

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

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

FILE P.I. #132985-
BRST0-0054-01(063)
GDOT District 1 - Gainesville
Forsyth & Gwinnett County
Bridge Replacement - SR20 over Chattahoochee
River

OFFICE Design Policy & Support

DATE May 13, 2011

FROM 
for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT APPROVED REVISED CONCEPT REPORT

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

Attachment

DISTRIBUTION:

Genetha Rice-Singleton, Program Control Administrator
Bobby Hilliard, State Program Delivery Engineer
Cindy VanDyke, State Transportation Planning Administrator
Angela Robinson, Financial Management Administrator
Glenn Bowman, State Environmental Administrator
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Robert Mahoney, District Preconstruction Engineer
Allen Ferguson, District Utilities Engineer
Hiral Patel, Project Manager
BOARD MEMBERS - 7th and 9th Congressional Districts

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

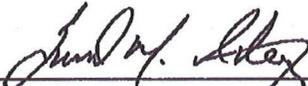
REVISED PROJECT CONCEPT REPORT

Project Number: BRST0-0054-01(063)
County: Forsyth/Gwinnett
P. I. Number: 132985
Federal Route Number: N/A
State Route Number: 20

This revision includes changes made by the VE study to the bridge width and a change in beginning termini.

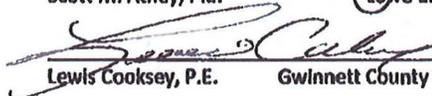
Submitted for approval:

DATE MARCH 11, 2011



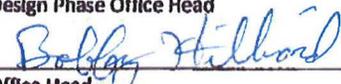
Scott M. Athey, P.E. Lowe Engineers, LLC.

DATE March 14, 2011



Lewis Cooksey, P.E. Gwinnett County Transportation

DATE _____

Design Phase Office Head


Office Head

DATE 3/16/2011



Project Manager

DATE 3/15/2011

Recommendation for approval:

DATE 4/26/2011



State Environmental Administrator

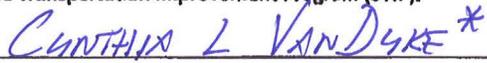
DATE 5/9/2011



State Bridge Design Engineer

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

DATE 4-12-11



State Transportation Planning Administrator

* - RECOMMENDATION ON FILE

REVISED PROJECT CONCEPT REPORT

Need and Purpose:

The proposed project would widen SR 20 over the Chattahoochee River, including approaches from a two-lane rural roadway to a four-lane divided urban roadway from Ruth Lane in Forsyth County to east of Burnette Trail in Gwinnett County. The purpose of the project is to improve east-west mobility along SR 20 between Gwinnett County and Forsyth County, which is classified as an Urban Principal Arterial; and as of June 23, 2005, it is designated by the Federal Highway Administration as part of the National Highway System from I-75 in Bartow County to SR 316 in Gwinnett County. With SR 20 currently experiencing high traffic volumes, the widening of this section of the roadway and the adjacent section in Forsyth County will enhance traffic movement and improve pedestrian mobility on this important east-west arterial. The proposed project is the middle link of three SR 20 widening projects that all together will widen SR 20 from Samples Road in Forsyth County to Peachtree Industrial Boulevard in Gwinnett County. These three projects are concurrently designed.

Existing Conditions:

The existing typical section of roadway consists of two twelve-foot lanes, two-foot paved shoulders, and two-foot to six-foot grassed shoulders and one-hundred-foot existing right-of-way. The existing typical section of the bridge is two twelve foot lanes with two foot shoulders. The posted speed is 55 MPH. Currently SR 20 is not a designated route in any bicycle or pedestrian plans.

Planning Background and Project History:

Gwinnett County's Comprehensive Transportation Plan (CTP) identifies SR 20 as a major east-west route connecting SR 400, I-85 and I-985. SR 20 also serves as a principal crossing over the Chattahoochee River, linking Gwinnett and Forsyth Counties south of Lake Lanier. SR 20 is currently a two-lane principal arterial roadway. The CTP lists SR 20 from Peachtree Industrial Boulevard to the Chattahoochee River as a significant project to add additional traffic capacity to the county roadway system. The County's CTP recommends that SR 20 be widened from two lanes to four lanes with a divided median. This project is also included in the Atlanta Regional Commission's (ARC) 2030 Regional Transportation Plan (RTP). The RTP model includes a four-lane section on SR 20. The project is listed as GW-020-A2 in the RTP, with preliminary engineering and right of way authorized and construction designated as long range and starting after 2013.

Land Use and Development Trends:

Intense residential and commercial development along the SR 20 corridor has driven a steady increase in traffic volumes over the past decade. This trend is expected to continue as development spreads northwards to Gwinnett, Forsyth, and Hall Counties and available properties around Lake Lanier become built out. As outlined in the Gwinnett County 2020 Land Use Map and the Buford/GA 20 east sub area land use element in Forsyth County's Comprehensive Plan, much of the undeveloped and agricultural areas are expected to become commercial and residential by 2020. The Windermere mixed-use development along Windermere Parkway will be responsible for a significant portion of this growth, as it is only partially built-out. This development and the Chattahoochee River Club residential community, which is mostly complete, are listed as Developments of Regional Impact (DRI). This level of residential

growth will be followed by complementary retail development along the SR 20 corridor.

Proposed Project:

Project BRST0-0054-01(063) is the replacement of the SR 20 bridge over the Chattahoochee River, including approaches, from two lanes to four lanes from Ruth Lane in Forsyth County to east of Burnette Trail in Gwinnett County, at the west City Limits of the City of Sugar Hill, a total project length of 0.688 miles. The project limits were established to tie to the two adjacent projects for the widening of SR 20. The typical section will include four through lanes, a 44-foot grassed median, 16-foot shoulders, curb and gutter on the outside pavement edges and five-foot concrete sidewalks on both sides of the roadway. Design will accommodate for the future widening of two additional lanes. The existing bridge over the Chattahoochee River is proposed to be replaced with two parallel bridges. The proposed bridge typical section will include two twelve-foot lanes, a ten foot inside shoulder and an eight foot outside shoulder on each single direction bridge. The bridges are to be proposed to be constructed on a pier configuration similar to the existing bridge. It is proposed that these piers be built under this project to allow for the future widening of the bridges to three-lanes in each direction. The bridges are also to be constructed to allow for a future trail along the Chattahoochee River National Recreation Area on both sides of SR20.

Project Location:

The project will begin just east of Ruth Lane in Forsyth County (ML 15.07) where it will connect onto Project STP00-002-00(392) Forsyth County, PI No. 0002392 for the proposed widening of SR 20 from Samples Road to Ruth Lane. The eastern terminus will be approximately 660 feet east of Burnette Trail in Gwinnett County (ML 0.45) where it will connect onto Project MSL00-0004-00(430), PI No. 0004430 for the proposed widening of SR 20 from near Burnette Trail to Peachtree Industrial Boulevard (P.I.B.). The proposed lane configuration for both adjacent projects is for two through lanes in each direction.

Other Projects in the Area:

- SR 400 @ SR 20 Interchange Reconstruction
ARC TIP:FT-011, GDOT PI: 132630
This project would rebuild the interchange at SR 400 and tie into project PI 122250.
- SR 20/Canton Highway from Post Rd (SR 371) to GA 400
ARC TIP:AR-920, GDOT PI: 0003682
This project widens SR 20 from Post Road (SR 371) east to GA 400. The typical section of SR 20 would include four through lanes.
- SR 20/Canton Highway from Greenwood Acres Rd to Kelly Mill Rd
ARC TIP:FT-061B, GDOT PI: 132430
This project widens SR 20 north of Greenwood Acres Road to Kelly Mill Road. The typical section of SR 20 would include four through lanes.

- SR 20/Buford Highway from Samples Road/CR 80 to James Burgess Road/CR 450
ARC TIP: FT-, GDOT PI: 0002392
This project widens SR 20 west of James Burgess Road/CR450 across the Gwinnett County line at the Chattahoochee River. The typical section of SR 20 would include four through lanes.
- SR 20/Cumming Highway from Burnette Trail to PIB
ARC TIP: GW-020A1, GDOT PI: 004430
This project widens SR 20 through Gwinnett County from east of Burnette Trail to Peachtree Industrial Boulevard. The typical section of SR 20 would include four through lanes.
- SR 20/Buford Highway from SR 400 to Samples Road/CR 80
GDOT PI: 122250
SR 20 from SR 400 to Samples Road/CR 80 is currently being widened to four through lanes with a 44-foot grassed median. The northern terminus ties into existing four-lane section and the proposed reconstruction of the SR 400 interchange (refer to PI 132630). This segment of SR 20 has been designed to accommodate two additional through lanes as part of a future project.
- Windermere Parkway
Forsyth County Project
Windermere Parkway currently consists of a two-lane section extending south of SR 20 into the Windermere mixed-use development. The road is currently being extended further south to Mathis Airport Road to provide a continuous north-south arterial connection between SR 20 and SR 141. Although the existing section of Windermere Parkway has only two lanes, the road is graded for an anticipated two additional through lanes and a median as part of a future project.

Description of the approved concept:

Project BRST0-0054-01(063) is the replacement of the SR 20 bridge over the Chattahoochee River, including approaches, from two lanes to four lanes from James Burgess Road in Forsyth County to east of Brunette Road in Gwinnett County, at the west City Limits of the City of Sugar Hill, a total length of 0.73 miles. The project limits were established to tie to the two adjacent projects for the widening of SR 20. The typical section will include four through lanes, a 44-foot grassed median, 16-foot shoulders, curb and gutter on the outside pavement edges and five-foot concrete sidewalks on both sides of the roadway. Design will accommodate for the future widening of two additional lanes. The existing bridge over the Chattahoochee River is proposed to be replaced with two parallel bridges. The proposed bridge typical section will include two twelve-foot lanes, a ten foot inside shoulder and a twelve foot outside shoulder on each single direction bridge. The bridges are to be proposed to be constructed on a pier configuration similar to the existing bridge. It is proposed that these piers be built under this project to allow for the future widening of the bridges to three-lanes in each direction. The bridges are also to be constructed to allow for a future trail along the Chattahoochee River National Recreation Area on both sides of SR20.

