

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

Project Type: <u>Bridge Replacement</u>	P.I. Number: <u>0007154</u>
GDOT District: <u>4</u>	County: <u>Baker</u>
Federal Route Number: _____	State Route Number: <u>216</u>
Project Number: <u>CSBRG-0007-00(154)</u>	

Bridge Office determined that the project needed to be lengthened and profile raised to incorporate an overflow bridge.

Submitted for approval:

Keith J. Giff 10-31-13
 GDOT Design Phase Office Head & Office DATE

Genetha Rice-Hughes 01-14-14 *BNA*
 Office Head (GDOT Project Manager's Office) DATE

Carvin E. Edwards 11/5/13
 GDOT Project Manager DATE

Recommendation for approval:

GLENN BOWMAN/EKP* 2/5/2014
 State Environmental Administrator (recommendation required) DATE

KATHY ZAHUL/EKP* 2/11/2014
 State Traffic Engineer (if applicable - recommendation required for roundabout) DATE

BEN RABUN/EKP* 2/14/2014
 State Bridge Design Engineer (if applicable - required for projects with bridges) 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).

CINDY VANDUYKE/EKP* 2/10/2014
 State Transportation Planning Administrator (recommendation required) DATE

** - RECOMMENDATION ON FILE*

PLANNING, APPROVED CONCEPT, & BACKGROUND DATA

Project Justification Statement:

State Route 216 is classified as a rural major collector. The posted speed limit is 55 mph. The current existing road is a 2-lane section. The bridge located on SR 216 near Bainbridge Hwy. and Alligator Creek crosses the Ichawaynochaway Creek, also known as “Nochaway Creek”. The land use in the area of the bridge is primarily agricultural and woodland.

There were three crashes recorded on this section of SR 216 between 2007 and 2009. Two crashes occurred in 2007, which did not involve collisions with other vehicles, but with deer. The year 2007 accident rate was 405 MVM, which was above the statewide accident rate average of 203 MVM. The other crash occurred in 2008. It was an overturn and did not involve another vehicle. The statewide average accident rate in 2008 for a rural major collector was 194 accidents MVM, compared to 202 for this stretch of road. There were no crashes reported in 2009.

This section of SR 216 is not on a locally designated bicycle route or identified in GDOT’s Statewide Bicycle and Pedestrian Plan. It is not on a listed truck route. It is however, on a school bus route. There are no other GDOT projects in the area.

The Average Daily Traffic (ADT) on this section of roadway is 500 vehicles in 2009 which is a Level of Service (LOS) of “A”. In 2016, the expected ADT is 600 vehicles, which is also a LOS of “A”. The projected year 2036 traffic is 800 ADT with a Level of Service at “A”. A grade of “A” is an acceptable traffic condition. It is also estimated that fourteen percent (14.0%) of the traffic is truck volume.

This Bridge (Structure ID 007-0007-0) was built in 1952 and consists of a 7 spans of Reinforced Concrete Deck Girders (RCDG) on a concrete cap and column substructure with timber pile footings. The bridge is currently posted from 14 to 25 tons and has a Sufficiency Rating of 46.28. All RCDG’s are showing flexure cracks. The substructure caps are exhibiting vertical cracks at bents 3, 4 and 5. Columns 1 and 2 at bents 3, 4, and 5 have section loss up 1/2 inch up to 1 foot above the water line. Replacement of this structurally deficient bridge is recommended.

Description of the approved concept:

The proposed project would consist of replacing the bridge on SR 216 at Ichawaynochaway Creek by closing the existing roadway and maintaining traffic on an off-site detour of approximately 40 miles. This project is located in Baker County, approximately 12.7 miles northwest of Newton, Georgia, in the 7th Land District, Land Lot No. 227 and is in Ga. Militia District 957. The proposed project will be approximately 0.16 miles in length.

