



Interoffice Memo
Office of Design Policy & Support

DATE: 8/7/2019

FILE: P.I.# 0013718
Floyd County / GDOT District 6 - Cartersville
Bridge Replacement – SR 1/SR 20/US 27 @ Etowah River and NS #719103R in
Rome

FROM: *for*  Brent Story, State Design Policy Engineer

TO: SEE DISTRIBUTION

SUBJECT: APPROVED CONCEPT REPORT

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

Attachment

Distribution:

Hiral Patel, Director of Engineering
Joe Carpenter, Director of P3
Albert Shelby, Director of Program Delivery
Carol Comer, Director, Division of Intermodal
Darryl VanMeter, Assistant Director of P3/State Innovative Delivery Administrator
Kim Nesbitt, Program Delivery Administrator
Bobby Hilliard, Program Control Administrator
Paul Tanner, State Transportation Planning Administrator
Eric Duff, State Environmental Administrator
Bill DuVall, State Bridge Engineer
Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Erik Rohde, State Project Review Engineer
Monica Flournoy, State Materials Engineer
Patrick Allen, State Utilities Engineer
Eric Conklin, State Transportation Data Administrator
Attn: Systems & Classification Branch
Benny Walden, Statewide Location Bureau Chief
Grant Waldrop, District Engineer
David Acree, District Preconstruction Engineer
Jun Birnkammer, District Utilities Manager
Debbie Cottrell, Project Manager
BOARD MEMBER - 14th Congressional District



Limited Scope Project Concept Report

Project Type: Bridge Replacement P.I. Number: 0013718
 GDOT District: 6 County: Floyd
 Federal Route Number: US 27 State Route Number: SR 1 / SR 20
 Project Number: (N/A)

SR 1/SR 20/US 27 over the Etowah River and Norfolk Southern Railroad, from Riverbend Drive/Hicks Drive to E. 1st Street, Floyd County Georgia. P.I. No. 0013718.

The proposed project would replace the existing bridge over the Etowah River. The total project length is approximately 1,500 feet (0.3 mile) long.

Concept Report Resubmitted 07/12/2019

Submitted for approval:

<u><i>[Signature]</i></u> Consultant Designer / CALYX Engineers	<u>3/28/2019</u> Date
<u><i>Kimberly W. Yarbett</i></u>	<u>4/23/19</u> Date
<u>State Program Delivery Administrator</u>	<u>Date</u>
<u><i>[Signature]</i> Debbie Cottrell <i>ddc C.L.B.</i></u> GDOT Project Manager	<u>4/23/2019</u> Date

Recommendation for approval: * Recommendations are on file ~ OB

<u>* Eric Duff</u> State Environmental Administrator	<u>04/23/2019</u> Date
<u>* Chris Raymond</u> for State Traffic Engineer	<u>05/07/2019</u> Date
<u>* Bill DuVall</u> State Bridge Engineer	<u>06/19/2019</u> Date
<u>* Grant Waldrop</u> District Engineer	<u>05/07/2019</u> Date

- MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).
- Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

R. Paul Jansen 4-25-19
State Transportation Planning Administrator Date

Approval:

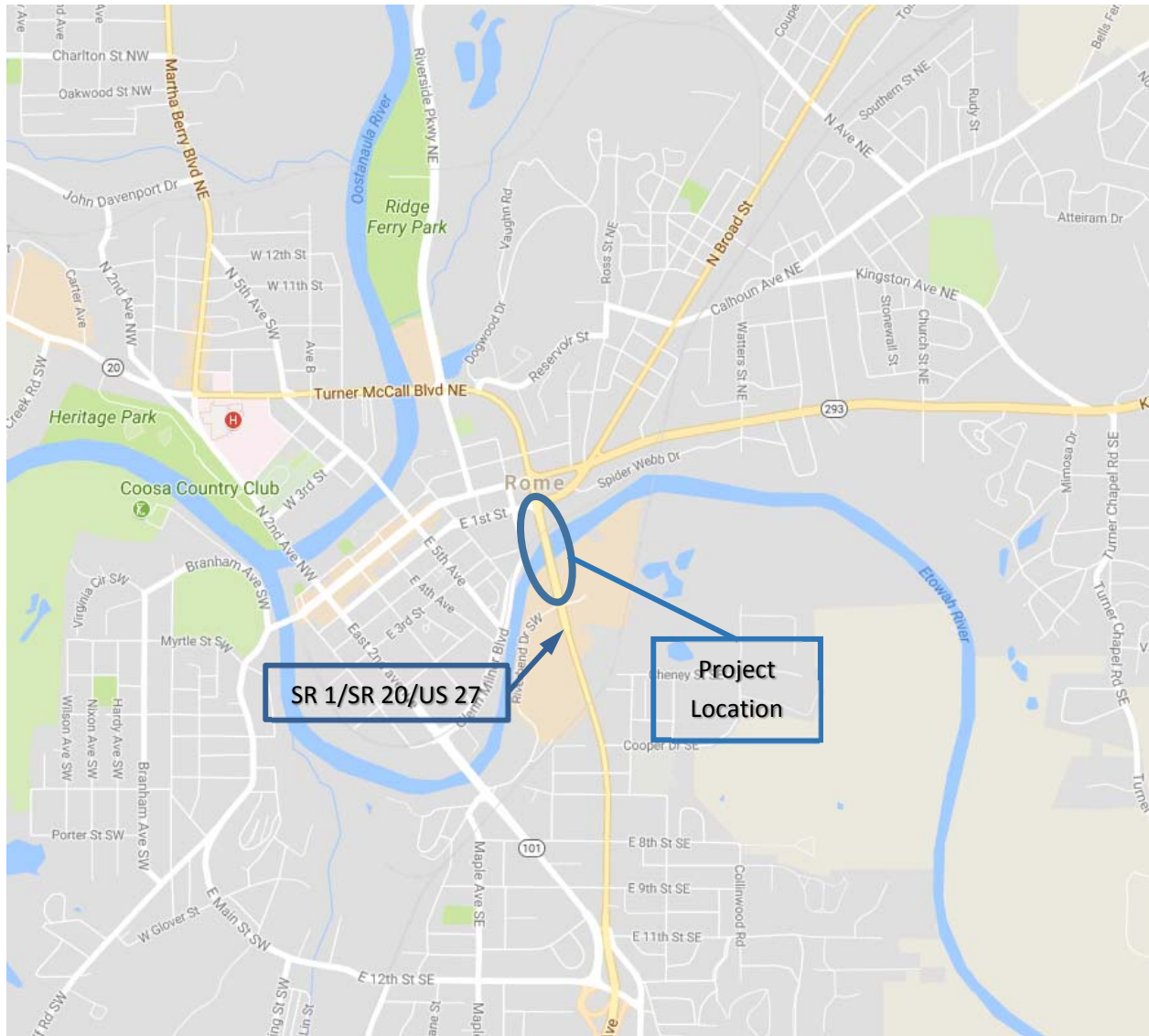
Concur: *[Signature]*
GDOT Director of Engineering

Approve: *Margaret B. Pikel* 8.7.19
GDOT Chief Engineer Date

Recommendations were also received from the following:

- * Erik Rohde, State Project Review Engineer - 04/28/2019; * Monica Flourney, State Materials Engineer - 05/07/2019
- * Stevonn Dilligard, State Utility Construction Engineer - 06/06/2019

PROJECT LOCATION MAP



GDOT PI # 0013718

SR 1/SR 20/US 27 @ Etowah River & NS #719103R in Rome - Bridge replacement

Scale: = 1" = 0.50 miles (approximate)

PLANNING & BACKGROUND DATA

Project Justification Statement: The bridge on SR 1 / SR 20 / US 27 over Etowah River, Structure ID 115-0016-0, was built in 1956. This bridge consists of ten (10) spans of continuous steel beams on concrete caps with concrete columns. The bridge was designed using an HS-20 vehicle, which is below current design standards. A structural analysis of this bridge shows that it has no reserve capacity in the substructure. The overall condition of this bridge would be classified as fair. The deck is in fair condition with heavy scaling, spalls with exposed rebar, and moderate cracking through the deck. The superstructure is in satisfactory condition with corrosion and pack rust in the bearings and moderate deflection in the beams. The substructure is in satisfactory condition with moderate cracking in the concrete caps and severe honeycombing of the concrete columns. The honeycombing has exposed rebar that has minor section loss. This bridge is classified as having an unknown foundation and therefore could be at risk for scour. Due to the age of the structure, the structural analysis of the bridge, and the unknown foundation of the substructure, replacement of this 61-year-old bridge is recommended. (Project Justification Statement approved by the GDOT Bridge Design.)

Existing conditions: The facility consists of 4-12 ft lanes, with a narrow 4 ft wide, 825 ft long raised concrete island, with turn lanes at each end of the project at the intersections. The major intersections on each side of the bridge are SR 1 / SR 20 / US 27 (Turner McCall Blvd.) at SR 53 (MLK Blvd.) / E. 1st Street, and SR 1 / SR 20 / US 27 (Turner McCall Blvd.) at Hicks Dr. / Riverbend Dr. There is lighting on the bridge, and sidewalks on both sides of the roadway and bridge. Several utilities are currently attached to the bridge.

Other projects in the area:

- PI# 650540 – SR 1/SR 101 from Oostanula River to N of SR 20. Coordination required
- District 6 Traffic Signal/Signal timing study. Coordination required.

MPO: MPO Name Rome-Floyd County **TIP #:** N/A

Congressional District(s): 14

Federal Oversight: PoDI Exempt State Funded Other

Projected Traffic: AADT 24 HR T: 8.5%
Current Year (2017): 35,000 Open Year (2022): 36,800 Design Year (2042): 44,900
Traffic Projections Performed by: CALYX Engineers
Date approved by the GDOT Office of Planning: 10/4/2018

AASHTO Functional Classification (Mainline): Principal Arterial

AASHTO Context Classification (Mainline): Urban

AASHTO Project Type (Mainline): Reconstruction

Complete Streets - Bicycle, Pedestrian, and/or Transit Standards Warrants:

Warrants met: None Bicycle Pedestrian Transit

From Chapter 9 of GDOT Design Policy Manual, Pedestrian Warrant #1 is met.

Pavement Evaluation and Recommendations

Initial Pavement Evaluation Summary Report Required? No Yes
 Feasible Pavement Alternatives: HMA PCC HMA & PCC

The preliminary pavement design consists of the following which was utilized for the construction cost estimate. The GDOT flexible pavement design analysis tool was used. The pavement design will require approval through the Pavement Design Committee.

- 1.5” – 12.5 mm superpave polymer modified
- 2” - 19mm superpave
- 7” – 25mm superpave
- 14” GAB

DESIGN AND STRUCTURAL

Description of Proposed Project: The proposed project will replace the existing bridge with a proposed bridge over the Etowah River and Norfolk Southern Railroad. The proposed bridge elevation will be raised approximately 2 feet to meet minimum clearance over the railroad. The bridge typical section will include 4-12 ft lanes, 16 ft raised median (20 ft gutter to gutter), 5 ft sidewalks, 2-12 ft auxiliary lanes. An abutment wall (MSE) will be utilized at the north end of the bridge, to reduce bridge length and to minimize the project footprint. The total project length is approximately 1,500 feet (0.3 mile) long.

Major Structures:

Structure	Existing	Proposed
115-0016-0	Bridge, 10 spans, approximately 674 ft long X 69.3 ft wide	The preferred alternative would replace the existing bridge with a proposed bridge spanning over the Etowah River and Norfolk Southern Railroad. The proposed bridge is approximately 621 ft long X 108.42 ft wide. (Spans anticipated 3 at 145 ft, 1 at 123 ft, 1 at 65.67 ft)

Accelerated Bridge Construction (ABC) techniques anticipated: No Yes

The high traffic volumes across this bridge would normally make this project a strong candidate for Accelerated Bridge Construction (ABC). The proposed staging will reduce the travel lanes from four to two during the first phase of construction. There are several ABC methods that could be applied here that would reduce the construction time and the associated impact to the traveling public. The most effective methods are those that minimize the amount of formwork and cast in place concrete. The design team will evaluate the use of deck Bulb Tee beams, which would reduce construction time by eliminating field installation of metal deck forms. In the substructure, micropiles could be used to construct proposed footings underneath the existing bridge prior to the disruption of traffic. If drilled shafts are recommended, the shafts located outside of the limits of the existing bridge would be constructed first with the possibility of drilling shafts under the existing bridge with a specialized drilling

rig for use areas with reduced vertical clearance. Precast bent caps would also be viable and would save considerable time in the forming and pouring of concrete in the field.

It should also be noted that there will need to be 2 or more foundations constructed within the river with great difficulty. Additionally, there will be a total of 4 substructure units removed from the channel, including 2 in the first stage. With development in close proximity in all four quadrants of the project site, construction access will be difficult. While the ABC methods discussed above are valid in general, the anticipated access difficulties make their implementation not practical at this project site.

Is the project located on a NHS roadway? No Yes

Is the project located on a Special Roadway or Network? No Yes *Network Type*

- Georgia Statewide Freight Corridor Network (US 27)
- Oversized Overweight Truck Route (SR 20)

Mainline Design Features:

Feature	Existing	Policy	Proposed
Typical Section			
- Number of Lanes	4	NA	4
- Lane Width(s)	11-12-ft	11-12-ft	11-12-ft
- Median Width & Type	4-ft raised	20-ft	*2.5 to 8-ft raised
- Border Area Width	8-10-ft	10-16-ft	12-ft
- Outside Shoulder Slope	2%	2%	2%
- Sidewalks	5-ft	5-ft	5-ft
- Auxiliary Lanes	Varies 0 to 12-ft	NA	Lt turn lane (1-2/12-ft) Rt turn lane (1/12-ft) *
- Bike Accommodations	NA	NA	NA
Posted Speed	35/40 mph		35/40 mph
Design Speed	40 mph	NA	40 mph
Minimum Horizontal Curve Radius	6000-ft	533	6000-ft
Maximum Superelevation Rate	NC	4%	NC
Maximum Grade	2%	8%	4.05%
Access Control	By Permit	By Permit	By Permit
Design Vehicle	WB-40	WB-67	WB-67
Check Vehicle	N/A	N/A	N/A
Pavement Type	Asphalt	NA	Asphalt

*Varying locations – see layout

Design Exceptions/Design Variances to GDOT and/or FHWA Controlling Criteria anticipated: None

Design Variances to GDOT Standard Criteria anticipated:

- Median usage – A Design Variance for a variable width Raised Median will be required and coordination has begun with Michelle Pate, Office of Design Policy & Support.

Lighting required: No Yes

There is existing roadway lighting on the bridge. Design of the relocation of the lighting is to be done by Georgia Power and coordinated with District 6 Utilities (email dated 5/31/2019)

Off-site Detours Anticipated: No Undetermined Yes

If yes: Roadway type to be closed: Local Road State Route
Detour Route selected: Local Road State Route
District Concurrence w/Detour Route: No/Pending Received *Select a date*

Transportation Management Plan [TMP] Required: No Yes

If Yes: Project classified as: Non-Significant
TMP Components Anticipated: TTC

INTERCHANGES AND INTERSECTIONS

Interchanges/Major Intersections: SR 1 at SR 53 / 1st Street; SR 1 at Hicks Dr. / Riverbend Dr.
Signals will be modified at each intersection.

Intersection Control Evaluation (ICE) Required: No Yes

There are no changes to the laneage at each of the existing signalized intersections and the project is tying to them. No substantive changes will be made. Attached are ICE waivers for the intersections at E 1st street, and for Riverbend/Hicks Drive.

Roundabout Concept Validation Required: No Yes Completed – Date:

UTILITY AND PROPERTY

Railroad Involvement: Norfolk Southern Railroad

- Norfolk Southern Railway Company contact Jacob Watson, Jacob.Watson@nscorp.com
- DOT inventory 719103R, RRMP 78.95-H
- Note: Per correspondence dated 7/30/2018 from Jill Franks, Norfolk Southern confirmed that an additional rail line is not needed.

Utility Involvements:

- Atlanta Gas Light Northwest Ga
- ATT /D Telecom
- Comcast Communications
- Georgia Power - Distribution
- Windstream
- Parker Fibernet LLC Telecom
- City of Rome water
- City of Rome sewer
- Georgia Power - Transmission

SUE Required: No Yes

Public Interest Determination Policy and Procedure recommended? No Yes

Right-of-Way (ROW): Existing width: 100ft. Proposed width: 120ft.

Required Right-of-Way anticipated: None Yes Undetermined

Easements anticipated: None Temporary Permanent * Utility Other

** Permanent easements will include the right to place utilities.*

Anticipated total number of impacted parcels:	<u>11</u>
Businesses:	<u>0</u>
Displacements anticipated:	<u>0</u>
Residences:	<u>0</u>
Other:	<u>0</u>
Total Displacements:	<u>0</u>

Location and Design approval: Not Required Required

Impacts to USACE property anticipated? No Yes Undetermined

CONTEXT SENSITIVE SOLUTIONS

Issues of Concern:

- The project corridor contains heavy pedestrian movements.
- Environmental species seasons
- Waterway user accommodation during construction

Context Sensitive Solutions Proposed:

- Accommodation for pedestrians to be made through construction and noted on the plans
- Environmental species seasons to be addressed in the special provisions as needed
- Waterway user accommodation during construction to be noted in the Special Provisions

ENVIRONMENTAL AND PERMITS

Anticipated Environmental Document: NEPA ~ CE

Level of Environmental Analysis:

- The environmental considerations noted below are based on preliminary desktop or screening level environmental analysis and are subject to revision after the completion of resource identification, delineation, and agency concurrence.

The environmental considerations noted below are based on the completion of resource identification, delineation, and agency concurrence.

Water Quality Requirements:

MS4 Compliance – Is the project located in an MS4 area? No Yes

Is Non-MS4 water quality mitigation anticipated? No Yes

Environmental Permits, Variances, Commitments, and Coordination anticipated:

USACE 404 Permit, GA EPD Stream Buffer Variance.

Air Quality:

Is the project located in an Ozone Non-attainment area? No Yes

Carbon Monoxide hotspot analysis required? No Yes

NEPA/GEPA Comments & Information:

Ecology: An Ecology Assessment of Effects is anticipated. The fieldwork is completed and the resource survey report is in progress.