PDP Classification: Major X Minor _____

April 19, 2011
Revised Concept Report
Project BRST0-0054-01(063)
P.I. Number: 132985
County: Forsyth/Gwinnett

State of Georgia
Department of Transportation

Federal Oversight: Full Oversight (), Exempt (X), State Funded (), or Other ()

Functional Classification: Urban Principal Arterial

U. S. Route Number(s): N/A **State Route Number(s):** 20

Traffic (ADT) as shown in the approved concept:

Base Year: (2008) 28,140 Design Year: (2028) 43,085

Updated traffic data (ADT):

Base Year: (2014) 32,220 Design Year: (2034) 47,580

Approved Programmed/Schedule:

P.E. 2000 R/W: 2011 Construction: 2015

VE Study Required Yes (X)* No ()

*VE Study Completed December 7, 2007

VE Implementation Revision signed on 8/14/2008 (attached)

Benefit/Cost Ratio 2.49

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

Is the project in a PM2.5 Non-Attainment area? Yes (X) No ()

The project is modeled in the Atlanta Regional Commission's 2030 RTP. The conforming plan's model description is as a bridge capacity project, widening SR 20 from two to four lanes. The RTP lists a programmed construction year of 2008. The network schematic for the project is attached to this report and the 2/17/2006 approved Concept Report.

<p>Approved Features:</p> <ul style="list-style-type: none"> • Twelve foot outside shoulder for the Bridge over Chattahoochee River. • Beginning Termini: James Burgess Road. 	<p>Proposed Features:</p> <ul style="list-style-type: none"> • Eight foot outside shoulder for the Bridge over Chattahoochee River. • Beginning Termini: Ruth Lane.
<p>Reason for Change: The change in bridge shoulder is a result of the VE Study. The revised 8ft shoulder matches current guidelines for bridges. The beginning termini was changed from James Burgess Road to Ruth Lane because the existing grade near Ruth lane would allow for a smooth transition from existing to proposed grade should the project be let separately.</p>	

Potential Environmental Impacts of Proposed Revision:

There are no adverse environmental impacts as a result of this revision.

Have proposed Revisions Been Reviewed by Environmental Staff? (X) Yes () No

Updated Cost Estimate	
Construction including, Engineering and Inspection	\$9,758,877.79
Fuel Adjustment	\$724,337.83
Right-of-Way	\$2,300,000.00
Utilities (reimbursable)	\$242,500.00
Environmental Mitigation	\$8,000.00

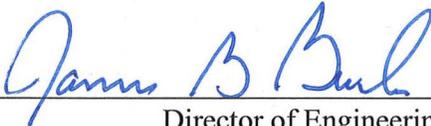
April 19, 2011
Revised Concept Report
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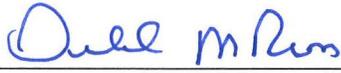
State of Georgia
Department of Transportation

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

Attachments:

1. Sketch Map
2. Cost Estimate
3. Fuel Price Adjustment Worksheet
4. Conforming plan's network schematics showing thru lanes
5. Preliminary Bridge Plans
6. Roadway Layout
7. Roadway Typical Sections
8. Approved Traffic
9. VE Implementation Letter – June, 2008
10. Revision of VE Study Alternative Implementation – August 7, 2008
11. B/C Ratio Worksheet
12. Environmental Mitigation Cost Estimate

Concur: 
Director of Engineering

Approve:  Date: 05/13/11
Chief Engineer



Location Map

Project: BRST0-0054-01(063) Forsyth/Gwinnett Counties

PI No.: 132985

Description: SR 20 Bridge over Chattahoochee River

DETAILED COST ESTIMATE

JOB NUMBER: 132985

FED/STATE PROJECT NUMBER BRST0-0054-01(063)

SPEC YEAR: 01

ENGINEERING AND INSPECTION: 0

DESCRIPTION: SR 20 BRIDGE REPLACEMENT OVER CHATTAHOOCHEE RIVER
IN GWINNETT AND FORSYTH COUNTIES

ITEMS FOR JOB 132985

0010 - ROADWAY

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0003	150-1000	1.000	LS	\$810,000.00	TRAFFIC CONTROL - BRST0-0054-01(063)	\$810,000.00
0009	150-5010	2.000	EA	\$8,476.39	TRAF CTRL,PORTABLE IMPACT ATTN	\$16,952.78
0004	210-0100	1.000	LS	\$2,084,000.00	GRADING COMPLETE - BRST0-0054-01(063)	\$2,084,000.00
0005	310-1101	10880.000	TN	\$14.87	GR AGGR BASE CRS, INCL MATL	\$161,785.60
0010	318-3000	500.000	TN	\$16.89	AGGR SURF CRS	\$8,445.00
0034	402-1811	2200.000	TN	\$67.86	RECYL AC LEVELING, INCL BM	\$149,281.11
0014	402-3133	2340.000	TN	\$59.87	RECYL AC 12.5 MM SP,GP2,INCL BM	\$140,095.80
0020	402-3143	5340.000	TN	\$54.01	RECYL AC 25 MM SP,GP 1 OR 2,INCL BM	\$288,413.40
0025	402-3192	2100.000	TN	\$58.00	RECYL AC 19 MM SP,GP 1OR 2,INCL BM	\$121,800.00
0030	413-1000	2020.000	GL	\$2.18	BITUM TACK COAT	\$4,409.94
0033	432-5010	570.000	SY	\$6.36	MILL ASPH CONC PVMT,VARB DEPTH	\$3,626.58
0035	433-1000	568.000	SY	\$122.05	REINF CONC APPROACH SLAB	\$69,324.40
0045	441-0014	200.000	SY	\$36.25	DRIVEWAY CONCRETE, 4 IN TK	\$7,250.00
0046	441-0104	4650.000	SY	\$25.53	CONC SIDEWALK, 4 IN	\$118,734.59
0048	441-4020	470.000	SY	\$32.10	CONC VALLEY GUTTER, 6 IN	\$15,085.96
0047	441-6022	7530.000	LF	\$14.09	CONC CURB & GUTTER, 6"X30"TP2	\$106,107.71
0032	446-2118	2470.000	LF	\$3.94	HIGH STR PVMT REINF FABRIC, 18 IN WIDTH	\$9,720.12
0090	500-3200	5.000	CY	\$319.78	CL B CONC	\$1,598.90
0008	620-0100	600.000	LF	\$27.75	TEMP BARRIER, METHOD NO. 1	\$16,652.12
0049	621-4023	50.000	LF	\$710.21	CONCRETE SIDE BARRIER, TY 2C	\$35,510.59
0050	634-1200	36.000	EA	\$85.40	RIGHT OF WAY MARKERS	\$3,074.40
0055	641-1100	170.000	LF	\$43.40	GUARDRAIL, TP T	\$7,378.00
0060	641-1200	3880.000	LF	\$14.56	GUARDRAIL, TP W	\$56,492.80
0065	641-5001	5.000	EA	\$632.59	GUARDRAIL ANCHORAGE, TP 1	\$3,162.95
0070	641-5012	10.000	EA	\$2,225.99	GUARDRAIL ANCHORAGE, TP 12	\$22,259.90
0075	643-8200	0.000	LF	\$4.00	BARRIER FENCE (ORANGE), 4 FT	\$0.00
Total for ROADWAY						\$4,261,162.65

0020 - DRAINAGE

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0095	500-3800	21.000	CY	\$600.00	CL A CONC, INCL REINF STEEL	\$12,600.00
0104	550-1180	2597.000	LF	\$32.35	STM DR PIPE 18",H 1-10	\$84,024.09
0105	550-1240	720.000	LF	\$35.46	STM DR PIPE 24",H 1-10	\$25,531.20
0118	550-1300	512.000	LF	\$47.71	STM DR PIPE 30",H 1-10	\$24,429.99
0117	550-1360	48.000	LF	\$70.20	STM DR PIPE 36",H 1-10	\$3,369.59
0116	550-1420	160.000	LF	\$76.19	STM DR PIPE 42",H 1-10	\$12,190.57
0144	550-2180	72.000	LF	\$32.38	SIDE DR PIPE 18",H 1-10	\$2,331.09
0143	550-2240	156.000	LF	\$31.70	SIDE DR PIPE 24",H 1-10	\$4,944.82
0142	550-2720	112.000	LF	\$165.25	SIDE DR PIPE 72",H 1-10	\$18,508.00
0141	550-3418	2.000	EA	\$494.17	SAFETY END SECTION 18",SD,4:1	\$988.35
0140	550-3424	6.000	EA	\$756.35	SAFETY END SECTION 24",SD,4:1	\$4,538.12
0119	550-4218	1.000	EA	\$511.27	FLARED END SECT 18 IN, ST DR	\$511.27
0120	550-4224	4.000	EA	\$551.46	FLARED END SECT 24 IN, ST DR	\$2,205.84
0129	550-4230	2.000	EA	\$871.13	FLARED END SECT 30 IN, ST DR	\$1,742.26
0128	550-4236	3.000	EA	\$1,059.89	FLARED END SECT 36 IN, ST DR	\$3,179.66
0127	550-4242	2.000	EA	\$1,418.37	FLARED END SECT 42 IN, ST DR	\$2,836.74

DETAILED COST ESTIMATE

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0101	668-1100	27.000	EA	\$1,821.53	CATCH BASIN, GP 1	\$49,181.44
0100	668-1110	40.000	LF	\$143.17	CATCH BASIN, GP 1, ADDL DEPTH	\$5,726.90
0102	668-2100	9.000	EA	\$1,656.47	DROP INLET, GP 1	\$14,908.19
0103	668-2105	1.000	EA	\$1,601.39	DROP INLET, GP 1, SPCL DES	\$1,601.39
0099	668-2110	10.000	LF	\$138.16	DROP INLET, GP 1, ADDL DEPTH	\$1,381.60
0098	668-4300	2.000	EA	\$1,556.37	STORM SEW MANHOLE, TP 1	\$3,112.75
0097	668-4311	10.000	LF	\$183.75	ST SEW MANHOLE, TP 1, A DEP, CL 1	\$1,837.50
0096	668-4312	20.000	LF	\$189.07	ST SEW MANHOLE, TP 1, A DEP, CL 2	\$3,781.32
0094	668-4313	4.000	LF	\$200.46	ST SEW MANHOLE, TP 1, A DEP, CL 3	\$801.85
Total for DRAINAGE						\$286,264.53