PDP Classification: Major Minor

Federal Oversight: Full Oversight Exempt State Funded Other

Projected Traffic as shown in the approved Concept Report: ADT

Open Year (2016): 600

Design Year (2036): 800

Updated Traffic: ADT

Open Year (20XX): N/A

Design Year (20YY): N/A

Functional Classification (Mainline): Rural Major Collector

VE Study anticipated: No Yes Completed – Date:

PROPOSED REVISIONS

Approved Features:	Proposed Features:
<p>The approved project consisted of replacing the bridge over the Ichawaynochaway Creek with a project length of approximately 0.16 miles.</p>	<p>The revised project would consist of replacing the bridge over the Ichawaynochaway Creek and building an overflow bridge to the west of the mainline bridge on SR 216. The project will also change an existing curve between the two bridges from a spiral curve to a circular curve. Due to the overflow bridge being located in the circular curve, the width of the bridge was increased to 36 feet and the extra widening was applied to the main bridge also. The roadway typical section will remain the same. The revised project length would be approximately 0.75 miles in length. The new beginning and ending stations of the revised project would be STA 260+00 to STA 299+50. The new Required R/W area will be approximately 5.99 acres.</p>
<p>Reason(s) for change: The reason for the revisions to the project/concept is due to the hydraulic study by the Bridge Office revealing a need for an overflow bridge in addition to the bridge over the Ichawaynochaway Creek. Extra widening was needed for the overflow bridge due to its location in the horizontal curve and was also applied to the main bridge. The revised width for both bridges is 36 feet.</p>	

ENVIRONMENTAL

Project 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
 Is a Carbon Monoxide hotspot analysis required? No Yes

County: Baker

Potential environmental impacts of proposed revision: The proposed change may increase impacts to ecology resources. Additional general ecology studies would be required because the expanded project area is beyond the Area of Potential Effect that was originally investigated. Previously, Ecology was 12-18 months from being completed due to Endangered Species Coordination. Based on the revised design, the Ecology timeline would be more like 18-24 months.

Have proposed revisions been reviewed by environmental staff? No Yes

Environmental responsibilities (Studies/Documents/Permits): Consultant

Environmental impacts by section: Increases in ecology impacts are possible. Details will not be available until the expanded Area of Potential Effect is investigated.

NEPA: Yes, the area of effects has increased.

Ecology: Effects are possible to protected species, their habitats, streams, wetlands, etc. Additional general ecology studies would be required because the expanded project area is beyond the Area of Potential Effect that was originally investigated. Additional seasonal surveys may be required depending on what resources are identified within the expanded project area. Surveys for aquatic protected species are likely to be required at this location throughout the engineering and construction phases of this project. Depending on the findings, each of these surveys has the potential to impact the project schedule.

Archeology: The updated plans for Ichawaynochaway Creek (PI 0007154) contain approximately 3,460 feet of required right-of-way needing Phase I archaeological survey. This survey will entail excavation of 30-meter interval shovel test pits along the required ROW on either side SR 216. Additionally, the survey will cover two transects of expanded survey corridor situated 100 feet outside the required right-of-way, potentially totaling approximately 71 30-meter interval test pits. The new survey area will potentially intersect Site 9BX158, a historic artifact scatter whose NRHP eligibility remains unknown. This site is located southwest of the intersection of CR 126 and SR 216.

History: Archaeology may need further documentation is required under Section 106 (no history was found but if arch has a site, an Assessment of Effects would be needed). If the project design has changed since 2012, they may need to resurvey for both history and archaeology or history could be cleared in a project re-eval.

Air & Noise: The MSAT guidance and date would need to be updated. Also modeling may be needed. Triggers are traffic ADT and LOS with any stop conditions. If it's only an bridge project then a CO would not be needed since there isn't a have a stop condition (intersection w/light). For noise if there is a shift in the alignment or if it is moving 50% or more from the edge of pavement to the closest receiver (existing alignment vs. the build alignment). Or if the bridge is not widening 50% or more closer to any surround receivers and is being built in the same spot the you wouldn't need noise modeling.