Protected Species Survey Reports: To be determined based on results of field verification and assessment of suitable habitat. Special Provisions may be required.

Critical Habitat - There is no Critical Habitat defined in the Etowah River at bridge location; however, Critical Habitat is found just west of the proposed project for aquatic species in the Oostanaula River.

Archaeology: The terrestrial fieldwork for the Phase I survey has been completed, and the underwater survey is pending. One site is near the project vicinity, being the stone fish weir located in the Etowah River. It is unclear if it is historic/ prehistoric. It is an old weir site and little is known about it. There are known to be sunken river ferries in the Etowah River around Rome. A Civil War site is located on a hill to the east, and could be potential for that type of component as well. A total of 8 previously recorded sites within 1 km.

History: A HRSR and AOE is anticipated. The area is commercially developed and there do not appear to be any historic-age buildings in the bridge’s immediate vicinity. The Norfolk Southern route at this location is part of the former East Tennessee, Virginia, and Georgia Railroad; this segment of line was constructed in 1870. This rail corridor is likely eligible for the National Register of Historic Places (i.e. historic), but project impacts to it are unlikely. The bridge proposed for replacement is not historic per the Georgia Historic Bridge Survey. The fieldwork is complete. The Historic Resources Survey Report (HRSR) is in progress.

Public Involvement:

- A PDOH is not anticipated, as the project is maintaining traffic onsite during construction.
- A PIOH will be conducted to provide information to local government, stakeholders and residents.

COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Is Federal Aviation Administration (FAA) coordination anticipated? No Yes

Project Meetings:

- 8/20/2017 Lane Configuration meeting
- 11/13/2018 Concept Team Meeting
- 12/3/2018 Construction Staging Meeting

Other coordination to date:

- District 6 has attended MPO meetings and discussed this project with the local Government.
- The District 6 Engineer and District 6 Preconstruction Engineer have discussed this project with local Governments on multiple occasions.

Project Activity	Party Responsible for Performing Task(s)
Concept Development	CALYX
Design	CALYX
Right-of-Way Acquisition	GDOT
Utility Coordination (Preconstruction)	GDOT District 6
Utility Relocation (Construction)	Utility Owners
Letting to Contract	GDOT
Construction Supervision	GDOT
Providing Material Pits	Contractors
Providing Detours	NA
Environmental Studies, Documents, & Permits	CALYX
Environmental Mitigation	GDOT
Construction Inspection & Materials Testing	GDOT

Project Cost Estimate Summary and Funding Responsibilities:

	PE Activities		ROW	Reimbursable Utilities	CST*	Total Cost**
	PE Funding	Section 404 Mitigation				
Programmed Cost:	\$886,577		\$250,000	\$0	\$7,622,154	\$7,872,154
Funded By:	GDOT	GDOT	GDOT	GDOT	GDOT	
Estimated Amount:	\$886,577	\$67,500	\$1,955,000	\$1,627,600	\$24,058,078	\$27,640,678
Date of Estimate:	3/29/16	10/10/18	2/1/18	2/15/19	6/5/19	
Cost Difference:	\$0		\$1,705,000	\$1,627,600	\$16,435,924	\$19,768,524

Note: The reimbursable utilities cost includes \$152,600 for Norfolk Southern Railroad

*CST Cost includes: Construction, Engineering & Inspection, Contingencies & Liquid AC Cost Adjustment.

**Total cost reflects ROW+Reimbursable Utilities+CST

Resource Type	Estimated Impact Amount	Estimated Grandfathered Credits needed	Cost Per Credit Based on Upper Oconee HUC Code	Estimated Impact Mitigation Cost
Stream	125 linear feet	1,500	\$45.00	\$67,500
Total Project Mitigation Cost				\$67,500

ALTERNATIVES DISCUSSION

Preferred Alternative: Construct proposed bridge at the location of the existing bridge, on existing alignment. 2-lanes of through traffic will be maintained on the southbound lanes during the first construction stage, and then 4-lanes of traffic will be maintained throughout the remaining construction time. The typical section will include 6-lanes (4 through lanes and 2 auxiliary lanes)			
Estimated Property Impacts:	11 parcels	Estimated Total Cost:	\$27,640,678
Estimated ROW Cost:	\$1,955,000	Estimated CST Time:	24 months
Rationale: The approach for this alternative is based on direction from GDOT Construction Staff on the recommended staging and construction methodology for this bridge replacement project. The proposed concept-level Bridge Staging details that are included as an attachment, have been reviewed and approved by the Bridge Office, District Construction and the State Construction			

Office. All agree that reducing traffic to two lanes for the initial stage is the most efficient approach. Four lanes of traffic can be maintained for the remainder of the construction.

The advantages of this preferred alternative are:

- No offsite detour is required, and there will be only a reduction of through travel lanes in stage 1.
- This will provide a shorter construction time and is the most cost effective method for constructing this project.
- The additional bridge width will accommodate the extension of left and right turn / auxiliary lanes across the bridge.

The disadvantages of this alternative are:

- The costs for construction and right-of-way are higher than Alternative 2 due the increased bridge width.
- There will be a 6 to 12 month (approximate) timeframe where the existing traffic will be limited to 2-lanes during the first stage of construction, which will impact the traffic patterns in the City.

Alternative 1: Construct proposed bridge at the location of the existing bridge, on existing alignment. 4-lanes of through traffic will be maintained on this alignment throughout construction. As a result, there will be a stage will work will occur between lanes of traffic. The typical section will include 6 lanes (4 through lanes and two auxiliary lanes) and a raised median.

Estimated Property Impacts:	11 parcels	Estimated Total Cost:	\$33,566,000
Estimated ROW Cost:	\$1,955,000	Estimated CST Time:	36 months

Rationale: This was presented as the Preferred Alternative at the Concept Team Meeting. However, further review by GDOT Construction staff concluded that the proposed staging for this alternative is not constructible due to the work between the existing and proposed bridges. In addition, the construction costs are significantly higher. For those reasons, this alternative is not preferred.

Alternative 2: Construct proposed bridge that matches existing 4-lane typical section.

Estimated Property Impacts:	11 parcels	Estimated Total Cost:	\$21,421,000
Estimated ROW Cost:	\$928,000	Estimated CST Time:	24 months

Rationale: The design of this alternative is based on minimizing the size and cost of the proposed bridge while complying with the project justification statement. This alternative is not preferred because it would require a realignment of the roadway, and/or reduction in the number of traffic lanes maintained during construction.

The advantages of Alternative 2 are:

- The costs for construction and right-of-way are lower than the preferred alternative.

The disadvantages of this alternative are:

- Either an off-site detour or the reduction of through traffic would be required for the entire duration of the construction. This is not a viable option due to the high traffic volumes and congestion at this location.

Alternative 3: Construct proposed bridge with 8-12 ft lanes with raised median and sidewalks			
Estimated Property Impacts:	11 parcels	Estimated Total Cost:	\$37,566,000
Estimated ROW Cost:	\$3,165,000	Estimated CST Time:	24 months
Rationale: This alternate was not selected because it would expand the scope to include additional improvements at the signalized intersections on each end of the bridge. Those improvements are not included in the justification statement for this project.			

No-Build Alternative: Leave existing bridge in place			
Estimated Property Impacts:	0	Estimated Total Cost:	\$0
Estimated ROW Cost:	\$0	Estimated CST Time:	None
Rationale: This alternate was not selected because the bridge does not meet current design standards as noted in the project justification statement.			

Additional Comments/ Information:

LIST OF ATTACHMENTS/SUPPORTING DATA

1. Concept Layout
2. Typical sections
3. Detailed Cost Estimates:
 - a. Revisions to Programmed Costs forms, & Liquid AC Cost Adjustment forms
 - b. Construction cost (CES)
 - c. Right-of-Way
 - d. Ecology Mitigation Estimate
 - e. Utilities
 - i. Utility Cost estimate
 - ii. Concept Utility Report (CUR)
 - f. Railroad concept estimate
4. Traffic memorandums
 - a. Design Traffic forecasts Memo
 - b. Traffic Queuing Memo
 - c. ICE waivers
5. MS4
 - a. MS4 Concept Report Summary
 - b. MS4 Drainage Maps
6. Bridge Staging details
7. Bridge inventory
8. Meeting Minutes/Communication

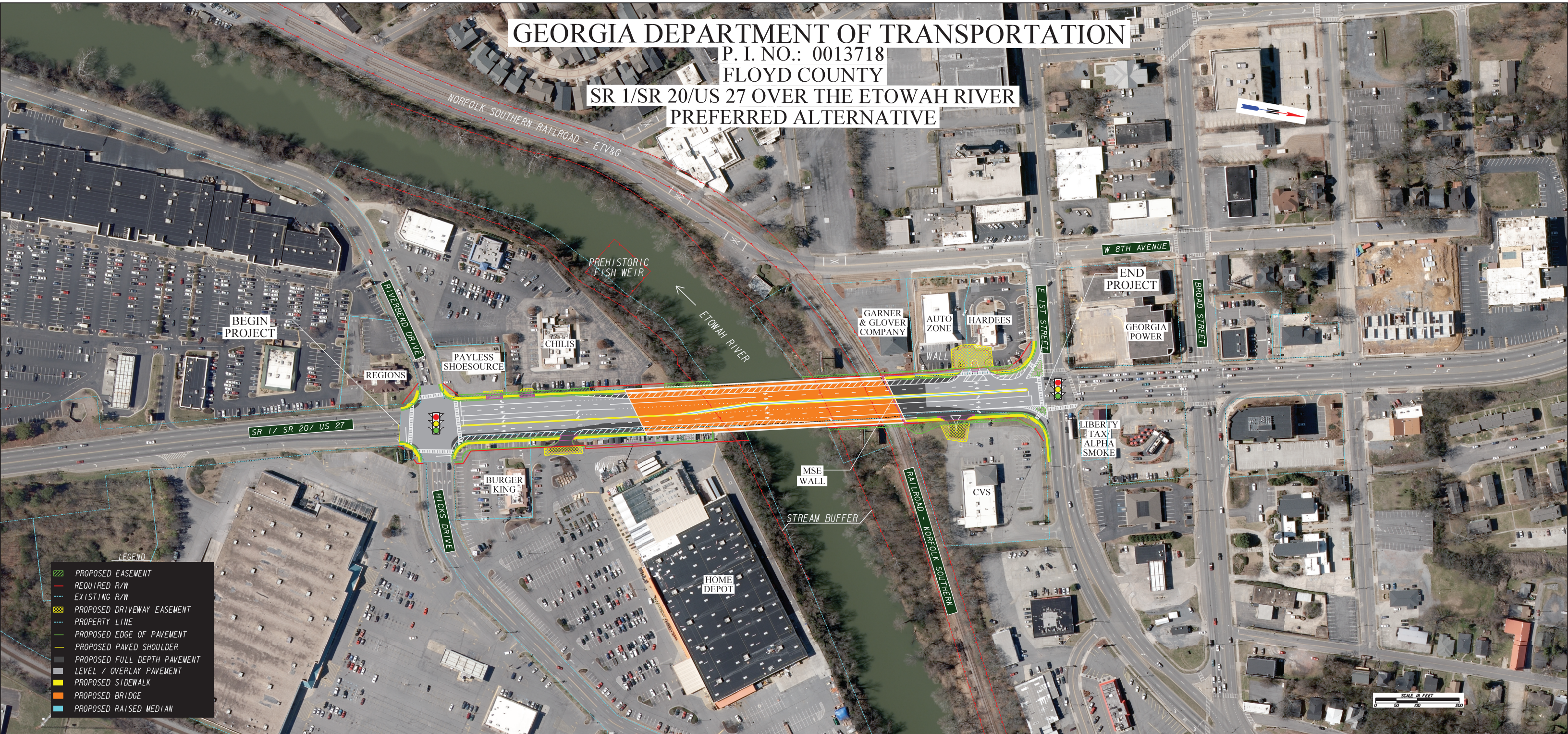
- a. 8/16/2017 Letter from District recommending width for turn lanes on bridge, and staging onsite
- b. 8/20/2017 Lane Configuration Discussion
- c. 7/17/2018 Railroad Coordination - track
- d. 11/13/2018 Concept team meeting
- e. 12/3/2018 Construction Staging Meeting
- f. 5/31/2019 Lighting email coord with District and Ga Power

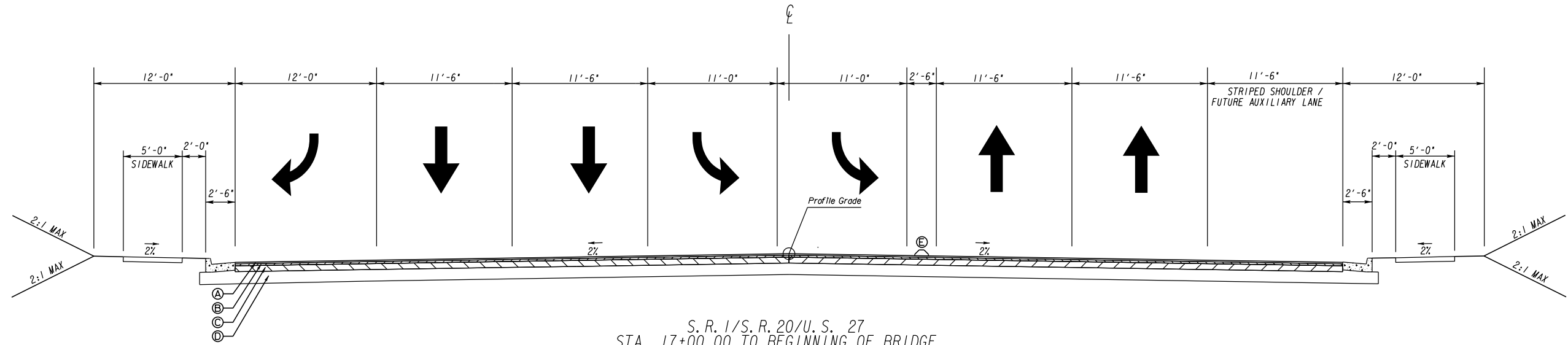
GEORGIA DEPARTMENT OF TRANSPORTATION

P. I. NO.: 0013718

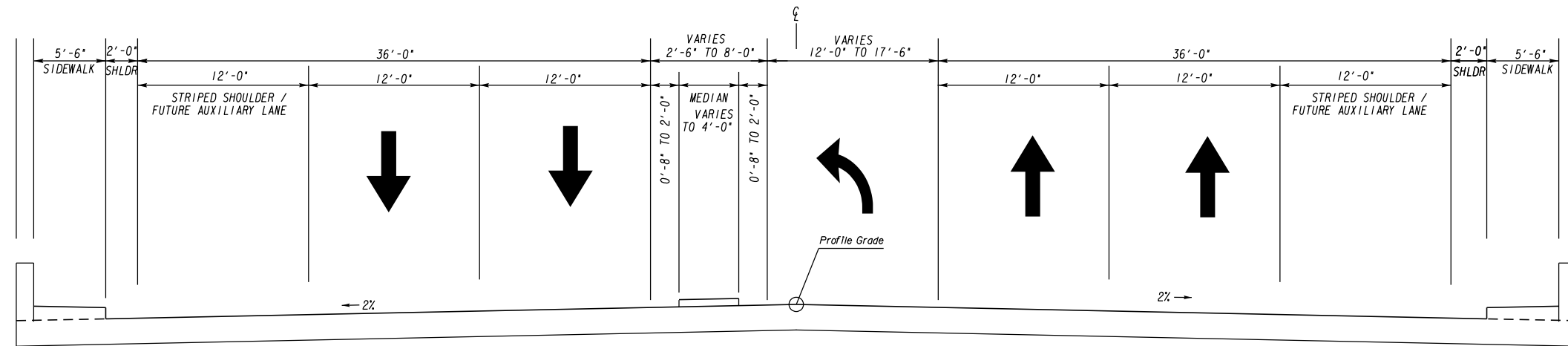
FLOYD COUNTY

SR 1/SR 20/US 27 OVER THE ETOWAH RIVER PREFERRED ALTERNATIVE





S. R. 1/S. R. 20/U. S. 27
STA. 17+00.00 TO BEGINNING OF BRIDGE
N. T. S.



S. R. 1/S. R. 20/U. S. 27
BRIDGE TYPICAL SECTION
N. T. S.

PAVEMENT

- Ⓐ RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GROUP 2 ONLY, INCL POLYMER MODIFIED BITUM MATL & H LIME (165 LB/SY)
- Ⓑ RECYCLED ASPH CONC 19 MM SUPERPAVE, GROUP 1 OR 2, INCL BITUM MATL & H LIME (220 LB/SY)
- Ⓒ RECYCLED ASPH CONC 25 MM SUPERPAVE, GROUP 1 OR 2, INCL BITUM MATL & H LIME (770 LB/SY)
- Ⓓ 14" GRADED AGGREGATE BASE CRS, INCL MATL
- Ⓔ CONCRETE MEDIAN, 7 1/2 IN, TP 7 FACE (441-0754)