0030 - TEMPORARY EROSION

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0145	163-0232	12.000	AC	\$232.01	TEMPORARY GRASSING	\$2,784.13
0150	163-0240	40.000	TN	\$141.98	MULCH	\$5,679.20
0155	163-0300	5.000	EA	\$932.66	CONSTRUCTION EXIT	\$4,663.30
0160	163-0503	11.000	EA	\$368.60	CONSTR AND REMOVE SILT CONTROL GATE, TP 3	\$4,054.60
0180	163-0530	1400.000	LF	\$4.00	CONSTR AND REMOVE BALED STRW EROSION CHK	\$5,600.00
0189	163-0550	37.000	EA	\$177.16	CONS & REM INLET SEDIMENT TRAP	\$6,554.81
0190	165-0030	5950.000	LF	\$0.63	MAINT OF TEMP SILT FENCE, TP C	\$3,748.50
0195	165-0040	20.000	EA	\$100.00	MAINT OF EROSION CTRL CHKDAMS/DITCH CHKS	\$2,000.00
0205	165-0087	11.000	EA	\$99.23	MAINT OF SILT CONTROL GATE, TP 3	\$1,091.53
0210	165-0101	5.000	EA	\$432.20	MAINT OF CONST EXIT	\$2,161.00
0188	165-0105	37.000	EA	\$53.05	MAINT OF INLET SEDIMENT TRAP	\$1,962.99
0214	167-1000	2.000	EA	\$557.16	WATER QUALITY MONITORING AND SAMPLING	\$1,114.32
0215	167-1500	48.000	MO	\$508.17	WATER QUALITY INSPECTIONS	\$24,392.16
0225	171-0030	11890.000	LF	\$2.65	TEMPORARY SILT FENCE, TYPE C	\$31,508.50
0130	576-1018	630.000	LF	\$12.43	SLOPE DRAIN PIPE, 18 IN	\$7,830.90
Total for TEMPORARY EROSION						\$105,145.94

0040 - PERMANENT EROSION

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0234	162-1009	1.000	EA	\$1,000.00	EROSION CTRL CK DAM, SPCL DES	\$1,000.00
0175	163-0524	20.000	EA	\$100.00	CNST/REM TEMP DCH CK-STN PL RIPRAP/SN BG	\$2,000.00
0233	163-0531	1.000	EA	\$7,358.00	CONSTR & REM SEDIMENT BASIN, TP 1, STA NO-1251+00	\$7,358.00
0231	163-0539	1.000	EA	\$325.08	CONST AND REM RETROFIT-SL BD DM/W STN FL	\$325.08
0232	165-0060	1.000	EA	\$1,125.84	MAINT OF TEMP SEDIMENT BASIN, STA NO -	\$1,125.84
0230	165-0095	1.000	EA	\$516.95	MAINT OF RETROFIT, STA NO - 1251+00	\$516.95
0239	603-2024	4951.000	SY	\$41.03	STN DUMPED RIP RAP, TP 1, 24"	\$203,144.73
0235	603-2181	1038.000	SY	\$25.00	STN DUMPED RIP RAP, TP 3, 18"	\$25,950.00
0240	603-7000	5780.000	SY	\$3.36	PLASTIC FILTER FABRIC	\$19,420.80
0245	700-6910	23.000	AC	\$667.95	PERMANENT GRASSING	\$15,362.85
0250	700-7000	46.000	TN	\$52.64	AGRICULTURAL LIME	\$2,421.44
0249	700-7010	57.000	GL	\$14.68	LIQUID LIME	\$837.04
0255	700-8000	23.000	TN	\$360.45	FERTILIZER MIXED GRADE	\$8,290.35
0260	700-8100	1140.000	LB	\$2.22	FERTILIZER NITROGEN CONTENT	\$2,530.80
0270	716-2000	24400.000	SY	\$0.94	EROSION CONTROL MATS, SLOPES	\$22,936.00
Total for PERMANENT EROSION						\$313,219.88

0050 - SIGNING AND MARKING

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0274	636-1020	50.000	SF	\$13.97	HWY SGN, TP1MAT, REFL SH TP3	\$698.71
0275	636-1033	80.000	SF	\$14.00	HWY SIGNS, TP1MAT, REFL SH TP 9	\$1,120.00

DETAILED COST ESTIMATE

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0280	636-2070	310.000	LF	\$8.94	GALV STEEL POSTS, TP 7	\$2,771.40
0301	653-0095	1.000	EA	\$200.00	THERM PVMT MARK, HANDICAP SYM	\$200.00
0283	653-1501	2360.000	LF	\$0.45	THERMO SOLID TRAF ST 5 IN, WHI	\$1,066.41
0294	653-1502	9760.000	LF	\$0.29	THERMO SOLID TRAF ST, 5 IN YEL	\$2,811.08
0279	653-1704	50.000	LF	\$4.26	THERM SOLID TRAF STRIPE,24",WH	\$212.75
0281	653-1804	330.000	LF	\$1.97	THERM SOLID TRAF STRIPE, 8",WH	\$651.15
0282	653-3501	7010.000	GLF	\$0.18	THERMO SKIP TRAF ST, 5 IN, WHI	\$1,272.32
0299	653-6004	30.000	SY	\$3.21	THERM TRAF STRIPING, WHITE	\$96.17
0298	653-6006	1840.000	SY	\$2.69	THERM TRAF STRIPING, YELLOW	\$4,944.60
0304	654-1001	120.000	EA	\$3.96	RAISED PVMT MARKERS TP 1	\$474.74
0303	654-1003	210.000	EA	\$3.65	RAISED PVMT MARKERS TP 3	\$766.87
0302	657-3085	1120.000	GLF	\$3.21	PRF PL SK PVMT MKG,8",B/W,TPPB	\$3,597.72
0300	657-6085	1120.000	LF	\$3.77	PRF PL SD PVMT MKG,8",B/Y,TPPB	\$4,222.40
Total for SIGNING AND MARKING						\$24,906.32

0060 - BRIDGE

LINE	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0007	540-1102	1.000	LS	\$320,000.00	REM OF EX BR, BR NO - EXISTING BRIDGE #1	\$320,000.00
0305	543-9000	1.000	LS	\$3,983,470.00	CONSTR OF BRIDGE COMPLETE - BRIDGE #1	\$3,983,470.00
Total for BRIDGE						\$4,303,470.00

GRAND TOTAL FOR JOB 132985 \$9,294,169.32

TOTALS FOR JOB 132985

ESTIMATED COST:	\$9,294,169.32
CONTINGENCY PERCENT (0.0):	0.00
ENGINEERING AND INSPECTION (0.0):	0.00
ESTIMATED TOTAL:	\$9,294,169.32

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE BRST0-0054-01(063) Forsyth/Gwinnett
P.I. No. 132985
SR 20 at the Chattahoochee River

OFFICE Gainesville

DATE September 29, 2010

FROM Allen Ferguson 
District Utilities Engineer

TO Hiral Patel, Project Manager

SUBJECT PRELIMINARY UTILITY COST (ESTIMATE)

As requested, we are furnishing you with a Preliminary Utility Cost estimate for the subject project.

FACILITY OWNER	NON-REIMBURSABLE	REIMBURSABLE
AT&T	\$ 49,000.00	\$100,000.00
Atlanta Gas Light	\$ 44,000.00	\$ 0.00
Charter Communications	\$ 60,000.00	\$ 0.00
City of Sugar Hill**	\$ 80,000.00	\$ 0.00
Forsyth County Water**	\$ 3,200.00	\$ 0.00
Gwinnett County DWR**	\$107,400.00	\$ 2,500.00
Sawnee EMC	\$ 70,000.00	\$140,000.00

Total Estimated Reimbursement Cost: \$242,500.00

Total Estimated Non-Reimbursement Cost: \$413,600.00

****If Utility Aid is requested and granted these costs need to be moved to Reimbursable.**

If you have any questions, please contact Allen Ferguson at 770-532-5510.

RAF

C: Jeff Baker, State Utilities Engineer
Angie Robinson, Office of Financial Management
Harold Mull, Area Engineer
Matt Needham, Area Engineer
File

**Georgia Department of Transportation
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

BRSTO-0054-01(063)

GWINNETT

132985

	A	B	C	D
1	land and improvements			
2	Fee Simple Estimate	\$984,614.79		
3	Perm Esmt Estimate	\$106,265.89		
4	Temp Esmt Estimate	\$0.00		
5	Potential Excess Estimate	\$0.00		
6	Damages	\$50,000.00		
7	Improvements	\$90,000.00		
8	Trade Fixtures	\$0.00		
9	Cost to Cures	\$0.00		
10	Minimum Award Adjustment	\$145.23		
11				
12				
13				
14				
15				
16				
17				
18		SUB TOTAL PROPERTY TYPES		\$1,171,025.90
19		Counter Offers and Condemnation Increases (50%)		\$585,512.95
20		Let Date (MM/YYYY)		July-12
21		Projected Market Appreciation (10%)		\$215,276.27
		GRAND TOTAL LANDS AND IMPROVEMENTS		\$1,971,815.12

**Georgia Department of Transportation
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

BRSTO-0054-01(063)

GWINNETT

132985

	A	B	C	D
Valuation Services	Agriculture	Residential	Commercial	Industrial
1 Appraisals (# of Parcels)	0	15	0	0
2 Estimated Fees (per Parcel)	\$0.00	\$2,000.00	\$0.00	\$0.00
3 TOTAL APPRAISALS	\$0.00	\$30,000.00	\$0.00	\$0.00
4 Sign Estimates	0	2	0	0
5 Estimated Fees	\$0.00	\$500.00	\$0.00	\$0.00
6 TOTAL SIGN ESTIMATES	\$0.00	\$1,000.00	\$0.00	\$0.00
7 Specialty Reports	0	0	0	0
8 Estimated Fees	\$0.00	\$0.00	\$0.00	\$0.00
9 TOTAL SPECIALTY REPORTS	\$0.00	\$0.00	\$0.00	\$0.00
10 Septic/Well Reports	0	0	0	0
11 Estimated Fees	\$0.00	\$0.00	\$0.00	\$0.00
12 TOTAL SEPTIC/WELL REPORTS	\$0.00	\$0.00	\$0.00	\$0.00
13				
14				
15				
16 TOTAL VALUATION FEES	\$0.00	\$31,000.00	\$0.00	\$0.00
17	SUB TOTAL VALUATION SERVICES			\$31,000.00
18	Updates and Incidentals (Min \$2,500 or 25%)			\$7,750.00
19	GRAND TOTAL VALUATION SERVICES			\$38,750.00

**Georgia Department of Transportation
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

BRSTO-0054-01(063)

GWINNETT

132985

	A	B	C	D
Legal Services	Parcels	Estimated Fees		TOTALS
1 Meeting with Attorney	15	\$125.00		\$1,875.00
2 Preliminary Titles	15	\$200.00		\$3,000.00
3 Closing and Final Title	15	\$300.00		\$4,500.00
4 Recording Fees	15	\$50.00		\$750.00
5 Condemnation Filing	3	\$5,000.00		\$15,000.00
6 Litigation Costs	3	\$25,000.00		\$75,000.00
7 Updates and Incidentals	3	\$7,500.00		\$22,500.00
8				
9				
10				
11				
12				
13				
14				
15				
16				
17		GRAND TOTAL LEGAL SERVICES		\$122,625.00

**Georgia Department of Transportation
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

BRSTO-0054-01(063)