Public Involvement: A PIOH Detour Meeting was held on November 15, 2012

PROJECT COST & ADDITIONAL INFORMATION

Updated Cost Estimate		Date of Estimate
Base Construction Cost:	\$4,875,472.73	10/31/2013
Engineering and Inspection:	\$243,773.64	
Liquid AC Adjustment:	\$81,847.68	
<u>Total Construction Cost:</u>	\$5,201,094.05	
Right-of-Way:	\$119,000.00	10/15/2013
Utilities (reimbursable costs):	\$14,000	9/18/2013
Environmental Mitigation:	\$10,000	9/18/2013
TOTAL PROJECT COST:	\$5,344,094.05	

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

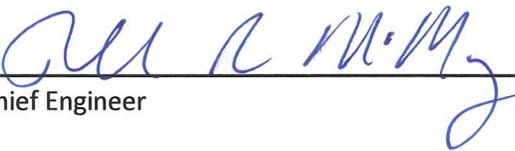
Comments: GDOT Office of Roadway Design policy directs that Highway Safety Manual (HSM) analysis is not accomplished for bridge replacement projects with 0.5-mile or less of roadway construction on each bridge approach. This project has two bridges with less than 0.5-mile of roadway construction proposed on all approaches thus a HSM analysis is not included.

Attachments:

1. Project Layout
2. Cost Estimate(s)
 Construction
 Liquid AC Adjustment
 Right-of-Way
 Utility
 Mitigation
3. Location Sketch
4. Detour Map

APPROVALS

Concur: 
Director of Engineering

Approve: 
Chief Engineer

3/28/14
Date

DETAILED COST ESTIMATE



Job: 0007154

JOB NUMBER 0007154

FED/STATE PROJECT NUMBER CSBRG-0007-00(154)

SPEC YEAR: 01

DESCRIPTION: BRIDGE REPLACEMENT; SR 216 @ ICHAWAYNOCHAWAY CREEK

ITEMS FOR JOB 0007154

0010 - ROADWAY

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0001	150-1000	1.000	LS	\$2,380.00000	TRAFFIC CONTROL - CSBRG-0007-00(154)	\$2,380.00
0006	210-0100	1.000	LS	\$1,008,513.43000	GRADING COMPLETE - CSBRG-0007-00(154)	\$1,008,513.43
0011	310-5080	7479.000	SY	\$16.00000	GR AGGR BS CRS 8IN INCL MATL	\$119,664.00
0016	402-1812	117.000	TN	\$95.00000	RECYL AC LEVELING,INC BM&HL	\$11,115.00
0021	402-3101	933.000	TN	\$87.25000	REC AC 9.5 MM SP,TPI, BL 1 INCL BM & HL	\$81,404.25
0026	402-3121	2247.000	TN	\$91.00000	RECYL AC 25MM SP,GP1/2,BM&HL	\$204,477.00
0031	402-3190	1397.000	TN	\$92.00000	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	\$128,524.00
0036	413-1000	1272.000	GL	\$4.00000	BITUM TACK COAT	\$5,088.00
0236	432-5010	143.000	SY	\$6.50000	MILL ASPH CONC PVMT,VARB DEPTH	\$929.50
0041	433-1200	454.000	SY	\$155.00000	REF CONC APPR SL/I SLOPED EDGE	\$70,370.00
0046	441-0301	8.000	EA	\$2,000.00000	CONC SPILLWAY, TP 1	\$16,000.00
0251	456-2015	1.220	GLM	\$4,000.00000	INDENT. RUMB. STRIPS - GRND-IN-PL (SKIP)	\$4,880.00
0051	500-3101	2.000	CY	\$550.00000	CLASS A CONCRETE	\$1,100.00
0286	550-2180	311.000	LF	\$28.60000	SIDE DR PIPE 18",H 1-10	\$8,894.60
0056	576-1018	463.000	LF	\$25.00000	SLOPE DRAIN PIPE, 18 IN	\$11,575.00
0246	634-1200	45.000	EA	\$115.00000	RIGHT OF WAY MARKERS	\$5,175.00
0066	641-1100	168.000	LF	\$65.00000	GUARDRAIL, TP T	\$10,920.00
0071	641-1200	563.000	LF	\$20.00000	GUARDRAIL, TP W	\$11,260.00
0076	641-5001	5.000	EA	\$875.00000	GUARDRAIL ANCHORAGE, TP 1	\$4,375.00
0081	641-5012	5.000	EA	\$2,100.00000	GUARDRAIL ANCHORAGE, TP 12	\$10,500.00
0256	643-8200	518.000	LF	\$2.50000	BARRIER FENCE (ORANGE), 4 FT	\$1,295.00
SUBTOTAL FOR ROADWAY:						\$1,718,439.78