DRAWING NOT TO SCALE

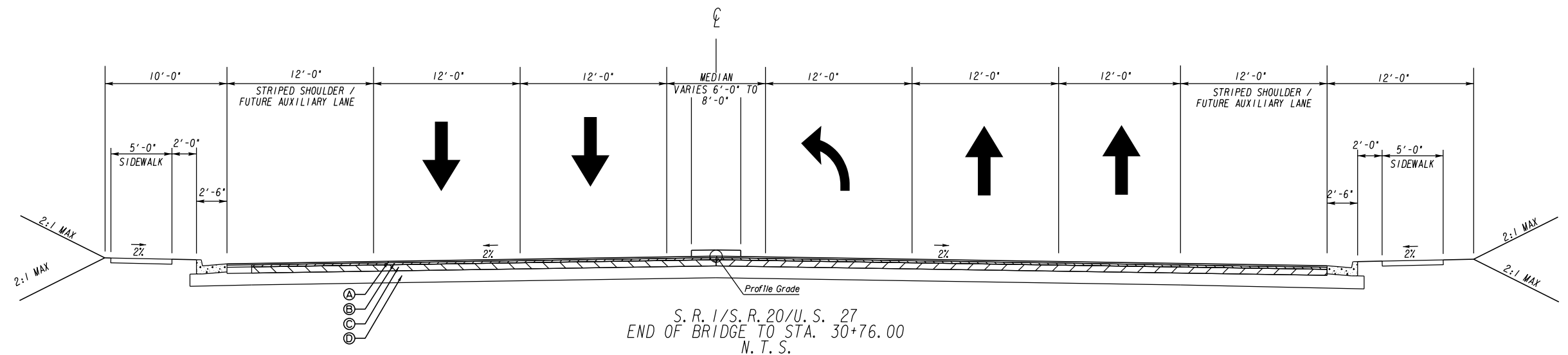
REVISION DATES

NO.	DATE	DESCRIPTION

TYPICAL SECTIONS

SR 1/SR 20/US 27 OVER THE ETOWAH RIVER
BRIDGE REPLACEMENT

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	



PAVEMENT

- Ⓐ RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GROUP 2 ONLY, INCL POLYMER MODIFIED BITUM MATL & H LIME (165 LB/SY)
- Ⓑ RECYCLED ASPH CONC 19 MM SUPERPAVE, GROUP 1 OR 2, INCL BITUM MATL & H LIME (220 LB/SY)
- Ⓒ RECYCLED ASPH CONC 25 MM SUPERPAVE, GROUP 1 OR 2, INCL BITUM MATL & H LIME (770 LB/SY)
- Ⓓ 14" GRADED AGGREGATE BASE CRS, INCL MATL



DRAWING NOT TO SCALE

REVISION DATES

NO.	DATE	DESCRIPTION

TYPICAL SECTIONS

SR 1/SR 20/US 27 OVER THE ETOWAH RIVER
BRIDGE REPLACEMENT

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0002
CORRECTED:	DATE:	
VERIFIED:	DATE:	

Interoffice Memo

FILE

PI NUMBER	0013718	PROJECT DESCRIPTION	SR 1/SR 20/US 27 @ Etowah River and NS #719103R in Rome
OFFICE	Program Delivery		
DATE	Wednesday, June 05, 2019		

From: Kimberly W. Nesbitt, State Program Delivery Administrator

To: Erik Rohde, P.E., State Project Review Engineer
via email Mailbox: CostEstimatesandUpdates@dot.ga.gov

Subject: REVISIONS TO PROGRAMMED COSTS

Project Manager:	Debbie Cottrell
Management Let Date:	5/15/2022
Management Right of Way Date:	2/15/2021

Summary of Programmed Costs and Proposed Revised Costs:

Estimate Type	Programmed Costs (T-Pro Without Inflation)	Last Estimate Date	Revised Cost Estimate
CONSTRUCTION	\$7,622,154.00		\$24,058,078.46
RIGHT OF WAY	\$250,000.00		\$1,955,000.00
UTILITIES	\$0.00		\$1,627,600.00

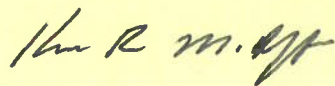
Explanation for Cost Increase and Contingency Justification:

This reflects the cost estimate responding to Concept review comments. The cost increase is primarily due to the bridge cost increase. Through the Bridge Constructibility meeting, it was determined to use a higher square foot cost. The previous 15% contingency was reduced to 12% to reflect being later in the concept development phase for this bridge replacement project.

Attachments:

- CES 411 Report
- ROW Estimate
- Ecology Mitigation Estimate
- Utility cost estimate
- Concept Utility Report
- Railroad estimate Norfolk Southern

Design Phase Leader Validation of Final QC/QA for Construction Cost Estimate Used In This Revision to Programmed Costs:

Consultant Company or GDOT Design Office:	CALYX Engineers
Printed Name:	Kenneth R McDuff
Title:	Project Manager
Signature:	
Date:	5/30/2019

Cost Estimate Worksheet:

CONSTRUCTION COST ESTIMATE (Required base estimate entered from CES and should not include E&I). →										A	\$ 20,429,768.86
ENGINEERING AND INSPECTION (The default E&I percentage is 5.0%, but may be adjusted per project scope.) →										D	\$ 1,021,488.44
Construction Cost		E&I Percentage		E&I Cost							
B		C		D = B x C							
\$ 20,429,768.86		5%		\$ 1,021,488.44							
CONTINGENCY (Refer to the Risk and Contingencies Table included in GDOT Policy 3A-9 Cost Estimating Purpose) →										I	\$ 2,574,150.88
Construction Cost		E&I Cost		Construction + E&I		Contingency Percentage		Contingency Cost			
E		F		G = E + F		H		I = G x H			
\$ 20,429,768.86		\$ 1,021,488.44		\$ 21,451,257.30		12%		\$ 2,574,150.88			
ASPHALT FUEL PRICE ADJUSTMENT (Leave blank if not applicable) →										Q	\$ 32,670.28
Date		Jun 2019								Current Asphalt Fuel Index Prices can be found at the link below: http://www.dot.ga.gov/PS/Materials/AsphaltFuelIndex	
Regular Unleaded		\$2.561/ GAL									
Diesel		\$3.000/ GAL									
Liquid AC		\$545.00/ TON									
Liquid AC	Description	Tons	Percentage of Asphaltic Concrete	Tons of Asphaltic Concrete	Total Monthly Tonnage of Asphalt Cement (TMT) M = Sum of Columns L, T & W	Monthly Asphalt Cement Price month project let (APL) N	Max. Cap O	Monthly Asphalt Cement Price month placed (APM) P = (N x O) + N	Price Adjustment (PA) Q = [(P - N) / N] x M x N		
	Leveling	718.00 TN	5.00%	35.90 TN	99.91 TN	\$545.00/ TON	60%	\$ 872.00	\$ 32,670.28		
	9.5 mm SP										
	12.5 OGFC										
	12.5 PEM										
	12.5 mm SP	759.00 TN	5.00%	37.95 TN							
	19 mm SP	109.00 TN	5.00%	5.45 TN							
	25 mm SP	381.00 TN	5.00%	19.05 TN							
Bituminous Tack Coat	Description	Tack Coat	GL/TN	Tons							
		R	S	T = R/S							
	Tack Coat	363.00 GL	232.8234 GL/TN	1.56 TN							
Bituminous Tack Coat (Surface Treatment)	Description	SY	GL/SY	TN	W = (U x V) / (232.8234 GL/TN)						
		U	V								
	Single Surface Treatment		0.20 GL/SY								
	Double Surface Treatment		0.44 GL/SY								
	Triple Surface Treatment		0.71 GL/SY								
CONSTRUCTION TOTAL COST →										X = A+D+I+Q	\$ 24,058,078.46
RIGHT OF WAY COST →										Y	\$ 1,955,000.00
UTILITIES COST (Provided by Utility Office) →										Z = Sum of Reimbursable Costs	\$ 1,627,600.00
Utility Owner		Reimbursable Cost			Utility Owner			Reimbursable Cost			
Georgia Power Company - Distribution		\$ 475,000.00									
Georgia Power Company - Transmission		\$ 1,000,000.00									
Norfolk Southern Railroad		\$ 152,600.00									

Detailed Cost Estimate

Time Processed: Jun-05-2019 08:31:39 AM

JOB NUMBER: 0013718

**FED/STATE
PROJECT
NUMBER:**

SPEC YEAR: 13
ITEM ALL_2018Q4_24MO

HISTORY:
DESCRIPTION: BRIDGE - FLOYD CO - SR1/SR20/US27 OVER ETOWAH RIVER & NS RR
ASSIGNED MULKEY ENGINEERING - CONSULTANT PRG DLVY
CONTROL
GROUP:

ITEMS FOR JOB 0013718

Line Number	Item	Quantity	Units	Price	Description	Amount
0003	150-1000	1.00	LS	\$900,000.00000	TRAFFIC CONTROL - 0013718	\$900,000.00
0004	150-5010	4.00	EA	\$8,974.76672	TRAF CTRL,PORTABLE IMPACT ATTN	\$35,899.07
0009	153-1300	1.00	EA	\$87,767.39632	FIELD ENGINEERS OFFICE TP 3	\$87,767.40
0014	210-0100	1.00	LS	\$1,800,000.00000	GRADING COMPLETE - 0013718	\$1,800,000.00
0029	402-1812	718.00	TN	\$112.33944	RECYL AC LEVELING,INC BM&HL	\$80,659.72
0048	402-4510	759.00	TN	\$115.63733	RECYL AC 12.5 MM SP,GP2ONLY,INC P-MBM&HL	\$87,768.73
0053	432-5010	4000.00	SY	\$6.15697	MILL ASPH CONC PVMT,VARB DEPTH	\$24,627.88
0064	441-0104	983.00	SY	\$39.15648	CONC SIDEWALK, 4 IN	\$38,490.82
0073	441-0754	140.00	SY	\$65.50641	CONC MEDIAN, 7 1/2 IN	\$9,170.90
0074	441-4030	231.00	SY	\$61.75883	CONC VALLEY GUTTER, 8 IN	\$14,266.29
0083	441-6012	590.00	LF	\$47.16000	CONC CURB & GUTTER/ 6X24TP2	\$27,824.40
0084	441-6222	2010.00	LF	\$19.47529	CONC CURB & GUTTER/ 8X30TP2	\$39,145.33
0094	500-3110	256.00	LF	\$390.00000	CLASS A CONCRETE, TYPE P1, RETAINING WAL	\$99,840.00
0099	500-3201	59.00	CY	\$687.96000	CL B CONC, RET WALL	\$40,589.64
0104	500-9999	12.00	CY	\$276.19172	CL B CONC,BASE OR PVMT WIDEN	\$3,314.30
0109	550-1180	1500.00	LF	\$51.49955	STM DR PIPE 18,H 1-10	\$77,249.33
0114	550-1240	200.00	LF	\$72.80280	STM DR PIPE 24,H 1-10	\$14,560.56
0118	627-1000	800.00	SF	\$62.85871	MSE WALL FACE, 0 - 10 FT HT, WALL NO - 0013718	\$50,286.97
0119	627-1010	2550.00	SF	\$55.71129	MSE WALL FACE, 10 - 20 FT HT, WALL NO - 0013718	\$142,063.79
0124	627-1020	3125.00	SF	\$69.00000	MSE WALL FACE, 20 - 30 FT HT, WALL NO - 0013718	\$215,625.00
0127	627-1100	1242.00	LF	\$86.38593	COPING A, WALL NO - 0013718	\$107,291.33
0128	627-1180	800.00	CY	\$43.71471	ADDITIONAL MSE BACKFILL	\$34,971.77
0133	634-1200	20.00	EA	\$157.33153	RIGHT OF WAY MARKERS	\$3,146.63
0144	641-5001	2.00	EA	\$1,438.41407	GUARDRAIL ANCHORAGE, TP 1	\$2,876.83
0153	641-5015	2.00	EACH	\$3,750.00000	GUARDRL ANCHOR, TP 12A, 31 IN, TANG, E/A	\$7,500.00
0158	668-1100	6.00	EA	\$2,573.76376	CATCH BASIN, GP 1	\$15,442.58
0184	167-1000	5.00	EA	\$188.07544	WATER QUALITY MONITORING AND SAMPLING	\$940.38
0189	167-1500	24.00	MO	\$427.59608	WATER QUALITY INSPECTIONS	\$10,262.31
0218	700-9300	676.00	SY	\$10.01466	SOD	\$6,769.91
Total						\$3,978,351.87

0010 - ROADWAY

Line Number	Item	Quantity	Units	Price	Description	Amount
0019	310-1101	1139.00	TN	\$36.73392	GR AGGR BASE CRS, INCL MATL	\$41,839.93
0024	318-3000	20.00	TN	\$38.35177	AGGR SURF CRS	\$767.04
0034	402-3121	381.00	TN	\$114.97424	RECYL AC 25MM SP,GP1/2,BM&HL	\$43,805.19
0044	402-3190	109.00	TN	\$123.72524	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	\$13,486.05
0049	413-0750	363.00	GL	\$2.00000	TACK COAT	\$726.00
0054	433-1000	647.00	SY	\$198.33521	REINF CONC APPROACH SLAB	\$128,322.88
0059	441-0018	183.00	SY	\$55.78148	DRIVEWAY CONCRETE, 8 IN TK	\$10,208.01
0129	632-0003	3.00	EA	\$10,222.42763	CHANGEABLE MESS SIGN,PORT,TP 3	\$30,667.28
0134	641-1100	183.00	LF	\$73.04068	GUARDRAIL, TP T	\$13,366.44
0139	641-1200	165.00	LF	\$26.32883	GUARDRAIL, TP W	\$4,344.26
0154	643-8200	250.00	LF	\$2.58874	BARRIER FENCE (ORANGE), 4 FT	\$647.19
ROADWAY Total						\$288,180.27

0020 - EROSION CONTROL

Line Number	Item	Quantity	Units	Price	Description	Amount
0159	163-0232	1.00	AC	\$803.32948	TEMPORARY GRASSING	\$803.33
0164	163-0240	4.00	TN	\$450.66718	MULCH	\$1,802.67
0169	163-0300	2.00	EA	\$1,908.54644	CONSTRUCTION EXIT	\$3,817.09
0174	165-0030	1800.00	LF	\$0.90481	MAINT OF TEMP SILT FENCE, TP C	\$1,628.66
0179	165-0101	2.00	EA	\$692.88296	MAINT OF CONST EXIT	\$1,385.77
0194	171-0030	3600.00	LF	\$3.69864	TEMPORARY SILT FENCE, TYPE C	\$13,315.10
0199	700-6910	2.00	AC	\$1,288.21942	PERMANENT GRASSING	\$2,576.44
0204	700-7000	3.00	TN	\$156.08441	AGRICULTURAL LIME	\$468.25
0209	700-8000	2.00	TN	\$698.92306	FERTILIZER MIXED GRADE	\$1,397.85

Line Number	Item	Quantity	Units	Price	Description	Amount
0214	700-8100	40.00	LB	\$4.02014	FERTILIZER NITROGEN CONTENT	\$160.81
0219	716-2000	200.00	SY	\$1.68377	EROSION CONTROL MATS, SLOPES	\$336.75
EROSION CONTROL Total						\$27,692.72

COST GROUP FOR JOB 0013718

Line Number	Unit	Calculation Rule	Quantity	Price	Cost Group ID	Description	Amount
00000001	SF	NORM	1.00	\$13,465,764.00	STRO	BRIDGE	\$13,465,764.00
00000002	LF	NORM	1.00	\$60,000.00	THSL	SIGNING AND MARKING	\$60,000.00
00000003	SF	NORM	1.00	\$2,109,780.00	STRO	BRIDGE REMOVAL	\$2,109,780.00
00000004	SF	NORM	2.00	\$250,000.00	STRO	SIGNALS	\$500,000.00
							\$16,135,544.00

TOTALS FOR JOB 0013718

ITEMS COST:	\$4,294,224.86
COST GROUP COST:	\$822,912,744.00
ESTIMATED COST:	\$20,429,768.86
CONTINGENCY PERCENT:	0.00%
ENGINEERING AND INSPECTION:	0.00%
ESTIMATED COST WITH CONTINGENCY AND E&I:	\$20,429,768.86

File Location: Div of Preconstruction > CES

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

Date: 1/23/2018 Project: 6-Lane Alternate
 Revised: County: Floyd
 PI: 00013718-

Description: SR 1/SR 20/ US 27 @ Etowah River & Norfolk Southern
 Project Termini: Riverbend Drive/ Hicks Drive to East 1st Street

Existing ROW: Varies
 Required ROW: Varies
 Parcels: 11

Land and Improvements _____ \$1,627,500.00

Proximity Damage	\$150,000.00
Consequential Damage	\$0.00
Cost to Cures	\$500,000.00
Trade Fixtures	\$0.00
Improvements	\$0.00

Valuation Services _____ \$103,750.00

Legal Services _____ \$82,425.00


Relocation _____ \$24,750.00

Demolition _____ \$21,500.00

Administrative _____ \$94,500.00

TOTAL ESTIMATED COSTS _____ \$1,954,425.00

TOTAL ESTIMATED COSTS (ROUNDED) _____ \$1,955,000.00

Preparation Credits	Hours	Signature
	10	

Prepared By: _____ CG#: _____ (DATE) _____
 Approved By:  CG#: 297754 (DATE) 2/1/18

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

10/10/2018

Table 1. SR1/SR 20/US11 Iover the Etowah River and Norfolk Southern Railroad in Rome, Floyd County Ecology Mitigation Estimate				
Resource Type	Estimated Impact Amount	Estimated Grandfathered Credits Needed	Cost Per Credit Based on Upper Oconee HUC Code	Estimated Impact Mitigation Cost
Stream	125 linear feet	1,500	\$45.00	\$67,500.00
Total Project Mitigation Cost				\$67,500.00

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE

Project No. N/A
 County Floyd
 P.I. # 0013718
 Description SR 1 / SR 20 / US 27 @ Etowah River & NS RR

Office Cartersville
 Date February 15, 2019

FROM

Jun Birnkammer, ^{JBB} District Utilities Manager

TO

Debbie Cottrell, P.E., Project Manager

SUBJECT REVISED UTILITY COST ESTIMATE

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

Utility Owner	Reimbursable	Non-Reimbursable	Estimate Based on
Atlanta Gas Light	\$0.00	\$151,715.00	Preliminary info from Utility
AT&T	\$0.00	\$94,370.00	Preliminary info from Utility
Georgia Power Company - Distribution	\$475,000.00	\$0.00	Preliminary info from Utility
Parker Fibernet	\$0.00	\$68,000.00	Preliminary info from Utility
Comcast	\$0.00	\$50,000.00	Preliminary info from Utility
City of Rome - Water**	\$0.00	\$1,000,000.00	Preliminary info from Utility
City of Romer - Sewer**	\$0.00	\$150,000.00	Preliminary info from Utility
Georgia Power Company - Transmission	\$1,000,000.00	\$0.00	Preliminary info from Utility
	\$0.00	\$0.00	
	\$0.00	\$0.00	
	\$0.00	\$0.00	
	\$0.00	\$0.00	
	\$0.00	\$0.00	
	\$0.00	\$0.00	
	\$0.00	\$0.00	
TOTAL	100.00%	\$1,475,000.00	\$1,514,085.00
Department Responsibility	100.00%	\$1,475,000.00	\$1,514,085.00
Local Sponsor Responsibility	0.00%	\$0.00	\$0.00

** Indicates Potential Utility Aid Request from Local Gov't

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 Aaron Cornett at 678-721-5322.

cc:

Patrick Allen, P.E., State Utilities Administrator
 David Acree, P.E., District Preconstruction Engineer

Concept Utility Report

Project Number: 0013718

District: 6

County: Floyd

Prepared by: Aaron Cornett

P.I. # 0013718

Date: 11/15/2018

Project Description: SR 1 / SR 20 / US 27 @ Etowah River & NS RR

The information provided herein has been gathered from Georgia811and/or field visits and serves as an estimate. Nothing contained in this report is to be used as a substitute for 1st Submission or SUE.

