

D.O.T. 66

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE** P. I. No. 333156, Harris County **OFFICE** Preconstruction  
BRST-158-1(17)  
SR 103 Bridge Replacement **DATE** August 15, 2005

**FROM** *Cyber* Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

**TO** *12-* SEE DISTRIBUTION

**SUBJECT APPROVED REVISED PROJECT CONCEPT REPORT**

Attached for your files is the approval for subject project.

MBP/cj

Attachment

DISTRIBUTION:

Brian Summers  
Harvey Keepler  
Ken Thompson  
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Joe Palladi (file copy)  
Babs Abubakari  
Thomas Howell  
BOARD MEMBER

ADP

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENTAL CORRESPONDENCE**

FILE: BRST-158-1(17)  
Harris County  
P.I. 333156

OFFICE: Office of Consultant Design  
DATE: July 11, 2005

*M. Babs Abubakari*

FROM: Mohammed (Babs) Abubakari, P.E., State Consultant Design and Program Delivery Engineer

TO: Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

**SUBJECT: Revised Project Concept Report**

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

This project consists of replacement of the existing bridge over the Flat Shoals Creek on SR 103 in Harris County. The original Concept Report stated that the proposed bridge was to be constructed in its original location while maintaining traffic on an onsite detour to be constructed on the west side of the alignment. However, due to hilly terrain and the presence of shallow rock on the project, utilization of an inexpensive onsite detour bridge on steel H piles is not feasible. Traffic will be maintained during construction via an offsite detour.

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

8/3/05

Date

*Joseph P. Pirkle*

State Transportation Planning Administrator

MBA:YT:sgt

cc: State Transportation Financial Management Administrator  
State Transportation Planning Administrator  
State Environmental / Location Engineer  
State Traffic Safety & Design Engineer  
District Engineer  
Project Review Engineer  
State Bridge & Structural Design Engineer

## REVISED PROJECT CONCEPT REPORT

**Need and Purpose:** The purpose of project BRST-158-1(17) in Harris County is to replace the structurally deficient bridge located on State Route (SR) 103 over Flat Shoals Creek. The bridge's sufficiency rating is 30.6. The Office of Bridge Maintenance has determined that any structure with a sufficiency rating less than 50 should be replaced rather than improved. This project will replace the existing bridge with a structurally adequate bridge.

This section of SR 103 is functionally classified as a rural minor arterial and is a designated school bus route. SR 103 is not on the state bicycle network. The posted speed limit along this section of SR 103 is 55 mph. The bridge is located approximately 3 miles southeast of West Point and was constructed in 1950. The Annual Average Daily Traffic (AADT) along this section of roadway was 2,200 in 1999. The projected (2026) AADT for this section of roadway is 3,500 with 11% trucks.

Replacing this bridge will bring it up to current design standards and in doing so will improve the operation and safety of this roadway.

**Project Location:** This project is located in Harris Counties on SR 103 over Flat Shoals Creek approximately 3 miles southeast of the city of West Point. The project length is 0.63 miles. The project begins at milepost 10.87 and ends at milepost 11.50.

**Description of the approved concept:** The approved concept proposes replacement of the existing bridge in its original location. Traffic is to be maintained via an onsite detour to be constructed on the west side of the project during construction. The roadway is a two-lane road with 12-foot lanes and rural shoulders. The existing right of way varies from 100 feet to 200 feet. The proposed typical section will consist of two 12-foot lanes with 2 foot paved shoulders and 6 foot graded shoulders. The proposed bridge will be 310 feet long and 40 feet wide. The proposed right of way varies from 160 feet to 200 feet.

**PDP Classification:** Major \_\_\_\_\_ Minor  X

**Federal Oversight:** Full Oversight ( ) Exempt ( X ) SF ( ) Other ( )

**Functional Classification:** Rural Minor Arterial

**U.S. Route Number:** N/A

**State Route Number:** 103

**Traffic (AADT):** Current Year (2006): 2,250 Design Year (2026): 3,500

**Proposed features to be revised:** Due to hilly terrain and the presence of shallow rock on the project, utilization of an inexpensive onsite detour bridge on steel H piles is not feasible. Traffic will be maintained during construction via an offsite detour.