0020 - BRIDGE

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0086	540-1101	1.000	LS	\$154,560.00000	REM OF EX BR, STA NO - CSBRG-0007-00(154)	\$154,560.00
0096	543-9000	1.000	LS	\$1,836,000.00000	CONSTR OF BRIDGE COMPLETE - CSBRG-0007-00(154), BRIDGE 2	\$1,836,000.00
0241	543-9000	1.000	LS	\$612,000.00000	CONSTR OF BRIDGE COMPLETE - CSBRG-0007-00(154), BRIDGE 1	\$612,000.00
0101	603-2024	4383.000	SY	\$75.00000	STN DUMPED RIP RAP, TP 1, 24"	\$328,725.00
0106	603-7000	4443.000	SY	\$5.00000	PLASTIC FILTER FABRIC	\$22,215.00
SUBTOTAL FOR BRIDGE:						\$2,953,500.00

DETAILED COST ESTIMATE



Job: 0007154

0030 - SIGNING AND MARKING

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0111	636-1033	58.000	SF	\$22.00000	HWY SIGNS, TP1MAT,REFL SH TP 9	\$1,276.00
0116	636-2070	78.000	LF	\$8.00000	GALV STEEL POSTS, TP 7	\$624.00
0121	652-5451	6857.000	LF	\$2.25000	SOLID TRAF STRIPE, 5 IN, WHITE	\$15,428.25
0126	652-5452	6460.000	LF	\$2.15000	SOLID TRAF STRIPE, 5 IN, YELLO	\$13,889.00
0131	654-1001	50.000	EA	\$3.75000	RAISED PVMT MARKERS TP 1	\$187.50
0136	657-1085	1440.000	LF	\$6.00000	PRF PL SD PVT MKG,8",B/W,TP PB	\$8,640.00
0141	657-6085	1440.000	LF	\$6.00000	PRF PL SD PVMT MKG,8",B/Y,TPPB	\$8,640.00
SUBTOTAL FOR SIGNING AND MARKING:						\$48,684.75

0040 - TEMPORARY EROSION CONTROL

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0146	163-0232	5.900	AC	\$600.00000	TEMPORARY GRASSING	\$3,540.00
0151	163-0240	125.000	TN	\$250.00000	MULCH	\$31,250.00
0156	163-0300	8.000	EA	\$1,800.00000	CONSTRUCTION EXIT	\$14,400.00
0161	163-0520	1547.000	LF	\$15.00000	CONSTR AND REMOVE TEMP PIPE SLOPE DRAIN	\$23,205.00
0271	163-0528	280.000	LF	\$5.50000	CONSTR AND REM FAB CK DAM -TP C SLT FN	\$1,540.00
0171	163-0529	962.000	LF	\$4.00000	CNST/REM TEMP SED BAR OR BLD STRW CK DM	\$3,848.00
0261	163-0550	8.000	EA	\$200.00000	CONS & REM INLET SEDIMENT TRAP	\$1,600.00
0176	165-0030	4250.000	LF	\$1.50000	MAINT OF TEMP SILT FENCE, TP C	\$6,375.00
0276	165-0041	140.000	LF	\$2.50000	MAINT OF CHECK DAMS - ALL TYPES	\$350.00
0186	165-0071	481.000	LF	\$1.00000	MAINT OF SEDIMENT BARRIER - BALED STRAW	\$481.00
0191	165-0101	8.000	EA	\$700.00000	MAINT OF CONST EXIT	\$5,600.00
0266	165-0105	8.000	EA	\$110.00000	MAINT OF INLET SEDIMENT TRAP	\$880.00
0196	167-1000	8.000	EA	\$500.00000	WATER QUALITY MONITORING AND SAMPLING	\$4,000.00
0201	167-1500	12.000	MO	\$500.00000	WATER QUALITY INSPECTIONS	\$6,000.00
0206	171-0030	8500.000	LF	\$4.00000	TEMPORARY SILT FENCE, TYPE C	\$34,000.00
SUBTOTAL FOR TEMPORARY EROSION CONTROL:						\$137,069.00