Are SUE services recommended? No

Level: A B C D

Public Interest Determination (PID):

Automatic Mandatory Consideration No Use Exempt

Is a separate utility funding phase recommended? No

Potential Project (Schedule/Budget) Impacts: Yes. There is the potential for Utility Owner(s) Prior Rights Reimbursement amount of approximately \$1,475,000.00. There is also the potential of \$1,514,085.00 in Utility Owner(s) Utility Aid Requests.

Capital Improvement Projects (Utilities) Anticipated in the Area: [Click here to enter text.](#)

Project Specific Recommendations for Avoidance/Mitigation: [Click here to enter text.](#)

Right of Way Coordination: [Click here to enter text.](#)

Environmental Coordination: [Click here to enter text.](#)

Additional Remarks: [Click here to enter text.](#)

Utilities have facilities within the project limits.

Utilities have been identified using Georgia811 and/or field visits.

Facility Owner	Facility Owner Contact Email Address	Existing Facilities/ Appurtenances	General Description of Location	Facilities to Avoid <i>approx. limits</i>	Facilities Retention Recommended <i>approx. limits</i>	Comments
Atlanta Gas Light	Chesleigh Charles: ccharles@southernco.com Tawanna Hines: tbhines@southernco.com	gasClick here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
AT&T	Todd Bagley: mb2114@att.com	Communications				
Georgia Power Distribution	Rodger Duncan: wrduncan@southernco.com	Power Distribution	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
Georgia Power Transmission	Melissa Wheeler: mswheele@southernco.com	Power Transmission				
Parker Fibernet	John Pless: jplees@parkersystems.net	Fiber Optics	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
Comcast	John Pierno: john_pierno@cable.comcast.com	Cable				
City of Rome Water	Aaron Carroll: acarroll@romea.us	Water				
City of Rome Sewer	John Boyd: jboyd@romea.us	Sewer				
Windstream Communications	Joy Matthews: Joy.Matthews@windstream.com and WCI.OSP.PERMITS@windstream.com an Mike Souther: Mike.souther@windstream.com	Communications	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.

Note: To add additional rows, click the bottom right corner of the box above, then click the blue + that will appear. Please add additional rows prior to entering text.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: PI #0013718, Floyd County **OFFICE:** State Utilities Office
FROM: *Jill Franks for:* Patrick Allen, State Utilities Administrator **DATE:** November 14, 2018
TO: Kimberly Nesbitt, State Program Delivery Administrator
Attn: Debbie Cottrell, Project Manager
SUBJECT: PRELIMINARY RAILROAD COST FOR SURFACE WORK (CONCEPT ESTIMATE)

A review of railroads located within the project limits on the above referenced project has been conducted based on the draft concept report. Listed below is a breakdown of the estimated railroad costs:

<u>FACILITY OWNER</u>	<u>NON-REIMBURSABLE</u>	<u>REIMBURSABLE</u>
Norfolk Southern Railway Company		
– P.E. review cost for bridge over railroad	\$0.00	\$ 36,800.00-GDOT
– Const. inspection cost for bridge over railroad	\$0.00	\$ 115,800.00-GDOT
Total Reimbursement Cost:	\$0.00	\$ 152,600.00

Total railroad surface work reimbursable cost for the above project is estimated to be:

\$152,600.00

Please note that this amount does not include other reimbursable utility costs that may be associated with this project. This project is GDOT funded.

If you have any questions, please contact Jill Franks, (404) 631-1370, jfranks@dot.ga.gov or Marcela Coll, (404)631-1372 mcoll@dot.ga.gov.

PA:jlf

cc: Yulonda Pride-Foster, Utilities Preconstruction Manager
Angela Robinson, State Financial Management Administrator
Jun Birnkammer, District 6 Utilities Manager
Kevin Cowan, Utilities Railroad Crossing Manager



Interoffice Memo

FILE: Floyd County
P.I. # 0013718

DATE: October 4, 2018

FROM: Paul Tanner, State Transportation Planning Administrator

TO: Kimberly Nesbitt, State Program Delivery Administrator
Attention: Debbie Cottrell

SUBJECT: **Design Traffic Forecasts** for SR 1/SR 20/US 27 @ ETOWAH RIVER & NS #719103R IN ROME

Per request, we have reviewed the consultant’s design traffic forecasts for the above project. Based on the information furnished, we find the design traffic forecasts to be satisfactory, and the design traffic forecasting task to be complete for the above project. The reviewed and approved design traffic forecast for the above project is as follows:

BRIDGE ID # 115-0016-0

Build = No Build	2017 (Existing Year)	2022 (Base Year)	2024 (Base Year +2)	2042 (Design Year)	2044 (Design Year + 2)
AADT	35000	36800	37525	44900	45800
DHV (AM/PM)	2350/ 2525	2470/ 2675	2520/ 2705	3015/ 3240	3075/ 3305
K% (AM/PM)	6.7%/ 7.2%	Same as Existing Year			
D% (AM/PM)	60.0%/ 50.0%				
24 HR. T% - S.U.	5.5%				
24 HR. T% - COMB.	3.0%				
24 HR. T% - TOTAL	8.5%				
T% - S.U. (AM/PM)	6.5%/ 4.5%				
T% - COMB. (AM/PM)	3.5%/ 2.5%				
T% - TOTAL (AM/PM)	10.0%/ 7.0%				

If you have any questions concerning this information, please contact Andre Washington at 404-631-1925.

Andre Washington
Office Of Planning
5th Floor, One Georgia Center
404-631-1925

RPT/AMW

Technical Memorandum

To: Alex Stone, P.E.
Project Manager

From: John Karnowski, P.E., PTOE, AICP
Traffic Engineering

Date: February 5, 2019

RE: PI #013718 SR 1 at Etowah River Bridge
Queuing Analysis

Per your request, we examined the current and future queuing along SR 1 between E. 1st Street and Riverbend Drive / Hicks Drive. Using the existing and future volumes and the existing roadway configuration, and optimizing the traffic signal timing, we determined the expected 95th percentile queues. The model for existing conditions was calibrated to field observations. Table 1 shows the results of the analysis.

Table 1. Length of Queue

Intersection	2017		2022		2042	
	AM	PM	AM	PM	AM	PM
E. 1 st St (NB)	624	430	711	486	1360	1676
Riverbend Dr/ Hicks Dr (SB)	109	451	150	546	213	656

95th percentile queue shown in feet

There is 275 feet between the bridge and the stop bar at 1st Street; the center of the bridge is about 600 feet from the intersection. There is 409 feet between the bridge and the stop bar at Riverbend Drive/Hicks Drive. There is 1400 feet between the two intersections.

We also attempted to determine the queuing if the bridge over the Etowah River were reduced to one lane in each direction during construction. The model failed to calculate the queues since the volume was far above the capacity of the road network; i.e., queues were stretched beyond the limits of the model. In reality, the traffic would find alternative routes and come to an equilibrium of delay.

GDOT PI # (or N/A): Request By:
 County: GDOT District:
 Major (State) Road: Speed Limit:
 Minor (Crossing) ST: Speed Limit:
 Major ST Direction: Area Type:
 Intersection Control:
 Prepared By: Analyst:
 Date: Project ID:
 Project Purpose:

2018	Existing (current data) Year							 Annual Growth Rate: <input type="text" value="1.0%"/> K Factor*: <input type="text" value="7%"/>
2022	Project Opening Year	(0)	(233)	(1313)	(141)	1082 (1687) [42800]		
2042	Project Design Year	0	132	881	69	SB SR 1/20 / US 27		

	EB Riverbend Dr							
153 (425) [8500]	Peds	↕	↘	↙	↔	↕	↔	↕
	(315)	108	2018 Intersection Daily Entering Volume: 95,500				(18)	(122)
	(67)	26	↔	↕	↔	(15)	(50)	
	(43)	19	↔	↕	↔	(33)	(106)	
	(0)	0	↔	↕	↔	(0)	(0)	

Peak Hour % Trucks			
EB	WB	NB	SB
2%	2%	9%	9%

	WB Riverbend Dr						
↕	↔	↕	↔	↕	↔	↕	↔
(83)	1,594	72	0	(103)	(1060)	(84)	(0)
1749 (1247) [38500]							

Legend:
 000 = AM Peak Approach Vol
 (000) = PM Peak Approach Vol
 [000] = ADT Volume (Estimate)

Approach Splits: SR 1/20 / US 27 - 0.86 / Riverbend Dr - 0.14

2022 Opening Year Volumes 1120 (1750) [44400]

	EB Riverbend Dr							
155 (444) [8800]	Peds	↕	↘	↙	↔	↕	↔	↕
	(325)	110	2022 Intersection Daily Entering Volume: 99,400				(20)	(125)
	(70)	25	↔	↕	↔	(15)	(50)	
	(45)	20	↔	↕	↔	(35)	(110)	
	(0)	0	↔	↕	↔	(0)	(0)	

	WB Riverbend Dr						
↕	↔	↕	↔	↕	↔	↕	↔
(85)	1,660	75	0	(105)	(1105)	(85)	(0)
1820 (1295) [40000]							

2042 Design Year Volumes 1370 (2140) [54200]

	EB Riverbend Dr							
195 (540) [10800]	Peds	↕	↘	↙	↔	↕	↔	↕
	(400)	135	2042 Intersection Daily Entering Volume: 121,300				(20)	(155)
	(85)	35	↔	↕	↔	(20)	(65)	
	(55)	25	↔	↕	↔	(40)	(135)	
	(0)	0	↔	↕	↔	(0)	(0)	

	WB Riverbend Dr						
↕	↔	↕	↔	↕	↔	↕	↔
(105)	2,025	90	0	(130)	(1345)	(105)	(0)
2220 (1580) [48900]							

Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "Waiver" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

Stage 1 Screening Decision Record: Stage 1 should be conducted early in the project development process and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to *eliminate* non-competitive options and identify which alternatives merit further considerations based on their practical feasibility. Users should use good engineering judgement in responding to the seven policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

Stage 2 Alternative Selection Decision Record: Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.



GDOT INTERSECTION CONTROL EVALUATION (ICE) WAIVER FORM

ICE Version 2.14 | Revised 08/03/2018

Waiver Request - Level 1

In certain circumstances where an ICE would otherwise be required, an ICE may be waived based on appropriate evidence presented with a written request. Scenarios in which an ICE waiver request may be considered include:

1. Proposed improvements do not substantially alter the character of the intersection, and are considered minor in nature, such as extending existing turn lane(s) or modifying signal phasing at an existing traffic signal
2. The intersection consists of a public roadway intersecting a divided, multilane roadway where the access will be limited to a closed median with only right-in/right-out access that will operate acceptably; or
3. The intersection is along an undivided, two-lane roadway that will not be widened and meets the following criteria:
 - Low risk in terms of exposure (total intersection entering volume less than 1,000 vehicles /day)
 - Latest 5 years of crash history is not indicative of a crash problem (no discernible crash patterns coupled with low crash frequency and severity)
 - Layout has no unusual or undesirable geometric features (such as restricted sight distance)
 - The proposed changes are not expected to adversely affect safety

If only one alternative is determined to be feasible from the ICE Stage 1, then a waiver may be submitted in lieu of completing ICE Stage 2. The waiver must clearly explain why there is no other feasible alternative. A Waiver Form should also be submitted to document an agreed upon decision to select a preferred alternative other than the highest scoring alternative in Stage 2.

ICE waiver forms with supporting documentation should be submitted for approval to the Office of Traffic Operations or District Engineer (depending on Waiver level). Questions regarding the waiver process should be routed to the State Traffic Engineer.

Project Information:	Location: SR 1/20 / US 27 @ Riverbend Dr County: Floyd GDOT District: 6 - Cartersville Area Type: Urban Existing Intersection Control: Signal (turn lanes on mainline)	GDOT PI # (or N/A): 0013718 Requested By: Debbie Cottrell Prepared By: John Karnowski Analyst: JK Date: 5/30/2019 Waiver Request Type: GDOT PDP Project
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Traffic and Operations Data:¹

Intersection meets signal/AWS warrants?	Meets Signal Warrants	
Traffic Analysis Type:	Intersection Delay	
Existing Avg Daily Traffic (Major Street):	35,000	
Existing Avg Daily Traffic (Minor Street):	20,300	
Analysis Period:	AM Peak	PM Peak
2022 Opening Yr Peak Hour Intersection Delay:	0.0 sec	0.0 sec
2022 Opening Yr Peak Hour Intersection V/C:	0.00	0.00
2042 Design Yr Peak Hour Intersection Delay:	0.0 sec	0.0 sec
2042 Design Yr Peak Hour Intersection V/C:	0.00	0.00

Crash Data (Required): ¹			
Crash Type	Crash Severity		
	PDO	Injury Crash*	Fatal Crash*
Angle	67	10	0
Head-On	7	1	0
Rear End	155	37	0
Sideswipe - same	33	2	0
Sideswipe - opposite	4	0	0
Not Collision w/Motor Veh	5	7	0
TOTALS:	271	57	0

¹Crash data required for all existing intersections. ADT's required if available (from data collected or nearest GDOT count station site). Capacity data is optional unless needed to justify basis of the waiver request.

* Number of crashes resulting in injuries / fatalities, not number of persons

Description of Work / Justification for Waiver (Required):	Project is the replacement of the SR 1/10 / US 27 bridge over Etowah River. Intersection work includes minor turn radius and wheelchair ramp changes in NE corner and tying into existing striping. No other substantive changes will be made
Proposed Intersection Control:	Traffic Signal

REQUESTED BY: _____ John Karnowski _____ Date: _____ 5/30/2019

Title: _____ Manager, Traffic Services _____

APPROVED BY: _____ _____ Date: _____ 6/11/19

Name: _____ Andrew Heath, P.E. _____

Chief Engineer or (Approved Delegate)

GDOT PI # (or N/A): Request By:
 County: GDOT District:
 Major (State) Road: Speed Limit:
 Minor (Crossing) ST: Speed Limit:
 Major ST Direction: Area Type:
 Intersection Control:
 Prepared By: Analyst:
 Date: Project ID:
 Project Purpose:

2018	Existing (current data) Year	643 (1127) [29800]				 Annual Growth Rate: <input type="text" value="1.0%"/> K Factor: <input type="text" value="7%"/>
2022	Project Opening Year	(0)	(17)	(1095)	(15)	
2042	Project Design Year	0	28	611	4	

		2018 Intersection Daily Entering Volume: 101,700					
182 (426) [7500]	EB E 1st St	Peds	↖	↘	↙	↗	Peds
	(32)	26	↖	↘	↙	↗	0
	(262)	128	↖	↘	↙	↗	33 (33)
	(132)	28	↖	↘	↙	↗	176 (115)
		↖	↘	↙	↗	↖	541 (476)
		↖	↘	↙	↗	↖	750 (624) [19700]
		↖	↘	↙	↗	↖	WB E 1st St
		↖	↘	↙	↗	↖	0 (0)
		↖	↘	↙	↗	↖	Peds
		↖	↘	↙	↗	↖	76
		↖	↘	↙	↗	↖	1,308
		↖	↘	↙	↗	↖	456
		↖	↘	↙	↗	↖	0
		↖	↘	↙	↗	↖	(34)
		↖	↘	↙	↗	↖	(971)
		↖	↘	↙	↗	↖	(524)
		↖	↘	↙	↗	↖	(0)
		↖	↘	↙	↗	↖	1840 (1529) [44700]

Peak Hour % Trucks			
EB	WB	NB	SB
4%	7%	9%	9%

Legend:
 000 = AM Peak Approach Vol
 (000) = PM Peak Approach Vol
 [000] = ADT Volume (Estimate)

Approach Splits: SR 1/20 / US 27 - 0.72 / E 1st St - 0.28

2022 Opening Year Volumes 670 (1170) [31000]

		2022 Intersection Daily Entering Volume: 105,800					
190 (444) [7800]	EB E 1st St	Peds	↖	↘	↙	↗	Peds
	(35)	25	↖	↘	↙	↗	0
	(270)	135	↖	↘	↙	↗	35 (35)
	(135)	30	↖	↘	↙	↗	185 (120)
		↖	↘	↙	↗	↖	560 (495)
		↖	↘	↙	↗	↖	780 (650) [20500]
		↖	↘	↙	↗	↖	WB E 1st St
		↖	↘	↙	↗	↖	0
		↖	↘	↙	↗	↖	Peds
		↖	↘	↙	↗	↖	80
		↖	↘	↙	↗	↖	1,360
		↖	↘	↙	↗	↖	475
		↖	↘	↙	↗	↖	0
		↖	↘	↙	↗	↖	(35)
		↖	↘	↙	↗	↖	(1010)
		↖	↘	↙	↗	↖	(545)
		↖	↘	↙	↗	↖	(0)
		↖	↘	↙	↗	↖	1915 (1590) [46400]

2042 Design Year Volumes 815 (1430) [37800]

		2042 Intersection Daily Entering Volume: 129,100					
230 (535) [9500]	EB E 1st St	Peds	↖	↘	↙	↗	Peds
	(40)	35	↖	↘	↙	↗	0
	(330)	160	↖	↘	↙	↗	40 (40)
	(165)	35	↖	↘	↙	↗	225 (145)
		↖	↘	↙	↗	↖	685 (605)
		↖	↘	↙	↗	↖	950 (790) [25000]
		↖	↘	↙	↗	↖	WB E 1st St
		↖	↘	↙	↗	↖	0
		↖	↘	↙	↗	↖	Peds
		↖	↘	↙	↗	↖	95
		↖	↘	↙	↗	↖	1,660
		↖	↘	↙	↗	↖	580
		↖	↘	↙	↗	↖	0
		↖	↘	↙	↗	↖	(45)
		↖	↘	↙	↗	↖	(1230)
		↖	↘	↙	↗	↖	(665)
		↖	↘	↙	↗	↖	(0)
		↖	↘	↙	↗	↖	2335 (1940) [56600]

Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

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GDOT INTERSECTION CONTROL EVALUATION (ICE) WAIVER FORM

ICE Version 2.14 | Revised 08/03/2018

Waiver Request - Level 1

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- The intersection is along an undivided, two-lane roadway that will not be widened and meets the following criteria:
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ICE waiver forms with supporting documentation should be submitted for approval to the Office of Traffic Operations or District Engineer (depending on Waiver level). Questions regarding the waiver process should be routed to the State Traffic Engineer.