GWINNETT

132985

	A	B	C	D
	Displacements	Estimated Costs		TOTALS
1	0	\$25,000.00		\$0.00
2	0	\$25,000.00		\$0.00
3	0	\$45,000.00		\$0.00
4	0	\$1,000.00		\$0.00
5	0	\$1,250.00		\$0.00
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17		GRAND TOTAL RELOCATION		\$0.00

**Georgia Department of Transportation
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

DRSTO-0054-01(063)

GWINNETT

132985

	A	B	C	D
	Items/Improvements	Estimated Costs		TOTALS
1	Residential Structures	0	\$17,500.00	\$0.00
2	Detached Garages/Outbuildings	0	\$8,000.00	\$0.00
3	Commercial Structures	0	\$25,000.00	\$0.00
4	Hotels/Apartments	0	\$65,000.00	\$0.00
5	UST's - Dispensers	0	\$50,000.00	\$0.00
6	Billboards	0	\$8,000.00	\$0.00
7	Signs - Light Standards	0	\$2,500.00	\$0.00
8	Water Vaults	0	\$15,000.00	\$0.00
9	Gas/Water Service Separation	0	\$2,500.00	\$0.00
10				
11				
12				
13				
14				
15				
16				
17		GRAND TOTAL DEMOLITION		\$0.00

**Georgia Department of Transportation
Detailed ROW Cost Estimate Worksheet**

Project/County/PI

BRSTO-0054-01(063)

GWINNETT

132985

	A	B	C	D
	Parcels	Man hours per Parcel		TOTALS
1	Pre-Acquisition	15	50	\$37,500.00
2	Acquisition	15	125	\$93,750.00
3	Relocation	0	50	\$0.00
4	Administrative Appeals	4	50	\$10,000.00
5	Post-Acquisition	3	125	\$18,750.00
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17	GRAND TOTAL INHOUSE			\$160,000.00

P.I. Number 132985

County Gwinnett

Project Number BRST0-0054-01(063)

Special Provision, Section 109-Measurement and Payment
FUEL PRICE ADJUSTMENT (*ENGLISH 125% MAX*)

ENTER FPL DIESEL	3.865
ENTER FPM DIESEL	8.696

ENTER FPL UNLEADED	3.502
ENTER FPM UNLEADED	7.8795

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

INCREASE ADJUSTMENT
125.00%

INCREASE ADJUSTMENT
125.00%

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 (CUBIC YARD)		0.29		0.15		
Excavations paid as specified by Sections 206 (CUBIC YARD)		0.29		0.15		
GAB paid as specified by the ton under Section 310 (TON)	10880.000	0.29	3155.20	0.24	2611.20	
Hot Mix Asphalt paid as specified by the ton under Sections 400 (TON)		2.90		0.71		
Hot Mix Asphalt paid as specified by the ton under Sections 402 (TON)	11980.000	2.90	34742.00	0.71	8505.80	
PCC Pavement paid as specified by the square yard under Section 430 (SY)		0.25		0.20		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Bridge Excavation (CY) Section 211				8.00		1.50		
Class __ Concrete (CY) Section 500	381.36	533.26	203.3640	8.00	1626.91	1.50	305.05	Class AA
Class __ Concrete (CY) Section 500				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500	1123.65	833.50	936.5623	8.00	7492.50	1.50	1404.84	Class AA
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Concrete Handrail (LF) Section 500				8.00		1.50		
Concrete Barrier (LF) Section 500	1806.92	40.99	74.0657	8.00	592.53	1.50	111.10	Barrier

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
--------------	----------	------------	---------	---------------	----------------	-----------------	------------------	---------

Stru Steel <u>Plan Quantity</u> (LB) Section 501	6469.50	7.05	45.6100	8.00	364.88	1.50	68.41	Str. Steel, Swaybracing
Stru Steel <u>Plan Quantity</u> (LB) Section 501				8.00		1.50		
PSC Beams____ (LF) Section 507	2655.90	98.14	260.6500	8.00	2085.20	1.50	390.98	Type I
PSC Beams____ (LF) Section 507	2753.51	167.13	460.1941	8.00	3681.55	1.50	690.29	54" Bulb Tee
PSC Beams____ (LF) Section 507				8.00		1.50		
Stru Reinf <u>Plan Quantity</u> (LB) Section 511	275997.95	0.89	245.6382	8.00	1965.11	1.50	368.46	Superstr Reinf Steel
Stru Reinf <u>Plan Quantity</u> (LB) Section 511				8.00		1.50		
Bar Reinf Steel (LB) Section 511	44603.23	0.85	37.9127	8.00	303.30	1.50	56.87	
Piling____inch (LF) Section 520	522.10	47.80	24.9564	8.00	199.65	1.50	37.43	Steel H, HP 10x42
Piling____inch (LF) Section 520	1657.10	53.81	89.1686	8.00	713.35	1.50	133.75	Steel H, HP 12x53
Piling____inch (LF) Section 520	749.10	63.64	47.6727	8.00	381.38	1.50	71.51	Steel H, HP 14x73
Piling____inch (LF) Section 520				8.00		1.50		
Piling____inch (LF) Section 520				8.00		1.50		
Piling____inch (LF) Section 520				8.00		1.50		
Drilled Caisson,____ (LF) Section 524	338.23	1,587.03	536.7812	8.00	4294.25	1.50	805.17	54 in
Drilled Caisson,____ (LF) Section 524				8.00		1.50		
Drilled Caisson,____ (LF) Section 524				8.00		1.50		
Pile Encasement,____(LF) Section 547	163.44	206.02	33.6719	8.00	269.38	1.50	50.51	12 in Pile
Pile Encasement,____(LF) Section 547				8.00		1.50		

SUM QF DIESEL=	61867.18	SUM QF UNLEADED=	15611.37
-----------------------	-----------------	-------------------------	-----------------

DIESEL PRICE ADJUSTMENT(\$)	\$274,984.16
UNLEADED PRICE ADJUSTMENT(\$)	\$62,871.68

ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

APPLICABLE TO CONTRACTS CONTAINING THE 413 SPEC. SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

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

ENTER APL

ENTER APM

125.00%	INCREASE ADJUSTMENT
---------	---------------------

Use this side for Asphalt Emulsion Only		
L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)
TMT =		<input style="width: 100px;" type="text"/>
REMARKS:		

Use this side for Asphalt Cement Only		
L.I.N.	TYPE	TACK (GALLONS)
TMT =		<input style="width: 100px;" type="text"/>
REMARKS:		

MONTHLY PRICE ADJUSTMENT(\$)	
------------------------------	--

ADJUSTMENT SUMMARY

FUEL PRICE ADJUSTMENT (*ENGLISH 125% MAX*)

DIESEL PRICE ADJUSTMENT(\$) \$274,984.16

UNLEADED PRICE ADJUSTMENT(\$) \$62,871.68

ASPHALT CEMENT PRICE ADJUSTMENT (*BITUMINOUS TACK COAT 125% MAX*) \$5,518.00

400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT *125% MAX* \$380,964.00

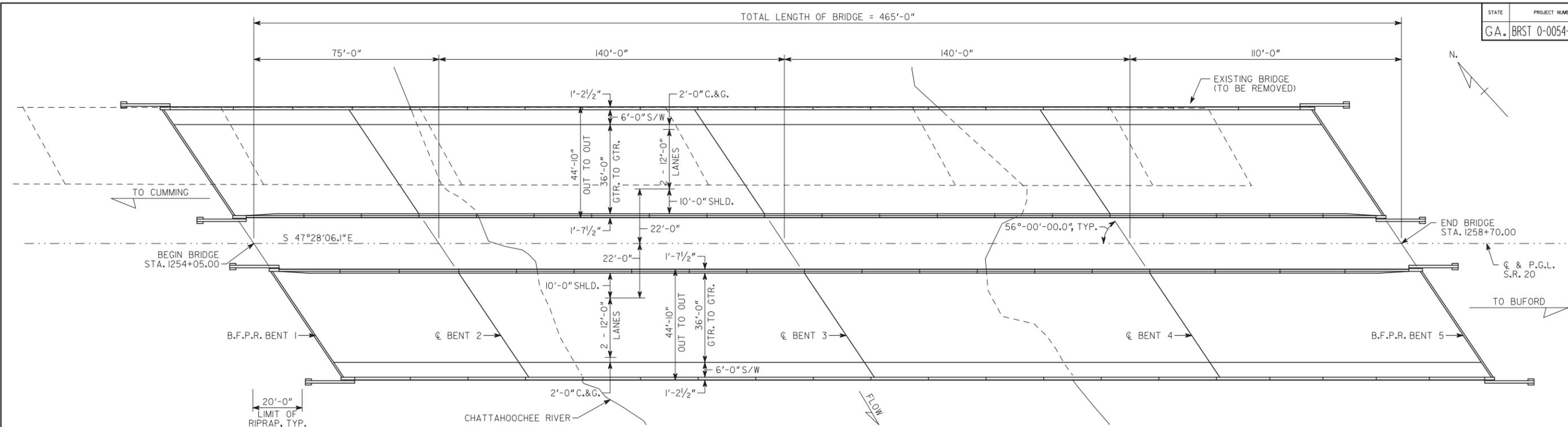
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(*Surface Treatment 125% MAX*)

REMARKS:	
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TOTAL ADJUSTMENTS	\$724,337.83
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2010





PLAN
SCALE: 1" = 20'

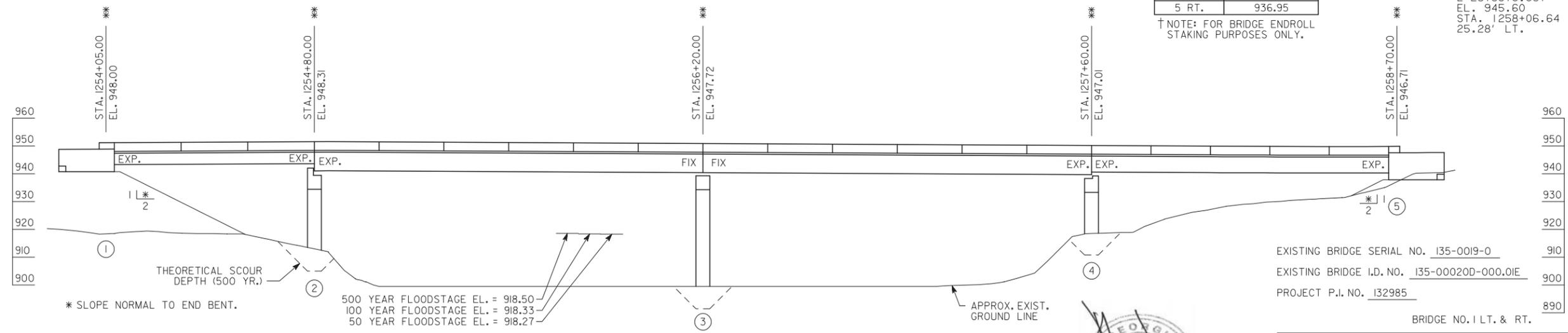
** STATIONS ARE MEASURED ALONG C CONSTRUCTION AND ELEVATIONS ARE ALONG PROFILE GRADE LINE AT THE INTERSECTIONS OF C CONSTRUCTION AND B.F.P.R. OR C BENT.

