

ORIGINAL TO GENERAL FILES

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

**OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE**

FILE P.I. #610890-
IMSTP-0075-03(208)
GDOT District 6 - Cartersville
Whitfield Counties
I-75 Interchange at CR 665/Carbondale Road

OFFICE Design Policy & Support

DATE June 22, 2012

FROM  Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT APPROVED REVISED CONCEPT REPORT

Attached is the approved Revised Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Bobby Hilliard, Program Control Administrator
Genetha Rice-Singleton, State Program Delivery Engineer
Cindy VanDyke, State Transportation Planning Administrator
Angela Robinson, Financial Management Administrator
Glenn Bowman, State Environmental Administrator
Ben Rabun, State Bridge Engineer
Andy Casey, State Roadway Design Engineer
Attn: Fletcher Miller, Design Group Manager
Kathy Zahul, State Traffic Engineer
Georgene Geary, State Materials & Research Engineer
Lisa Myers, State Project Review Engineer
Jeff Baker, State Utilities Engineer
Ken Thompson, Statewide Location Bureau Chief
Michael Henry, Systems & Classification Branch Chief
DeWayne Comer, District Engineer
Kerry Bonner, District Utilities Engineer
Kimberly Nesbitt, Project Manager
Rodney Barry, Federal Highway Administration
BOARD MEMBER - 9th Congressional District

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
REVISED PROJECT CONCEPT REPORT**

Project Number: IMSTP-0075-03(208)
Project Type: Interchange
Federal Route Number: I-75

P.I. Number: 610890-
County: Whitfield
State Route Number: US 41/SR 3, CR 665

The intersections at CR 665/I-75 Northbound and Southbound ramps and at US 41/SR3 are proposed to be converted to multilane roundabouts. The western most roundabout would allow for the project to tie in just west of the interchange thereby revising the beginning terminus and eliminating the approved new location roadway. The roundabouts greatly reduce the footprint of the project as well as cost while satisfying the project justification to improve traffic operations. Due to the creation of a roundabout corridor, the operating speed will be reduced in proximity to the interchange to provide better control over speeds and reduce the potential and severity of crashes. The typical section is proposed to be revised which includes median width reduction and sidewalk reduction.

Submitted for approval:

C. Andy Coney

State Roadway Design Engineer

3-29-12

DATE

Bobby Hilliard

State Program Delivery Engineer

4-4-2012

DATE

Kimberly W. Nesbitt

GDOT Project Manager

3.30.2012

DATE

Recommendation for approval:

Glenn Bowman*/DRP

State Environmental Administrator

04/25/2012

DATE

Kathy Zahul*/DRP

State Traffic Engineer

05/16/2012

DATE

Ben Rabun*/DRP

State Bridge Design Engineer

05/09/2012

DATE

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

Cynthia Van Dyke*/DRP

State Transportation Planning Administrator

04/24/2012

DATE

* Recommendation on file

PLANNING, APPROVED CONCEPT, & BACKGROUND DATA

Project Justification Statement: The purpose of this project is to improve traffic operations on CR 665/Carbondale Road at the I-75 Interchange. See attached report for full details.

Project location: The project will begin approximately 4,000 ft. (M.P. 2.19) north of the CR 16/ Lower Dug Gap Road/Norfolk Southern Railroad crossing. The project will extend eastward for approximately 5,300 ft. (1.00 mile) on new location crossing the existing Norfolk Southern Railroad with a grade separation and continue in an easterly direction north of the Carbondale Community to the new bridge over I-75 at the current interchange location. The alignment will then continue and widen symmetrically on the existing alignment eastward to US 41/SR 3 and ends approximately 1,000 feet east of the US 41/SR 3 intersection.

Description of the approved concept: The approved project concept consists of 2-12 ft. lanes with 10 ft. rural shoulders at the beginning of the project to a point approximately 3,000 feet from the beginning and transitions to 2-12 ft. lanes in each direction, separated by a 20 ft. raised median with 12 ft. urban shoulders. The urban typical section continues through the I-75 interchange to approximately 200 ft. east of the intersection of CR 665 and US 41/SR 3 where it then transitions to the existing two lane rural section.

PDP Classification: Major Minor

Federal Oversight: Full Oversight Exempt State Funded Other

Projected Traffic (AADT) as shown in the approved Concept Report:

I-75:	Open Year:	<u>72,100 (2001)</u>	Design Year:	<u>115,600 (2021)</u>
Ramps:		<u>1,575 – 2,875 (2001)</u>		<u>2,500 – 4,600 (2021)</u>
CR 665:		<u>8,250 (2001)</u>		<u>13,800 (2021)</u>

Updated traffic (AADT):

Ramps:	Open Year:	<u>4,425 – 5,105 (2017)</u>	Design Year:	<u>5,415 – 6,385 (2037)</u>
CR 665:		<u>15,760 (2017)</u>		<u>18,510 (2037)</u>

Functional Classification: I-75: Rural Principal Interstate
 CR 665/Carbondale Road: Rural Major Collector

VE Study anticipated: No Yes Completed – Date: April 10, 2008

PROPOSED REVISIONS

<p>Approved Features:</p> <ol style="list-style-type: none"> 1. Project Terminus The approved project concept proposes the beginning terminus at approximately 4,000 ft. (M.P. 2.19) north of the CR 16/Lower Dug Gap Road/Norfolk Southern Railroad crossing. 2. Project Alignment The approved project concept proposes the new location alignment of CR 665 west of the I-75 interchange, Carbondale Rd Connector and realignment of Dug Gap Road. 3. Typical Section <ul style="list-style-type: none"> • The approved project concept proposes a 6-12 ft. lane urban typical section w/ sidewalks for CR 665 from the I-75 South Bound ramps to the I-75 North Bound ramps. • The approved project concept proposes a 4-lane urban typical section w/ sidewalks and with a 20 ft. raised median for CR 665 from the I-75 North Bound ramps to the CR 665/US 41-SR 3 intersection. 	<p>Proposed Features:</p> <ol style="list-style-type: none"> 1. Project Terminus It is proposed that the beginning project terminus be shortened to approximately 500 ft. (M.P. 2.75) west of the existing I-75 South Bound Ramps on the existing CR 665 alignment. 2. Project Alignment <ul style="list-style-type: none"> • It is proposed to eliminate the entire new location roadway. As a result, the Norfolk Southern Railroad grade separation bridge will also be eliminated. • It is proposed to construct roundabouts at the ramp intersections and at US 41/SR 3. 3. Typical Section <ul style="list-style-type: none"> • It is proposed to utilize a 4-12 ft. lane urban typical section with a 10 ft. raised median (including 2-2ft. gutters) for CR 665 from the I-75 South Bound ramps to the I-75 North Bound ramps. • It is proposed to utilize a 4-lane urban typical section with a 16 ft. raised median for CR 665 from the I-75 North Bound ramps to the CR 665/US 41-SR 3 intersection. • It is proposed to eliminate sidewalks on one side of the project in selected areas.
<p>Reasons for Changes:</p> <p>Signal warrant analyses were conducted for the I-75 ramp intersections and were determined not to meet warrants for the Northbound ramps. The current two way stop control was also found to be deficient in the capacity analysis for the design year. The current GDOT Design Policy suggests roundabouts be considered as a primary intersection design where signals would be proposed. After a preliminary level design was performed, it was determined that the roundabouts would improve the capacity of the intersections and satisfy the need and purpose. All left turn lanes were removed because they are no longer needed which allowed the footprint over the bridge to be reduced. The roundabouts allow for a quicker tie-in to CR 665/Carbondale Road, which eliminated the need for a new location tie-in on CR 16/Lower Dug Gap Road and the grade separated railroad crossing. The operating speed through the intersections will be reduced due to the functionality of the roundabouts that will provide better control over vehicle speeds and reduce the potential and severity of crashes.</p> <p>There will be no drainage structures in the median which makes for a desirable implementation of the median reduction. The median reduction from 20' to 16' will help reduce impacts to the Holland Farm, a historical resource, on the south side of CR 665/Carbondale Road. The sidewalk reduction is included to reduce costs for the project. Due to the Carbondale business park being developed on the north side of CR 665/Carbondale Road which will include mixed use development, the sidewalks were kept on the north side and removed from the south side near the Holland Farm. A sidewalk layout is shown in the attached intersection layouts.</p>	

ENVIRONMENTAL

Air Quality:

Is the project located in a PM 2.5 Non-attainment area?

No

Yes

Is the project located in an Ozone Non-attainment area?

No

Yes

Potential Environmental Impacts of the Proposed Revision:

Since the project footprint has been reduced overall, the environmental impacts have been reduced. There are no anticipated increases to environmental impacts. The project is no longer crossing two streams near Swamp Creek located in the new location section that has been removed.

Have proposed revisions been reviewed by environmental staff?

No

Yes

Environmental Responsibilities (Studies/Documents/Permits): GDOT is responsible for all environmental work other than Ecology and the Section 404 Permit.

NEPA: A Categorical Exclusion was submitted to FHWA for the new location design, but returned unapproved with comments. The roundabout design is so markedly different from the new location design, that a new CE will be required.

Ecology: Ecological Solutions will conduct a re-survey and prepare an Ecology Addendum. Aquatic and terrestrial protected species surveys will be conducted if habitat is identified. If a survey for terrestrial species is deemed necessary, it cannot be conducted until the spring flowering season begins in April.

Archaeology: The resurvey is complete: One National Register resource was identified: Swamp Creek Baptist Church Cemetery. No adverse effect is anticipated.

History: The addendum is complete. One previously identified National Register resource is still within the APE: the Holland Farm House. The no adverse effect determination is still valid for this resource.

Air & Noise: No noise impacts expected (modeling is not required). Air and Noise addendums will be required.

Public Involvement: A required PIOH was held on March 29, 2011. Extra effort was exercised to educate the public on roundabouts.

Section 404 Permit: Ecological Solutions will prepare the 404 Permit application. It is anticipated that a Nationwide 14 Permit will be required.

PROJECT COST & ADDITIONAL INFORMATION

Updated Cost Estimate		Date of Estimate
Base Construction Cost:	\$11,155,040	03/01/2012
Engineering and Inspection:	\$557,752	03/01/2012
Liquid AC Adjustment:	\$403,909	03/01/2012
<u>Total Construction Cost:</u>	<u>\$12,116,701</u>	
Right-of-Way:	\$5,315,000	02/08/2012
Utilities (reimbursable costs):	\$502,550	02/07/2012
Environmental Mitigation:		
TOTAL PROJECT COST:	\$17,934,251	

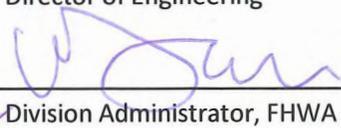
Recommendation: Recommend that the proposed revision to the concept be approved for implementation.

Attachments:

1. Project Justification Report
2. Sketch Map
3. Project Layout
4. Cost Estimates
5. Liquid AC Adjustment
6. Typical Sections
7. Updated Traffic
8. Capacity Analysis Summary
9. VE Implementation Summary
10. Highway Safety Manual Analysis
11. Signal Warrant Analyses
12. Public Information Open House Minutes and Response Summary
13. Design Variance
14. Lighting Agreement – Pending

APPROVALS

Concur: 
 Director of Engineering

Approve: 
 Division Administrator, FHWA

6-13-12
 Date

Approve: 
 Chief Engineer

5/31/2012
 Date

Project Justification Report
PROJECT PEIMO-0075-03(208) Whitfield COUNTY
P.I. NO 610890
I-75 Interchange at CR 665/Carbondale Road

Background

The proposed project was added to the Department's Construction Work Program in 1993 by the SHIP Committee. The I-75 at CR 665/Carbondale Road interchange is located south of downtown Dalton in Whitfield County. Currently CR 665/Carbondale Road in the area has crash rates above the statewide average for similar classified facilities. A map of the proposed project area can be seen below in Figure 1.

Figure 1: Project Limits



Traffic

The Average Annual Daily Traffic (AADT), for two way traffic along CR 665/Carbondale Road in the area of the project in 2010 ranged from 1,980 to 8,980 vehicles per day. The existing Level of Service (LOS) for this section of roadway in 2010 on CR 665/Carbondale Road ranged from a LOS A to a LOS C. Existing capacity of these facilities is able to accommodate the current volumes traversing these intersections based on 2010 AADT (See Table 1 for corridor AADT and LOS). The LOS on CR 665/Carbondale Road in 2037 is projected to be between a LOS A and LOS C. The projected two way traffic along this section of roadway in 2037 is projected to be between 8,190 vehicles per day to a maximum of 14,230 vehicles per day.

Table 1: Adjacent Corridor LOS

CR 665/Carbondale Road	2010 AADT	2037 AADT	LOS 2010	LOS 2037
West of Dug Gap Road	4130	8190	B	C
Dug Gap Road to SB Ramp	4800	9950	B	A
SB Ramp to NB Ramp	6890	14230	C	A
NB Ramp to SR 3	8980	18510	C	B
East of SR 3	1980	3900	A	B

Crash Data

CR 665 is classified as a rural minor arterial. The crash rates for this section of CR 665/Carbondale Road in the area of the proposed project were significantly higher than the statewide average in 2006, 2007 and 2008 (see Table 2 below). During the three years of analysis there were 2- sideswipes, 7- collisions not with a motor vehicle, 11- rear-end collisions, 1- head-on and 8- angle intersects (see below in Table 3). Of the 29 total crashes on the roadway, 38% of all crashes were rear end collisions and 28% were angle intersecting.

Table 2: Crash Totals for CR 665

CR 665	2006	2007	2008
Total Accidents	12	8	9
Accidents per 100 MVMT	503	291	327
Statewide Accidents per 100 MVMT	179	187	181

Table 3: Types of Crashes on CR 665

	Angle Intersect	Rear End	Sideswipe	Head On	Collision Not With a Vehicle	Total By Year By Location
2006	2	8	1	0	1	12
2007	3	1	0	1	3	8
2008	3	2	1	0	3	9
Total By Type	8	11	2	1	7	29

Logical Termini

The termini for this project are logical because the project has independent utility and has no significant adverse effects on the operational conditions of the CR 665/Carbondale Road corridor beyond the boundaries of this project. This project addresses immediate operational needs at the intersections.