0050 - PERMANENT EROSION CONTROL

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0211	700-6910	5.900	AC	\$1,000.00000	PERMANENT GRASSING	\$5,900.00
0216	700-7000	12.000	TN	\$65.00000	AGRICULTURAL LIME	\$780.00
0226	700-8000	5.000	TN	\$500.00000	FERTILIZER MIXED GRADE	\$2,500.00
0231	700-8100	590.000	LB	\$3.63000	FERTILIZER NITROGEN CONTENT	\$2,141.70
0281	716-2000	14350.000	SY	\$0.45000	EROSION CONTROL MATS, SLOPES	\$6,457.50
SUBTOTAL FOR PERMANENT EROSION CONTROL:						\$17,779.20

TOTALS FOR JOB 0007154

ITEMS COST:	\$4,875,472.73
COST GROUP COST:	\$0.00
ESTIMATED COST:	\$4,875,472.73
CONTINGENCY PERCENT:	0.00
ENGINEERING AND INSPECTION:	0.05
ESTIMATED COST WITH E&I:	\$5,119,246.37

PROJ. NO. CSBRG-0007-00(154) **CALL NO.**
P.I. NO. 0007154
DATE 10/31/2013

INDEX (TYPE) **DATE** **INDEX**
 REG. UNLEADED Oct-13 \$ 3.254
 DIESEL \$ 3.869
 LIQUID AC \$ 568.00

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)			79985.76
Monthly Asphalt Cement Price month placed (APM)		\$ 908.80	
Monthly Asphalt Cement Price month project let (APL)		\$ 568.00	
Total Monthly Tonnage of asphalt cement (TMT)			234.7
			\$ 79,985.76

ASPHALT	Tons	%AC	AC ton
Leveling	117	5.0%	5.85
12.5 OGFC		5.0%	0
12.5 mm		5.0%	0
9.5 mm SP	933	5.0%	46.65
25 mm SP	2247	5.0%	112.35
19 mm SP	1397	5.0%	69.85
	4694		234.7

BITUMINOUS TACK COAT			
Price Adjustment (PA)			\$ 1,861.92
Monthly Asphalt Cement Price month placed (APM)		\$ 908.80	
Monthly Asphalt Cement Price month project let (APL)		\$ 568.00	
Total Monthly Tonnage of asphalt cement (TMT)			5.463368373
			\$ 1,861.92

Bitum Tack	Gals	gals/ton	tons
	1272	232.8234	5.46336837

PROJ. NO.

CSBRG-0007-00(154)

CALL NO.

P.I. NO.