BERM ELEVATIONS†	
END BENT	ELEVATIONS
1 LT.	939.68
1 RT.	940.04
5 LT.	936.80
5 RT.	936.95

† NOTE: FOR BRIDGE ENDROLL STAKING PURPOSES ONLY.

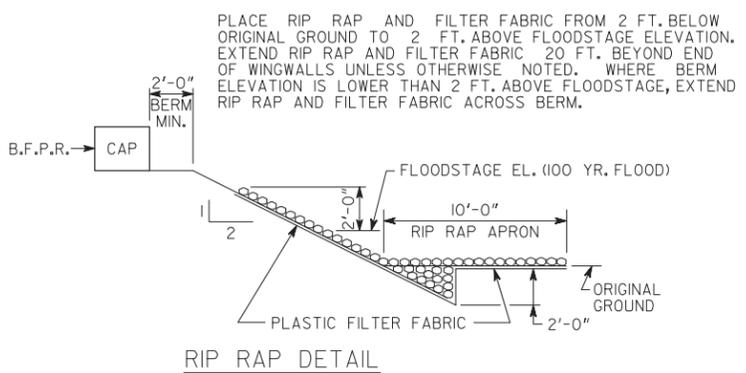
BENCHMARK

BENCHMARK PP 1/10/1956
N 1500872.132
E 2318916.681
EL. 945.60
STA. 1258+06.64
25.28' LT.

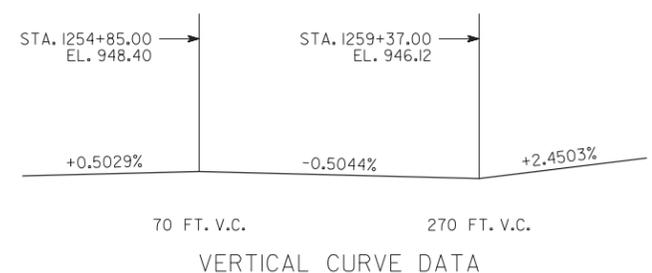


ELEVATION
SCALE: 1" = 20'

EXISTING BRIDGE SERIAL NO. 135-0019-0
EXISTING BRIDGE I.D. NO. 135-00020D-000.01E
PROJECT P.I. NO. 132985
BRIDGE NO. 1 LT. & RT.



RIP RAP DETAIL



VERTICAL CURVE DATA

NOTES

1. MINIMUM BOTTOM OF BEAM ELEVATION FOR PROPOSED BRIDGES SHALL BE NO LOWER THAN ELEVATION 920.27.
2. PROPOSED BOTTOM OF BEAM ELEVATION IS 938.53.
3. BRIDGES ARE TO BE CONSTRUCTED ON A NORMAL CROWN OF 2%.
4. ALL BENTS ARE PARALLEL.
5. TRAFFIC SHALL BE MAINTAINED ON EXISTING BRIDGE DURING CONSTRUCTION.
6. END BENT PILES NOT SHOWN.



DATE	REVISIONS

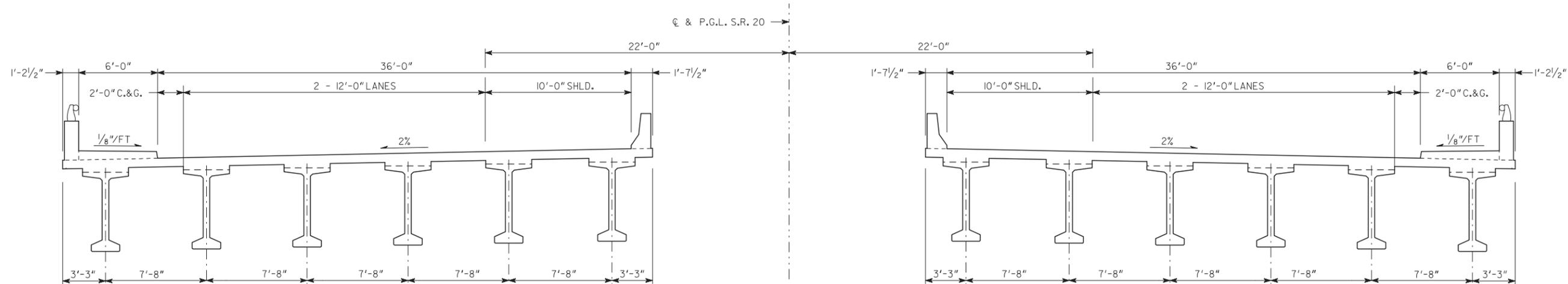
Browder + LeGuzamon and Associates, Inc.
ENGINEERS
174 WEST MELICA ROAD
ATLANTA, GEORGIA 30342
(404) 851-9580

GEORGIA
DEPARTMENT OF TRANSPORTATION
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

PRELIMINARY LAYOUT
SR 20 OVER CHATTAHOOCHEE RIVER
GWINNETT-FORSYTH COUNTIES BRST 0-0054-01(063)

SCALE: AS NOTED
JUNE 2008

DESIGNED P.A.L.	CHECKED C.A.L.	REVIEWED S.L.
DRAWN R.B.H.	DESIGN GROUP X.X.X.	APPROVED P.V.L.



TYP. DECK SECTION
SCALE: 1/4" = 1'-0"
(SPAN 2 SHOWN)

EACH BRIDGE CONSISTS OF

- 1 - 75'-0" TYPE III PSC BEAM SPAN ----- SPECIAL DESIGN
- 2 - 140'-0" BULB TEE, 72 IN, PSC BEAM SPANS ----- SPECIAL DESIGN
- 1 - 110'-0" BULB TEE, 63 IN, PSC BEAM SPAN ----- SPECIAL DESIGN
- 2 - PILE END BENTS ----- SPECIAL DESIGN
- 3 - CONCRETE INTERMEDIATE BENTS ----- SPECIAL DESIGN
- ONE PIPE ALUMINUM HANDRAIL ----- GA. STD. 3626 (10-22-85)
- 24" TYPE I RIP RAP

DESIGN DATA

- SPECIFICATIONS ----- AASHTO 17TH EDITION, 2002
(DESIGNED FOR SEISMIC PERFORMANCE CATEGORY A)
- TYPICAL HS20-44 AND/OR MILITARY LOADING ----- IMPACT ALLOWED
- FUTURE PAVING ALLOWANCE ----- 30 LBS PER SQ FT

DRAINAGE DATA

DRAINAGE AREA ----- 1090 SQ MILES

FLOOD FREQUENCY	DISCHARGE	VELOCITY	AREA OF OPENING UNDER FLOODSTAGE	BACKWATER
50 YEAR	12200 CFS	2.27 FPS	4929 SQ FT	0.00 FT
100 YEAR	12400 CFS	2.51 FPS	4949 SQ FT	0.00 FT
500 YEAR	12900 CFS	2.58 FPS	5001 SQ FT	0.00 FT

NOTE: DISCHARGES REGULATED BY BUFORD DAM.

TRAFFIC DATA

- TRAFFIC ----- ADT = 29140 (2008)
ADT = 43085 (2028)
- DESIGN SPEED ----- 45 MPH
- TRUCKS ----- 8%
- 24 HR TRUCKS ----- 14%
- DIRECTIONAL ----- 90%

UTILITIES

NONE

THEORETICAL SCOUR DEPTHS (FT)

LOCATION	100 YEAR STORM			500 YEAR STORM		
	GENERAL	LOCAL	TOTAL	GENERAL	LOCAL	TOTAL
BENT 2	0	7.33	7.33	0	7.43	7.43
BENT 3	0	7.33	7.33	0	7.43	7.43
BENT 4	0	7.33	7.33	0	7.43	7.43

BRIDGE NO. 1 LT. & RT.



GEORGIA
DEPARTMENT OF TRANSPORTATION
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

PRELIMINARY LAYOUT
SR 20 OVER CHATTAHOOCHEE RIVER
GWINNETT-FORSYTH COUNTIES BRST 0-0054-01(063)