Project Information: Location: SR 1/20 / US 27 @ E 1st St
 County: Floyd
 GDOT District: 6 - Cartersville
 Area Type: Urban
 Existing Intersection Control: Signal (turn lanes on mainline)

GDOT PI # (or N/A): 0013718
 Requested By: Debbie Cottrell
 Prepared By: John Karnowski
 Analyst: JK
 Date: 5/20/2019
 Waiver Request Type: GDOT PDP Project

Traffic and Operations Data:¹

Intersection meets signal/AWS warrants?	Meets Signal Warrants	
Traffic Analysis Type:	Intersection Delay	
Existing Avg Daily Traffic (Major Street):	35,000	
Existing Avg Daily Traffic (Minor Street):	20,300	
Analysis Period:	AM Peak	PM Peak
2022 Opening Yr Peak Hour Intersection Delay:	0.0 sec	0.0 sec
2022 Opening Yr Peak Hour Intersection V/C:	0.00	0.00
2042 Design Yr Peak Hour Intersection Delay:	0.0 sec	0.0 sec
2042 Design Yr Peak Hour Intersection V/C:	0.00	0.00

Crash Data (Required): ¹			
Crash Type	Crash Severity		
	PDO	Injury Crash*	Fatal Crash*
Crash Data :Enter 5 most recent years of intersection crash data			
Angle	37	7	0
Head-On	4	0	0
Rear End	77	18	0
Sideswipe - same	14	0	0
Sideswipe - opposite	3	0	0
Not Collision w/Motor Veh	4	3	0
TOTALS:	139	28	0

¹Crash data required for all existing intersections. ADT's required if available (from data collected or nearest GDOT count station site). Capacity data is optional unless needed to justify basis of the waiver request.

* Number of crashes resulting in injuries / fatalities, not number of persons

Description of Work / Justification for Waiver (Required): Project is the replacement of the SR 1/10 / US 27 bridge over Etowah River. Intersection work includes minor turn radius changes in SE corner and lengthing of NB right turn bay. No other substantive changes will be made

Proposed Intersection Control: Traffic Signal

REQUESTED BY: John Karnowski Date: 5/20/2019

Title: Manager, Traffic Services

APPROVED BY: Date: 6/11/19

Name: Andrew Heath, P.E.

Chief Engineer or (Approved Delegate)

MS4 Concept Report Summary

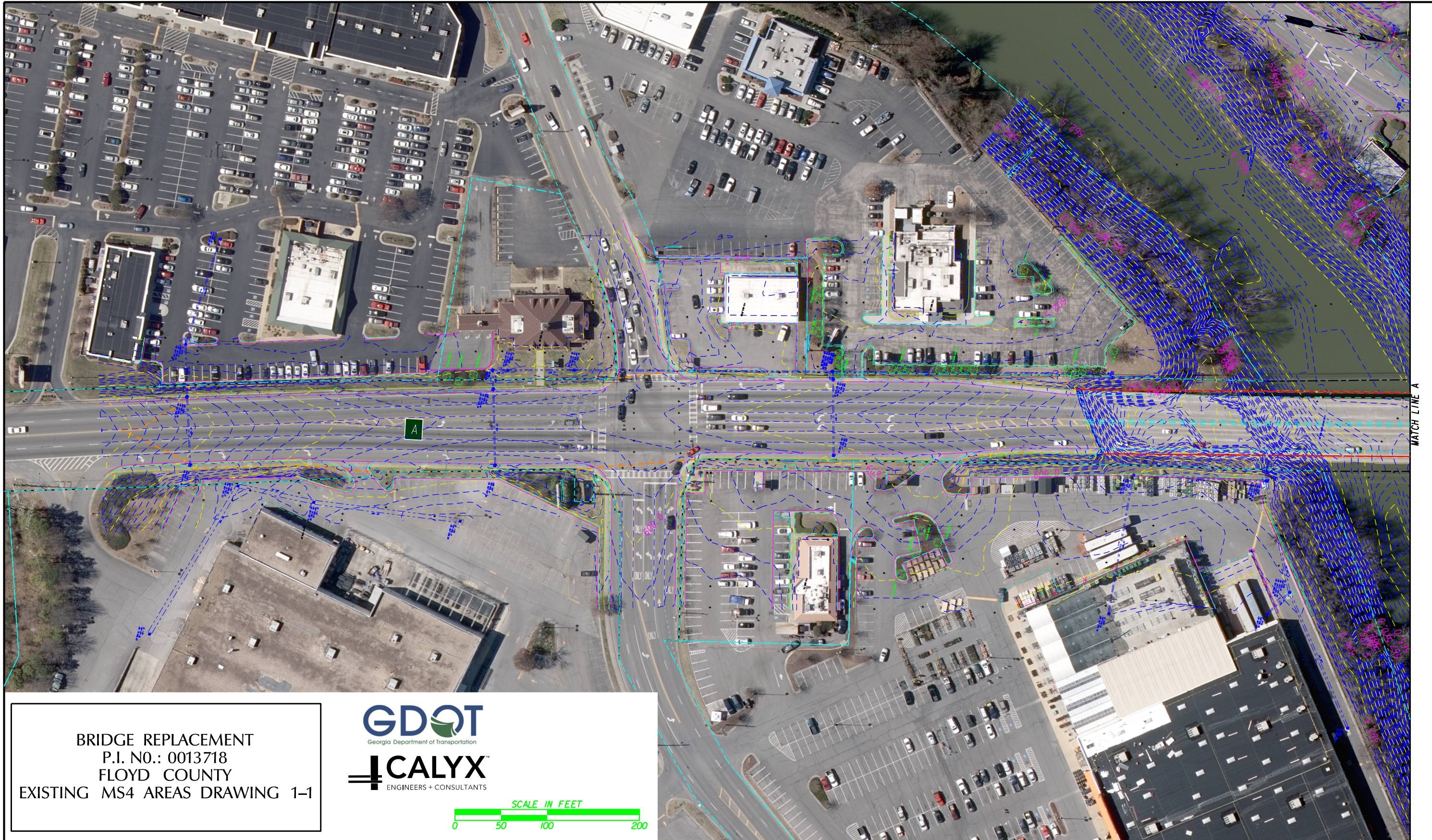
Attach the following checklist information to the Concept Report Template:

- Is there a Project Level Exclusion that applies to this project: No Yes
- If yes, please indicate which of the following exclusions apply:
- Roadways that are not owned or operated (maintained) by GDOT may not require post-construction BMPs. Coordinate with the appropriate local government or entity to determine stormwater management requirements.
 - The project location is not within a designated MS4 area.
 - Maintenance and safety improvement projects whereby the sites are not connected and disturbs less than one acre at each individual site. This includes projects such as repaving, shoulder building, fiber optic line installation, sign addition, and sound barrier installation.
 - Projects that have their environmental documents approved or right-of-way plans submitted for approval on or before June 30th, 2012.
 - Road projects that disturb less than 1 acre or for site development projects that add less than 5,000 ft² of impervious area.

Drainage Area Summary									
OUTFALL AREA	Pre-Development			Post-Development			Water Quality Volume (Cubic Feet)	Channel Protection Volume (Cubic Feet)	Required Detention Volume (Cubic Feet)
	Tc	Weighted CN	Area (acres)	Tc	Weighted CN	Area (acres)			
A	5.00	96	3.31	5.00	97	4.26	3999	11526	21292
B	5.00	94	2.05	5.00	95	2.15	510	1758	6650
C	5.00	98	0.11	5.00	98	0.11	0	0	261

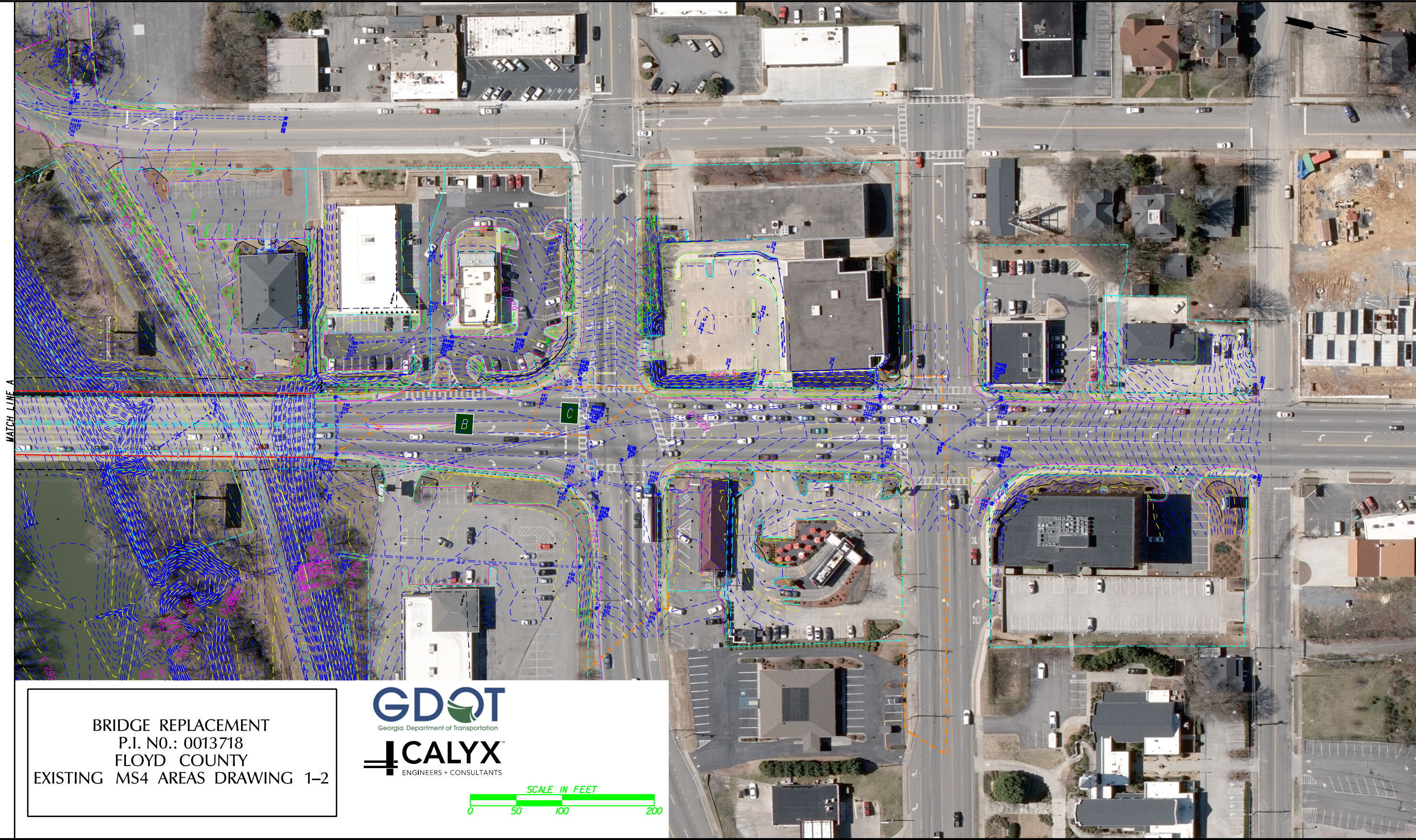
BMP Selection and Feasibility Summary						
Outfall Area	Outfall Level Exclusion?		BMP Selected	Is the BMP Feasible?		
	Y/N	Exclusion No.		Y/N	Infeasibility Criteria No.	¹ Feasibility of an Infiltration BMP
A	N		ENHANCED SWALE, BIORETENTION AREA, INFILTRATION TRENCH	N	4 - Railroad, Etowah River; 5 - Displacement of Business; 10 - Gravity Flow	UNSUITABLE
B	N		ENHANCED SWALE, BIORETENTION AREA, INFILTRATION TRENCH	N	4 - Railroad, Etowah River; 5 - Displacement of Business; 10 - Gravity Flow	UNSUITABLE
C	Y	6				

¹ - For outfall areas considering an infiltration BMP indicate if an infiltration BMP is well-suited, potentially suitable, has limited suitability, or is unsuitable for the outfall area.



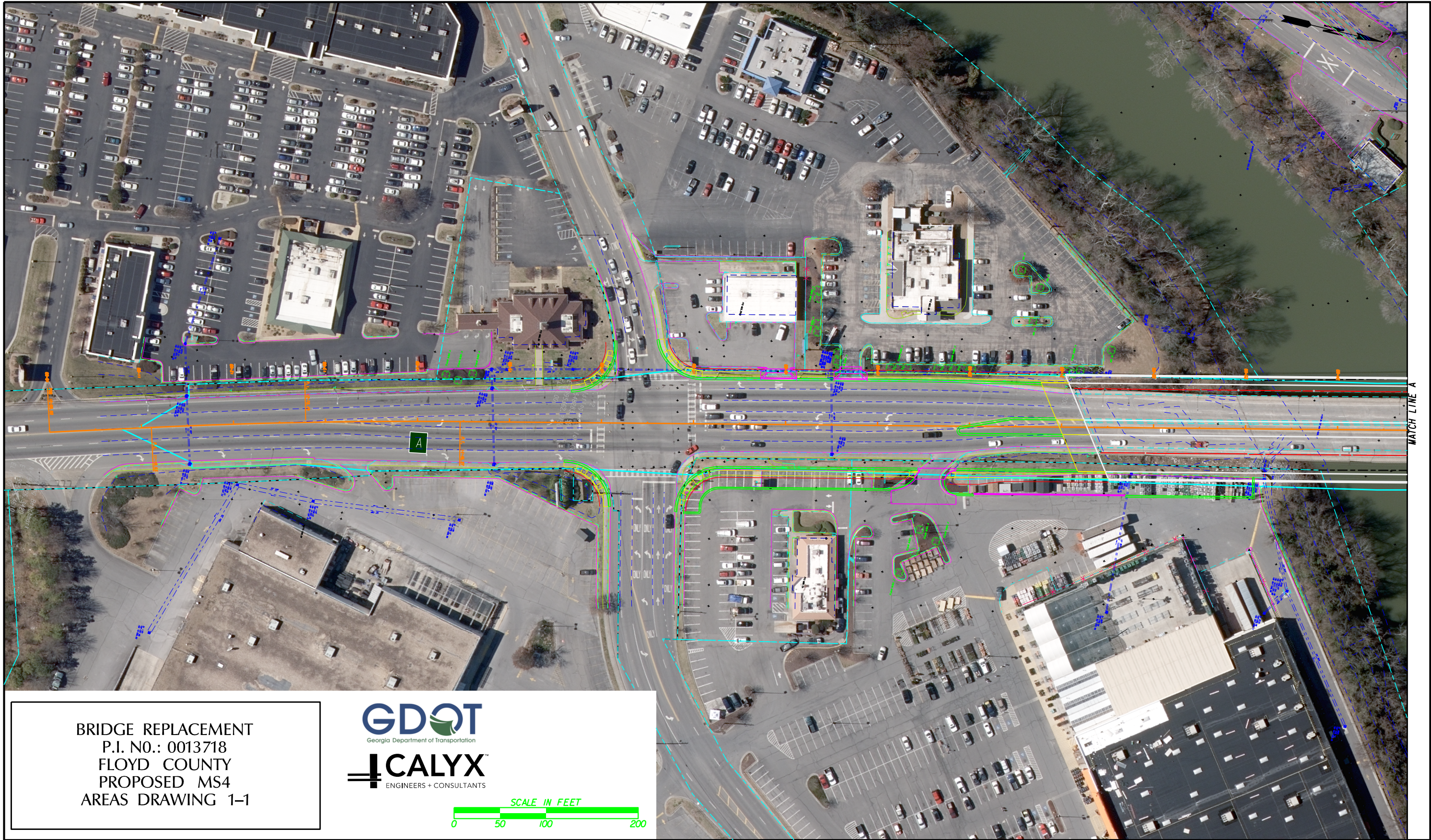
BRIDGE REPLACEMENT
P.I. NO.: 0013718
FLOYD COUNTY
EXISTING MS4 AREAS DRAWING 1-1





