, ARE NOT GUARANTEED, AND DO NOT BIND THE DEPARTMENT OF TRANSPORTATION IN ANY WAY. THE ATTENTION OF BIDDER IS SPECIFICALLY DIRECTED TO SUBSECTIONS 108.04, 108.05, AND 104.03 OF THE SPECIFICATIONS.

| LENGTH OF PROJECT | COUNTY No. 063 Project No. IM000-0285-01(346) | | | |
|---|---|---|---|---|
| CLAYTON COUNTY | I-75 MILES | I-285 MILES | RAMPS A-F MILES | FRONTAGE RD. MILES |
| NET LENGTH OF ROADWAY | 1.189 | 0.249 | 3.079 | 0.920 |
| NET LENGTH OF BRIDGES | 0.000 | 0.000 | 0.132 | 0.000 |
| NET LENGTH OF PROJECT | 1.189 | 0.249 | 3.211 | 0.920 |
| NET LENGTH OF EXCEPTIONS | 0.000 | 0.000 | 0.000 | 0.000 |
| GROSS LENGTH OF PROJECT | 1.189 | 0.249 | 3.211 | 0.920 |

DATE CHIEF ENGINEER

| PLANS COMPLETED | |
|---|---|
| REVISIONS | |

# PRECONSTRUCTION STATUS REPORT FOR PI:713210-

**PROJ ID :** 713210-
**COUNTY :** Clayton
**LENGTH (MI)** 1.47
**PROJ NO.:** IM000-0285-01(346)
**PROJ MGR:** Shelby, Albert
**AOHD Initials:** SSH
**OFFICE :** Program Delivery
**CONSULTANT:** Consultant Design (DOT contract)
**SPONSOR :** GDOT
**DESIGN FIRM:** Post Buckley Schuh and Jernigan, Inc

## I-285 EAST TO I-75 SOUTH RAMP ALIGNMENT

**MPO:** Atlanta TMA
**TIP #:** CL-AR-179
**MODEL YR :** 2016
**TYPE WORK:** Ramp
**CONCEPT:** C-D SYSTEM
**PROG TYPE:** Reconstruction/Rehabilitation
**Prov. for ITS:** N
**BOND PROJ :**

**PRIORITY CODE:**
**DOT DIST:** 7
**CONG. DIST:** 5
**BIKE:** N
**MEASURE:** E
**NEEDS SCORE:** 08
**BRIDGE SUFF:**

**MGMT LET DATE :**
**MGMT ROW DATE :** 11/15/2012
**BASELINE LET DATE:**
**SCHED LET DATE :**
**WHO LETS?:** GDOT Let
**LET WITH :**

| BASE START | BASE FINISH | LATE START | LATE FINISH | TASKS | ACTUAL START | ACTUAL FINISH | % |
|---|---|---|---|---|---|---|---|
| | 12/22/2011 | | 3/9/2012 | Concept Development | 4/3/2011 | | 25 |
| | | | | Concept Meeting | 5/11/2011 | 5/11/2011 | 100 |
| 12/8/2011 | 12/8/2011 | 2/24/2012 | 2/24/2012 | PM Submit Concept Report | | | 0 |
| 12/9/2011 | 12/22/2011 | 2/27/2012 | 3/9/2012 | Concept Report Review and Comments | | | 0 |
| **12/22/2011** | **12/22/2011** | **3/9/2012** | **3/9/2012** | **Management Concept Approval Complete** | | | **0** |
| | 12/8/2011 | | 2/24/2012 | Value Engineering Study | 5/11/2011 | | 83 |
| 1/6/2012 | 1/6/2012 | 3/26/2012 | 3/26/2012 | Public Information Open House Held | | | 0 |
| 12/23/2011 | 5/31/2012 | 3/12/2012 | 8/17/2012 | **Environmental Approval** | | | 0 |
| 2/10/2012 | 3/1/2012 | 4/30/2012 | 5/18/2012 | Mapping | | | 0 |
| 3/5/2012 | 3/30/2012 | 5/22/2012 | 6/18/2012 | Field Surveys/SDE | | | 0 |
| **4/3/2012** | **8/6/2012** | **6/20/2012** | **10/23/2012** | **Preliminary Plans** | | | **0** |
| 12/23/2011 | 5/3/2012 | 3/12/2012 | 7/20/2012 | Underground Storage Tanks | | | 0 |
| 9/4/2012 | 9/4/2012 | 11/21/2012 | 11/21/2012 | PFPR Inspection | | | 0 |
| 9/5/2012 | 9/25/2012 | 11/22/2012 | 12/12/2012 | R/W Plans Preparation | | | 0 |
| **9/26/2012** | **11/6/2012** | **12/13/2012** | **1/23/2013** | **R/W Plans Final Approval** | | | **0** |

### PROGRAMMED FUNDS

| Activity | Approved | Proposed | Cost | Fund | Status | Date Auth |
|---|---|---|---|---|---|---|
| PE | 1995 | 1995 | 1,717,496.58 | 04M | AUTHORIZED | 1/24/1995 |
| ROW | 2013 | 2013 | 1,556,010.52 | L010 | PRECST | |
| CST | 2015 | 2015 | 4,501,015.00 | L010 | PRECST | |

### Cost Estimate Amount

| Activity | Amount | Date |
|---|---|---|
| PE | $1,717,496.58 | |
| ROW | $1,302,000.00 | 11/19/2003 |
| CST | $3,620,000.00 | 3/3/2004 |

### STIP AMOUNTS

| Activity | Cost | Fund |
|---|---|---|
| PE | 0.00 | 04M |
| ROW | 1,556,010.52 | L010 |
| CST | 4,501,015.00 | L010 |

**PDD:** AQE. 6/27/00 let W/712425.
**Bridge:** BRIDGE REQUIRED
**EIS:** CE\NotApvd\NoSchedule\Cox 07.14.11
**LGPA:** CLAYTON REFUSED UTILITIES 10-14-96|RESCISSION LETTER SENT TO CLAYTON 10-28-05.
**Planning:** Work Zone Safety project considered significant; Transportation Management Plan (TMP) required
**Programming:** PR2/P=2-3-95|#1 3-15-2000|#2 4-01|CHANGED TO EXEMPT PER FHWA 12-20-2010|#3 3-2011|#4 6-2011
**Railroad:** NO
**Traffic Op:** SEND PLANS FOR REVIEW 12-13-07
**UST:** MC
**Utility:** YPF: need plans 03/10;SUE
**EMG:** M1528/3021 (H85(94)-W/V88);(M/E CONVERTED 5/99)
**Engr Services:** VE Report Dist. 9/12/11

### District Comments

Concept taken from PI 0001759 master plan. Master IDIQ contract executed 10-19-10 and NTP for task order #1 4/7/11. Concept Team Mtg held 5/11/11. VE study held Aug. 22-25, 2011. Responses submitted 1-24-12 after coordination with Bridge & OMR. Concept Report to be finalized after VE approved. (1-24-12)

Estimate: $4,686,192.00 ROW, $32,879,076.00 CST

**Prel. Parcel CT:** 3
**Total Parcel in ROW System:**
**Cond. Filed:**
**Acquired by:** DOT
***DEEDS CT:***
**Under Review:**
**Options - Pending:**
**Relocations:**
**Acquisition MGR:**
**Released:**
**Condemnations- Pend:**
**Acquired:**
**R/W Cert Date:**