**Description of the revised features to be approved:** The proposed detour route will be via SR 18 to SR 219. The detour route is approximately 13 miles long. Local traffic can use CR 27 in Harris County from SR 103 to SR 18 although the route will not be signed as a detour.

**Updated traffic data (AADT):** Current Year (2009): 2,450 Design Year (2029): 3,850

**Programmed/Schedule:**

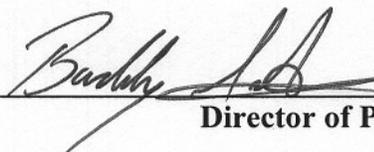
**P.E.:** 12 months      **R/W:** 4 months      **Construction:** 18 months

**Revised cost estimates:** See attached

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

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

**Attachments:** Location Map  
Revised Cost Estimate

**Concur:**  \_\_\_\_\_  
**Director of Preconstruction**

**Approve:**  \_\_\_\_\_  
**Chief Engineer**



**PRELIMINARY COST ESTIMATE**

PROJECT NUMBER: BRST-158-1(17)

COUNTY: Harris

DATE: April 12, 2005

ESTIMATED LETTING DATE: FY 2009

PREPARED BY: BWH

PROJECT LENGTH:

0.63

( ) PROGRAMMING PROCESS (X) CONCEPT DEVELOPMENT ( ) DURING PROJECT DEV.

English Unit Cost

PROJECT COST		
<b>A. RIGHT-OF-WAY:</b>		
1. PROPERTY (LAND & EASEMENT) 2.81 AC		\$ 15000
2. DISPLACEMENTS; RES: 0, BUS: 0, M.H.: 0		\$
3. OTHER COST (ADM./COST, INFLATION)		\$
SUBTOTAL: A		\$ 15,000
<b>B. REIMBURSABLE UTILITIES:</b>		
1. RAILROAD		\$
2. TRANSMISSION LINES		\$
3. SERVICES (3 utility poles) (by LGPA, cost not included in total)		\$ 5000
SUBTOTAL: B		\$ 5,000
<b>C. CONSTRUCTION:</b>		
<b>1. MAJOR STRUCTURES</b>		
a. BRIDGES (310' X 43.25'X \$70)		\$ 938525
		\$
SUBTOTAL: C-1.a		\$ 938,525
b. OTHER		\$ -
		\$
SUBTOTAL: C-1		\$ 938,525
<b>2. GRADING AND DRAINAGE:</b>		
<b>a. EARTHWORK (Mainline)</b>		
Borrow	7895 CY @ \$7.5	\$ 59,213
Excavation	7619 CY @ \$7.5	\$ 57,143
SUBTOTAL: C-2a		\$ 116,355
<b>b. EARTHWORK (Detour)</b>		
Borrow	CY @ \$	\$ -
Excavation	CY @ \$	\$ -
SUBTOTAL: C-2b		\$ -


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c.. DRAINAGE				
1) Side Drain Pipe	20 LF @ \$21	\$	420	21
2) Storm drain pipe	150 LF @ \$44	\$	6,600	44
3) Longitudinal System (incl. catch basins)	LF @ \$0	\$	-	
4) Safety End Sections	2 EA @ \$280	\$	560	280
5) Perforated Underdrain	300 LF @ \$6	\$	1,800	6
6) Temporary Pipe Slope Drain	300 LF @ \$24	\$	7,200	24
SUBTOTAL: C-2.c		\$	16,580	
SUBTOTAL: C-2		\$	132,935	
3. BASE AND PAVING:				
a. AGGREGATE BASE	4977 SY @ \$10	\$	49,770	10
b. ASPHALT PAVING (Mainline & Cross-Roads):				
19 mm Superpave	580 Tons @ \$43	\$	24,940	43
25 mm Superpave	1141 Tons @ \$37	\$	42,217	37
9.5 mm Superpave	380 Tons @ \$42	\$	15,960	42
Tack Coat	121 Gallons @ \$1	\$	121	1
SUBTOTAL: C-3.b		\$	83,238	
c. ASPHALT PAVING (Onsite detour):				
19 mm Superpave	Tons @ \$43	\$	-	43
25 mm Superpave	Tons @ \$37	\$	-	37
9.5 mm Superpave	Tons @ \$42	\$	-	42
Tack Coat	Gallons @ \$1	\$	-	1
d. AGGREGATE BASE	SY @ \$10	\$	-	10
SUBTOTAL: C-3.c		\$	-	
e. OTHER (Leveling, Milling, etc.)				
		\$		
f. AGGREGATE SURFACE COURSE	25 Tons @ \$19	\$	475	19
SUBTOTAL: C-3		\$	133,483	