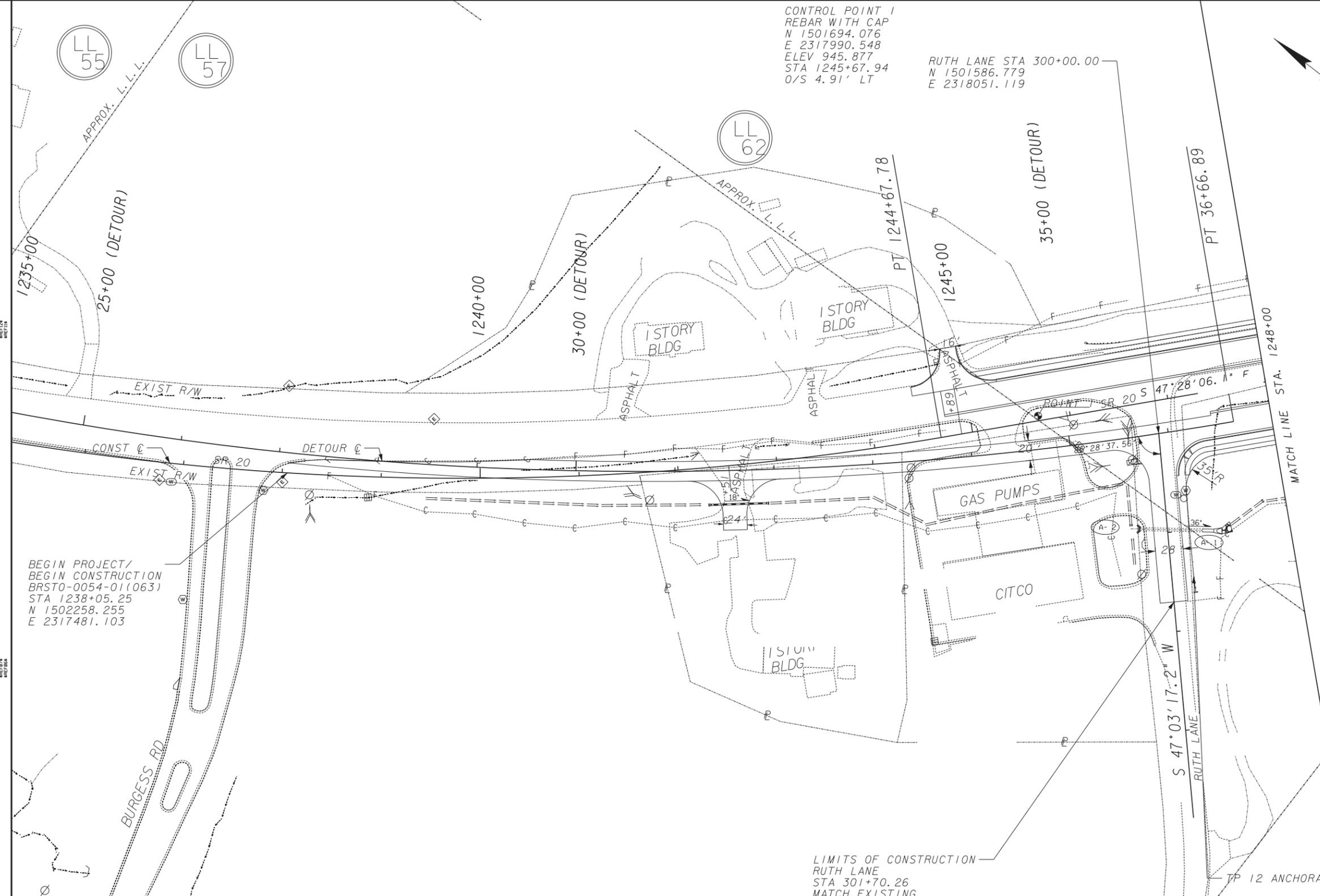
SCALE: AS NOTED

JUNE 2008

DATE					
REVISIONS					
BY					

BRIDGE SHEET
2 OF 2

DESIGNED P.A.L.	CHECKED C.A.L.	REVIEWED S.L.
DRAWN R.B.H.	DESIGN GROUP X.X.X.	APPROVED P.V.L.



CONTROL POINT 1
REBAR WITH CAP
N 1501694.076
E 2317990.548
ELEV 945.877
STA 1245+67.94
O/S 4.91' LT

RUTH LANE STA 300+00.00
N 1501586.779
E 2318051.119

BEGIN PROJECT/
BEGIN CONSTRUCTION
BRST0-0054-01(063)
STA 1238+05.25
N 1502258.255
E 2317481.103

LIMITS OF CONSTRUCTION
RUTH LANE
STA 301+70.26
MATCH EXISTING



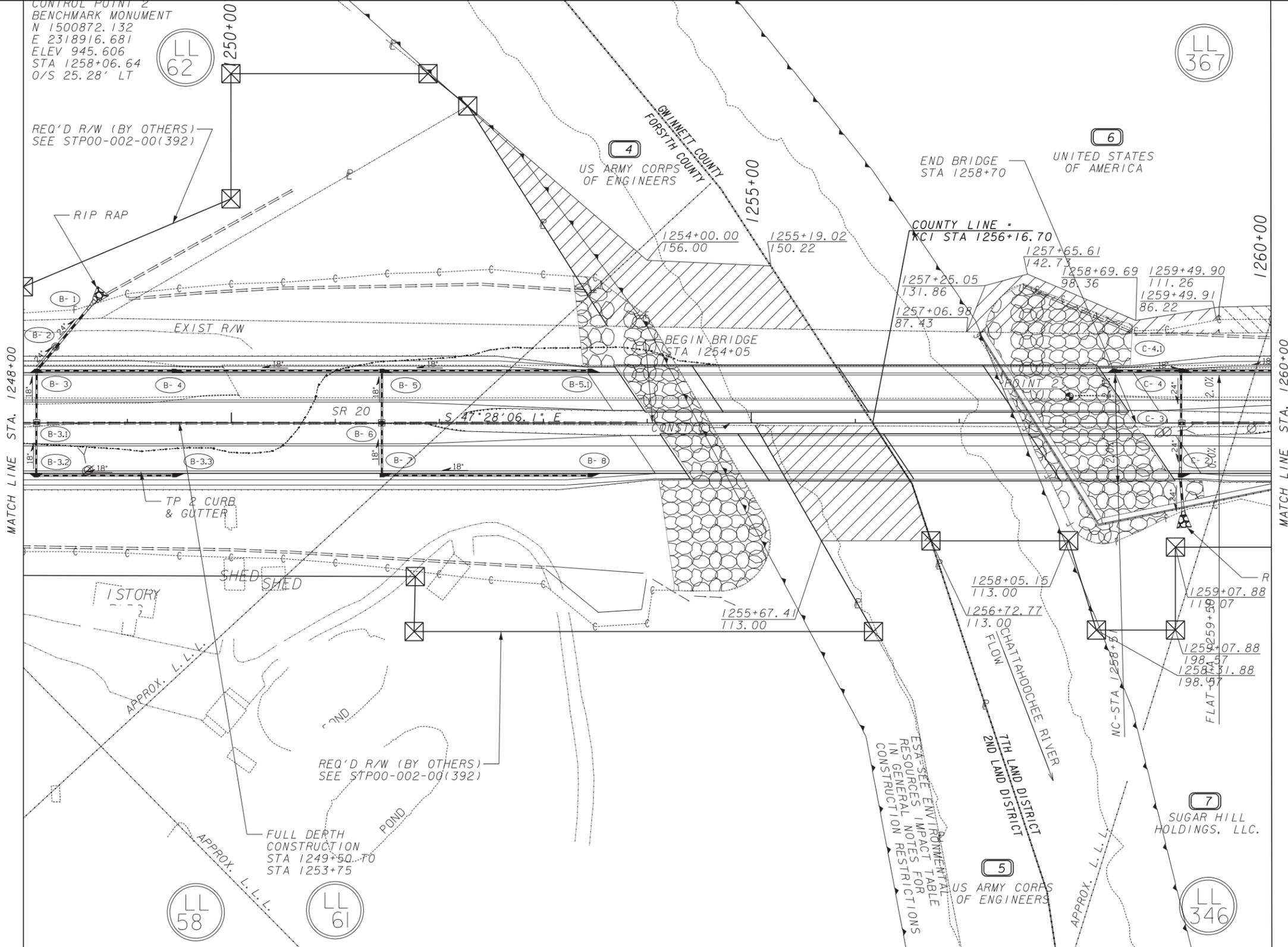
PROPERTY AND EXISTING R/W LINE	---
REQUIRED R/W LINE	---
CONSTRUCTION LIMITS	---
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	[Hatched Box]
EASEMENT FOR CONSTR OF SLOPES	[Hatched Box]
EASEMENT FOR CONSTR OF DRIVES	[Cross-hatched Box]

LOWE ENGINEERS
SIX CONCOURSE PARKWAY, SUITE 1000, ATLANTA, GA 30328
PHONE 770.857.8400 FAX 770.857.8401



REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: CONSULTANT DESIGN
MAINLINE PLAN
SR 20 BRIDGE WIDENING OVER CHATTAHOOCHEE RIVER
DRAWING No. 13-01



PROPERTY AND EXISTING R/W LINE	---
REQUIRED R/W LINE	---
CONSTRUCTION LIMITS	---
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	▨
EASEMENT FOR CONSTR OF SLOPES	▩
EASEMENT FOR CONSTR OF DRIVES	▧

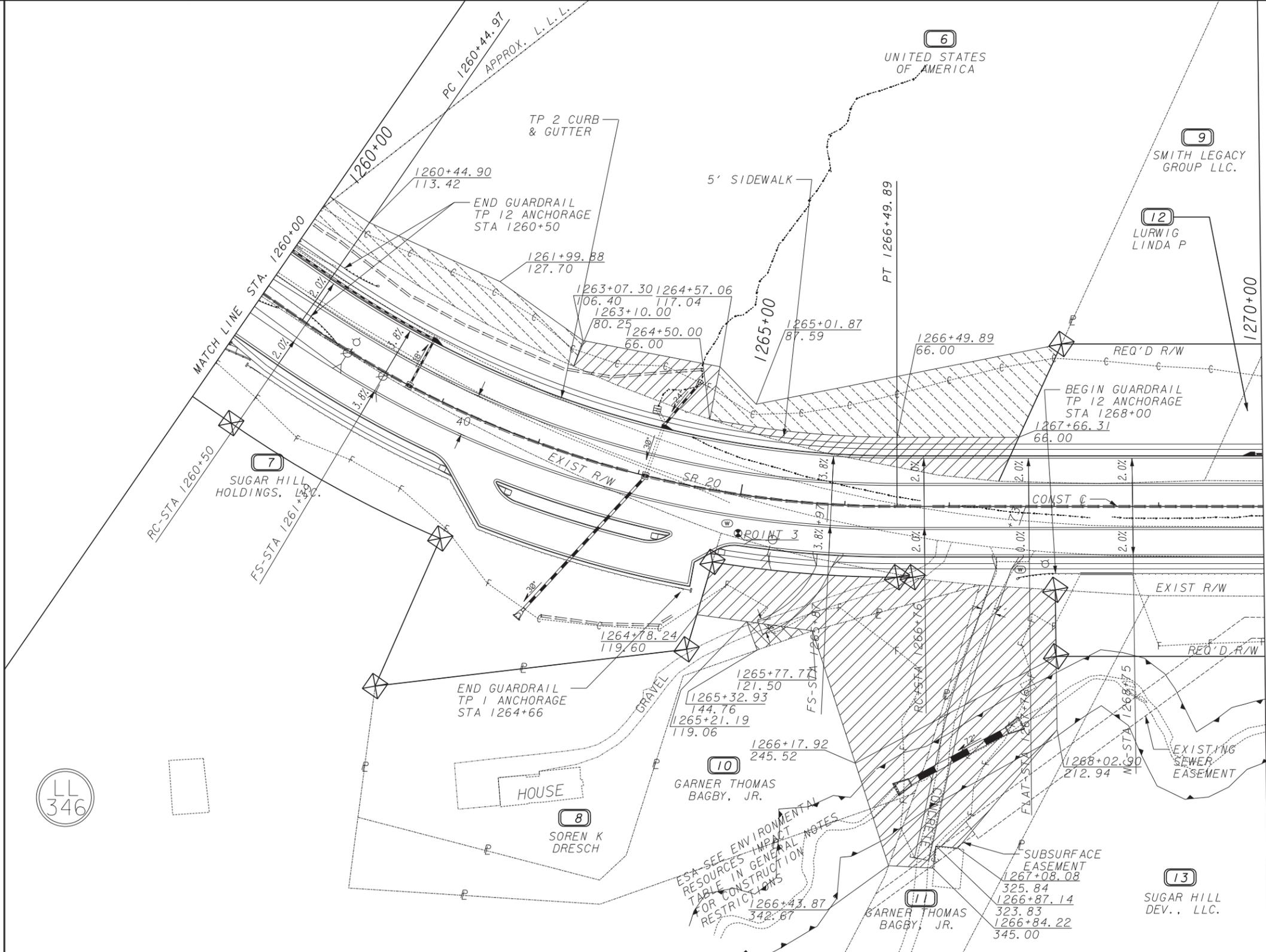
LOWE ENGINEERS
 SIX CONCOURSE PARKWAY, SUITE 1000, ATLANTA, GA 30328
 PHONE 770.857.8400 FAX 770.857.8401