0007154

DATE

10/31/2013

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)

0

\$

Monthly Asphalt Cement Price month placed (APM)

908.80

\$

Monthly Asphalt Cement Price month project let (APL)

568.00

\$

Total Monthly Tonnage of asphalt cement (TMT)

0

60%

Max. Cap

Bitum Tack

SY Gals/SY

Gals

tons

gals/ton

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

TOTAL LIQUID AC ADJUSTMENT

\$

81,847.68

GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY

Date: 10/15/2013 Project: CSBRG-0007-00(154)
 Revised: County: Baker County
 PI: 0007154

Description: Bridge Replacement SR 216
 Project Termini: Bridge Replacement SR 216

Existing ROW: Varies
 Required ROW: Varies
 Parcels: 5

Land and Improvements _____ \$17,400.00

Proximity Damage	\$0.00
Consequential Damage	\$0.00
Cost to Cures	\$0.00
Trade Fixtures	\$0.00
Improvements	\$5,000.00

Valuation Services _____ \$5,000.00

Legal Services _____ \$40,875.00

Relocation _____ \$10,000.00

Demolition _____ \$0.00

Administrative _____ \$45,000.00

TOTAL ESTIMATED COSTS _____ \$118,275.00

TOTAL ESTIMATED COSTS (ROUNDED) _____ \$119,000.00

Preparation Credits	Hours	Signature

Prepared By: Dashone Alexander CG#: 286999 10/15/2013(E)
 Approved By: Dashone Alexander CG#: 286999 10/15/2013(E)

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

TPLC

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE

Project No: **CSBRG-0007-00(154)**
County **Baker**
P.I. # **0007154**

OFFICE: **Tifton**
DATE: **September 18, 2013**

Description: **SR 216 @ Ichawaynochaway Creek**

TW
FROM **Tim Warren, P.E., District Utilities Engineer**

TO **Cassius Edwards, Project Manager**

SUBJECT UTILITY COST ESTIMATE

A review of utilities located on the above referenced project has been conducted. Listed below is a breakdown of the anticipated reimbursable and non-reimbursable cost.

<u>Utility Owner</u>	<u>Reimbursable</u>	<u>Non-Reimbursable</u>	<u>Estimate Based on</u>
Mitchell EMC	\$14,000.00	\$28,000.00	Latest plans – field visit
AT&T/D		\$92,301.54	Latest plans – field visit
USGS – River Gauge		\$5000.00	Latest plans – field visit
Total	\$14,000.00	\$125,301.54	

Estimate is based on the best available information at the current stage, unforeseen prior rights information may be provided by the Utility Company at a later date that could cause some non-reimbursable costs to shift to the reimbursable cost column.

If additional information is needed, please contact me or Gene McDaniel, Assistant District Utilities Engineer at (229) 386-3288.

TW:ms

- c: Abdulvahid Munshi, Utilities Preconstruction Engineer
- Brent Thomas, District Preconstruction Engineer
- Sandy Griffin, District Design Engineer
- Jason Willingham, Design Engineer 3

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. 0007154 **OFFICE** Environmental Services

DATE September 18, 2013

FROM *Glenn Bowman*
Glenn Bowman, P.E., State Environmental Administrator

TO Cassius Edwards, Project Manager

SUBJECT Preliminary Mitigation Cost Estimate

As requested by your office, we are furnishing you with a preliminary cost estimate for the subject project. This project will replace the bridge over Ichawaynochaway Creek on SR 216 west of Newton, Georgia in Baker County. After reviewing the concept and based on the information provided, the proposed project would have the potential to impact waters of the U.S. The estimated mitigation cost for these impacts is \$10,000.