Projects in the Area

- CSNHS-0007-00(897), PI # 0007897, I-75 from SR 156 to CR 665/Carbondale Road in Gordon and Whitfield Counties, Preliminary Engineering (PE) is in LR2, ROW is in LR2 and Construction is scheduled in LR2. This project will add one lane in each direction on I-75 from SR 156 to CR 665/Carbondale Road. This project is a capacity project.
- CSNHS-0007-00(898), PI # 0007898, I-75 from CR 665/Carbondale Road to SR 3 in Whitfield County, Preliminary Engineering (PE) is in LR2, ROW is in LR2 and Construction is scheduled in LR2. This project will add one lane in each direction on I-75 from CR 665/Carbondale Road to SR 3. This project is a capacity project.
- STPOO-0001-06(046), PI # 632670, SR 3 from SR 136 to SR 3 Connector in Gordon and Whitfield Counties, Preliminary Engineering (PE) is in LR1, ROW is in LR1 and Construction is scheduled in LR1. This project will add one lane in each direction on SR 3 from SR 136 to SR 3 Connector. This project is a capacity project.

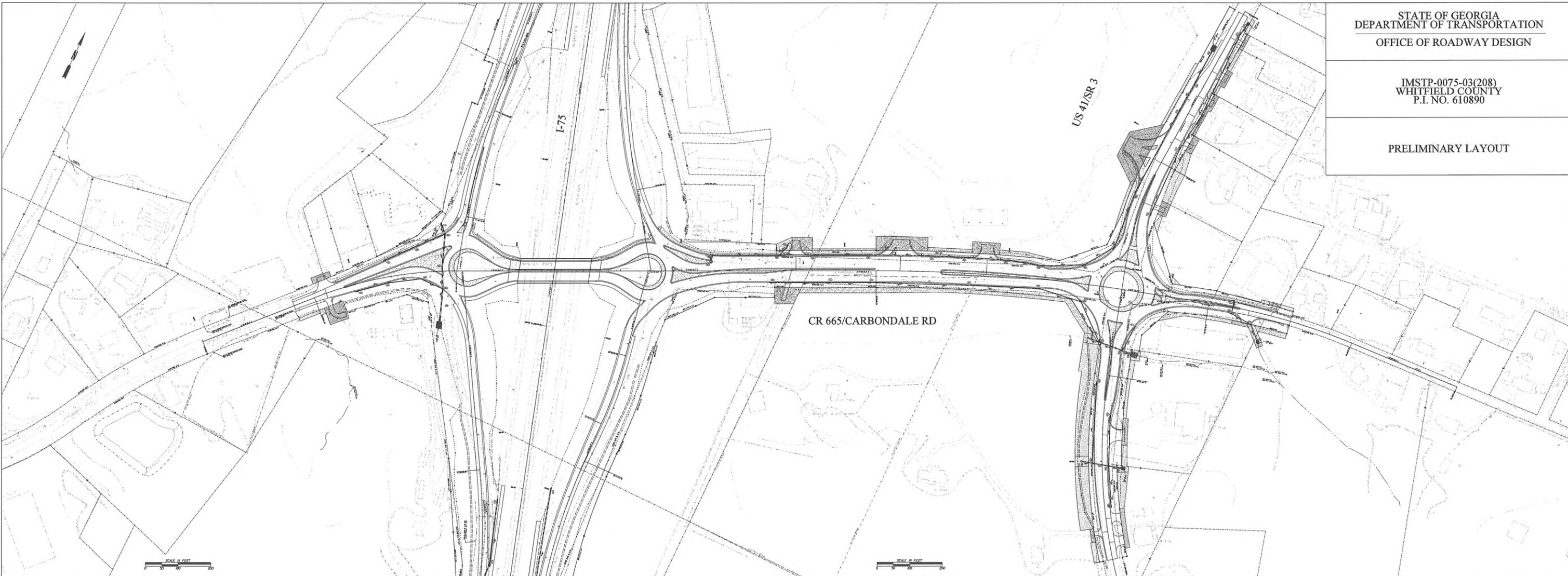
Need and Purpose

The purpose of this project is to improve traffic operations on CR 665/Carbondale Road at the I-75 Interchange.

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF ROADWAY DESIGN

IMSTP-0075-03(208)
WHITEFIELD COUNTY
P.I. NO. 610890

PRELIMINARY LAYOUT



DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE PROJECT No. , , OFFICE

DATE

P.I. No.

FROM *Rogers for*

TO Lisa L. Myers, Acting Project Review Engineer

SUBJECT REVISIONS TO PROGRAMMED COSTS

PROJECT MANAGER

MNGT LET DATE

MNGT R/W DATE

PROGRAMMED COST (TPro W/OUT INFLATION)		LAST ESTIMATE UPDATE	
CONSTRUCTION	\$ <input type="text" value="21,519,00.00"/>	DATE	<input type="text" value="6/29/2009"/>
RIGHT OF WAY	\$ <input type="text" value="10,030,694.81"/>	DATE	<input type="text" value="3/1/2011"/>
UTILITIES	\$ <input type="text" value="515,650.00"/>	DATE	<input type="text" value="6/29/2009"/>

REVISED COST ESTIMATES

CONSTRUCTION*	\$ <input type="text" value="12,116,701.00"/>
RIGHT OF WAY	\$ <input type="text" value="5,315,000.00"/>
UTILITIES	\$ <input type="text" value="502,550.00"/>

* Costs contain > % Engineering and Inspection

REASON FOR COST INCREASE

CONTINGENCY SUMMARY

Construction Cost Estimate:	\$ 11,155,040.00	(Base Estimate)
Engineering and Inspection:	\$ 557,752.00	(Base Estimate x 5 %)
Total Liquid AC Adjustment	\$ 403,909.00	(From attached worksheet)
Construction Total:	\$ 12,116,701	

REIMBURSABLE UTILITY COST

Utility Owner

Reimbursable Cost

North Georgia EMC	\$155,250.00
Dalton Utilities (W&S)	\$347,300.00

Attachments

PROJ. NO.: IMSTP-0075-03(208)

P.I. NO. 610890-

DATE: 3/1/2012

Base Construction Cost		\$	11,155,040
E & I	5%	\$	557,752
Construction Contingency		\$	-
Subtotal Construction Cost		\$	11,712,792
Liquid AC Adjustment (50 % cap)		\$	403,909
Total Construction Cost		\$	12,116,701

DETAILED COST ESTIMATE



Job: 610890_SB

JOB NUMBER: 610890_SB

FED/STATE PROJECT NUMBER IMSTP-0075-03(208)

SPEC YEAR: 01

DESCRIPTION: I-75 @ CR 665 CARBONDALE RD INTERCHANGE RECONSTRUCTION

ITEMS FOR JOB 610890_SB

0010 - ROADWAY

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0005	310-1101	47156.000	TN	\$17.00	GR AGGR BASE CRS, INCL MATL	\$801,776.49
0010	318-3000	500.000	TN	\$19.14	AGGR SURF CRS	\$9,571.02
0015	402-1812	2138.000	TN	\$64.43	RECYL AC LEVELING,INC BM&HL	\$137,760.60
0020	402-3113	1913.000	TN	\$74.31	RECYL AC 12.5MM SP,GP1/2,BM&HL	\$142,155.03
0025	402-3121	10231.000	TN	\$55.97	RECYL AC 25MM SP,GP1/2,BM&HL	\$572,673.37
0030	402-3190	7205.000	TN	\$57.51	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	\$414,376.27
0035	413-1000	9357.000	GL	\$1.47	BITUM TACK COAT	\$13,775.66
0040	433-1000	511.000	SY	\$138.33	REINF CONC APPROACH SLAB	\$70,688.33
0045	436-1000	1425.000	LF	\$9.81	ASPH CONC CURB - A	\$13,973.95
0050	439-0048	1197.000	SY	\$82.00	PLN PC CONC PVMT CL HES 8" THK	\$98,154.00
0055	439-0056	40837.000	SY	\$82.00	PLN PC CONC PVMT CL HES 12"THK	\$3,348,634.00
0060	441-0104	1722.000	SY	\$27.11	CONC SIDEWALK, 4 IN	\$46,687.95
0070	441-0754	3490.000	SY	\$39.80	CONC MEDIAN, 7 1/2 IN	\$138,910.13
0075	441-4020	184.000	SY	\$31.79	CONC VALLEY GUTTER, 6 IN	\$5,849.86
0080	441-4030	2508.000	SY	\$34.08	CONC VALLEY GUTTER, 8 IN	\$85,463.96
0085	441-5002	1328.000	LF	\$8.52	CONC HEADER CURB, 6", TP 2	\$11,316.59
0089	441-5011	1187.000	LF	\$11.63	CONC HDR CURB, 6 IN, TP 9A	\$13,807.30
0090	441-6222	7435.000	LF	\$11.99	CONC CURB & GUTTER/ 8"X30"TP2	\$89,156.95
0095	441-6740	6454.000	LF	\$11.40	CONC CURB & GUTTER/ 8"X30" TP7	\$73,577.02
0105	603-7000	295.000	SY	\$3.68	PLASTIC FILTER FABRIC	\$1,085.41
0110	620-0100	16516.000	LF	\$24.70	TEMP BARRIER, METHOD NO. 1	\$407,896.81
0115	620-0200	296.000	LF	\$41.59	TEMP BARRIER, METHOD NO. 2	\$12,311.75
0120	632-0003	4.000	EA	\$10,139.72	CHANGEABLE MESS SIGN,PORT,TP 3	\$40,558.87
0125	634-1200	61.000	EA	\$95.12	RIGHT OF WAY MARKERS	\$5,802.36
0130	641-1100	84.000	LF	\$55.68	GUARDRAIL, TP T	\$4,677.12
0135	641-1200	697.000	LF	\$16.31	GUARDRAIL, TP W	\$11,369.07
0140	641-5001	7.000	EA	\$600.00	GUARDRAIL ANCHORAGE, TP 1	\$4,200.00
0145	641-5012	2.000	EA	\$1,712.60	GUARDRAIL ANCHORAGE, TP 12	\$3,425.19
0150	643-0010	8909.000	LF	\$3.51	FIELD FENCE WOVEN WIRE	\$31,274.96
0160	700-9300	3629.000	SY	\$3.29	SOD	\$11,939.88
SUBTOTAL FOR ROADWAY:						\$6,622,849.90

0020 - BRIDGE

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0228	540-1102	1.000	LS	\$200,000.00	REM OF EX BR, BR NO - 1	\$200,000.00
0165	543-9000	1.000	LS	\$1,454,760.00	CONSTR OF BRIDGE COMPLETE - CARBONDALE RD OVER I-75	\$1,454,760.00
0229	627-1010	3056.000	SF	\$50.00	MSE WALL FACE, 10 - 20 FT HT, WALL NO - 1	\$152,800.00
0230	627-1010	2961.000	SF	\$50.00	MSE WALL FACE, 10 - 20 FT HT, WALL NO - 2	\$148,050.00
SUBTOTAL FOR BRIDGE:						\$1,955,610.00

DETAILED COST ESTIMATE



Job: 610890_SB

0030 - DRAINAGE

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0233	441-0050	47.000	SY	\$42.95	CONC SLOPE DRAIN	\$2,018.65
0237	441-0301	2.000	EA	\$2,231.14	CONC SPILLWAY, TP 1	\$4,462.27
0238	441-0303	1.000	EA	\$1,882.62	CONC SPILLWAY, TP 3	\$1,882.62
0239	500-3200	1.000	CY	\$180.41	CL B CONC	\$180.41
0240	500-3800	17.000	CY	\$544.44	CL A CONC, INCL REINF STEEL	\$9,255.48
0245	550-1180	3195.000	LF	\$28.53	STM DR PIPE 18",H 1-10	\$91,140.44
0249	550-1180	94.000	LF	\$28.53	STM DR PIPE 18",H 1-10 TEMPORARY DRAINAGE PIPE	\$2,681.44
0250	550-1240	1873.000	LF	\$35.19	STM DR PIPE 24",H 1-10	\$65,902.76
0254	550-1240	273.000	LF	\$37.44	STM DR PIPE 24",H 1-10 TEMPORARY DRAINAGE PIPE	\$10,220.19
0255	550-1300	1061.000	LF	\$42.70	STM DR PIPE 30",H 1-10	\$45,299.80
0260	550-1360	278.000	LF	\$56.80	STM DR PIPE 36",H 1-10	\$15,791.38
0235	550-3324	1.000	EA	\$505.94	SAFETY END SECTION 24",STD,4:1	\$505.94
0234	550-3518	1.000	EA	\$550.53	SAFETY END SECTION 18",STD,6:1	\$550.53
0265	550-4218	2.000	EA	\$465.78	FLARED END SECT 18 IN, ST DR	\$931.57
0270	550-4224	2.000	EA	\$534.85	FLARED END SECT 24 IN, ST DR	\$1,069.70
0275	550-4230	4.000	EA	\$572.01	FLARED END SECT 30 IN, ST DR	\$2,288.04
0282	603-2036	137.000	SY	\$57.41	STN DUMPED RIP RAP, TP 1, 36"	\$7,865.63
0283	603-2180	42.000	SY	\$48.98	STN DUMPED RIP RAP, TP 3, 12"	\$2,057.34
0284	603-2182	117.000	SY	\$37.82	STN DUMPED RIP RAP, TP 3, 24"	\$4,424.70
0285	668-1100	34.000	EA	\$1,942.00	CATCH BASIN, GP 1	\$66,028.00
0290	668-1110	20.000	LF	\$159.37	CATCH BASIN, GP 1, ADDL DEPTH	\$3,187.39
0295	668-2100	10.000	EA	\$1,775.38	DROP INLET, GP 1	\$17,753.80
0304	668-2100	1.000	EA	\$1,680.65	DROP INLET, GP 1 TEMPORARY STRUCTURE	\$1,680.65
0300	668-2110	17.000	LF	\$152.49	DROP INLET, GP 1, ADDL DEPTH	\$2,592.28
0305	668-5000	4.000	EA	\$1,675.33	JUNCTION BOX	\$6,701.33
0307	668-5000	1.000	EA	\$1,675.33	JUNCTION BOX TEMPORARY STRUCTURE	\$1,675.33
0308	668-8012	138.000	SF	\$60.96	SAFETY GRATE, TP 2	\$8,412.99
0309	668-8013	98.000	SF	\$62.56	SAFETY GRATE, TP 3	\$6,130.55
SUBTOTAL FOR DRAINAGE:						\$382,691.21

