ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. #0004729
BR000-0004-00(729)
Muscogee County
Bridge Replacement on Brown
Ave over Norfolk-Southern RR

OFFICE Design Policy & Support

DATE January 21, 2010

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:

Ron Wishon, State Project Review Engineer
Genetha Rice-Singleton, State Program Control Administrator
Glenn Bowman, State Environmental Administrator
Angela Alexander, State Transportation Planning Administrator
Bobby Hilliard, State Program Delivery Engineer
Paul Liles, State Bridge Engineer
Michael Henry, Systems & Classification Branch Chief
Ken Thompson, Statewide Location Bureau Chief
Keith Golden, State Traffic Operations Engineer
David Millen, Thomaston District Engineer
Bill Rountree, Project Manager
BOARD MEMBER

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE BR000-0004-00(729) Muscogee
P.I. No. 0004729
Bridge Replacement on Brown Ave
over Norfolk Southern Railroad

OFFICE Thomaston

DATE November 23, 2009

FROM David B. Millen, P.R.L.S., District Engineer

TO Brent Story, P.E., Transportation Engineer Administrator

SUBJECT **REVISED PROJECT CONCEPT REPORT**

Attached is the original copy of the Revised Concept Report for your further handling and approval in accordance with the Plan Development Process (PDP).

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

12/7/09
Date

State Transportation Planning Administrator

If additional information is needed, please contact Bill Rountree, P.E., District Design Engineer, at (706) 646-6990.

DBM:WJR:JWM

C: Angela Alexander, State Transportation Planning Administrator
Ronald E. Wishon, State Project Review Engineer
Glenn Bowman, State Environmental/Location Engineer
Keith Golden, State Traffic Safety and Design Engineer
Paul Liles, State Bridge Design Engineer
Johnny Quarles, Project Concept Review Engineer
OFM Concept Reports Mailbox
Concept Reports Mailbox
David Millen, District Engineer
Lamar Pruitt, District Construction Engineer
Mike England, District Traffic Engineer
Kerry Gore, District Utilities Engineer
Ken Robinson, District Maintenance Engineer
Ken Crabtree, Assistant District Construction Engineer
Tom Queen, District Planning and Programming Engineer
Tommy Cleveland, District Location Engineer
Debra Pruitt, District Environmentalist
Colandra Barron, Support Assistant

REVISED PROJECT CONCEPT REPORT

Need and Purpose
Project BR-0004-00(729) Muscogee County
PI No. 0004729
Bridge Replacement
Brown Avenue @ CSX Railroad and Bragg Smith Street

Project Description

The proposed project will replace both of the structurally deficient bridges on Brown Avenue with two structurally adequate two lane bridges. The Brown Avenue structurally deficient bridges are located over the Norfolk Southern Railroad and Bragg Smith Street in southwestern Columbus, Georgia. This project is identified in both the Columbus FY'10-13 Transportation Improvement Program and was identified in the Columbus Metropolitan Planning Organization (MPO) Long Range Transportation Program.

Bridge Characteristics

Both of the existing bridges were built in 1940. The bridge over Bragg Smith Street has a sufficiency rating of 47.02 and the bridge over the Norfolk Southern Railroad has a sufficiency rating of 26.15. This project will replace each of the existing two-lane bridges with two structurally adequate bridges. A general measure of the condition of each bridge is the sufficiency rating. Sufficiency rating is a scale used by the Georgia Department of Transportation (GDOT) to determine the structural and geometric condition of the bridge. This rating is determined by a federal definition adopted form the Association of American State Highway and Transportation Officials (AASHTO) standards and is based on structural adequacy and safety, serviceability, functional obsolescence, and necessity for public use. Ranging on a point system from 1 to 100, any bridge with ratings of 50 points or lower are bridge project candidates to utilize federal bridge replacement funds. The bridges are being considered for replacement as per DOT policy 2405-1. The Office of Bridge Maintenance has determined that any bridge with a bridge sufficiency rating under 50 should be replaced.

Route Characteristics

Brown Avenue is functionally classified as an urban minor arterial and is a designated school bus route. Brown Avenue is not part of local or statewide bicycle network. These two bridges provide connectivity between the Willet and Wynnton neighborhoods of Columbus, so sidewalks are being proposed for pedestrians' access. The posted speed limit along this roadway is 30 miles per hour.

Traffic Counts

The existing (Year 2008) Annual Average Daily Traffic (AADT) Design Traffic along this segment of Brown Avenue is 11,500 vehicles per day (VPD). The projected (Year 2033) AADT design traffic for this segment of roadway would be 18,000 VPD with 4% trucks. The Level-of-Service (LOS) is "D" of the years 2008 and 2033.