REVISION DATES

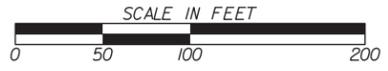
STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: CONSULTANT DESIGN
MAINLINE PLAN
 SR 20 BRIDGE WIDENING OVER CHATTAHOOCHEE RIVER
 DRAWING No. 13-02

3/1/2007 GLEN



PROPERTY AND EXISTING R/W LINE	---
REQUIRED R/W LINE	---
CONSTRUCTION LIMITS	---
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	[Hatched Box]
EASEMENT FOR CONSTR OF SLOPES	[Hatched Box]
EASEMENT FOR CONSTR OF DRIVES	[Hatched Box]

LOWE ENGINEERS
 SIX CONCOURSE PARKWAY, SUITE 1000, ATLANTA, GA 30328
 PHONE 770.857.8400 FAX 770.857.8401



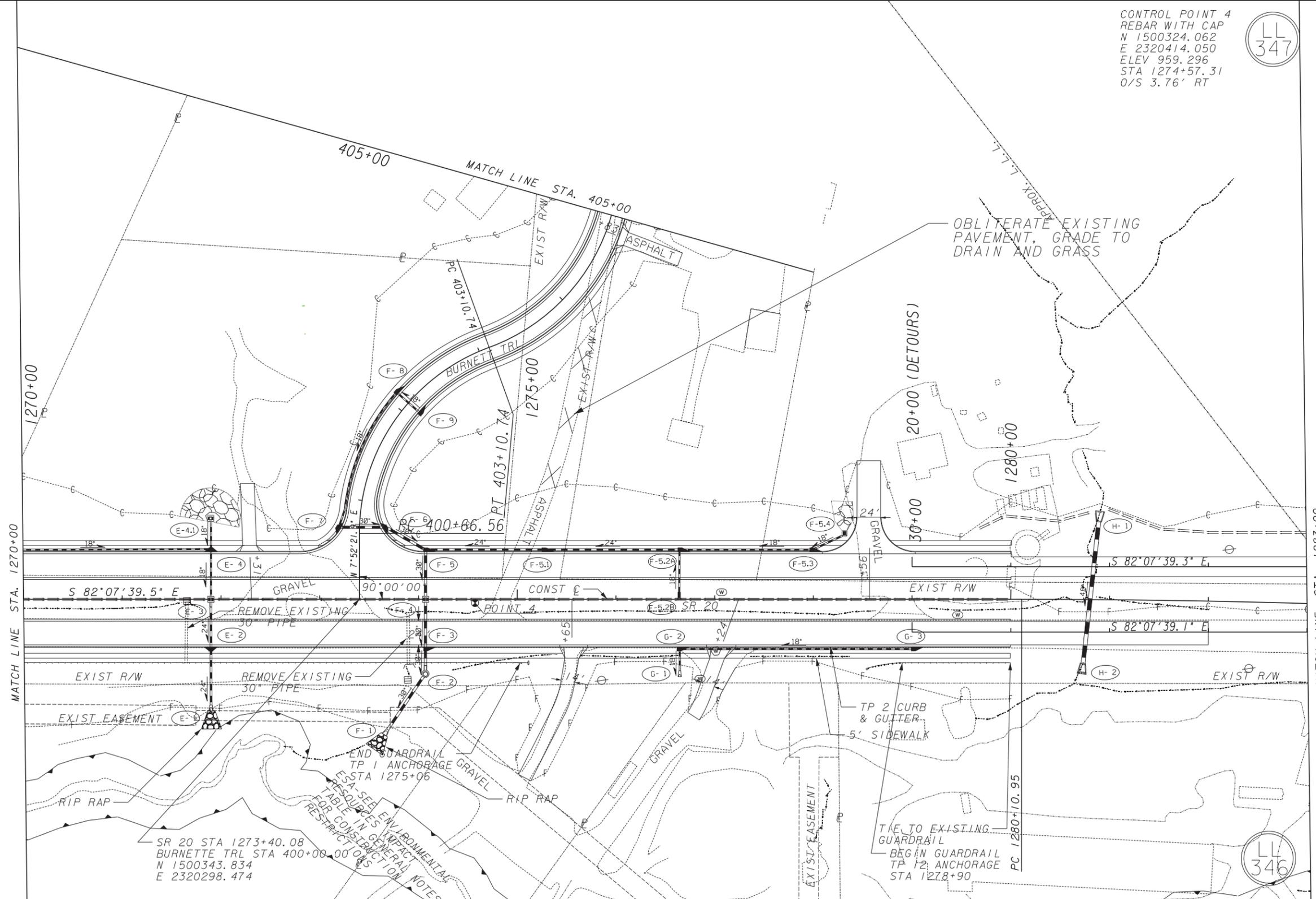
REVISION DATES

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: CONSULTANT DESIGN
MAINLINE PLAN
 SR 20 BRIDGE WIDENING OVER CHATTAHOOCHEE RIVER
 DRAWING No. 13-03

3/11/2007
 GLEN
 \$PRF\$
 \$PENTABLES\$

CONTROL POINT 4
 REBAR WITH CAP
 N 1500324.062
 E 2320414.050
 ELEV 959.296
 STA 1274+57.31
 O/S 3.76' RT

LL
347



SR 20 STA 1273+40.08
 BURNETTE TRL STA 400+00.00
 N 1500343.834
 E 2320298.474

END GUARDRAIL
 TP 1 ANCHORAGE
 STA 1275+06
 EISA-SEE ENVIRONMENTAL
 TABLE IN GENERAL NOTES
 FOR CONSTRUCTION RESTRICTIONS

TIE TO EXISTING
 GUARDRAIL
 BEGIN GUARDRAIL
 TP 2 ANCHORAGE
 STA 1278+90

LL
346

PROPERTY AND EXISTING R/W LINE	---
REQUIRED R/W LINE	---
CONSTRUCTION LIMITS	---
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	▨
EASEMENT FOR CONSTR OF SLOPES	▩
EASEMENT FOR CONSTR OF DRIVES	▧

LOWE ENGINEERS
 SIX CONCOURSE PARKWAY, SUITE 1000, ATLANTA, GA 30328
 PHONE 770.857.8400 FAX 770.857.8401



REVISION DATES

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: CONSULTANT DESIGN
MAINLINE PLAN
 SR 20 BRIDGE WIDENING OVER CHATTAHOOCHEE RIVER
 DRAWING No. 13-04

3/11/2007 GLEN



END PROJECT/
END CONSTRUCTION
STA 1292+50.39
N 1499994.029
E 2322171.219

PROPERTY AND EXISTING R/W LINE ——— P ———
 REQUIRED R/W LINE ——— R ———
 CONSTRUCTION LIMITS ——— C ——— F ———
 EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES [Hatched Box]
 EASEMENT FOR CONSTR OF SLOPES [Diagonal Lines Box]
 EASEMENT FOR CONSTR OF DRIVES [Cross-hatched Box]

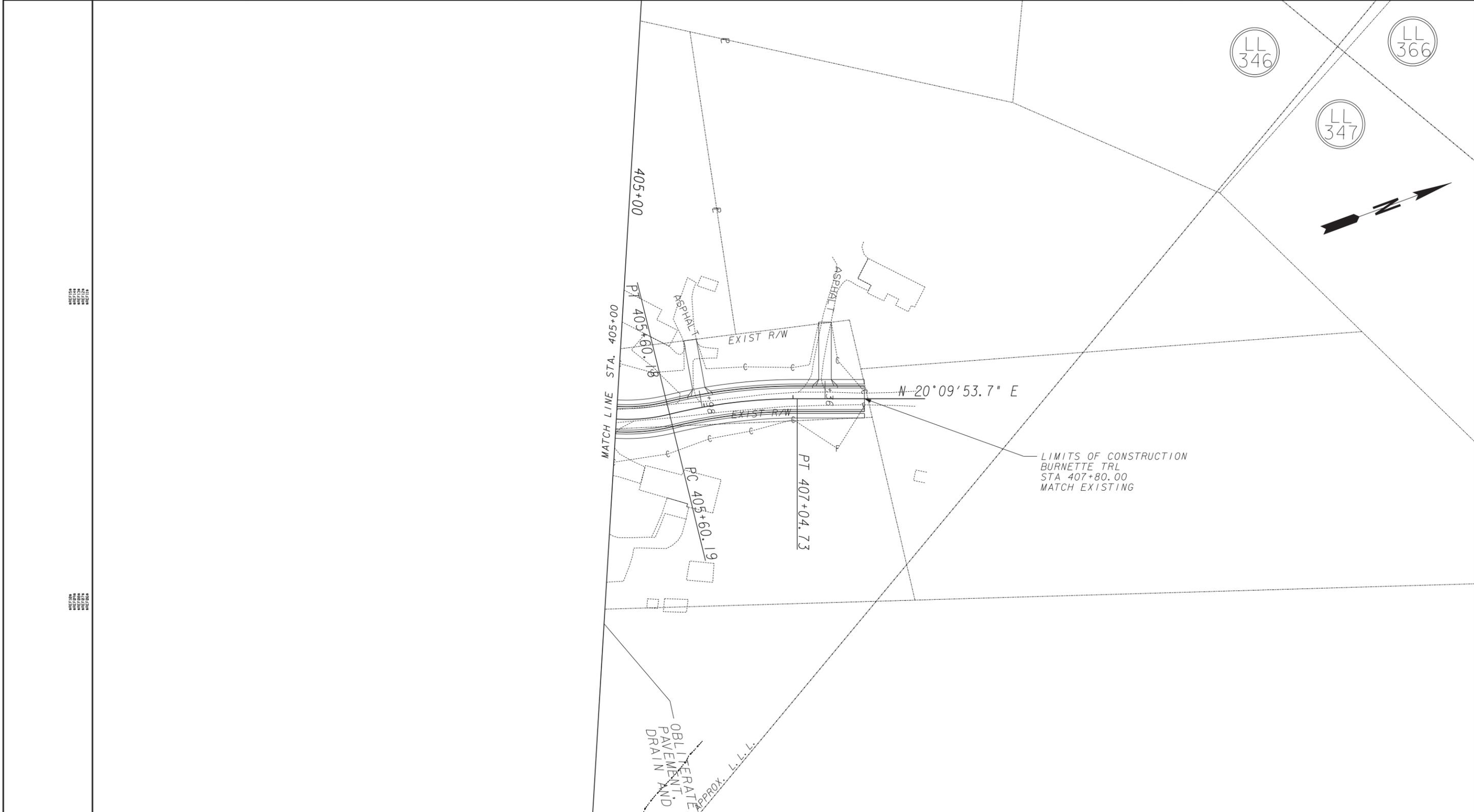
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REVISION DATES	