0040 - LIGHTING

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0310	500-3800	228.000	CY	\$634.99	CL A CONC, INCL REINF STEEL	\$144,778.59
0315	511-1000	24450.000	LB	\$0.60	BAR REINF STEEL	\$14,592.49
0320	681-4356	15.000	EA	\$2,265.00	LT STD, 35' MH, 15' ARM	\$33,975.00
0325	681-6246	15.000	EA	\$278.00	LUMINAIRE, TP 2, 250W,HP SODIUM	\$4,170.00
0330	681-6620	12.000	EA	\$540.00	LUMINAIRE, TP A, 150W,HP SODIUM	\$6,480.00
0335	682-1404	4500.000	LF	\$0.63	CABLE, TP XHHW, AWG NO 10	\$2,826.09
0340	682-1407	20400.000	LF	\$1.72	CABLE, TP XHHW, AWG NO 4	\$35,104.12
0345	682-1408	40800.000	LF	\$2.25	CABLE, TP XHHW, AWG NO 2	\$91,852.22
0350	682-6108	1350.000	LF	\$6.03	CONDUIT, RIGID, 3/4 IN	\$8,141.00
0355	682-6120	180.000	LF	\$12.51	CONDUIT, RIGID, 2 IN	\$2,251.14
0360	682-6222	18600.000	LF	\$6.00	CONDUIT, NONMETL, TP 2, 2 IN	\$111,600.00
0365	682-9010	6.000	EA	\$7,377.41	SVC POLE RISER	\$44,264.46
0370	682-9020	12.000	EA	\$891.57	ELEC JCT BOX	\$10,698.84
0375	682-9023	12.000	EA	\$403.67	ELEC JCT BX,GALVANIZED, SIZE -	\$4,844.00
0380	683-1101	12.000	EA	\$14,677.05	LIGHT TOW/STEL/100'MH/LW EQUIP	\$176,124.56
0385	683-1110	6.000	EA	\$19,544.00	LIGHT TOW/STEL/110'MH/LW EQUIP	\$117,264.00
0390	683-1125	3.000	EA	\$20,240.00	LIGHT TOW/STEL/130'MH/LW EQUIP	\$60,720.00
0395	683-6566	216.000	EA	\$601.28	HI-LEVEL LUMIN,TP 5,400W,HPSOD	\$129,877.20
0400	683-9025	3.000	EA	\$3,760.52	LOWERING DEVICE POWER SUPPLY UNIT	\$11,281.57
SUBTOTAL FOR LIGHTING:						\$1,010,845.28

DETAILED COST ESTIMATE



Job: 610890_SB

0050 - SIGNING AND MARKING

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0405	500-3101	2.000	CY	\$378.76	CLASS A CONCRETE	\$757.52
0760	636-1020	264.000	SF	\$13.19	HWY SGN,TP1MAT,REFL SH TP3	\$3,483.20
0765	636-1029	24.000	SF	\$15.33	HWY SGN,TP2 MATL,REFL SH TP 3	\$367.93
0770	636-1033	320.000	SF	\$18.55	HWY SIGNS, TP1MAT,REFL SH TP 9	\$5,936.58
0775	636-1041	80.000	SF	\$25.70	HWY SIGNS,TP 2MAT,REFL SH TP 9	\$2,055.61
0780	636-2070	1337.000	LF	\$7.00	GALV STEEL POSTS, TP 7	\$9,357.29
0785	636-2080	96.000	LF	\$9.18	GALV STEEL POSTS, TP 8	\$880.87
0790	636-2090	26.000	LF	\$8.17	GALV STEEL POSTS, TP 9	\$212.37
0795	636-3010	6.000	EA	\$535.53	GROUND-MOUNTED BREAKAWAY SIGN SUPPORT	\$3,213.20
0800	652-0210	4.000	EA	\$41.61	PAVEMENT MARKING, WORD, TP 1	\$166.43
0805	653-0110	20.000	EA	\$67.29	THERM PVMT MARK, ARROW, TP 1	\$1,345.75
0810	653-0120	18.000	EA	\$66.89	THERM PVMT MARK, ARROW, TP 2	\$1,204.04
0815	653-0130	7.000	EA	\$83.70	THERM PVMT MARK, ARROW, TP 3	\$585.91
0830	653-1501	21087.000	LF	\$0.32	THERMO SOLID TRAF ST 5 IN, WHI	\$6,685.42
0845	653-1502	16604.000	LF	\$0.31	THERMO SOLID TRAF ST, 5 IN YEL	\$5,123.99
0825	653-1704	161.000	LF	\$4.12	THERM SOLID TRAF STRIPE,24",WH	\$663.01
0820	653-1804	407.000	LF	\$1.89	THERM SOLID TRAF STRIPE, 8",WH	\$769.05
0850	653-1810	1601.000	LF	\$1.30	THER SLD TRAF STRIPE, 10 IN, W	\$2,085.25
0835	653-3501	5707.000	GLF	\$0.21	THERMO SKIP TRAF ST, 5 IN, WHI	\$1,212.68
0840	653-3804	815.000	GLF		THERM SKIP TRAF STRIPE, 8",WH	
0855	653-6004	336.000	SY	\$3.05	THERM TRAF STRIPING, WHITE	\$1,024.22
0575	654-1001	228.000	EA	\$3.42	RAISED PVMT MARKERS TP 1	\$780.22
0580	654-1003	630.000	EA	\$3.40	RAISED PVMT MARKERS TP 3	\$2,142.00
0870	657-1054	450.000	LF	\$4.22	PRF PL SD PVMT MKG,5",WH,TP PB	\$1,896.88
0860	657-3054	488.000	GLF	\$2.00	PRF PL SK PVMT MKG,5",WH,TP PB	\$976.00
0865	657-6054	450.000	LF	\$4.37	PRF PL SD PVMT MKG,5",YW,TP PB	\$1,965.90
SUBTOTAL FOR SIGNING AND MARKING:						\$54,891.32

0060 - PERMANENT EROSION CONTROL

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0635	163-0240	487.000	TN	\$171.98	MULCH	\$83,755.54
0640	167-1000	2.000	EA	\$244.27	WATER QUALITY MONITORING AND SAMPLING	\$488.55
0645	167-1500	24.000	MO	\$216.67	WATER QUALITY INSPECTIONS	\$5,200.00
0650	700-6910	26.000	AC	\$596.14	PERMANENT GRASSING	\$15,499.58
0655	700-7000	78.000	TN	\$48.18	AGRICULTURAL LIME	\$3,758.19
0665	700-8000	49.000	TN	\$376.39	FERTILIZER MIXED GRADE	\$18,443.23
0670	700-8100	1300.000	LB	\$2.07	FERTILIZER NITROGEN CONTENT	\$2,690.87
0675	710-9000	1578.000	SY	\$3.15	PERM SOIL REINFORCING MAT	\$4,972.50
0680	716-2000	70737.000	SY	\$0.89	EROSION CONTROL MATS, SLOPES	\$62,604.37
SUBTOTAL FOR PERMANENT EROSION CONTROL:						\$197,412.83

0070 - TEMPORARY EROSION CONTROL

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0685	163-0232	13.000	AC	\$175.00	TEMPORARY GRASSING	\$2,275.00
0690	163-0300	12.000	EA	\$1,055.29	CONSTRUCTION EXIT	\$12,663.51
0695	163-0503	6.000	EA	\$347.33	CONSTR AND REMOVE SILT CONTROL GATE, TP 3	\$2,083.96
0700	163-0520	129.000	LF	\$15.20	CONSTR AND REMOVE TEMP PIPE SLOPE DRAIN	\$1,961.44
0704	163-0528	3432.000	LF	\$2.84	CONSTR AND REM FAB CK DAM -TP C SLT FN	\$9,754.84
0705	163-0550	44.000	EA	\$76.25	CONS & REM INLET SEDIMENT TRAP	\$3,355.00
0710	165-0030	11897.000	LF	\$0.49	MAINT OF TEMP SILT FENCE, TP C	\$5,864.86
0715	165-0041	3432.000	LF	\$0.82	MAINT OF CHECK DAMS - ALL TYPES	\$2,806.04
0720	165-0087	6.000	EA	\$123.74	MAINT OF SILT CONTROL GATE, TP 3	\$742.46
0725	165-0101	24.000	EA	\$336.61	MAINT OF CONST EXIT	\$8,078.55
0730	171-0030	11897.000	LF	\$2.73	TEMPORARY SILT FENCE, TYPE C	\$32,485.71
SUBTOTAL FOR TEMPORARY EROSION CONTROL:						\$82,071.32

DETAILED COST ESTIMATE



Job: 610890_SB

0080 - MISCELLANEOUS

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0735	150-1000	1.000	LS	\$223,000.00	TRAFFIC CONTROL - IMSTP-0075-03(189)	\$223,000.00
0740	153-1300	1.000	EA	\$52,765.84	FIELD ENGINEERS OFFICE TP 3	\$52,765.84
0745	201-1500	1.000	LS	\$182,000.00	CLEARING & GRUBBING - IMSTP-0075-03(189)	\$182,000.00
0750	205-0001	58800.000	CY	\$5.02	UNCLASS EXCAV	\$295,371.80
0755	206-0002	30983.000	CY	\$3.08	BORROW EXCAV, INCL MATL	\$95,530.81
SUBTOTAL FOR MISCELLANEOUS:						\$848,668.45

TOTALS FOR JOB 610890_SB

ITEMS COST:	\$11,155,040.36
COST GROUP COST:	\$0.00
ESTIMATED COST:	\$11,155,040.36
CONTINGENCY PERCENT:	0.00
ENGINEERING AND INSPECTION:	0.00
ESTIMATED COST WITH CONTINGENCY AND E&I:	\$11,155,040.36

PROJ. NO.

IMSTP-0075-03(208)

CALL NO.

P.I. NO.

610890-

DATE

3/1/2012

INDEX (TYPE)

REG. UNLEADED

Feb-12

INDEX

DIESEL

LIQUID AC

\$ 604.00

Link to Fuel and AC Index:

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

LIQUID AC ADJUSTMENTS

PA=[((APM-APL)/APL)]xTMTxAPL

Asphalt

Price Adjustment (PA)

389344.44

\$

389,344.44

Monthly Asphalt Cement Price month placed (APM)

Max. Cap

60%

\$ 966.40

Monthly Asphalt Cement Price month project let (APL)

\$ 604.00

Total Monthly Tonnage of asphalt cement (TMT)

1074.35

ASPHALT	Tons	%AC	AC ton
Leveling	2138	5.0%	106.9
12.5 mm SMA		5.0%	0
12.5 mm PEM		5.0%	0
12.5 mm SP	1913	5.0%	95.65
25 mm SP	10231	5.0%	511.55
19 mm SP	7205	5.0%	360.25
	21487		1074.35

BITUMINOUS TACK COAT

Price Adjustment (PA)

\$ 14,564.59

\$

14,564.59

Monthly Asphalt Cement Price month placed (APM)

Max. Cap

60%

\$ 966.40

Monthly Asphalt Cement Price month project let (APL)

\$ 604.00

Total Monthly Tonnage of asphalt cement (TMT)

40.18925933

Bitum Tack

Gals	gals/ton	tons
9357	232.8234	40.1892593

PROJ. NO.

IMSTP-0075-03(208)

CALL NO.

P.I. NO.

610890-

DATE

3/1/2012

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)						0	\$	-
Monthly Asphalt Cement Price month placed (APM)		Max. Cap	60%	\$	966.40			
Monthly Asphalt Cement Price month project let (APL)				\$	604.00			
Total Monthly Tonnage of asphalt cement (TMT)					0			

Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.		0.20	0	232.8234	0
Double Surf.Trmt.		0.44	0	232.8234	0
Triple Surf. Trmt		0.71	0	232.8234	0
					0

TOTAL LIQUID AC ADJUSTMENT	\$	403,909.03
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Department of Transportation

State of Georgia

Interdepartmental Correspondence

FILE R/W Cost Estimate **OFFICE** Atlanta
DATE February 8, 2012

FROM Phil Copeland, Right of Way Administrator
LaShone Alexander, Right of Way Cost Estimator

TO Terry Rogers, Associate Project Manager

SUBJECT **Preliminary Right of Way Cost Estimate**
Project: IMSTP-0075-03(208) Whitfield County
P.I. No.: 610890
Description: Interchange Construction

As per your request, attached is a copy of the approved Preliminary Right of Way Cost Estimates on the above referenced projects.

If you have any questions, please contact LaShone Alexander at One Georgia Center 600 West Parkway Street, NW Atlanta, GA 30308, Right of Way Office at (478) 553-1569 or (478) 232-4045.

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PC:LA
Attachments
c: File

**GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY**

Date: 2/8/2012 Project: IMSTP-0075-03(208)
 Revised: County: Whitfield County
 PI: 610890

Description: Interchange Construction
 Project Termini: Interchange Construction

Existing ROW: Varies
 Required ROW: Varies

Parcels: 27

Land and Improvements \$4,491,562.50

Proximity Damage	\$250,000.00
Consequential Damage	\$0.00
Cost to Cures	\$325,000.00
Trade Fixtures	\$0.00
Improvements	\$1,750,000.00

Valuation Services \$46,250.00

Legal Services \$205,725.00

Relocation \$194,000.00

Demolition \$130,000.00

Administrative \$246,500.00

TOTAL ESTIMATED COSTS \$5,314,037.50

TOTAL ESTIMATED COSTS (ROUNDED) \$5,315,000.00

Preparation Credits	Hours	Signature

Prepared By: Lashone Alexander CG#: 286999 02/08/2012
 Approved By: Lashone Alexander CG#: 286999 02/08/2012

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE IMSTP-0075-03(208) Whitfield Co. OFFICE Cartersville
I-75/SR 401 Interchange Reconstruction
at Carbondale Rd. DATE February 7, 2012
P. I. No. 610890-

FROM  Kerry D. Bonner
District Utilities Engineer

TO Bobby Hilliard, P.E., Office of Program Delivery
ATTN Terry Rogers, Project Manager

SUBJECT UPDATED UTILITY COST ESTIMATE

As requested by your office, we are furnishing you with an Updated Utility Cost estimates for each utility with facilities potentially located within the project limits.