PI 0004729 Traffic /LOS	Existing (2008)	Design-Year (2033)
Brown Avenue @ CSX Railroad and Bragg Smith Street	11,500	18,000
% Trucks	4%	4%
Trucks (vpd)	460	720
LOS	D	E

Social Economic Characteristics

According to the United States Census, the study area minority population represents 52.4% of the study areas 188,660 residents (Muscogee County). The ethnic groups consist of 49.1% White, 46.5% African American, 3.8% Hispanic, and 2.1% Asian. The 2000 Census data indicated that the State of Georgia have minority populations of 37.3%. The median household income along this project corridor was $41,095 (2007 dollars). The State of Georgia median household income in 2007 dollars was $49,080. The land parcels surrounding the project are primarily developed residential and commercial.

According to the 2007 Census, the percentage of the Study Area below the poverty level is 18.6%. The year 2007 data indicates the State of Georgia has a low-income population of 14.3%.

Need & Purpose

Replacing these bridges is justified due to their current deficient sufficiency rating. The need exists to replace these bridges and bring both structures up to current design standards and in doing so the operation and safety of this roadway will improve.

REVISED PROJECT CONCEPT REPORT

Project location: The proposed project is to begin at mile log 1.44 (Cusseta Rd), and end at mile log 1.82 (MLK Blvd). The total length of this project is 2006.40 ft. This project is inside the city limits of Columbus, Georgia.

Description of the approved concept:

PDP Classification: Minor

Federal Oversight: Exempt

Functional Classification: Urban Minor Arterial

U. S. Route Number(s): None **State Route Number(s):** None

Traffic (AADT) as shown in the approved concept:

Current Year (2005): 11,500 vpd Design year (2033): 18,000 vpd

Proposed features to be revised: The approved Concept Report has two new bridges included in the construction. The first bridge is over Bragg Smith St., and has an approximate proposed size of 150' x 46'. The second bridge is over Norfolk Southern Railroad, and has an approximate proposed size of 292' x 46'.

The approved Revised Concept Report has one bridge with an approximate size of 1040' x 46'. This structure will span both Bragg Smith Street and the railroad with one continuous bridge. The existing roadbed shall only be removed to the point necessary for construction of the bridge. Constructing the bridge in this manner will avoid the demolition of six structures in the Bragg Smith Historical District. This district parallels the current alignment of Brown Ave.

Describe the revised feature(s) to be approved: A Value Engineering Study was performed in May of 2009. As a result of this study this project will now utilize two separate bridges. The first bridge will span Bragg Smith Street with an approximate size of 75' x 40'. The second bridge will span the Norfolk Southern Railroad with an approximate size of 290' x 40'. MSE walls will be installed on both approaches, and in between the two bridges on both sides of the roadway. The northern end of the project is heavily populated with large warehouse type commercial properties. Constructing the project in this manner will reduce the number of parcels with commercial building conflicts from four parcels to one parcel.

Updated traffic data (AADT):

Current Year (2008): 11,500 vpd Design year (2033): 18,000 vpd

REVISED PROJECT CONCEPT REPORT

Programmed/Schedule:

P.E.: 2005 R/W: Local Acquisition Construction: 2011

Value Engineering Study required? **X Yes** **No**

Revised cost estimates:

1. Construction cost including Engineering & Inspection
2. Right-of-way
3. Utilities

Is the project located in a Non-attainment area? **Yes** **X No**

Recommendation: This office recommends that two bridges be constructed rather than one bridge. This office also recommends that MSE walls on all approaches, and in between the two bridges. Construction two bridges with MSE walls will require less required right of way to be acquired in the project. This will also avoid serious impacts to a registered historical district, and reduce impacts to commercial structures.

Attachments:

1. Sketch Map,
2. Cost Estimate,
3. Other supporting documents.

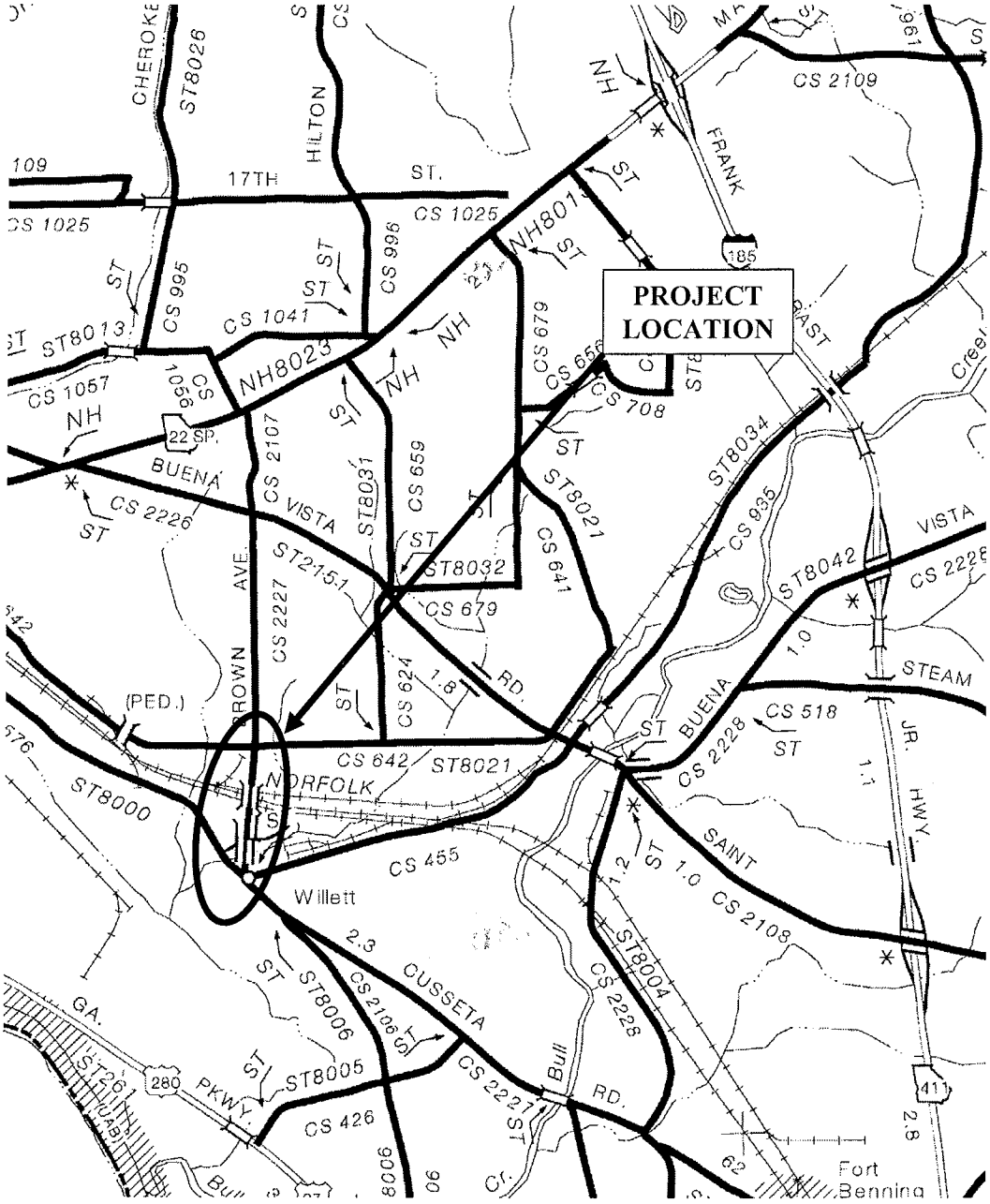
Concur: _____
Director of Engineering

Approve: _____
Chief Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
OFFICE OF DISTRICT THREE DESIGN

PROJECT LOCATION SKETCH

BR000-0004-00(729)
Muscogee County
P.I. No.: 0004729



"BR000-0004-00(729)"

Section ROADWAY

Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	100000.0	TRAFFIC CONTROL - BR000-0004-00(729)	100000.0
210-0100	1	LS	40000.0	GRADING COMPLETE - BR000-0004-00(729)	100000.0
310-1101	3300	TN	17.04	GR AGGR BASE CRS, INCL MATL	56232.0
402-3103	530	TN	75.0	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME	39750.0
402-3121	1400	TN	75.0	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	105000.0
402-3190	400	TN	75.0	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME	30000.0
413-1000	400	GL	2.0	BITUM TACK COAT	800.0
433-1000	520	SY	140.3	REINF CONC APPROACH SLAB	72956.0
441-0104	2100	SY	30.72	CONC SIDEWALK, 4 IN	64512.0
441-6222	2100	LF	14.96	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	31416.0
634-1200	5	EA	93.93	RIGHT OF WAY MARKERS	469.65
641-1200	400	LF	17.89	GUARDRAIL, TP W	7156.0
641-5001	2	EA	673.15	GUARDRAIL ANCHORAGE, TP 1	1346.3
641-5012	2	EA	1762.58	GUARDRAIL ANCHORAGE, TP 12	3525.16
643-8200	520	LF	2.21	BARRIER FENCE (ORANGE), 4 FT	1149.2