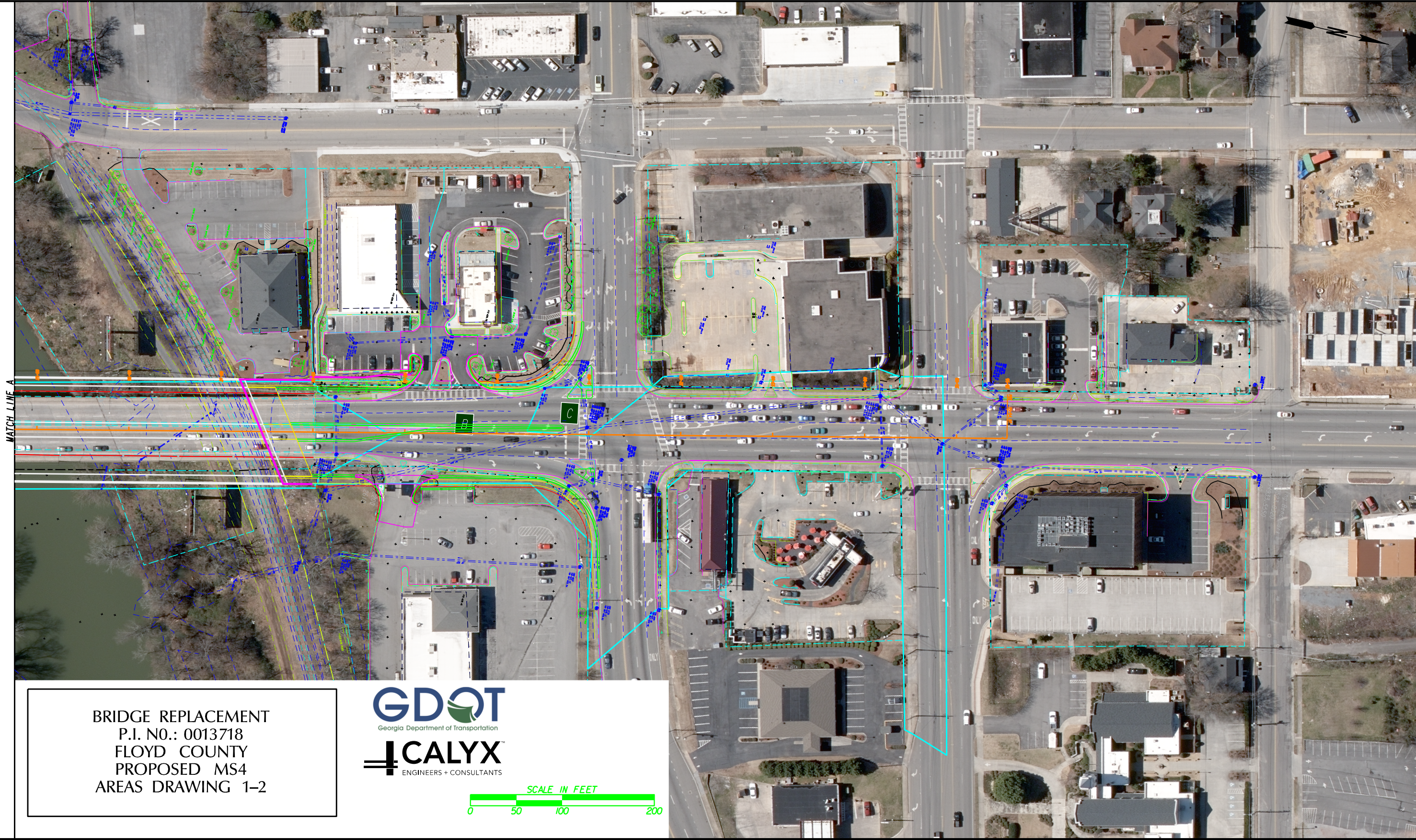
BRIDGE REPLACEMENT
P.I. NO.: 0013718
FLOYD COUNTY
EXISTING MS4 AREAS DRAWING 1-2





BRIDGE REPLACEMENT
P.I. NO.: 0013718
FLOYD COUNTY
PROPOSED MS4
AREAS DRAWING 1-1

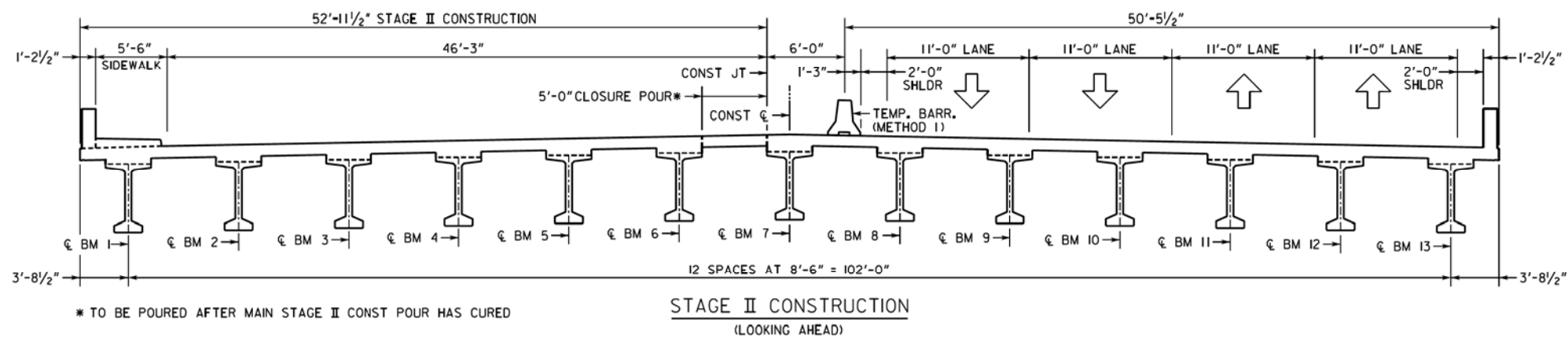
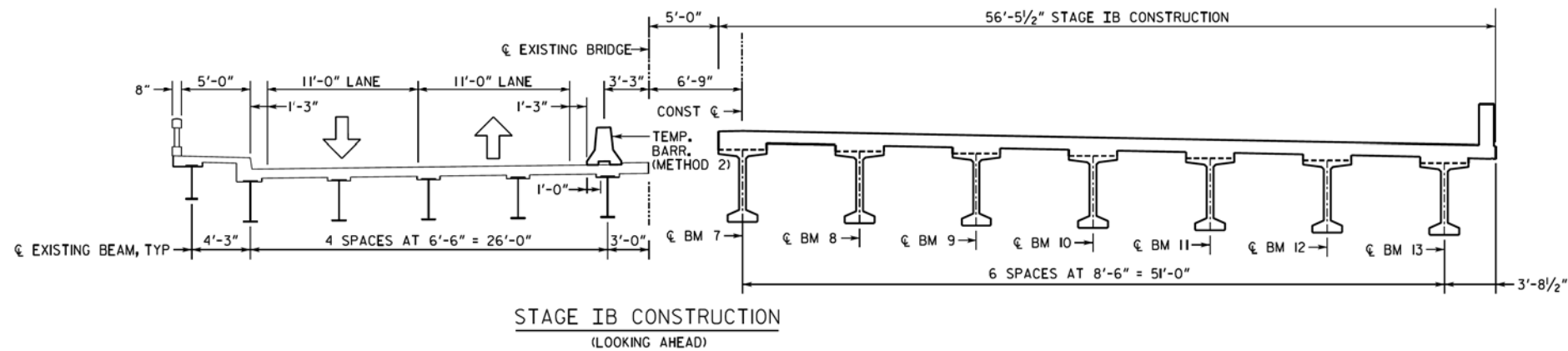
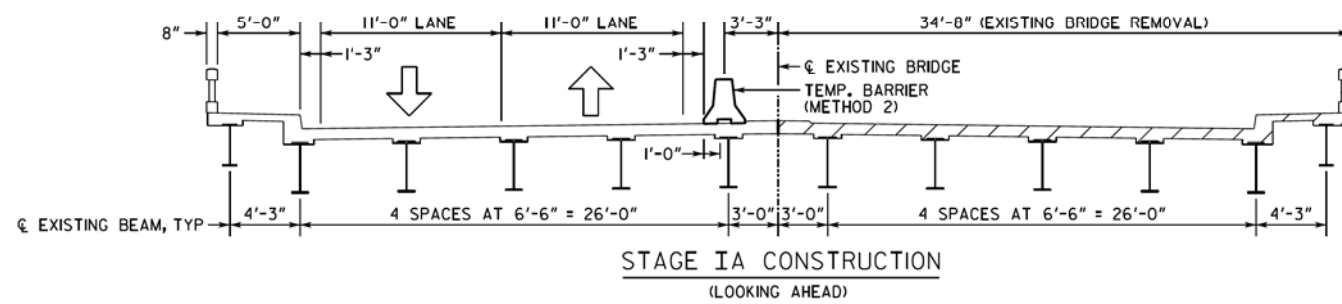
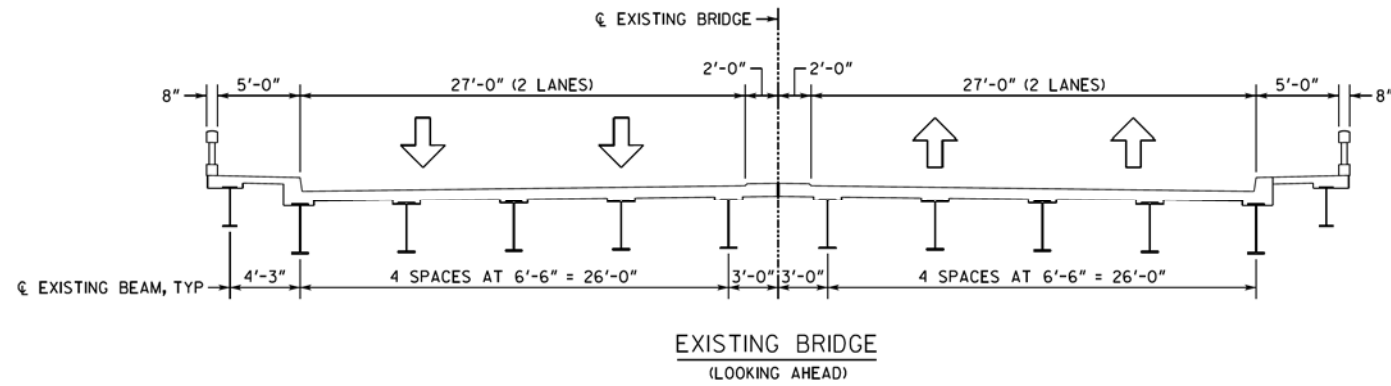




BRIDGE REPLACEMENT
P.I. NO.: 0013718
FLOYD COUNTY
PROPOSED MS4
AREAS DRAWING 1-2



STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	*****		



* TO BE POURED AFTER MAIN STAGE II CONST POUR HAS CURED

BRIDGE NO. 1

TranSystems

260 PEACHTREE ST NW
SUITE 800
ATLANTA, GA 30303
PHONE (678) 244-9730
FAX (770) 216-1734

GEORGIA
DEPARTMENT OF TRANSPORTATION
ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES

CONSTRUCTION SEQUENCE (1 OF 2)
SR 1 / SR 20 / US 27 OVER
ETOWAH RIVER & NSRR
FLOYD COUNTY

SCALE: 3/8" = 1'-0" JANUARY 2019

DESIGNED	CHECKED	REVIEWED
DRAWN	DESIGN GROUP	APPROVED

DLC/SKG
WMD

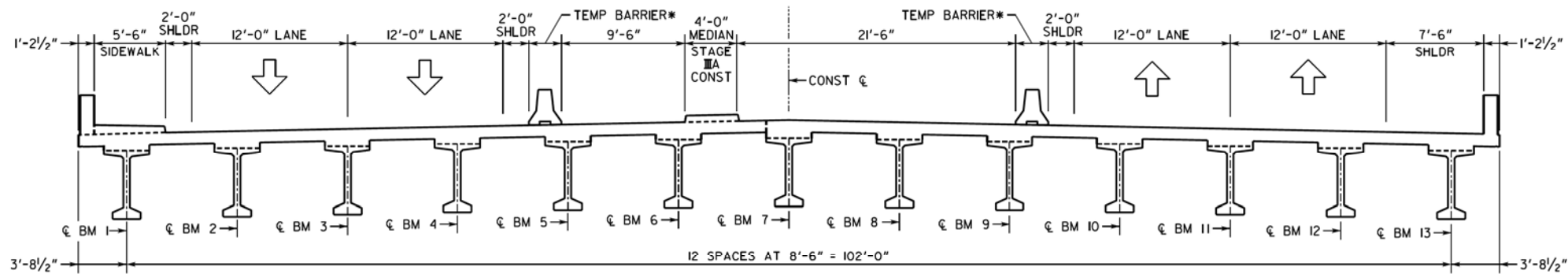
1 INCH WHEN PRINTED FULL SIZE

03- Etowah(CS-13bm-2Ln)1of2

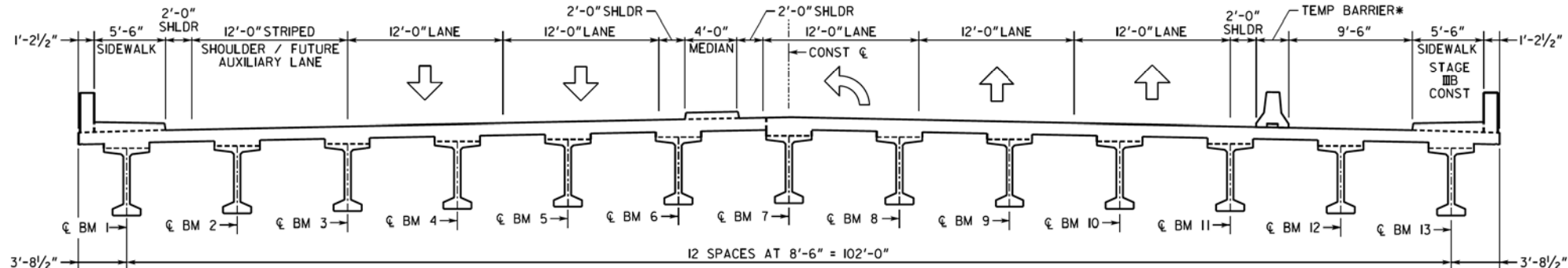
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7/9/2019

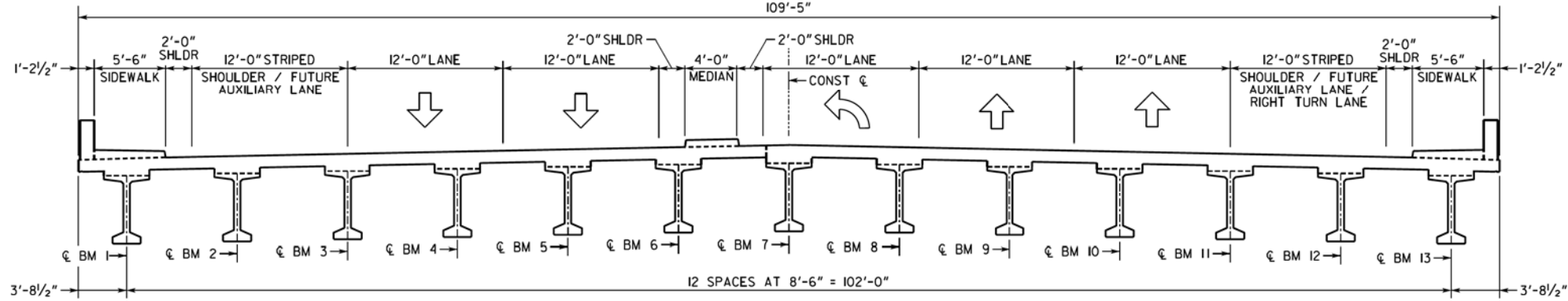
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	*****		



STAGE IIIA CONSTRUCTION
(LOOKING AHEAD)



STAGE IIIB CONSTRUCTION
(LOOKING AHEAD)



COMPLETED BRIDGE
(LOOKING AHEAD)

03-EtawahCS-13bm-2Ln1.dgn

3:12:31 PM

7/9/2019

BRIDGE NO. 1



260 PEACHTREE ST NW
SUITE 800
ATLANTA, GA 30303
PHONE (678) 244-9730
FAX (770) 216-1734

GEORGIA
DEPARTMENT OF TRANSPORTATION
ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES

CONSTRUCTION SEQUENCE (2 OF 2)
SR 1 / SR 20 / US 27 OVER
ETOWAH RIVER & NSRR
FLOYD COUNTY

DATE	
REVISIONS	
BY	

DRAWING NO.
35-
BRIDGE SHEET
OF 4

SCALE: 3/8" = 1'-0" JANUARY 2019
DESIGNED _____ CHECKED _____ REVIEWED **DLC/SKG**
DRAWN _____ DESIGN GROUP **DLC** APPROVED **WMD**

1 INCH WHEN PRINTED FULL SIZE

Bridge Inventory Data Listing Georgia Department of Transportation

Processed Date:8/15/2017

Parameters: Bridge Serial Number

Bridge Serial Number: 115-0016-0

County: Floyd

SUFF. RATING: 70.0

Location & Geography

Structure ID: 115-0016-0
 200 Bridge Information: 06
 *6 Feature Intersected: ETOWAH RIVER & NS RR
 *7A Route Number Carried: SR00001
 *7B Facility Carried: SR 1 - US 27
 9 Location: IN EAST ROME
 2 GDOT District: 4841600000 - D6 District Six Cartersville
 *91 Inspection Frequency: 24 Date: 10/26/2015
 92A Fracture Critical Insp. Freq: 0 Date: 02/01/1901
 92B Underwater Insp Freq: 60 Date: 09/15/2015
 92C Other Spc. Insp Freq: 0 Date: 02/01/1901
 * 4 Place Code: 66668
 *5A Inventory Route(O/U): 1
 5B Route Type: 2 - U.S. Numbered
 5C Service Designation: 1- Mainline
 5D Route Number: 00027
 5E Directional Suffix: 0. Not applicable
 *16 Latitude: 34 - 15.2657
 *17 Longitude: 85 - 9.8435
 98A Border Bridge: 0 98B: GA% 00
 99 ID Number: 0000000000000000
 *100 STRAHNET: 0- The Feature is not a STRAHNET route.
 12 Base Highway Network: Yes
 13A LRS Inventory Route: 1151000100
 13B Sub Inventory Route: 0
 101 Parallel Structure: N. No parallel structure exists
 *102 Direction of Traffic: 2- Two Way
 *264 Road Inventory Mile Post: 12.31
 *208 Inspection Area: Area 06
 *104 Highway System: 1-Inventory Route is on the NHS
 *26 Functional Classification: 14- Urban - Other Principal Arterial
 *204A Federal Route Type: F - Primary.
 *204B Federal Route Number: 00121
 105 Federal Lands Highway: 0. Not applicable
 *110 Truck Route: 0- The Feature is not part of the National Network for Trucks
 217 Benchmark Elevation: 0000.00
 * Location ID No: 115-00001D-012.10N