FACILITY OWNER	NON-REIMBURSABLE	REIMBURSABLE
Windstream Comm.	\$ 23,000.00	
Dalton Utilities Gas	\$ 98,900.00	
North Georgia EMC	\$ 39,100.00	\$ 155,250.00
Dalton Utilities (W&S)	\$ 492,200.00	\$ 347,300.00
Charter Communications	\$ 23,420.00	
Totals	\$ 676,620.00	\$ 502,550.00

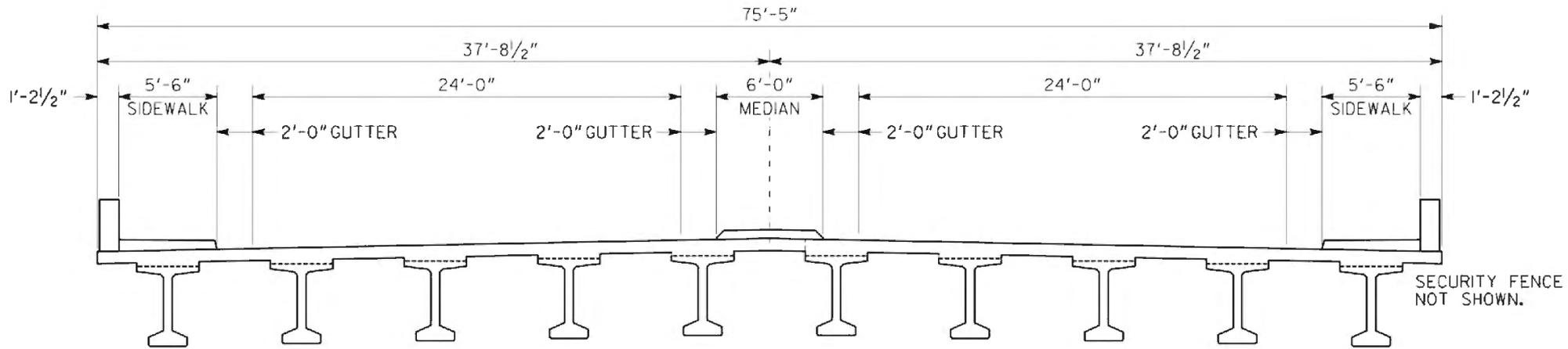
Total Preliminary Utility Cost Estimate \$ 1,179,170.00

If you have any questions, please contact Jennifer Deems at 770-387-3616.

KDB/jd

C: Jeff Baker, P. E., State Utilities Engineer (via e:mail)
File/Estimating Book

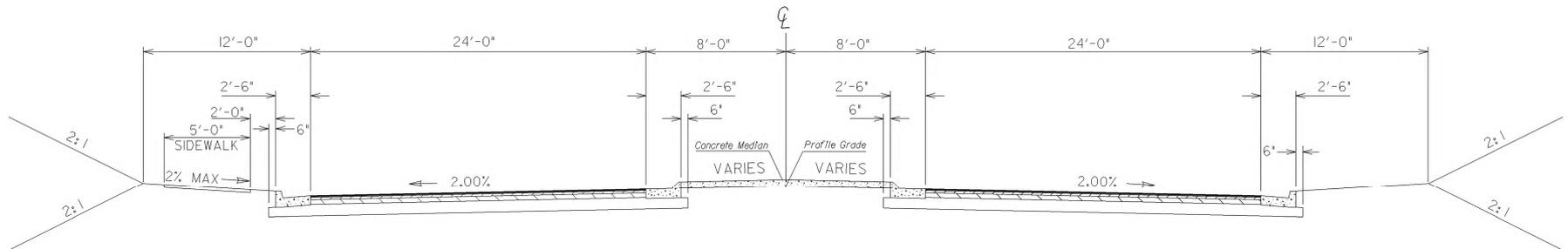
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	IMSTP-0075-03(208)		



BRIDGE TYPICAL SECTION
LOOKING AHEAD

DRAWING NO. 35-01		BRIDGE SHEET 1 OF 1		BRIDGE NO. 1 GEORGIA DEPARTMENT OF TRANSPORTATION ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES TYPICAL BRIDGE SECTION CR 665 (CARBONDALE ROAD) OVER I-75 WHITFIELD COUNTY IMSTP-0075-03(208)	
DATE 08-24-2011		DESIGNER EJC		CHECKED JRT	
BY EJC		DESIGN GROUP EJC		REVIEWED WEI/RMD	
SCALE: 3/8" = 1'-0"				JUNE 2011	
				APPROVED BFR	

TYPICAL SECTION C.R. 665-CARBONDALE ROAD



TANGENT SECTION WITH NORMAL CROWN

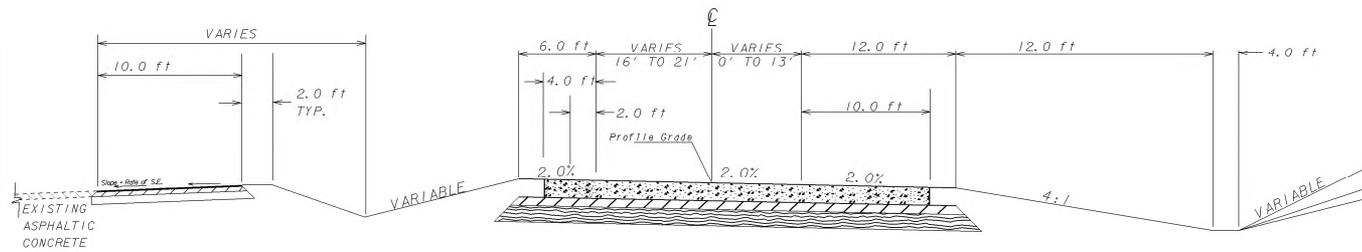
N.T.S.

GEORGIA
DEPARTMENT
OF
TRANSPORTATION

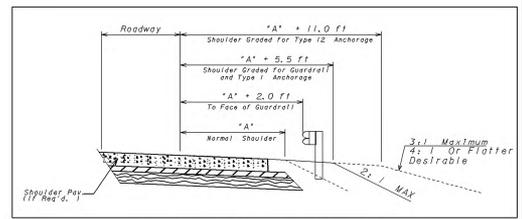
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF ROADWAY DESIGN

PROJECT 1MSTP-0075-03(208)
WHITFIELD COUNTY

TYPICAL SECTION I-75 SHOULDERS TIE-IN & I-75 RAMPS "A"-"D"

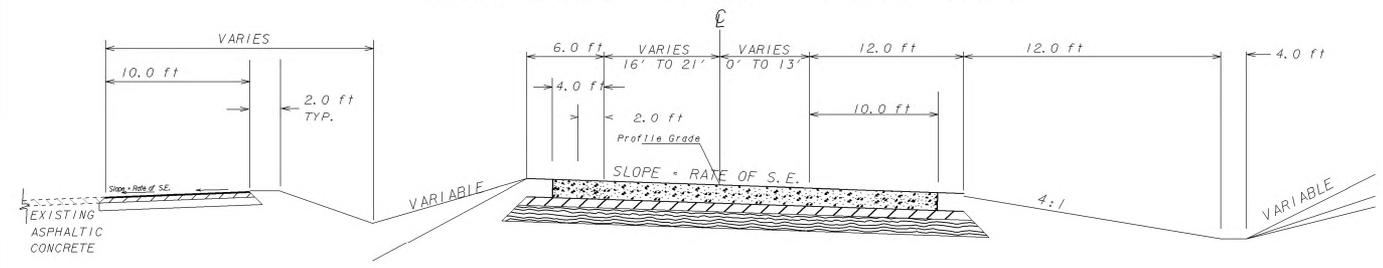


TANGENT SECTION



SHOULDER DETAIL FOR GUARDRAIL

SEE ENTRANCE AND EXIT RAMP CONSTRUCTION DETAILS R2 AND R3



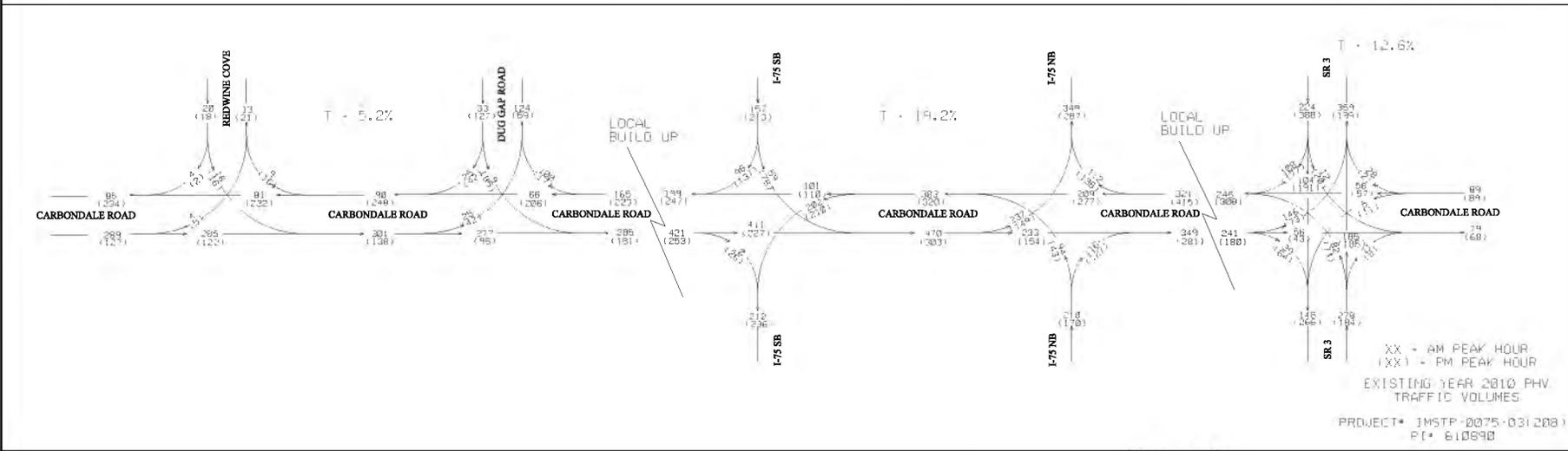
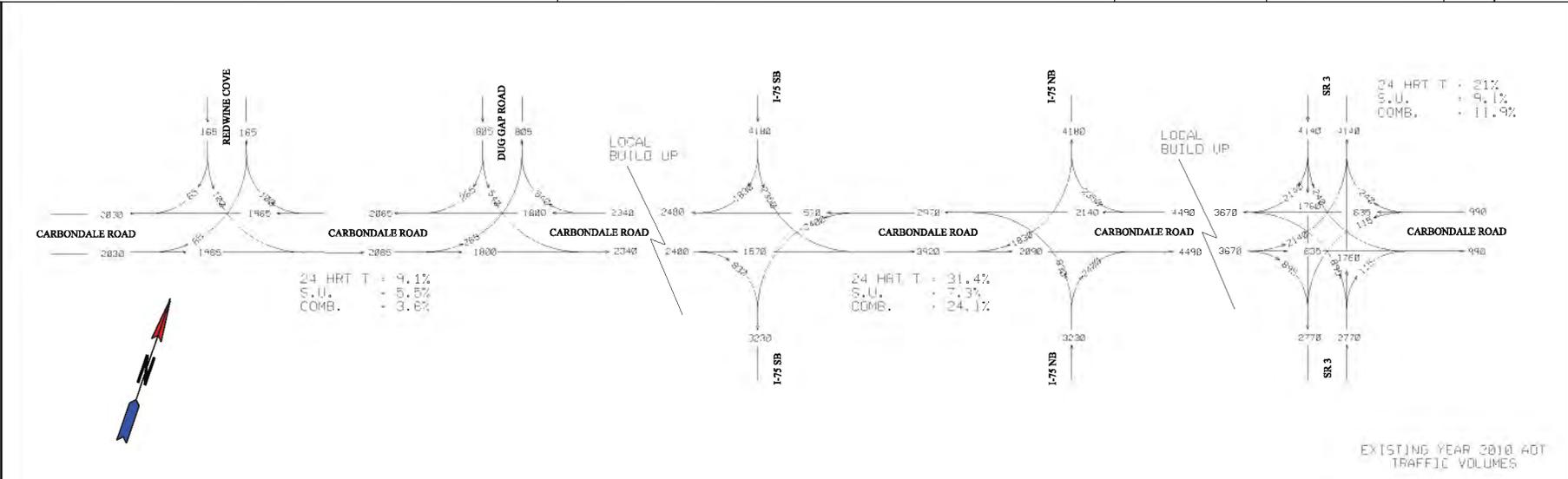
SUPERELEVATED SECTION

N.T.S.