Section Sub Total: $614,312.31

Section BRIDGE

Item Number	Quantity	Units	Unit Price	Item Description	Cost
501-9999	14300	SF	95.0	BRIDGE CONSTRUCTION	1358500.0
627-1000	2000	SF	42.0	MSE WALL FACE, 0 - 10 FT HT, WALL NO -	84000.0
627-1010	7000	SF	42.83	MSE WALL FACE, 10 - 20 FT HT, WALL NO -	299810.0
627-1020	10000	SF	54.67	MSE WALL FACE, 20 - 30 FT HT, WALL NO -	546700.0
627-1120	1600	LF	275.0	COPING B, WALL NO -	440000.0

Section Sub Total: $2,729,010.00

Section DRAINAGE

Item Number	Quantity	Units	Unit Price	Item Description	Cost
550-1240	790	LF	41.79	STORM DRAIN PIPE, 24 IN, H 1-10	33014.1
668-1100	8	EA	2429.74	CATCH BASIN, GP 1	19437.92

Section Sub Total: $52,452.02

Section PERMANENT EROSION CONTROL

Item Number	Quantity	Units	Unit Price	Item Description	Cost
603-2024	500	SY	45.91	STN DUMPED RIP RAP, TP 1, 24 IN	22955.0
603-7000	500	SY	3.8	PLASTIC FILTER FABRIC	1900.0
700-6910	3	AC	674.07	PERMANENT GRASSING	2022.21
700-7000	9	TN	60.51	AGRICULTURAL LIME	544.59
700-7010	8	GL	20.53	LIQUID LIME	164.24
700-8000	31	TN	409.57	FERTILIZER MIXED GRADE	12696.67
700-8100	150	LB	2.3	FERTILIZER NITROGEN CONTENT	345.0

Section Sub Total: $40,627.71

Section TEMPORARY EROSION CONTROL

Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	2	AC	283.37	TEMPORARY GRASSING	566.74
163-0240	45	TN	129.9	MULCH	5845.5
163-0300	2	EA	1148.7	CONSTRUCTION EXIT	2297.4
163-0501	1	EA	839.99	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 1	839.99
163-0550	8	EA	188.29	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	1506.32
165-0030	3800	LF	0.66	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	2508.0
165-0085	1	EA	339.92	MAINTENANCE OF SILT CONTROL GATE, TP 1	339.92
165-0101	2	EA	481.34	MAINTENANCE OF CONSTRUCTION EXIT	962.68
165-0105	8	EA	78.69	MAINTENANCE OF INLET SEDIMENT TRAP	629.52
167-1000	2	EA	460.3	WATER QUALITY MONITORING AND SAMPLING	920.6
167-1500	12	MO	685.8	WATER QUALITY INSPECTIONS	8229.59
171-0030	7600	LF	2.95	TEMPORARY SILT FENCE, TYPE C	22420.0

Section Sub Total: $47,066.27

Section TRAFFIC CONTROL

Item Number	Quantity	Units	Unit Price	Item Description	Cost
652-0120	6	EA	45.83	PAVEMENT MARKING, ARROW, TP 2	274.98
653-0130	2	EA	95.75	THERMOPLASTIC PVMT MARKING, ARROW, TP 3	191.5
653-2501	1	LM	1283.88	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	1283.88
653-2502	1	LM	1265.57	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	1265.57
653-3501	320	GLF	0.33	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	105.60
653-6004	47	SY	2.71	THERMOPLASTIC TRAF STRIPING, WHITE	127.37
653-6006	150	SY	2.63	THERMOPLASTIC TRAF STRIPING, YELLOW	394.5
654-1001	66	EA	3.04	RAISED PVMT MARKERS TP 1	200.64
654-1002	20	EA	2.85	RAISED PVMT MARKERS TP 2	57.0
657-1085	770	LF	5.36	PREFORMED PLASTIC SOLID PVMT MKG, 8 IN, CONTRAST (BLACK-WHITE), TP PB	4127.2
657-6085	770	LF	5.29	PREFORMED PLASTIC SOLID PVMT MKG, 8 IN, CONTRAST (BLACK-YELLOW), TP PB	4073.3

Section Sub Total: $12,101.54

Total Estimated Cost: $3,495,569.85

Subtotal Construction Cost	**$3,495,569.85**
Engineering & Inspection Cost @ 5 %	$174,778.49
Total Construction Cost	**$3,607,348.34**
Right Of Way	PFA
ReImb. Utilities	PFA
Grand Total Project Cost	**$3,670,348.34**