4. EROSION CONTROL (Mainline)				
a. SILT FENCE				
1. TYPE A	2600 LF @ \$3.5	\$	9,100	3.5
2. TYPE B	LF @ \$2.6	\$	-	2.6
3. TYPE C	1900 LF @ \$5.3	\$	10,070	5.3
			\$	19,170
b. RIP RAP			\$	18,000
c. PLASTIC FILTER FABRIC			\$	3,480
d. PERMANENT SOIL REINFORCING MAT			\$	2,500
SUBTOTAL: C-4a			\$	62,320
EROSION CONTROL (Detour)				
e. SILT FENCE				
1. TYPE A	LF @ \$3.5	\$	-	3.5
2. TYPE B	LF @ \$2.6	\$	-	2.6
3. TYPE C	LF @ \$5.3	\$	-	5.3
			\$	-
f. RIP RAP			\$	-
g. PLASTIC FILTER FABRIC			\$	-
h. PERMANENT SOIL REINFORCING MAT			\$	-
SUBTOTAL: C-4b			\$	-
SUBTOTAL: C-4			\$	62,320
5 TRAFFIC CONTROL			\$	30000
SUBTOTAL: C-5			\$	30,000
6. MISCELLANEOUS:				
a. LIGHTING			\$	
b. SIGNING - MARKING			\$	3000
c. GUARDRAIL				
W Beam	1500 LF @ \$12	\$	18,000	12
T Beam	84 LF @ \$40	\$	3,360	40
Anchors	TYPE 12	2 @ \$1600	\$	3,200
	TYPE 1	2 @ \$450	\$	900
SUBTOTAL: C-6.c			\$	25,460
d. SIDEWALK			\$	
e. MEDIAN / SIDE BARRIER			\$	
f. APPROACH SLABS			\$	35,100
g. REMOVAL				
Bridges (305' x 28' x \$20)			\$	170000
SUBTOTAL: C-6.g			\$	170,000
h. Detour bridge			\$	
SUBTOTAL: C-6			\$	233,560
7. SPECIAL FEATURES				
SUBTOTAL: C-7			\$	-

<b>SUMMARY</b>	
A. RIGHT-OF-WAY	\$ 15,000
B. REIMBURSABLE UTILITIES (by LGPA, cost not included in total)	\$ 5,000
C. CONSTRUCTION	
1. MAJOR STRUCTURES	\$ 938,525
2. GRADING AND DRAINAGE	\$ 132,935
3. BASE AND PAVING	\$ 133,483
4. EROSION CONTROL	\$ 62,320
5. LUMP ITEMS	\$ 30,000
6. MISCELLANEOUS	\$ 233,560
7. SPECIAL FEATURES	\$ -
SUBTOTAL CONSTRUCTION COST	\$ 1,530,823
INFLATION (5% PER YEAR)	\$ 329,902
NUMBER OF YEARS	4
E. & C. (10% of Construction Cost)	\$ 186,072
TOTAL CONSTRUCTION COST	<b>\$ 2,046,797</b>
	\$ -
<b>GRAND TOTAL PROJECT COST</b>	<b>\$ 2,066,797</b>

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