GEORGIA
DEPARTMENT
OF
TRANSPORTATION

REVISION DATES	STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE: ROADWAY DESIGN TYPICAL SECTIONS WHITFIELD COUNTY

DRAWING No.
-



GEORGIA
DEPARTMENT
OF
TRANSPORTATION

URS

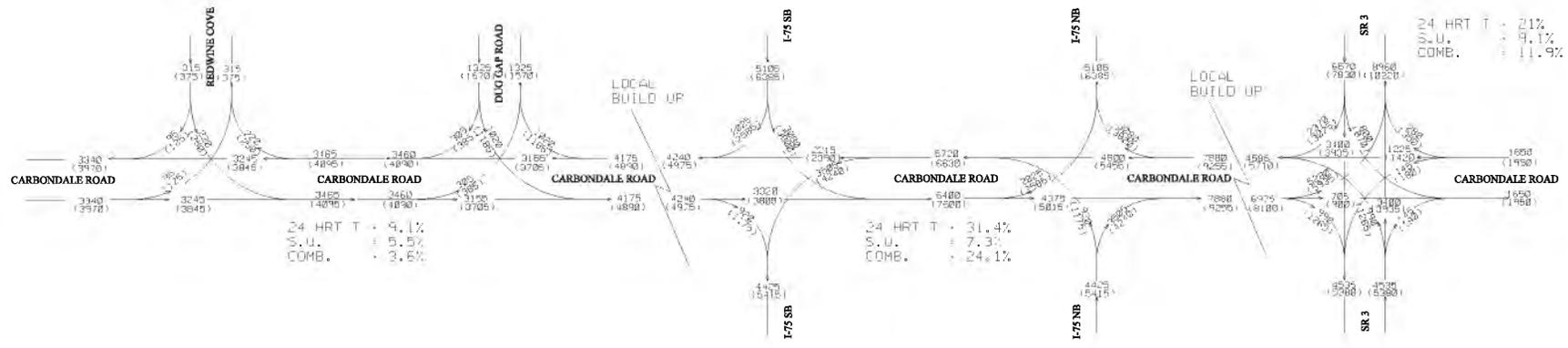
400 NORTH PARK TOWN CENTER
1000 ABERNATHY ROAD, NE
SUITE 900
ATLANTA, GA 30328
PH: (678) 808-8800

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF DESIGN

TRAFFIC DIAGRAM PLAN
I-75 @ CARBONDALE ROAD
INTERCHANGE

DRAWING NO.
10-001



BASE YEAR: 2017 ADT
DESIGN YEAR: 2037 ADT
TRAFFIC VOLUMES
PROJECT: IMSTP-0075-03(208)
PI: 610840

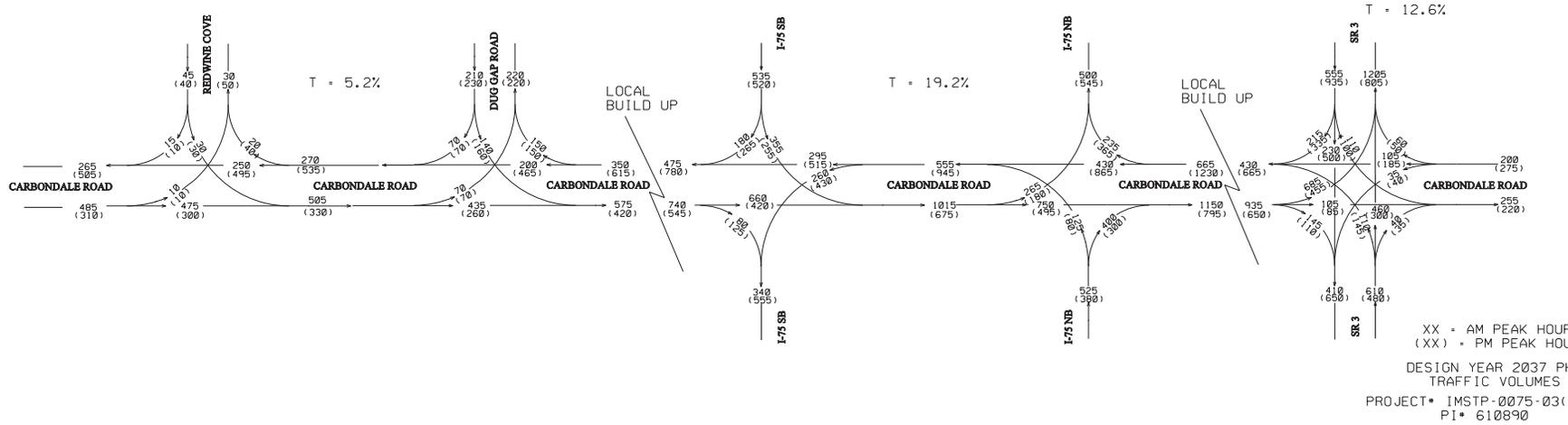
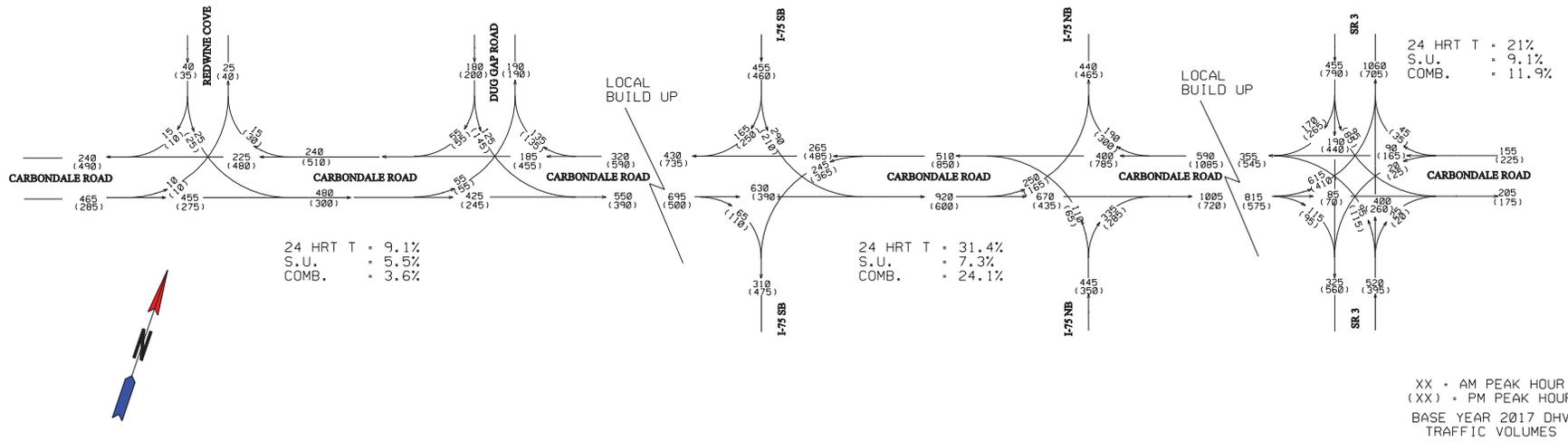
GEORGIA
DEPARTMENT
OF
TRANSPORTATION

URS
400 NORTH PARK TOWN CENTER
1000 ABERNATHY ROAD, NE
SUITE 900
ATLANTA, GA 30328
P.O. (678) 808-8800

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF DESIGN
TRAFFIC DIAGRAM PLAN
I-75 @ CARBONDALE ROAD
INTERCHANGE

DRAWING No.
10-006



GEORGIA
DEPARTMENT
OF
TRANSPORTATION

URS

400 NORTH PARK TOWN CENTER
1000 ABERNATHY ROAD, NE
SUITE 800
ATLANTA, GA 30328
PH. (678) 808-8800

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF DESIGN

TRAFFIC DIAGRAM PLAN
I-75 @ CARBONDALE ROAD
INTERCHANGE

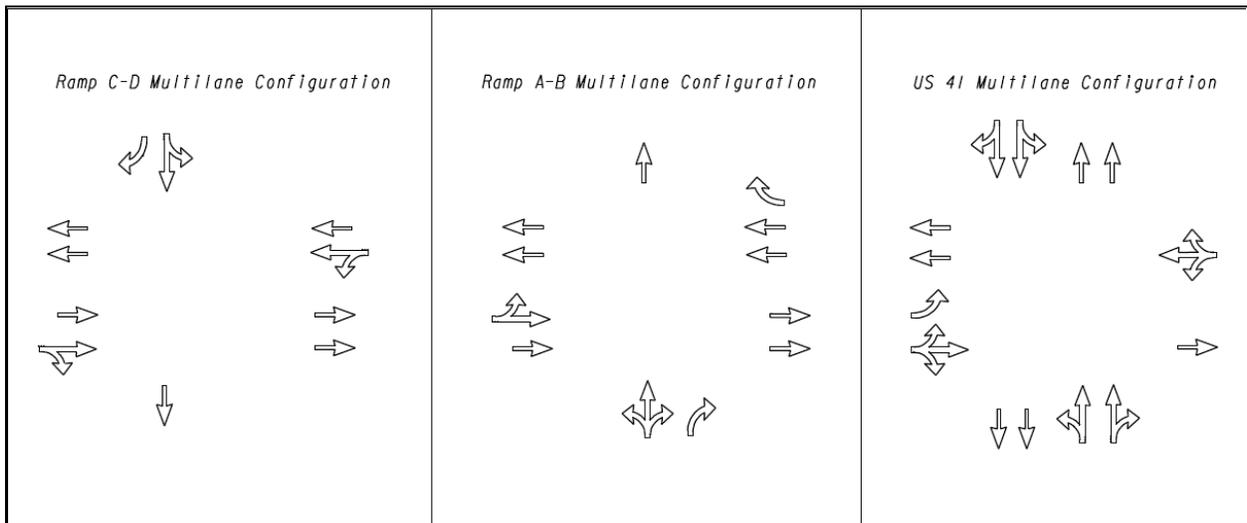
DRAWING No.
10-007

Capacity Analysis Summary

It is recommended that the I-75 Northbound and Southbound ramp intersections at CR 665 have multilane roundabouts installed. Single lane roundabouts were analyzed for the build year for each intersection and found to be deficient at two or more approaches with a LOS F and v/c ratios greater than 1.0. Signal warrant analyses were conducted for both intersections and it was determined that signals were not warranted in the current year. The multilane roundabouts at the I-75 ramps will produce a greater capacity and better operations of the interchange while also satisfying the need and purpose. The installation of roundabouts allows the project termini to tie in quicker along Carbondale Rd, avoids impacts to the Cemetery ESA and eliminates the need for a new location roadway west of the interchange. Preliminary cost and ROW estimates have reduced the project overall cost to 1/3 of the previous design. It is logical to change the end of the project to just west of the interchange along Carbondale Rd due to a substantial reduction in AADT counts.

The intersection at US 41@CR 665 was examined for replacement of the existing signal and installation of a multilane roundabout. The multilane configuration shown below produced an equivalent footprint to the signalized intersection design including signal upgrades required to produce an acceptable level of service. The control delays for a signalized intersection and a multilane roundabout were compared and it was found that the multilane roundabout had a smaller control delay by an average of 10.0 seconds. Due to the better operational performance for an equivalent intersection footprint the US 41@CR 665 intersection was changed to a multilane roundabout.

Figure 1: Multilane Roundabout Configurations used for the capacity analysis.



Intersection @ Carbondale Rd (CR 665)	2017		2037	
	AM	PM	AM	PM
I-75 SB Ramp A-B (Unsignalized)	B	B	B	B
I-75 NB Ramp C-D (Unsignalized)	B	B	A	A
US 41 (Unsignalized)	C	B	B	B

Table 1: Proposed Roundabout Intersection LOS Summary – 2017 HCM 2010 Model/2037 Sidra Model

Intersection @ Carbondale Rd (CR 665)	2017		2037	
	AM	PM	AM	PM
I-75 SB Ramp A-B (Unsignalized)	14.8	13.5	12.1	11.5
I-75 NB Ramp C-D (Unsignalized)	12.9	11.6	9.7	8.6
US 41 (Unsignalized)	15.3	14.6	14.8	13.1

Table 2: Proposed Roundabout Intersection Control Delay Summary – 2017 HCM 2010 Model/2037 Sidra Model

Intersection @ Carbondale Rd (CR 665)	2010	
	AM	PM
I-75 SB Ramp A-B (Unsignalized)	C	C
I-75 NB Ramp C-D (Unsignalized)	E	C
US 41 (Signalized)	B	B

Table 3: Existing conditions intersection LOS Summary

Intersection @ Carbondale Rd (CR 665)	2010	
	AM	PM
I-75 SB Ramp A-B (Unsignalized)	20.6	22.7
I-75 NB Ramp C-D (Unsignalized)	49.2	15.7
US 41 (Signalized)	13.8	12.0

Table 4: Existing conditions intersection Control Delay Summary

Intersection @ Carbondale Rd (CR 665)	2017		2037	
	AM	PM	AM	PM
I-75 SB Ramp A-B (Unsignalized)	F	F	F	F
I-75 NB Ramp C-D (Unsignalized)	F	F	F	F
US 41 (Signalized)	C	B	D	C

Table 5: No Build Alternative Intersection LOS Summary

Intersection @ Carbondale Rd (CR 665)	2017		2037	
	AM	PM	AM	PM
I-75 SB Ramp A-B (Unsignalized)	3632	2913	3542	6040
I-75 NB Ramp C-D (Unsignalized)	1385	772	2280	1774
US 41 (Signalized)	25.3	18.3	50.9	30.4

Table 6: No Build Alternative Intersection Control Delay Summary

Intersection @ Carbondale Rd (CR 665)	2017		2037	
	AM	PM	AM	PM
I-75 SB Ramp A-B	C	C	C	C
I-75 NB Ramp C-D	C	B	C	C
US 41	C	C	D	C

Table 7: LOS summary for comparable signalized intersection designs – Unsignalized rating table used.

Intersection @ Carbondale Rd (CR 665)	2017		2037	
	AM	PM	AM	PM
I-75 SB Ramp A-B	B	B	B	C
I-75 NB Ramp C-D	B	B	C	B
US 41	C	C	C	C

Table 8: LOS summary for comparable signalized intersection designs – Signalized rating table used.

Intersection @ Carbondale Rd (CR 665)	2017		2037	
	AM	PM	AM	PM
I-75 SB Ramp A-B	B	B	B	B
I-75 NB Ramp C-D	B	B	A	A
US 41	B	B	B	B

Table 9: LOS summary for roundabout intersection designs – Signalized rating table used.