218 Datum:

0- Not Applicable
 *19 Bypass Length: 2
 *20 Toll: 3- On a Free Road or Non-Highway
 *21 Maintenance Responsibility: 01-State Highway Agency.
 *22 Owner: 01-State Highway Agency.
 *31 Design Load: 6- HS 20 + Mod (2-24,000# Axles @ 4ft Ctrs., when they govern)
 37 Historical Significance: 5- Not eligible for the National Register of Historic Places
 205 Congressional District: 014
 27 Year Constructed: 1956
 106 Year Reconstructed: 0
 33 Bridge Median: 2-Closed (no barrier)
 34 Skew: 99
 35 Structure Flared: No
 38 Navigation Control: 0- Navigation is not controlled by an Agency
 213 Special Steel Design: 0- Not applicable or other
 267A Type Paint Super Structure: 5- Waterborne System (Type VI or VII) Year : 1996
 267B Type Paint Sub Structure: 0- Not Applicable Year : 0000
 *42A Type of Service On: 5-Highway-Pedestrian
 *42B Type of Service Under: 7-Railroad-Waterway
 214A Movable Bridge: 0
 214B Operator on Duty: 0
 203 Type Bridge: 0 - Multiple combinations (be sure the different types are on file).
 O. Concrete M. Steel O. Concrete
 259 Pile Encasement: 3
 *43A Structure Type Main material: 4-Steel (Continuous)
 *43B Structure Type Main Type: 2-Stringer/Multi-Beam or Girder
 45 Number of Main Spans: 10
 44 Structure Type Approach: A:0- Other B: 0- Other
 46 Number of Approach Spans: 0
 226 Bridge Curve: A: Vertical: YesB: Horizontal: No
 111 Pier Protection: N - Navigation Control item coded 0, or Feature not a waterway
 107 Deck Structure Type: 1 - C-I-P Portland Cement Concrete - Epoxy Coated Rebars
 108A Wearing Surface Type: 1. Concrete
 108B Membrane Type: 0. None
 108C Deck Protection: 8. Unknown
 265 Underwater Inspection Area: 1

Signs & Attachments

225 Expansion Joint Type: 01- Armored joint (sliding plates).
 242 Deck Drains: 1- Open Scuppers.
 243A Parapet Location: 0- None present.
 243B Parapet Height: 0.00
 243C Parapet Width: 0.00
 238A Curb Height: 0.5
 238B Curb Material: 1- Concrete.
 239A Handrail Left: 1- Concrete.
 239B Handrail Right: 1- Concrete.
 *240 Median Barrier Rail: 0- None.
 241A Bridge Median Height: 0
 241B Bridge Median Width: 4
 *230A Guardrail Location Direction Rear: 2- Right side only.
 *230B Guardrail Location Direction Fwrd: 0- None.
 *230C Guardrail Location Opposing Rear: 2- Right side only.
 *230D Guardrail Location Opposing Fwrd: 0- None.
 244 Approach Slab: 3- Forward and Rear.
 224 Retaining Wall: 0- None.
 233 Posted Speed Limit: 35
 236 Warning Sign: No
 234 Delineator: Yes
 235 Hazard Boards: Yes
 237A Gas: 23- Bottom Center.
 237B Water: 22- Bottom Right.
 237C Electric: 00- Not Applicable
 237D Telephone: 00- Not Applicable
 237E Sewer: 00- Not Applicable
 247A Lighting: Street: Yes
 247B Navigation: No
 247C Aerial: No
 *248 County Continuity No.: 00
 36A Bridge Railings: 2- Inspected feature meets acceptable construction date standards.
 36B Transition: 1- Meets current standards
 36C Approach Guardrail: 1- Meets current standards
 36D Approach Guardrail Ends: 1- Meets current standards

Bridge Inventory Data Listing Georgia Department of Transportation

Processed Date:8/15/2017

Bridge Serial Number: 115-0016-0

County: Floyd

SUFF. RATING: 70.0

Programming Data

201 Project Number: BA (3) 1804 (7)
 202 Plans Available: 4- Plans in Infomage.
 249 Proposed Project Number: STP-012-1 (105)
 250A Reconstruction Approval Status: No
 250B Route Approval Status: No
 250C Approval Status Definition: 0
 250D Approval Status Federal: 0
 251Project Identification Number: 0013718
 252 Contract Date: 02/01/1901
 260 Seismic Number: 00031
 75A Type Work Proposed: 0- Not Applicable
 75B Work Done by: 0- Initial Inventory
 94 Bridge Improvement Cost:(X\$1,000) \$4,070
 95 Roadway Improvement Cost: (X\$1,000) \$407
 96 Total Improvement Cost: (X\$1,000) \$6105
 76 Improvement Length: 0.0'
 97 Year Improvement Cost Based On: 2013
 114 Future AADT: 50505
 115 Future AADT Year: 2032

Measurements:

*29 AADT: 33670
 *30 AADT Year: 2012
 109 % Truck Traffic: 1
 * 28A Lanes On: 4
 *28B Lanes Under: 0
 210A Tracks On: 00
 210B Tracks Under: 1
 * 48 Maximum Span Length: 109
 * 49 Structure Length: 674
 51 Bridge Roadway Width: 57.6'
 52 Deck Width: 69.3'
 * 47 Total Horizontal Clearance: 57.6'
 50A Curb / Sidewalk Width Left: 5.2
 50B Curb / Sidewalk Width Right: 5.2
 32 Approach Rdwy. Width: 58.0'
***229 Approach Roadway**
Rear Shoulder Left: Width: 2 *Right Width:*2.0 Type: 3 - Asphalt and Concrete.
Fwd Shoulder: Left Width: 2 *Right Width:*2.0 Type: 2 - Asphalt.
Rear Pavement: Width: 54.0 Type:2- Asphalt.
Forward Pavement: Width: 54.0 Type:2- Asphalt.
Intersection Rear: 1 *Forward:*1

Ratings and Posting

65 Inventory Rating Method: 1-Load Factor (LF)
 63 Operating Rating Method: 1-Load Factor (LF)
 66A Inventory Type: 2 - HS loading.
 66B Inventory Rating: 19
 64A Operating Type: 2 - HS loading.
 64B Operating Rating: 32
231Calculated Loads **Posting Required**
 231A *H-Modified:* 19 No
 231B *Type3/Tandem:* 19 No
 231C *Timber:* 22 No
 231D *HS-Modified:* 20 No
 231E *Type 3S2:* 25 No
 231F *Piggyback:* 27 No
 261 H Inventory Rating: 18
 262 H Operating Rating: 31
 67 Structural Evaluation: 4
 58 Deck Condition: 5 - Fair Condition
 59 Superstructure Condition: 6 - Satisfactory Condition
 * 227 Collision Damage:
 60A Substructure Condition: 6 - Satisfactory Condition
 60B Scour Condition: 7 - Good Condition
 60C Underwater Condition: 6 - Satisfactory Condition
 71 Waterway Adequacy: 9-Superior to present desirable criteria.
 61 Channel Protection Cond.: 8-Equal to present desirable criteria.
 68 Deck Geometry: 5
 69 UnderClr. Horz/Vert: N
 72 Approach Alignment: 8-No reduction of vehicle operating speed required.
 62 Culvert: N - Not Applicable
 70 Bridge Posting Required: 5. Equal to or above legal loads
 41 Struct Open, Posted, CL: A. Open, no restriction
 * 103 Temporary Structure: No
232 Posted Loads
 232A *H-Modified:* 00
 232B *Type3/Tandem:* 00
 232C *Timber:* 00
 232D *HS-Modified:* 00
 232E *Type 3s2:* 00
 232F *Piggyback:* 00
 253 Notification Date: 02/01/1901
 258 Federal Notify Date: 02/01/1901

Hydraulic Data

113 Scour Critical: U. No Load Rating; no scour critical data entered.
 216A Water Depth: 06.7
 216B Bridge Height: 53.0
 222 Slope Protection: 1
 221A Spur Dike Rear:
 221B Spur Dike Fwd:
 219 Fender System: 0- None.
 220 Dolphin:
 223A Culvert Cover: 000
 223B Culvert Type: 0- Not Applicable
 223C Number of Barrels: 0
 223D Barrel Width: 0.0
 223E Barrel Height: 0.0
 223F Culvert Length: 0.0
 223G Culvert Apron: 0
 39 Navigation Vertical Clearance: 0'
 40 Navigation Horizontal Clearance: 0
 116 Navigation Vertical Clear Closed: 0

53 Minimum Vertical Clearance Over Rd: 99' 99"
 54A Under Reference Feature: R- Railroad beneath structure.
 54B Minimum Clearance Under: 22' 5"
***228 Minimum Vertical Clearance**
 228A *Actual Odometer Direction:* 99'99"
 228B *Actual Opposing Direction:* 99'99"
 228C *Posted Odometer Direction:* 00'00"
 228D *Posted Opposing Direction:* 00'00"
 55A Lateral Underclearance Reference: R- Railroad beneath structure.
 55B Lateral Underclearance on Right: 12.3
 56 Lateral Underclearance on Left: 0.0
 10A Direction of Travel for Max Min: 0
 10B Max Min Vertical Clearance: 99'99"
 245A Deck Thickness Main: 7.0
 245B Deck Thickness Approach: 0.0
 246 Overlay Thickness: 0

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTER-DEPARTMENT CORRESPONDENCE

DATE: August 16, 2017

FROM: 
Curtis D. Comer, P.E., District Engineer

TO: Kimberly Nesbitt, State Program Delivery Administrator
Attn: Debbie Cottrell, Project Manager

SUBJECT: PI # 0013718 – Floyd County SR 1 / US 27

The District was recently made aware that this project has entered the concept development phase. The project proposes to replace the SR 1/US 27 bridge over the Etowah River in Rome, Ga. Currently, the bridge represents a substantial choke point within the City. There are three rivers in the City of Rome with very limited options to cross those rivers. SR 1/US 27 being the primary bridge across the Etowah River.

SR 1/US 27 has traffic signals located just north and just south of the bridge. These intersections create much of the congestion that is currently being experienced, due to the inability to provide sufficient length turn lanes at the signals. The District recommends that when the bridge is being replaced it should include width for new turn lanes; potentially up to 8 lanes will be needed across the bridge.

I was also made aware that the project is considering an offsite detour during the bridge replacement, and that this detour could be in place for 12-18 months. SR 101 is the only other major crossing nearby and it currently experiences congestion without the added traffic from an offsite detour.

The District recommends that reconstruction of the bridge be staged in such a manner that, at least, one lane in each direction will be open throughout the duration of the project. Some traffic should be diverted around the project using SR 20/US 411 and SR 1 Loop. There are several limited capacity intersections along SR 101 that would make it an undesirable route for diverted traffic.

Thank you for the opportunity to provide input into this project. If you have any questions or concerns please contact me at 770-387-3602.

CDC:wgw

CC:
Mike Dover, Deputy Commissioner
Meg Pirkle, Chief Engineer
David Acree, District 6 Preconstruction Engineer
Grant Waldrop, District 6 Traffic Engineer
Rickey Boatner, District 6 Area 4 Manager



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MEETING MINUTES
US 27/ SR 1 over Etowah River,
Floyd Co.
PI #0013718.

DATE: August 20, 2017 11:00 am

SUBJECT: Lane Configuration Discussion

LOCATION: OGC Room 407

ATTENDEES: See attached sign in sheet

A meeting was held Wednesday, August 20, 2017 to discuss how to proceed with the above referenced project. The project has been programmed as a replacement of the existing 4-lane bridge, but due to bridge staging concerns, as well as traffic concerns, the group is meeting to discuss to revise the project to design a 6-lane or larger bridge. A summary of the discussion are below:

Discussion:

- Debbie introduced the project and all participants were introduced.
- Grant discussed the concerns from District 6 regarding current traffic congestion on the bridge. This corridor and location along US 27 in Rome has been identified as one of the biggest bottlenecks in the District, and is the largest, most important crossing of the Etowah River in Rome. He discussed current traffic data, including peak hour counts at the intersections. Queuing is occurring from the intersections back across the bridge.
- District 6 requests that a full traffic study be commenced to study 6- or 8-lane alternates for capacity.
- Debbie discussed the letter that was sent by DeWayne Comer, District 6 Engineer to the Office of Program Delivery detailing their concerns about the scope of the proposed bridge, and their request that at least one lane in each direction be maintained during construction.
- The CALYX team presented the work to date, showing high level layouts and cost estimates for 6- and 8-lane alternates.
- CALYX discussed the traffic analysis and counts to date (see attached draft memo), illustrating the need for a wider bridge and maintaining up to four lanes during construction, due to the amount of traffic using this bridge and the SR 101 bridge. The SR 101 bridge is at capacity and cannot handle additional traffic. The Loop 1 bridge is too far away for local traffic needs and thus cannot be counted on to provide relief.
- CALYX discussed the bridge design work to date, illustrating three alternatives to provide 4-lanes of traffic during construction, by constructing the bridge in three stages.
- Bill DuVall did not believe that any of the staging layouts shown were constructible, as stage 2 construction would have to be in the middle between a portion of the existing bridge and the stage 1 construction, which would be difficult. He did not see a way to



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MEETING MINUTES US 27/ SR 1 over Etowah River, Floyd Co.

PI #0013718.

maintain 4-lanes of traffic during stage 1 construction without construction of 4 lanes of new bridge on one side or the other. He said the first stage would take approximately 18 months to construct.

- Albert said that accelerated bridge construction methods would need to be considered in order to minimize construction time.
- Alex said that construction of 4-lanes to the outside would involve too much impact to local businesses.
- Albert said that funding is tight and that 2 lanes during construction would need to be considered. He asked due to the existing traffic demand, was there a previous project to address?
- District 6 said project 632750 was a previous project that was not funded. (Confirmed after the meeting that this was a project from 2002-2009 to improve both intersections and to widen the bridge for additional turn lanes).
- Albert stated that a wider bridge would need significant additional funding. Chandria and Debbie to coordinate with Office of Planning. District 6 will coordinate with the City of Rome and Floyd County as well as MPO to discuss shifting funds to fund this project, using a combination of 240 and 230 funds. Albert asked CALYX to design to budget once the project programming is set.
- DeWayne said he would talk with the City/County to see if they could set aside any SPLOST funds for this project. This particular bridge has been mentioned many times at the local MPO meetings in recent years.
- Jun Birnkammer stated that several utilities are attached to the existing bridge.
- Pedestrian access during construction shall be addressed.
- Albert stated that the project could move forward with a revised description and scope. The project would need a full Concept Report, a revised schedule, and possibly an Environmental Assessment (EA) in lieu of the CE for standard projects on the bridge program. A PIOH would need to be held early in concept development in order to show the community the potential impacts to traffic patterns during the construction of the project. Using the feedback from the public would help shape the amount of lanes during construction and the total width of the proposed bridge. He said that a 12-month schedule for Concept Development would be needed.
- Albert stated that once this project is fully funded, CALYX would need to design to budget, and would need to have accurate estimates during the development of the project, as there would be no additional funding available.
- The group discussed the next steps to advance the project. See action items below.



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MEETING MINUTES
US 27/ SR 1 over Etowah River,
Floyd Co.
PI #0013718.

ACTION ITEMS

- Bridge PM will coordinate with OPD Management in order to discuss the project with the Office of Planning.
- District 6 will discuss the project with local jurisdictions to see if there is available funding to assist the funding gap for the project.
- CALYX will review their current scope of work for Task Order #1 and develop a scope of work for a new task order based on this meeting. This includes coordination with Office of Bridge Design on revised construction staging alternates that are preferable and constructible for a wider bridge section. In addition, a “mini” traffic study will be commenced to illustrate the impact to traffic patterns in the area if only 2 lanes are maintained during construction. CALYX team will coordinate with District 6 traffic during this process.
- Project team to coordinate with Office of Utilities to introduce project to CSX and to generate feedback on their ROW and clearance needs.
- Project team to coordinate with District 6 Right of Way to provide feedback on adjoining properties and possible impacts due to the wider footprint of the project.
- Project team to coordinate with District 6 Construction to develop staging details, and discuss the approach for how work in the water will be completed.
- CALYX to complete ecology field work to understand potential impacts to the Etowah River.

DATE: 9/20/2017 LOCATION: OGC 407 ? Y.C.
SUBJECT: Lane Configuration Discussion W/D6


PI 0013718 Floyd Co.

SIGN-IN SHEET

<u>NAME</u>	<u>ORGANIZATION</u>	<u>CONTACT INFO</u>
Alex Stone	CALYX	astone@calyxengineers.com
John Karnowski		jkarnowski@calyxengineers.com
John Munkhater	TRANSYSTEMS	JKMunkhater@TRANSYSTEMS.COM
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SEAN PHARR	GDOT-OPD	spharr@dot.ga.gov
Jill FRANKS	GDOT-Utilities	jfranks@dot.ga.gov
MARCELA COLL	GDOT-Utilities-RR	mcoll@dot.ga.gov
Grant Waldrop	GDOT D6 Traffic Ops	gwaldrop@*
Jan Birnkammer	GDOT D6 Utilities	jbirnkammer@*
Aaron Cornett	GDOT D6 Utilities	acornett@*
Steve Sanders	GDOT D6 Traffic Ops	ssanders@*
DewLayne Comer	GDOT D6 Engineer	dcomer@*
Scott Zehngraff	GDOT Traffic Operations	szehngraff@*
Andrew Heath	GDOT Traffic Operations	aheath@*
Carol Chalafut	GDOT Bridge Office	chalafut@*
Jody Peace	Arcadis	jody.peace@arcadis.com
Chris Brown	GDOT OPD	chbrown@*
Albert Shelby	GDOT OPD	ashelby@*
Debbie Cottrell	GDOT OPD (PM)	dcottrell@*

* @ dot.ga.gov

See the below table. The information provided is not final and will be confirmed/revise during the preliminary engineering review of the individual projects.

Jake Watson
 Norfolk Southern Corporation
 Engineer - Public Improvements
 Atlanta, GA
 404-529-1225 (o)


From: Franks, Jill L. [<mailto:jfranks@dot.ga.gov>]
Sent: Tuesday, July 17, 2018 3:01 PM
To: Watson, Jacob; Bennett, Chris
Cc: Coll, Marcela
Subject: [EXTERNAL] RE: Additional Future Track requirement requests from GDOT

Jake,
 I had sent the attached spread sheet about two month ago, requesting future track requirement. Can you please check on the status of these? They are below and attached.