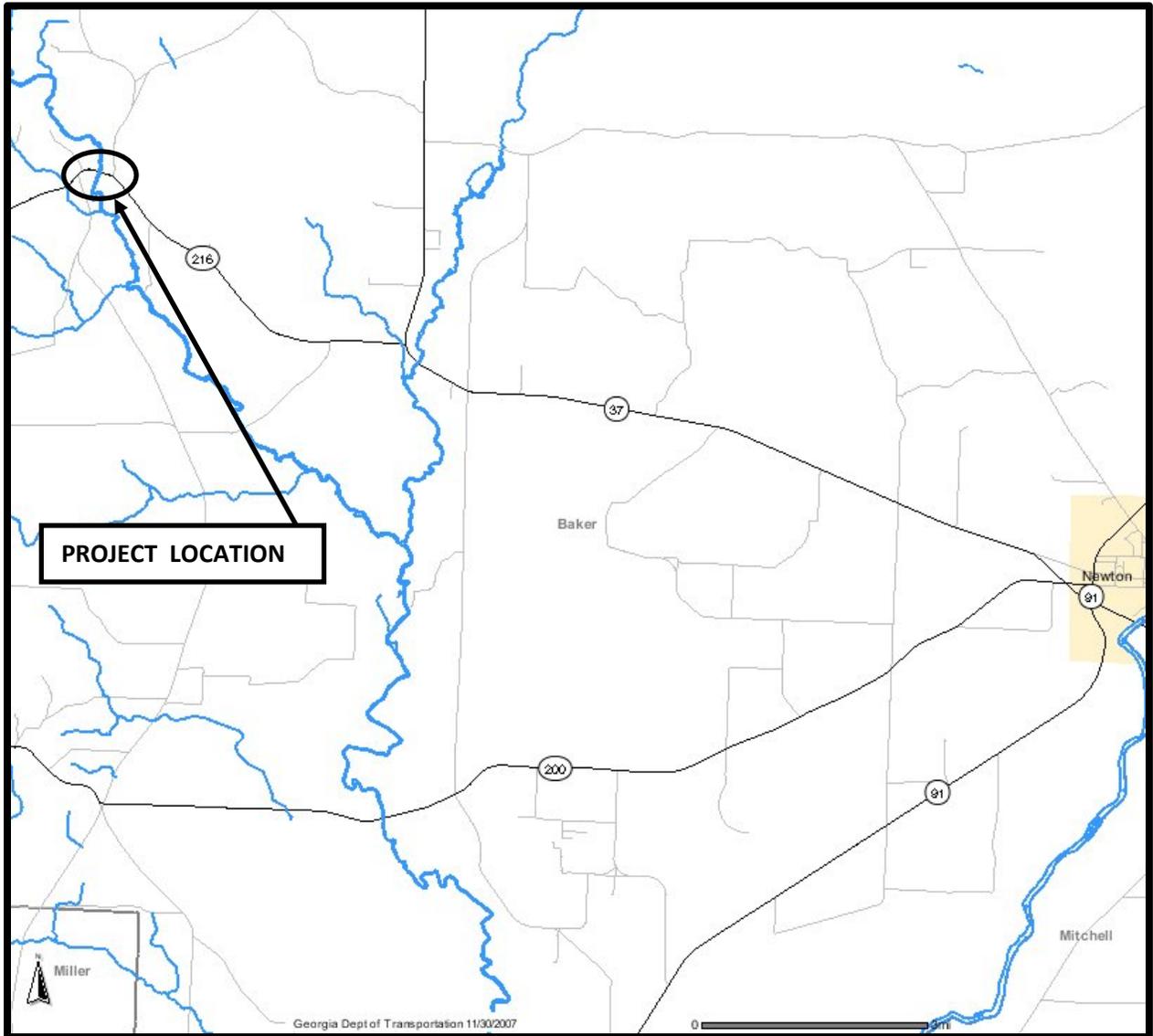
DISCLAIMER: This information is based solely on a desktop review of the information available. Only after a field reconnaissance, can a more detailed and accurate cost be estimated.

If you have any questions or need additional information, please contact Lisa Westberry (404) 631-1772 of our office.