GT

RECEIVED
D.O T. GENERAL FILES
2008 APR 17 PM 1:21

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: IM-STP-75-3(208) Whitfield
P. I. No.: 610890
I-75 Interchange at CR 665/Carbondale Road

OFFICE: Engineering Services

DATE: February 25, 2008

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

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
RIGHT OF WAY				
A-1	Shorten Project Limits	\$826,200	No	The VE Alignment would force a horizontal curve superelevation transition on the bridge as well as a zero percent cross slope which is not desirable. In addition, the Environmental Document as well as the BFI, Bridge Hydraulic Study and many other items would need to be re-done.
A-2	Decrease number of lanes on the west side of the project	\$581,500	No	The proposed alignment and typical section transitions from 4 lanes to 2 lanes as soon as possible after the Old Carbondale Road intersection.
BRIDGES				
B-1	Realign crossing of RR and Swamp Creek to the south	\$486,000	No	This goes along with "A-1" and would have the same zero percent cross slope and superelevation transition issues.

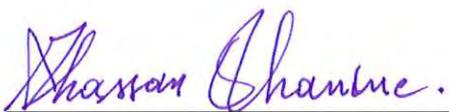
ALT No.	Description	Savings PW & LCC	Implement	Comments
BRIDGES - continued				
B-3	Reduce the width of the I-75 Bridge from 6 lanes to 5 lanes	\$140,000	No	Based on traffic volumes and the amount of truck traffic (27%) separate left turn lanes are needed in each direction because of the storage length that is required.
B-4	Use MSE Walls in lieu of end span/end roll	\$389,000	Yes	This should be done.
B-4.1	Use MSE Walls and minimize I-75 spans for outside widening	\$620,000	No	Since B-4 is being implemented this one is no longer applicable.
B-4.2	Use MSE Walls and minimize I-75 spans using inside widening	\$806,000	No	Since B-4 is being implemented this one is no longer applicable.
B-5	Eliminate 54" Bulb Tee Beams and use Type III Beams	\$11,400	No	The costs for re-design would negate the cost savings.
ASPHALT PAVING				
C-1	Widen future mainline lanes on the inside and reduce the ramp taper length	\$1,372,000	Yes	This should be done.
EARTHWORK				
D-1	Revise profile to reduce Earthwork	\$849,800	Yes	This should be done.

A meeting was held on January 29, 2008 to discuss the above recommendations. Brent Story, Jason McCook, Fletcher Miller, Jan Lystad, and Peter Emmanuel with Road Design, and Brian Summers and Ron Wishon with Engineering Services were in attendance.

Additional information was provided by the Design Office on January 29, 2008, February 8, 2008, and February 25, 2008.

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

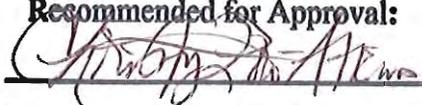
Approved:  Date: ~~29~~ 3/2/08
Gerald M. Ross, P. E., Chief Engineer

Approved:  Date: 4/10/08
for Rodney Barry, P.E., FHWA Division Administrator

BKS/REW

Attachments

- c: Gus Shanine
Christy Poon-Atkins
Todd Long
Brent Story
Paul Liles
Jason McCook
Fletcher Miller
Peter Emmanuel
Jan Lystad
Jenny Harris-Dunham
James Magnus
Kenny Beckworth
Ken Werho
Nabil Raad
Paul DeNard
Paul Condit
Lisa Myers

Recommended for Approval:
 4-10-08
Federal Highway Administration

Wishon, Ron

From: Miller, Fletcher
Sent: Monday, February 25, 2008 10:46 AM
To: Wishon, Ron
Subject: RE: IM-STP-75-3(208) Whitfield County P.I. No. 610890 - VE Study Implementation

Ron,

We voted on B-4 over B-4.1 and B-4.2 because the alternate provided a cost savings benefit without either reducing clear zone (B-4.1) or reducing clear zone and preventing future outside widening (B-4.2). Part of our decision was to keep the future option open for widening to the outside.

Only one of the three can be chosen for cost savings. If we vote "Yes" on either of the other two then we have to vote "No" on the remaining two.

By not voting on B-4.1, the cost savings lost is \$231,000, not \$620,000. By not voting on B-4.2, the cost savings lost is \$417,000, not \$806,000. The Implementation letter can appear to be misleading of these facts.

Thanks,

Fletcher C. Miller, P.E.
Design Group Manager
Office of Road & Airport Design
Georgia Department of Transportation
(404) 656-5383

From: Wishon, Ron
Sent: Monday, February 25, 2008 9:57 AM
To: Miller, Fletcher
Subject: RE: IM-STP-75-3(208) Whitfield County P.I. No. 610890 - VE Study Implementation

Fletcher:

Gerald sent the VE Implementation Letter back to us unsigned at the end of last week and wanted us to explain B4-1 and B4-2 better or in more detail as to why we did not vote to implement. Attached is what I sent down. Can you give a more detailed response for these two VE Alternatives? Thanks!

Ron

From: Wishon, Ron
Sent: Friday, February 08, 2008 12:41 PM
To: Miller, Fletcher
Cc: Summers, Brian; Myers, Lisa
Subject: RE: IM-STP-75-3(208) Whitfield County P.I. No. 610890 - VE Study Implementation

Fletcher:

Just following up on this --- did you ever get updated information on this one?

Ron

From: Miller, Fletcher
Sent: Tuesday, January 29, 2008 12:08 PM
To: Wishon, Ron

Cc: Summers, Brian; Story, Brent; McCook, Jason; Emmanuel, Peter; Cashin, Ted
Subject: IM-STP-75-3(208) Whitfield County P.I. No. 610890 - VE Study Implementation

Ron,

Alternative B-4: To protest implementation, Bridge Design has been requested to provide a cost estimate comparison for the alternative by 2/5/08.

Alternative C-1: After the VE Study Implementation meeting this morning, Peter and I discovered another reason for implementing the suggested alternative. A ditch/stream on one of the ramps will be less impacted with implementation. Also, the original cost savings of \$1,372,000 did not include ROW cost savings. Therefore, we will implement this alternative as discussed. We will not provide any additional savings versus cost comparisons for this alternative.

Fletcher C. Miller, P.E.
Design Group Manager
Office of Road & Airport Design
Georgia Department of Transportation
(404) 656-5383

Wishon, Ron

From: Miller, Fletcher
Sent: Friday, February 08, 2008 12:55 PM
To: Wishon, Ron
Cc: Summers, Brian; Myers, Lisa
Subject: FW: IM-STP-75-3(208) Whitfield County P.I. No. 610890 - VE Study Implementation

Alternative B-4 should be implemented based on no additional protest from Bridge Design.

Fletcher C. Miller, P.E.
Design Group Manager
Office of Road & Airport Design
Georgia Department of Transportation
(404) 656-5383

From: Cashin, Ted
Sent: Tuesday, January 29, 2008 1:40 PM
To: Miller, Fletcher
Cc: Ingalsbe, Bill; Emmanuel, Peter
Subject: RE: IM-STP-75-3(208) Whitfield County P.I. No. 610890 - VE Study Implementation

We don't have anything to add to our response. Thanks for keeping us in the loop.

Ted Cashin
Bridge Design Group Leader
Georgia DOT, Office of Bridge Design
(404)-656-5302
(404)-651-7076 fax

Please note I have a new e-mail address:
tcashin@dot.ga.gov

From: Miller, Fletcher
Sent: Tuesday, January 29, 2008 11:47 AM
To: Cashin, Ted
Cc: Ingalsbe, Bill; Emmanuel, Peter
Subject: IM-STP-75-3(208) Whitfield County P.I. No. 610890 - VE Study Implementation

Ted,

As we discussed today, Engineering Services has asked for cost estimate comparison for the subject VE Study Alternate B-4, which stated:

Use MSE walls in lieu of end span/end roll with slope paving. The alternative concept allows for the elimination of the end spans using MSE walls. The two center spans increase to 106 feet each. The total net savings for the option is \$389,000.

Your response was:

MSE wall abutments are generally not recommended by Bridge Design for a number of reasons including losing the ability to add future lanes, utilities or drainage in the end spans. If MSE walls are to be utilized, they must be set back far enough to allow longitudinal drainage along I-75. This drainage cannot be piped behind the MSE wall since it would conflict with the straps. The walls are estimated at 20' high, but if they turn out to be 24' high to get to the bottom of

the wall below the ditch, the wall area would increase by 27% and the savings would dwindle from \$389,000 to \$304,000.

At the VE Study Implementation meeting today, Engineering Services tentatively directed the implementation of Alternative B-4, unless a cost estimate comparison can be provided. Please provide this cost estimate comparison to me by February 5th.

Thanks,

Fletcher C. Miller, P.E.
Design Group Manager
Office of Road & Airport Design
Georgia Department of Transportation
(404) 656-5383

Wishon, Ron

From: Miller, Fletcher
Sent: Tuesday, January 29, 2008 12:08 PM
To: Wishon, Ron
Cc: Summers, Brian; Story, Brent; McCook, Jason; Emmanuel, Peter; Cashin, Ted
Subject: IM-STP-75-3(208) Whitfield County P.I. No. 610890 - VE Study Implementation

Ron,

Alternative B-4: To protest implementation, Bridge Design has been requested to provide a cost estimate comparison for the alternative by 2/5/08.

Alternative C-1: After the VE Study Implementation meeting this morning, Peter and I discovered another reason for implementing the suggested alternative. A ditch/stream on one of the ramps will be less impacted with implementation. Also, the original cost savings of \$1,372,000 did not include ROW cost savings. Therefore, we will implement this alternative as discussed. We will not provide any additional savings versus cost comparisons for this alternative.

Fletcher C. Miller, P.E.
Design Group Manager
Office of Road & Airport Design
Georgia Department of Transportation
(404) 656-5383

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE	IM-STP-75-3(208) Whitfield County P.I. No. 610890 I-75 Interchange at CR665/Carbondale Road	OFFICE	Road Design
		DATE	December 27, 2007

FROM 
Brent A. Story, P.E., State Road and Airport Design Engineer

TO Brian Summers, P.E., Project Review Engineer
Attn: Lisa Myers, Design Review Engineer Manager/VE Coordinator

SUBJECT **VE Study: Responses to Recommendations**

These are the responses to the Value Engineering Alternatives recommended by the Value Engineering Team:

Recommendation Highlights

Recommendation A-1: Shorten project limits on Carbondale Road

This recommendation includes shifting the alignment of the bridge to the south of the existing railroad trestle crossing of Swamp Creek and the RR. This allows for a shorter segment for Carbondale and a shorter connection on Old Dug Gap Road. Cost shown is for roadway savings only. See Item B-1 for bridge savings.

Potential savings is \$826,200

Response from Road Design: DO NOT IMPLEMENT

- This recommendation appears to be worth considering; however, past correspondence yields that this alternative was previously considered by both the Office of Road Design and the Office of Bridge Design. The alternative was discarded because an alignment at this location would force horizontal curve superelevation to be in transition on the bridge, which is undesirable because the transition would place a “flat” zero percent cross-slope on the bridge deck (see Bridge Design response to Recommendation B-1).
- To perform the preliminary engineering development of the recommended area would require the revision of the following completed tasks: survey and mapping, aquatic study for environmental document, bridge foundation investigation, bridge hydraulic report, bridge layout, road design and preliminary construction and ROW plans.

Recommendation A-2: Decrease number of lanes on west side of I-75

This recommendation includes reducing the number of lanes to two on the west side of the I-75 bridge. The traffic figures indicate minimum traffic in this area.

Potential savings is \$581,500

Response from Road Design: DO NOT IMPLEMENT

- The current plans provide a transition from 4 lanes to 2 lanes as soon as possible after the intersection of Old Carbondale Road, which is approximately 892 feet from the ramp centerline.
- To revise the plans to transition sooner would potentially create conflicts with truck traffic and passenger vehicles coming from the Carbondale community.

Recommendation B-1: Realign the crossing of the Norfolk Southern RR and Swamp Creek to the south

This recommendation includes shifting the alignment of the bridge to the south of the existing railroad trestle crossing of Swamp Creek to where they are in closer proximity to each other (same as Item A-1). This allows a shortening of the bridge and a crossing that is much closer to 90°. Savings shown is for the bridge costs only.

Proposed initial savings is \$486,000

Response from Bridge Design: DO NOT IMPLEMENT

- Because the superelevation transition may not be moved off of the bridge, costs will increase since the bridge deck will have to be poured in separate left and right stages. It is hard to put a cost on this work, but in the spans where the deck is transitioning from normal crown to reverse crown, costs will probably increase by \$10-\$20 per square foot. This average increase amounts to approximately \$236,000.
- Although a transition from reverse crown to full super could be accommodated with little increase in cost, the recommended design does not provide for this as an alternative. As stated previously, this alternative has been considered and rejected during concept development.

Recommendation B-2: Widen existing I-75 bridge to accommodate proposed increased lanes

This analysis compared widening the existing structure in lieu of building a new structure as the existing bridge is structurally sound with a sufficiency rating of 73.86. The proposal was not cost effective and is therefore not recommended.

Not Recommended by the VE Study Team

Recommendation B-3: Reduce the width of the I-75 bridge from 6 lanes to 5 lanes

The proposed concept is to have back to back left turn lanes in lieu of separate left turns in each direction thus reducing the width by 12 feet. This is acceptable because of the low volumes of traffic making this movement.

The total potential savings if accepted is \$342,000

Response from Road Design: DO NOT IMPLEMENT

- The following future traffic volumes have been provided:
Left-turn to SB I-75 DHV = 275 (AM) 430 (PM)
Left-turn to NB I-75 DHV = 160 (AM) 110 (PM)
The length of the bridge is 296 feet and the length of a WB-50 truck is 55 feet.
- With a turn lane reduction, the left-turn storage length would be reduced by half (148 feet < 3 WB-50 trucks stacked end to end).
- At 27% trucks, for the worst case (PM) DHV = (430 + 110 = 540) x 0.27 = 146. This yields approximately 2.4 trucks per minute (2.4 x 55' = 134 feet < 148 feet). This would be acceptable only if passenger cars are neglected. However, this assumption is not realistic. Therefore, a reduction of the turn lanes to one lane would not provide for capacity or efficiency of the interchange.
- Also, there is included in the VE study recommendation the need for a design exception for implementation.