Future Track Requirement Request- GDOT						
GDOT PI	DOT Crossing #	NS MP	Route designation	Current # tracks	Protect for how many future tracks?	Which side of M/L future track(s)?
0013616	NEAR 732863M	2	Tactical	1 (main)	1	east
0013718	719103R	NS owned Industry lead track	N/A	1	0	
0015439	929579U	602.49	Supercore	3 (2 Main)	1	east

Jill L. Franks
Utilities Railroad Liaison Manager


 Office of Utilities, 10th floor
 One Georgia Center
 600 W. Peachtree Street, NW
 Atlanta, GA, 30308
 404.631.1370 office
 404.694.6570 cell



MEETING MINUTES

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SR 1 / SR 20 / US 27 at Etowah River / NSRR

PI #0013718

DATE: November 13, 2018 10:00 am

SUBJECT: SR 1/SR20/US27 @ Etowah River, Floyd County – Concept Team Meeting

LOCATION: District 6 Office, GDOT

ATTENDEES: See attached sign in sheets

1. Introductions:

2. Roles and Responsibilities:

- a. GDOT Project Manager – Debbie Cottrell
- b. GDOT OES NEPA – Amanda Von Oldenburg
- c. Consultant Project Manager - Alex Stone – CALYX Engineers and Consultants

3. Concept Report

- a. Page 3 – The group mentioned that project PI 650540- is impacting the 2nd street corridor in downtown and the project will need coordination with this project. The Management Let date is currently March 2019, however current programmed year for construction is 2022 on GeoPI. CALYX will list this as a project “in the area” on the report and will coordinate with Justin Banks, GDOT PM. Area 4 representatives stated that these two projects cannot be under construction at the same time.
- b. Page 4 – Project Description – Debbie introduced the project and its history on how the project has been developed to date, including coordination internal to GDOT and between District 6 and the MPO, regarding funding. The Rome/Floyd MPO representative spoke that they have an interest in continuing discussions with GDOT on this project, due to its regional importance. The Bridge Office (Carol) stated that their preference is to keep this project separate from any additional capacity improvement projects.
- c. MPO wanted to know the proposed sidewalk and grass strip width. Alex said that it would be a 2-foot strip with 5-foot sidewalk, with 8’ wide parapet on the bridge.
- d. Page 4 – Bridge and Structural:
 - i. It was stated that the bridge width and location was determined due to the staging of the bridge and to minimize impacts to existing traffic patterns. It was asked if the additional width could be used for the right turn auxiliary lanes extended across the bridge. Alex stated that a traffic analysis could be completed to determine a required length of lanes to be striped for the project.
 - ii. Carol stated that they (Bridge Office) still have concerns regarding the bridge staging currently proposed, as there will be work in the middle of the NB and SB lanes in Stage 2. John McWhorter (Transystems) agreed that the staging will be difficult, but considering the surrounding Right of Way impacts and costs, the preferred alternate is feasible. There is no room to construct four

MEETING MINUTES

SR 1 / SR 20 / US 27 at Etowah River / NSRR

PI #0013718

lanes of proposed bridge to either the east or west sides of the existing bridge without significant damages to adjoining properties.

Meetings with the Bridge Office and Office of Construction will be scheduled to discuss further.

- iii. Carol stated that the use of deck bulb tees as an ABC technique might not be feasible. Overall a bridge that is staged constructed is not an Accelerated Bridge Construction (ABC) project.
- iv. Carol mentioned that the cost for bridge removal in the CES estimate is low and should be \$45/SF.
- v. The City asked if the proposed median will be constructed monolithically with the bridge deck or will be doweled in. John stated that the median would be doweled in the bridge deck. Alex said that the left turn lanes could be extended onto the bridge, recommended from the traffic study.
- e. Page 5 – the roadway is on the NHS network. CALYX to revise.
- f. Page 5 – Lighting. Georgia Power owns existing lighting on the project corridor. An agreement between GDOT and GPC will be required.
- g. Page 5 – Intersections. Mentioned comment was made that there is a Traffic Signal / Signal Timing Study ongoing along this corridor, headed by Grant Waldrop (GDOT District 6 Engineer) and AECOM. CALYX to coordinate with Grant to ensure the projects do not conflict.
- h. Page 5 / 6 – Utilities:
 - i. AVN LLC and Parker Fibernet have the same owner and can be combined.
 - ii. Georgia Power - Transmission should be added to the owner list. Their lines are on the east side of the project and will be impacted by the project. Distribution is on the west side of the project. The project will need an updated cost estimate, depending on prior rights of the Transmission line.
 - iii. There is a water line attached to the east side of the existing bridge that will need to be transferred to the new bridge in stage 1.
 - iv. SUE – Quality Level D has been completed. Quality Level B will be done during preliminary design.
 - v. Public Interest Determination – currently it is shown as not needed in the Concept Report. The PM will confirm this is correct.
- i. Page 6 – Right of Way. David Acree mentioned that the preference is to use Right of Way in lieu of Permanent Easements in areas where existing parking spots will be permanently impacted with the project.
- j. Page 7 – Project Meetings – Debbie to provide meeting minutes for the meeting between the Bridge Program Manager and the State Bridge Engineer which determined the project moving forward.
- k. Meeting was concluded.

4. Project Schedule – a revised schedule is under development.

Concept Team Meeting
11/13/18

Bridge Bundle 2 Contract 10
PI#0013718

Name	Organization	Phone #	E-mail
Teh Stultz	CALYX	678-795-3624	tstultz@calyxengineers.com
Alex Stone	"	678-795-3605	Astone@calyxengineers.com
Ken McDuff	"	678-795-3612	kmcduff@calyxengineers.com
John McWhorter	TRANS SYSTEMS	770-639-9103	JMcWhorter@TRANSYSTEMS.COM
Aaron Cornett	GDOT Dist. 6 Utilities	(678) 721-53-22	acornett@dol.ga.gov
Aynsley O'Brien	OPD	404-833-6320	ao'Brien@dot.ga.gov
CHRIS LEIGH CHARLES	AGL	404-584-3257	ccharles@southernco.com
Danny Robinson	GDOT DL TRAFFIC UP	678-721-5249	droberson@dot.ga.gov
ANDREW CARROLL	CITY OF ROME	706-252-5118	acarroll@rome.ga.us
Randy Ivory	Floyd County	706-223-2022	ivory@floydcountyga.gov
Chris Jenkins	Rome	706-802-6702	cjenkins@rome.ga.us
Melissa Wheeler	Georgia Power Trans.	404-506-2745	mswheeler@southernco.com
JOSEPH CIAMPERO	GDOT	678-721-5257	JCIAMPERO@DOT.GA.GOV
David D Acree	GDOT	770-387-3619	dacree@dot.ga.gov
Patrick McWhorter	GDOT	706-245-6025	pmcwhort@dot.ga.gov
Rickey Boatner	GDOT	706-295-6025	rboatner@dot.ga.gov
CLIN BIRNKAMMER	GDOT UTILITIES	678-721-5324	jbirnkammer@dot.ga.gov
Todd Bagley	AT&T	706-236-3913	mb2114@att.com



MEETING MINUTES

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SR 1 / SR 20 / US 27 at Etowah River / NSRR

PI #0013718

DATE: December 3, 2018 1:00 pm

SUBJECT: SR 1/SR20/US27 @ Etowah River, Floyd County – Bridge Constructability Meeting

LOCATION: District 6 Office, GDOT

ATTENDEES:	Debbie Cottrell	GDOT Project Manager
	Jeremy Scott	GDOT District 6 Asst Construction Engineer
	Michael Garner	GDOT State Const Office, Bridge Const Liaison
	Tyler Lumsden	GDOT State Const Office, District 6 Liaison
	Lisa Wesley	GDOT District 6 Construction Engineer
	Alex Stone	CALYX Engineers
	Ken McDuff	CALYX Engineers
	John McWhorter	Transystems

A meeting was held December 3, 2018 to discuss bridge staging for the SR 1/SR 20/ US 27 project. The following were noted:

- **Background:** Concept Team Meeting was held and Bridge Design has questioned whether the preferred alternate can be constructed as shown. Meeting with Construction staff in order to determine viability of the preferred alternate.
- **Discussion:**
 1. District to determine if they can locate the bridge plans pre-1954 to determine if there are older foundations still in the river. (it was determined after the meeting that this bridge was on new location)
 2. A drilled shaft footing is preferable, as a pile foundation would require a cofferdam to construct in the river. Ultimately, later in the project, the BFI will more accurately depict ground/rock, and the final foundation type.
 3. There is concern for the required crane reach since the crane would have to be located on a temporary work bridge approximately 30' to 35' below the finished grade of the bridge. The 110' to 140' long beams would be set by picking beams from the completed Stage 1 construction. This would be done during over night lanes closures. Assumes one span could be set per night..
 4. The Construction staff had concerns about the complicated staging in combination with Section 107 calendar restrictions due to protected species (aquatic, birds, bats) If so, would jetties and/or cranes have to be placed, then removed within specific time windows? Are the jetties an Environmental concern? (CALYX Ecology has stated that there are no aquatic restrictions, but restrictions are possible in the removal of the existing bridge due to the presence of bird nests and bats)
 5. Will a work bridge be needed? Consider overburden (dirt over rock)
 6. The Etowah River is navigable – kayaks, etc. This will need to be accounted for.
 7. There are utilities on the current bridge, including a water line.
 8. Pedestrian traffic must be considered. Currently, it is heavily used. The staging plan needs to address pedestrians in all stages, if possible.



MEETING MINUTES

CALYX Engineers & Consultants
1255 Canton Street, Suite G
Roswell, Georgia 30075
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SR 1 / SR 20 / US 27 at Etowah River / NSRR

PI #0013718

9. A beam launcher could be used for Stage 2. This could be used during nighttime closures. It is estimated that 1 hour would be needed to set a beam. A lane might be closed for estimated time 11pm to 4am, resulting in setting 3 to 4 beams set per night.
10. District Construction stated that the adjacent construction project (650540-) could not be under construction at the same time as this project.
11. District Construction stated that the staging as presented is feasible. However, it would be very expensive and would take a long time to construct. To account for construction methods, the bridge cost probably would exceed \$200 / sq ft. The river level fluctuates as well to further complicate construction. CALYX will need to update the Project Cost Estimate accordingly.
12. It was discussed to use a barge to carry the cranes under the Stage 2 area. A barge needs approximately 8' of depth, depending on loading, and barge size. CALYX has reviewed the survey, and there is approximately 5' to 6' of depth, at the time of survey.
13. District Construction mentioned that a Texas rail or equivalent would be well suited for the bridge.
14. Alex stated that lighting will be included on the proposed bridge.
15. It was decided that to demonstrate construction staging in the concept, concept-level sheets should be developed on aerials to show potential construction methods (to somewhat represent section 20 plans)
16. Temporary shoring will probably be needed adjacent to Home Depot to accommodate drill rig access.
17. Staging typical should be reviewed for stage 2 to ensure that the proper clearances are provided for the temporary barrier being utilized on the existing bridge. If necessary, utilize addtl room left side since the barrier (bolt to deck). Maintain 11' lanes, and 1' shy line.
18. District Construction stated that the costs and construction time would be greatly reduced if the existing traffic could be reduced to 2 lanes.

Action Items

- District to determine if they can locate previous bridge footing – subsequent findings 12/4/2018, the bridges were built on new location, there are no previous footings.
- CALYX to check if there are any potential SP 107 restrictions (Yes – for birds and bats on the existing bridge).
- CALYX to develop sheets to show construction potential staging methods (included)
- Review staging typical for stage 2. Shift temporary barrier left if necessary. (stage 2 typicals have been modified)
- Update the construction cost estimate per discussion.
- Send the conceptual stage construction plans to District (Jeremy, Michael, Tyler) for review, comment and concurrence (included).



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- **Subsequent coordination:**

Following this meeting, the consultant revised the Staging Plans to incorporate the comments from the meeting, and transmitted them to all attendees on 1/4/19. Upon review of the revised staging plans, both the District 6 Construction Engineer and the Bridge Construction Liaison stated that they would NOT concur on the proposed staging for two reasons:

1. In order to maintain four lanes of traffic during construction, work must be done “in the middle” (between the existing and proposed bridge). This approach is not constructible.
2. The better approach is to reduce traffic to two lanes in the initial phase. This will allow for better construction, much lower costs and a shorter timeframe for temporary impacts in the water.

District Construction and Bridge Construction stated that ABC methods can be considered to reduce the length of time that traffic is impeded. Also A+B method of bidding may reduce the length of time to build.

For these reasons, the staging plans that will be included in the Concept Report will reduce traffic to two lanes in the initial stage only.

Cottrell, Debbie

From: Deems, Jennifer
Sent: Friday, May 31, 2019 10:33 AM
To: Cottrell, Debbie
Cc: Birnkammer, Jun; Cornett, Aaron
Subject: RE: PI 0013718 Floyd - question about Lighting

Georgia Power will handle the relocations and we will pay through a normal agreement estimate. No additional costs to the project on your end. It was included in our cost estimate. If you have any further questions, please let me know. Thanks.

Jennifer Deems

District Utilities Supervisor



District 6

30 Great Valley Parkway
White, GA 30184
678.721.5323 office
770.820.8037 cell

From: Cottrell, Debbie
Sent: Friday, May 31, 2019 10:28 AM
To: Deems, Jennifer <jdeems@dot.ga.gov>
Cc: Birnkammer, Jun <jbirnkammer@dot.ga.gov>; Cornett, Aaron <acornett@dot.ga.gov>
Subject: RE: PI 0013718 Floyd - question about Lighting

Hi Jennifer – I need a quick clarification on the email below. Should any cost be included in the GDOT Project for lighting relocation? Or will Georgia Power cover those costs?

We are trying to submit the updated Concept Report today, and this was one of the comments. Thanks –

Debbie Cottrell, PE

Consultant Project Manager



Office of Program Delivery, Bridge PMC
600 West Peachtree Street, 25th Floor
Atlanta, GA, 30308
770.596.0545 cell

From: Deems, Jennifer <jdeems@dot.ga.gov>
Sent: Wednesday, February 27, 2019 1:58 PM
To: Cottrell, Debbie <DCottrell@dot.ga.gov>

Cc: Birnkammer, Jun <jbirnkammer@dot.ga.gov>; Cornett, Aaron <acornett@dot.ga.gov>

Subject: FW: PI 0013718 Floyd - question about Lighting

See below. Looks like we will handle the relocation of the lights.....thanks.

Jennifer Deems

District Utilities Supervisor



District 6
500 Joe Frank Harris Pkwy.
P.O. Box 10
Cartersville, GA 30120
678.721.5323 office
770.820.8037 cell

From: Duncan, W. Rodger [<mailto:WRDUNCAN@southernco.com>]

Sent: Wednesday, February 27, 2019 11:34 AM

To: Deems, Jennifer <jdeems@dot.ga.gov>

Subject: RE: PI 0013718 Floyd - question about Lighting

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Yes, we will get our lighting group to design the relocation of the lights and include it in our design. I know there are issues with lighting designs and permits. Those would be separate designs and permits but only one cost agreement.

Rodger

W. Rodger Duncan, P. E.
Engineer I
CES Engineering
Georgia Power Company
706-506-3437

From: Deems, Jennifer <jdeems@dot.ga.gov>

Sent: Wednesday, February 27, 2019 11:29 AM

To: Duncan, W. Rodger <WRDUNCAN@southernco.com>

Subject: RE: PI 0013718 Floyd - question about Lighting

EXTERNAL MAIL: Caution Opening Links or Files

So, you will be relocating them at the time of the project and we do not need a separate agreement for lighting, correct? Thanks!

Jennifer Deems

District Utilities Supervisor

District 6
500 Joe Frank Harris Pkwy.
P.O. Box 10
Cartersville, GA 30120
678.721.5323 office
770.820.8037 cell

From: Duncan, W. Rodger [<mailto:WRDUNCAN@southernco.com>]
Sent: Wednesday, February 27, 2019 11:21 AM
To: Deems, Jennifer <jdeems@dot.ga.gov>
Subject: RE: PI 0013718 Floyd - question about Lighting

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Yes, these are GPC lights.

Rodger

W. Rodger Duncan, P. E.
Engineer I
CES Engineering
Georgia Power Company
706-506-3437

From: Deems, Jennifer <jdeems@dot.ga.gov>
Sent: Wednesday, February 27, 2019 6:54 AM
To: Duncan, W. Rodger <WRDUNCAN@southernco.com>
Subject: FW: PI 0013718 Floyd - question about Lighting

EXTERNAL MAIL: Caution Opening Links or Files

Does GPC own AND maintain the lights on the bridge on SR 1/SR 20/US 27 @ the Etowah River and NS RR in Rome? The PM is trying to coordinate who will be responsible for the relocation of the poles when we replace this bridge – I wasn't sure if y'all would do that or maybe the City of Rome? Please let me know your thoughts.....thank you!

Jennifer Deems
District Utilities Supervisor

From: Cottrell, Debbie
Sent: Tuesday, February 26, 2019 4:41 PM
To: Deems, Jennifer <jdeems@dot.ga.gov>
Cc: Birnkammer, Jun <jbirnkammer@dot.ga.gov>
Subject: PI 0013718 Floyd - question about Lighting

Jennifer – Do you deal with issues related to Lighting? There are light poles on the existing bridge, which will have to be replaced. So I'm trying to figure out who to coordinate with for the scope of the Lighting Plans. I have heard that sometimes the power company prefers to install and operate the lights, which would probably mean they are not included in GDOT's construction contract. But I know GDOT does design and install them sometimes. So I'm thinking there may be some early coordination with GA Power to find out which scenario applies. Let me know your thoughts when you have a moment. Thanks -

Debbie Cottrell, PE
Consultant Project Manager



Office of Program Delivery, Bridge PMC
600 West Peachtree Street, 25th Floor
Atlanta, GA, 30308
770.596.0545 cell

Hands-free cell phone use now law when driving in Georgia. When drivers use cell phones and other electronic devices it must be with hands-free technology. It is illegal for a driver to hold a phone in their hand or use any part of their body to support a phone. There are many facets to the new law. For details, visit <https://www.gahighwaysafety.org/> [[gahighwaysafety.org](https://www.gahighwaysafety.org/)]