GB/HDC/lmw

cc: Sandy Griffin
General File

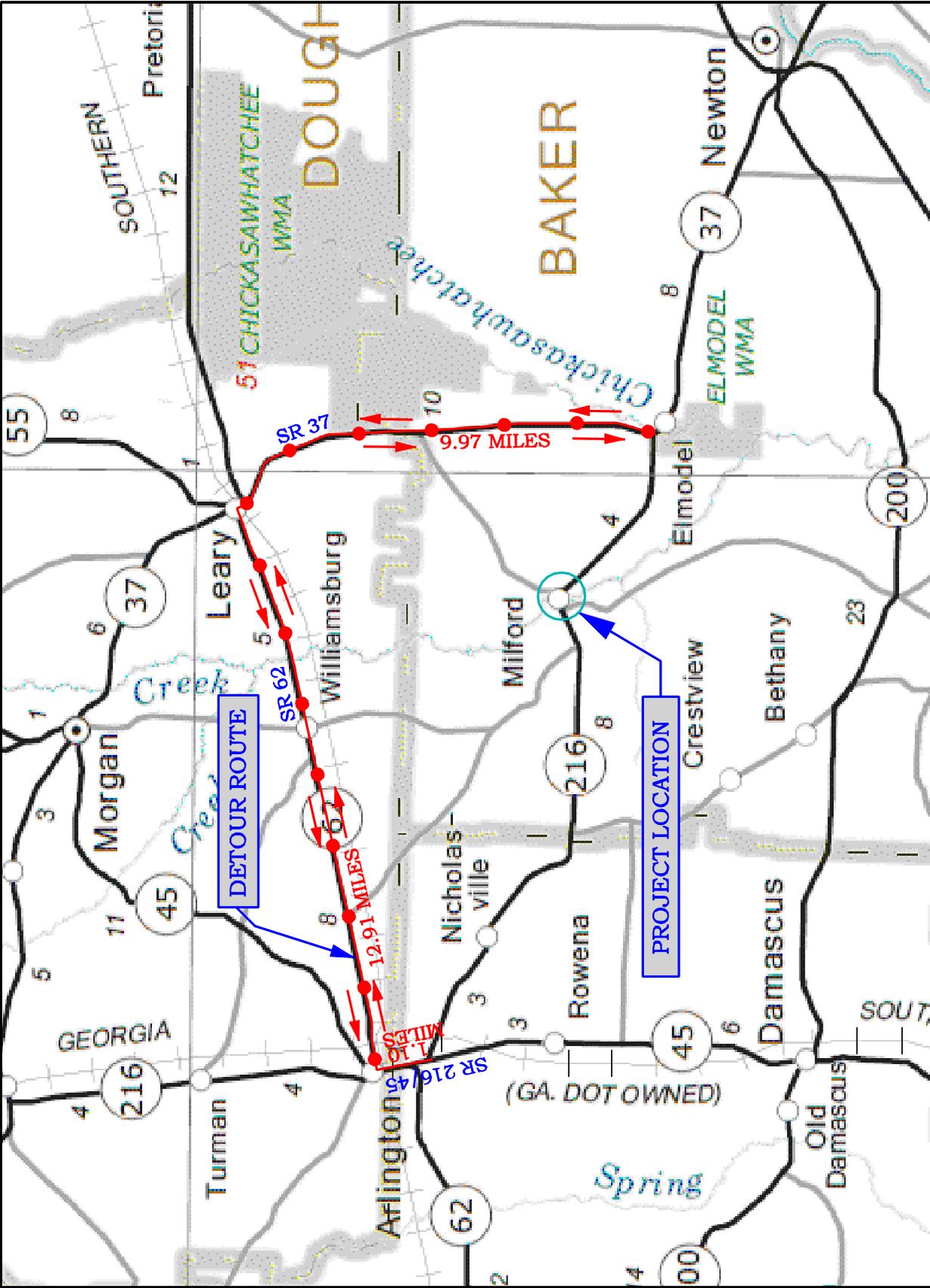
LOCATION SKETCH



Project No. CSBRG-0007-00(154), Baker County

PI 0007154

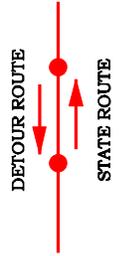
Bridge Replacement: SR 216 @ Ichawaynochaway Creek



CSBRG-0007-00(154) BAKER COUNTY

BRIDGE REPLACEMENT FOR SR 216 @ ICHAWAYNOCHAWAY CREEK

LEGEND



DETOUR LOCATION MAP

LENGTH OF DETOUR - APPROXIMATELY 24 MILES