Recommendation B-4: Use MSE walls in lieu of end span/end roll with slope paving

This concept allows for the elimination of the end spans using MSE walls. The two center spans increase to 106 feet each.

The total net savings for this option is \$389,000

Response from Bridge Design: DO NOT IMPLEMENT

- MSE wall abutments are generally not recommended by Bridge Design for a number of reasons including losing the ability to add future lanes, utilities, or drainage in the end spans. If MSE walls are to be utilized, they must be set back far enough to allow longitudinal drainage along I-75. This drainage cannot be piped behind the MSE wall since it would conflict with the straps. The walls are estimated at 20' high, but if they turn out to be 24' high to get the bottom of the wall below the ditch, the wall area would increase by 27% and the savings would dwindle from \$389,000 to \$304,000.

Recommendation B-4.1: Use MSE walls and minimize I-75 spans for outside future widening

This concept includes the concept in B-4 plus reducing the center spans by not using the 30 foot clear zone shown in the original concept. In lieu of the clear zone, use a guardrail/barrier to protect the MSE wall which results in a center span revised length of 90 feet each.

Total potential savings of this option is \$620,000

Response from Bridge Design: DO NOT IMPLEMENT

- MSE wall abutments are generally not recommended by Bridge Design for a number of reasons including losing the ability to add future lanes, utilities, or drainage in the end spans.

Recommendation B-4.2: Use MSE walls and minimize I-75 spans for inside future widening

This concept includes the concept included in B-4.1 plus assumes the future lane widening on I-75 can be performed on the inside not the outside. This results in a minimal center span length of 78 feet each.

Total potential savings of \$806,000

Response from Bridge Design: DO NOT IMPLEMENT

- MSE wall abutments are generally not recommended by Bridge Design for a number of reasons including losing the ability to add future lanes, utilities, or drainage in the end spans.

Recommendation B-5: Use Type III in lieu of bulb Ts

This idea compares the original 5 span structure with the proposed 6 span facility using the proposed beams which save approximately 9 inches in profile height.

Proposed savings is \$11,400

Response from Bridge Design: DO NOT IMPLEMENT

- This suggestion would lower the mainline profile of the roadway to achieve savings. Actual bridge costs would increase due to the addition of a cast-in-place concrete bent. The cost to redesign the roadway would exceed the savings of only \$11,400 and this is not recommended.

Recommendation C-1: Widen the future mainline lanes on the inside and reduce the ramp taper length

By relocating the future lane widening to the inside, substantial tapering can be reduced which in turn saves substantial quantities of pavement.

Potential savings is \$1,372,000

Response from Road Design: DO NOT IMPLEMENT

- According to the approved revised concept report (6/23/03), this interchange is a rural major arterial (I-75)/rural minor arterial (CR 665/Carbondale Road) and not an "Urban Principal Arterial", which was used as the justification for this recommendation. Therefore, the justification is not valid.
- The ramp configuration as currently designed will provide for the ultimate footprint of the widened I-75 corridor, thus reducing future required ROW costs. To implement a decision to construct an interchange bridge to only provide for future widening of I-75 to the inside would not only be limiting, but also premature as the concept for the future widening project has yet to begun.

Recommendation D-1: Revise the profile along Carbondale Road to reduce earthwork

Lowering the profile somewhat and rolling the grade allows for a substantial reduction in earthwork.

Savings is estimated at 849,800

Response from Road Design: WILL IMPLEMENT

- The profile will be revised west of the interchange to reduce earthwork, construction limits and required ROW.

Recommendation E-1: Use Asphalt in lieu of PCCP on the ramps

The concept is to use AC in lieu of concrete pavement. Although the idea was initially less expensive, over a 30 year design life cycle, concrete proved to be more economical.

Not Recommended by the VE Study Team

BAS:JLM:FCM

Cc: Gus Shanine/Christy Poon-Atkins – FHWA
Todd Long
Brent Story/Jason McCook/Fletcher Miller/Peter Emmanuel – Road Design
Paul Liles/Bill Ingalsbe/Jenny Harris-Dunham/Ted Cashin – Bridge Design
Paul Condit – OEL
James Magnus – GO Construction
Kent Sager/Patrick Bowers/Kenny Beckworth – District 6 Construction
Ken Werho/Nabil Raad/Paul DeNard – Traffic Safety and Design
General Files



Department of Transportation



ROUTING SLIP

Date 3/3/08

TO:

	ROOM NO.	OUT
(1) Christy Poon-Atkins, Federal Highway Administration	FHWA	4/10
(2) Brian K. Summers	266	
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		

TO FORWARD, STRIKE YOUR NAME, INITIAL AND DATE



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| <input checked="" type="checkbox"/> FOR SIGNATURE | <input type="checkbox"/> AS REQUESTED |
| <input checked="" type="checkbox"/> FOR APPROVAL | <input type="checkbox"/> PREPARE REPLY |
| <input type="checkbox"/> FOR INFORMATION | <input type="checkbox"/> FILE |
| <input type="checkbox"/> FOR COMMENTS AND RECOMMENDATIONS | <input type="checkbox"/> MAIL |
| <input type="checkbox"/> FOR ACTION | <input type="checkbox"/> PLEASE ANSWER |
| <input type="checkbox"/> FOR DISCUSSION ON | <input type="checkbox"/> RETURN TO |

_____ (Date)

_____ BY

_____ (Date)

OTHER: Please contact Ron Wishon at 404-651-7470 if there are any questions.

FROM: rew

REC 3/4/08

HIGHWAY SAFETY MANUAL (HSM) ANALYSIS for REVISED CONCEPT REPORT

The Highway Safety Manual (HSM) has been referenced for the availability of a Predictive Method analysis using a Safety Performance Function (SPF) with associated Crash Modification Factors (CMF) to provide a predicted average crash frequency. The roadway segment on this project being revised is classified by the HSM as rural multi-lane divided. The HSM roadway segment SPF for rural multi-lane divided includes median width as a base condition for the SPF and a CMF is provided to adjust the SPF crash frequency for different median widths. However both the approved concept and proposed revised concept median widths are rounded to the same value for the CMF resulting in no difference in the predicted average crash frequency. The HSM was also referenced for median width CMFs that can be individually applied without a SPF to provide a predicted crash frequency percentage increase or decrease. No CMFs are available for individual use for the proposed median width change.

Georgia Department of Transportation

District Six Traffic Operations

SR 136 @ Dade HS 100% XRT

Study Name : **CarbondaleSB2017 8th 100%**

Study Date : **03/17/11**

Page No. : **1**

Signal Warrants - Summary

Major Street Approaches

Eastbound: Carbondale

Number of Lanes: 1

Approach Speed: 45

Total Approach Volume: 1,488

Westbound: Carbondale

Number of Lanes: 1

Approach Speed: 45

Total Approach Volume: 2,560

Minor Street Approaches

Northbound:

Number of Lanes: 1

Total Approach Volume: 0

Southbound:

Number of Lanes: 1

Total Approach Volume: 1,656

Warrant Summary (Urban values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Satisfied
Warrant 1A - Minimum Vehicular Volume	Satisfied
Required volumes reached for 8 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Not Satisfied
Number of hours (0) volumes exceed minimum < minimum required (4).	
Warrant 3 - Peak Hour	Not Satisfied
Warrant 3A - Peak Hour Volumes	Not Satisfied
Volumes do not exceed minimums for any hour.	
Warrant 3B - Peak Hour Delay	Not Satisfied
Approach volumes on minor street don't exceed minimums for any hour. Delay data not evaluated.	
Warrant 4 - Pedestrian Volumes	Not Evaluated
Warrant 5 - School Crossing	Not Evaluated
Warrant 6 - Coordinated Signal System	Not Evaluated
Warrant 7 - Crash Experience	Not Satisfied
Number of accidents (-1) is less than minimum (5). Volume minimums are met.	
Warrant 8 - Roadway Network	Not Evaluated

Georgia Department of Transportation

District Six Traffic Operations

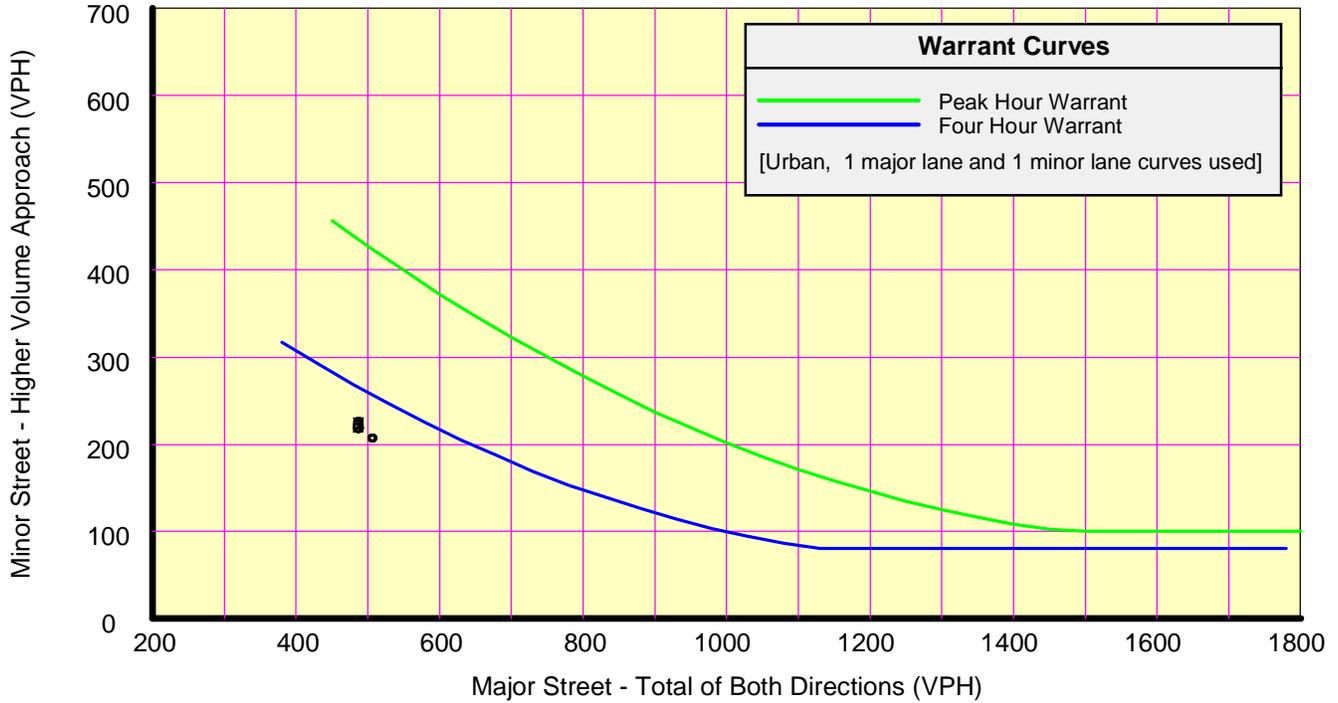
SR 136 @ Dade HS 100% XRT

Study Name : **CarbondaleSB2017 8th 100%**

Study Date : **03/17/11**

Page No. : **2**

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour Begin	Major Total	Higher Minor Vol	Dir	War-1A			War-1B			War-1A&B		
				Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	506	207	SB	500-Yes	150-Yes	Both	750-No	75-Yes	Minor	600-No	120-Yes	Minor
01:00	506	207	SB	500-Yes	150-Yes	Both	750-No	75-Yes	Minor	600-No	120-Yes	Minor
02:00	506	207	SB	500-Yes	150-Yes	Both	750-No	75-Yes	Minor	600-No	120-Yes	Minor
03:00	506	207	SB	500-Yes	150-Yes	Both	750-No	75-Yes	Minor	600-No	120-Yes	Minor
04:00	506	207	SB	500-Yes	150-Yes	Both	750-No	75-Yes	Minor	600-No	120-Yes	Minor
05:00	506	207	SB	500-Yes	150-Yes	Both	750-No	75-Yes	Minor	600-No	120-Yes	Minor
06:00	506	207	SB	500-Yes	150-Yes	Both	750-No	75-Yes	Minor	600-No	120-Yes	Minor
07:00	506	207	SB	500-Yes	150-Yes	Both	750-No	75-Yes	Minor	600-No	120-Yes	Minor
08:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
09:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
10:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
11:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
12:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
13:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
14:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
15:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
16:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
17:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
18:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
19:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
20:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
21:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
22:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
23:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---

Georgia Department of Transportation
District Six Traffic Operations

Study Name : **Carbondale75NBam8th100%**
Study Date : **03/18/11**
Page No. : **1**

Signal Warrants - Summary

Major Street Approaches

Eastbound: Carbondale

Number of Lanes: **1**
Approach Speed: **45**
Total Approach Volume: **3,144**

Westbound: Carbondale

Number of Lanes: **1**
Approach Speed: **45**
Total Approach Volume: **2,152**

Minor Street Approaches

Northbound:

Number of Lanes: **1**

Total Approach Volume: **416**

Southbound:

Number of Lanes: **1**

Total Approach Volume: **0**

Warrant Summary (Urban values apply.)

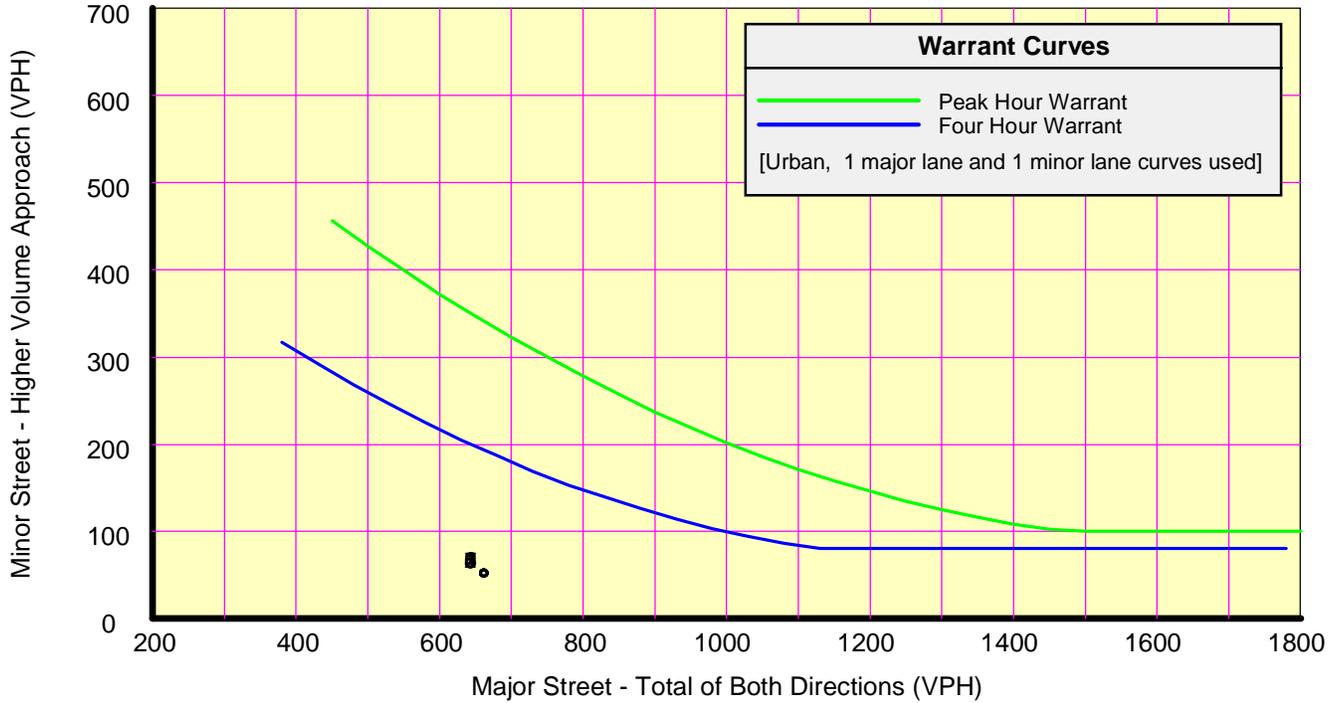
Warrant 1 - Eight Hour Vehicular Volumes	Not Satisfied
Warrant 1A - Minimum Vehicular Volume	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Not Satisfied
Number of hours (0) volumes exceed minimum < minimum required (4).	
Warrant 3 - Peak Hour	Not Satisfied
Warrant 3A - Peak Hour Volumes	Not Satisfied
Volumes do not exceed minimums for any hour.	
Warrant 3B - Peak Hour Delay	Not Satisfied
Approach volumes on minor street don't exceed minimums for any hour. Delay data not evaluated.	
Warrant 4 - Pedestrian Volumes	Not Evaluated
Warrant 5 - School Crossing	Not Evaluated
Warrant 6 - Coordinated Signal System	Not Evaluated
Warrant 7 - Crash Experience	Not Satisfied
Number of accidents (-1) is less than minimum (5). Volume minimums are not met.	
Warrant 8 - Roadway Network	Not Evaluated

Georgia Department of Transportation

District Six Traffic Operations

Study Name : **Carbondale75NBam8th100%**
 Study Date : **03/18/11**
 Page No. : **2**

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour Begin	Major Total	Higher Minor Vol	Dir	War-1A			War-1B			War-1A&B		
				Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	662	52	NB	500-Yes	150-No	Major	750-No	75-No	---	600-Yes	120-No	Major
01:00	662	52	NB	500-Yes	150-No	Major	750-No	75-No	---	600-Yes	120-No	Major
02:00	662	52	NB	500-Yes	150-No	Major	750-No	75-No	---	600-Yes	120-No	Major
03:00	662	52	NB	500-Yes	150-No	Major	750-No	75-No	---	600-Yes	120-No	Major
04:00	662	52	NB	500-Yes	150-No	Major	750-No	75-No	---	600-Yes	120-No	Major
05:00	662	52	NB	500-Yes	150-No	Major	750-No	75-No	---	600-Yes	120-No	Major
06:00	662	52	NB	500-Yes	150-No	Major	750-No	75-No	---	600-Yes	120-No	Major
07:00	662	52	NB	500-Yes	150-No	Major	750-No	75-No	---	600-Yes	120-No	Major
08:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
09:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
10:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
11:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
12:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
13:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
14:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
15:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
16:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
17:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
18:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
19:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
20:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
21:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
22:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---
23:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---

Georgia Department of Transportation
District Six Traffic Operations

Study Name : **CarbondaleNBpm100%8th2017ADT**
Study Date : **03/18/11**
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Signal Warrants - Summary

Major Street Approaches

Eastbound: Carbondale

Number of Lanes: **1**
Approach Speed: **45**
Total Approach Volume: **3,688**

Westbound: Carbondale

Number of Lanes: **1**
Approach Speed: **45**
Total Approach Volume: **2,440**

Minor Street Approaches

Northbound:

Number of Lanes: **1**

Total Approach Volume: **528**

Southbound:

Number of Lanes: **1**

Total Approach Volume: **0**

Warrant Summary (Urban values apply.)

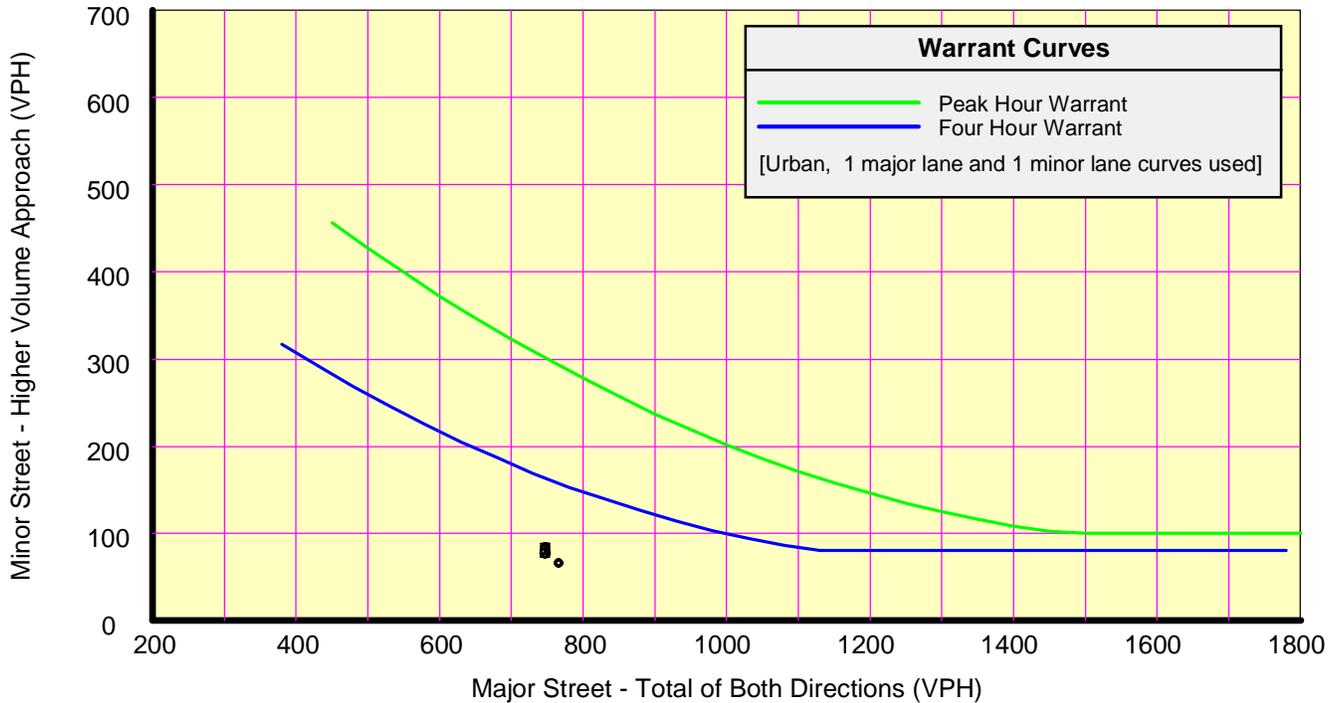
Warrant 1 - Eight Hour Vehicular Volumes	Not Satisfied
Warrant 1A - Minimum Vehicular Volume	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants	Not Satisfied
Required volumes reached for 0 hours, 8 are needed	
 Warrant 2 - Four Hour Volumes	 Not Satisfied
Number of hours (0) volumes exceed minimum < minimum required (4).	
 Warrant 3 - Peak Hour	 Not Satisfied
Warrant 3A - Peak Hour Volumes	Not Satisfied
Volumes do not exceed minimums for any hour.	
Warrant 3B - Peak Hour Delay	Not Satisfied
Approach volumes on minor street don't exceed minimums for any hour. Delay data not evaluated.	
 Warrant 4 - Pedestrian Volumes	 Not Evaluated
 Warrant 5 - School Crossing	 Not Evaluated
 Warrant 6 - Coordinated Signal System	 Not Evaluated
 Warrant 7 - Crash Experience	 Not Satisfied
Number of accidents (-1) is less than minimum (5). Volume minimums are met.	
 Warrant 8 - Roadway Network	 Not Evaluated

Georgia Department of Transportation

District Six Traffic Operations

Study Name : **CarbondaleNBpm100%8th2017ADT**
 Study Date : **03/18/11**
 Page No. : **2**

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour Begin	Major Total	Higher Minor Vol	Dir	War-1A			War-1B			War-1A&B		
				Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	766	66	NB	500-Yes	150-No	Major	750-Yes	75-No	Major	600-Yes	120-No	Major
01:00	766	66	NB	500-Yes	150-No	Major	750-Yes	75-No	Major	600-Yes	120-No	Major
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23:00	0	0	NB	500-No	150-No	---	750-No	75-No	---	600-No	120-No	---

DISPOSITION OF COMMENTS:

The following represents a breakdown of a review of comments by the offices to which they pertain. The project manager will review all responses.

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Road Design	1, 6, 5	Roads need to be designed to be effective for truck traffic
	2, 7,	Carbondale Business Park would like a median break at their entrance off Carbondale Road
	3, 8, 9, 11	Concern of operational efficacy of roundabouts
	12	Concerned about limiting access to businesses on Carbondale Road
RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Right-of-Way	4, 8,	Concern over diminished property value.

RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Planning	10	Wants DOT money spent on other projects of greater need
RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Environmental Services	8	Concern over air pollution from truck traffic
RESPONSIBLE OFFICE	COMMENT #	NATURE OF COMMENT
Environmental Services	All Letters	<p>Thank you for your comments concerning the proposed project referenced above. We appreciate your attendance and all of the input that was received as a result of the March 20, 2011 Public Information Open House (PIOH). Every comment will be made part of the official record of the project.</p> <p>The attendees of the PIOH and those persons sending in comments afterwards raised the following questions and concerns. The Georgia Department of Transportation (GDOT) has prepared this one response letter that addresses all comments received so that everyone can be aware of the concerns raised and the responses given. Please find the comments summarized below (<i>in italics</i>) followed by our response.</p>

Please review the comments and email responses to Zoé Chamberlain at zchamberlain@dot.ga.gov by 7/1/11.

Attached is a complete transcript of the comments received during the comment period and a copy of the public information open house handout.

If you have any questions about the comments, please either email or call Zoé Chamberlain at (404) 631-1174.

GB/zc

Attachments

DISTRIBUTION:
 Russell R. McMurry, w/attachments

Summary of Comments
PI No. 610890 Whitfield County
June 29, 2011
Page 4

Kim Nesbitt, w/attachments
Fletcher Miller
Cindy Van Dyke, w/attachments
Kathy Zahul, P.E., w/attachments
Howard (Phil) Copeland (Attn: Troy Byers), w/attachments

Vance C. Smith, Jr., Commissioner



GEORGIA DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

June 29, 2011

Anita Rose Holland
141 Carbondale Road SW
Dalton, GA 30721

RE: Project: IMSTP-0075-03(208) Whitfield County
P.I. No.: 610890

Dear Mr. Anita Rose Holland,

Thank you for taking the time to express your views on the proposed roadway improvement project referenced above. Your comments have been reviewed by the appropriate offices within the Department of Transportation and will be taken into account during the plan development process for this project.

In the event your property is required in total or in part, a certified appraiser from the Department's appraiser prequalification list will make a fair market value appraisal of the area to be required, including any damages to the remainder land, if applicable. The appraisal will also include values for improvements required or damages that may be applicable.

Should you be required to relocate as part of this project, a Department representative will assist you during your relocation. You will have sixty (60) days to relocate from the date title passes to the Department. To further explain the relocation program and hopefully answer any other questions you may have, I have enclosed a copy of the brochure "What Happens When You Property is Needed for a Transportation Facility".

Should you have any additional right of way acquisition related questions or concerns, please call the State Right of Way Acquisition Manager Troy Byers at 404-347-0176.

Sincerely,

A handwritten signature in cursive script that reads "Howard P. Copeland".

Howard P. Copeland
Right of Way Administrator

Enclosure

C: Glenn Bowman – Office of Environment/Location
Zoé Chamberlain– Transportation Environmental Planner Associate

Vance C. Smith, Jr., Commissioner



GEORGIA DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

June 29, 2011

Terry & Wynette Gazaway
160 Carbondale Road
Dalton, GA 30721

RE: Project: IMSTP-0075-03(208) Whitfield County
P.I. No.: 610890

Dear Property Owners,

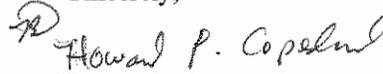
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Sincerely,


Howard P. Copeland
Right of Way Administrator

Enclosure

C: Glenn Bowman – Office of Environment/Location
Zoé Chamberlain– Transportation Environmental Planner Associate