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: CONSULTANT DESIGN
MAINLINE PLAN
 SR 20 BRIDGE WIDENING OVER
 CHATTAHOOCHEE RIVER

DRAWING No.
13-05



SECTION
11/14/07
11/14/07
11/14/07
11/14/07

SECTION
11/14/07
11/14/07
11/14/07
11/14/07

PROPERTY AND EXISTING R/W LINE	-----E-----
REQUIRED R/W LINE	-----
CONSTRUCTION LIMITS	---C---F---
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	
EASEMENT FOR CONSTR OF SLOPES	
EASEMENT FOR CONSTR OF DRIVES	

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REVISION	DATE	DESCRIPTION

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: CONSULTANT DESIGN

MAINLINE PLAN

SR 20 BRIDGE WIDENING OVER
CHATTAHOOCHEE RIVER

DRAWING No.
13-06

ALLOWABLE RANGES TABLE

FOR THIS PROJECT, CROSS SLOPES THAT ARE ADJUSTED TO "BEST FIT" EXISTING PAVEMENT SLOPES ARE SUBJECT TO THE FOLLOWING LIMITS:

A. NORMAL CROWN

SECTION WITH GRADES 0.5% OR GREATER	SECTION WITH GRADES LESS THAN 0.5%
0.0150 FT/FT - MINIMUM	0.0156 FT/FT - MINIMUM
0.0208 FT/FT - DESIRABLE	0.0208 FT/FT - DESIRABLE
0.0250 FT/FT - MAXIMUM	0.0300 FT/FT - MAXIMUM

B. SUPERELEVATION RATE

S.E. RATE SHOWN ON PLANS OR SE RATE EXISTING IN FIELD, WHICHEVER IS GREATER.

C. SUPERELEVATION TRANSITION LENGTH (LENGTH FROM FLAT POINT TO FULL SE)

RATE OF CHANGE	CORRESPONDING DIFFERENCE IN GRADE BETWEEN PIVOT POINT AND EDGE OF PAVEMENT
MINIMUM 1:150	0.67%
DESIRABLE 1:200	0.50%
MAXIMUM 1:300	0.33%

LENGTH SHALL BE SET TO AVOID CREATING A FLAT GUTTER GRADE ON LOW SIDE AND TO AVOID FLAT CROSS SLOPES AT OR NEAR THE LOW POINT OF VERTICAL CURVES.

D. POSITIONING OF SUPERELEVATION TRANSITION LENGTH ON SIMPLE CURVES

- 50% OF TRANSITION INSIDE CURVE - MAXIMUM
- 33% OF TRANSITION INSIDE CURVE - DESIRABLE
- 20% OF TRANSITION INSIDE CURVE - MINIMUM

NOTE: CROWN WIPE-OUT SHALL BE AT THE SAME RATE AS THE SE TRANSITION.

E. SMOOTHING OF BREAKS IN EDGE PROFILE AT BEGIN AND END OF TRANSITION SHALL BE ACCOMPLISHED BY VERTICAL CURVE WITH A MINIMUM LENGTH (IN FEET) EQUAL TO THE SPEED DESIGN (IN MPH).

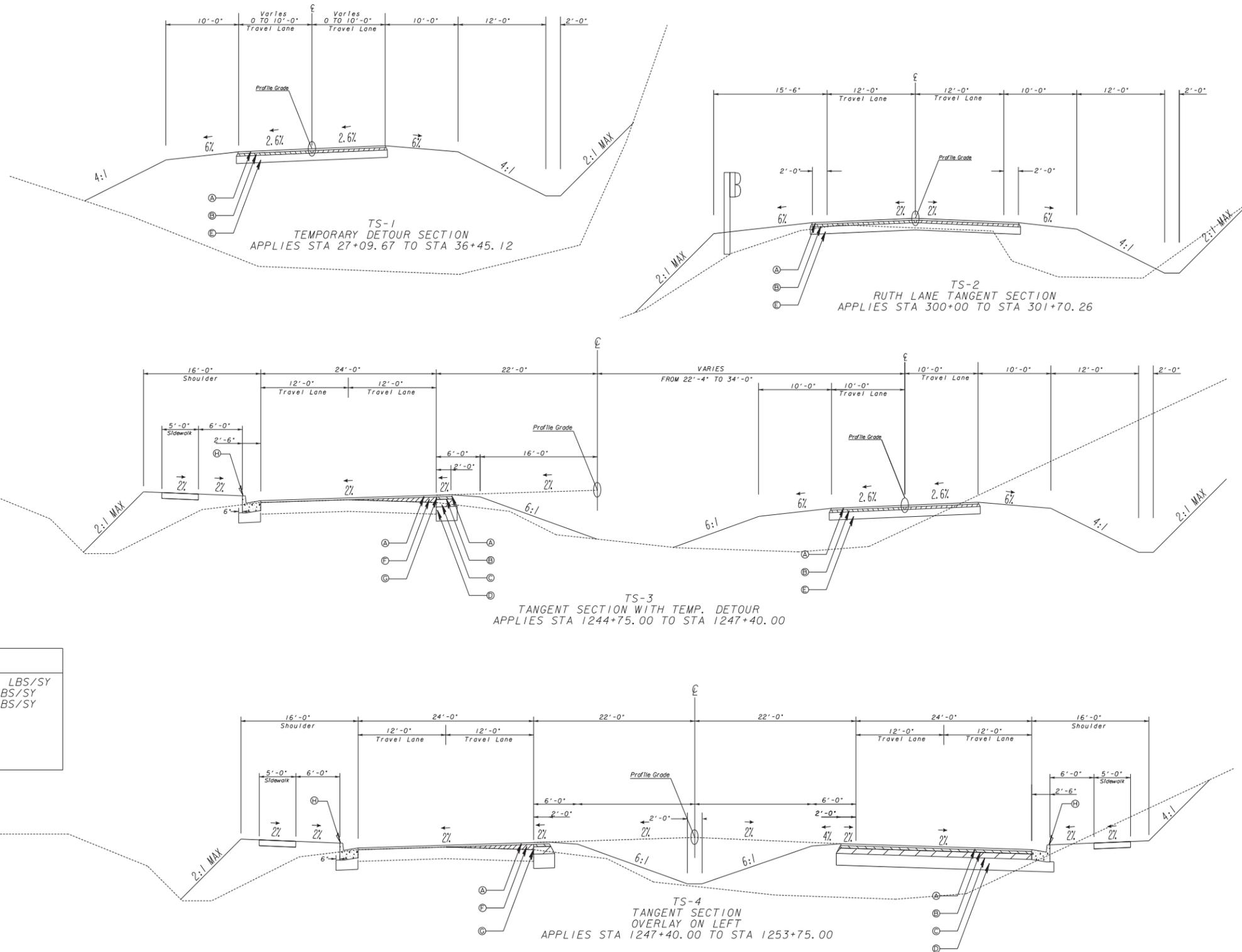
PAVEMENT AND MATERIAL SCHEDULE

- A RECYCLED ASPHALTIC CONCRETE, 12.5mm SUPERPAVE, 165 LBS/SY
- B RECYCLED ASPHALTIC CONCRETE, 19mm SUPERPAVE, 220 LBS/SY
- C RECYCLED ASPHALTIC CONCRETE, 25mm SUPERPAVE, 880 LBS/SY
- D GRADED AGGREGATE BASE COURSE, 12"
- E GRADED AGGREGATE BASE COURSE, 6"
- F RECYCLED ASPHALTIC CONCRETE LEVELING, AS REQUIRED
- G PAVEMENT REINFORCEMENT FABRIC, 18" WIDE
- H CURB AND GUTTER, TYPE 2

- NOTE:
- SEE ROADWAY PLANS FOR LOCATION OF GUARDRAIL.
 - SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITION LOCATIONS.

SLOPE CONTROLS**		
SLOPE	CUT	FILL
4:1	0-7'	0-10'
2:1	OVER 7'	OVER 10'+

* GUARDRAIL REQUIRED (SEE GUARDRAIL DETAIL)



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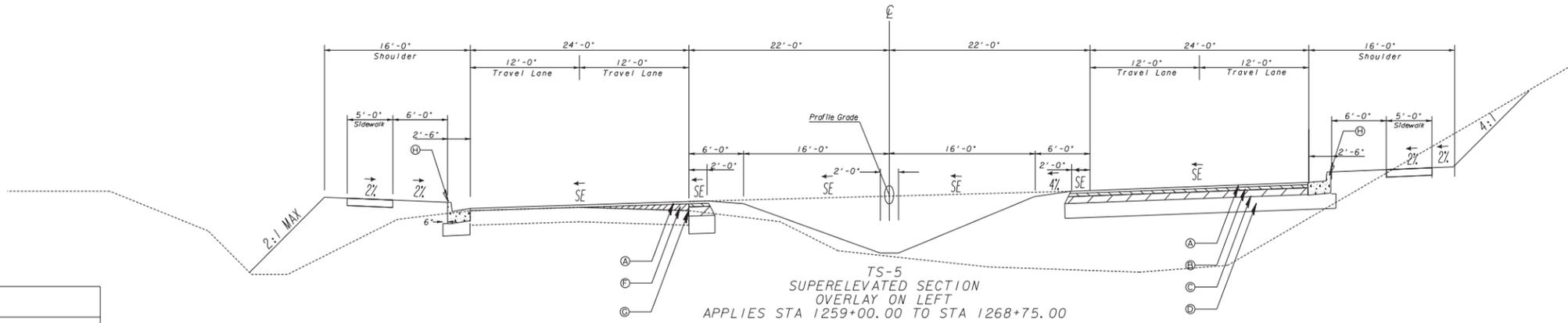
REVISION DATES

NO.	DATE	DESCRIPTION

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: ROAD DESIGN
TYPICAL SECTIONS

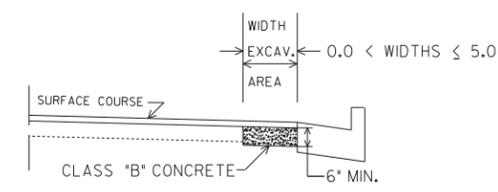
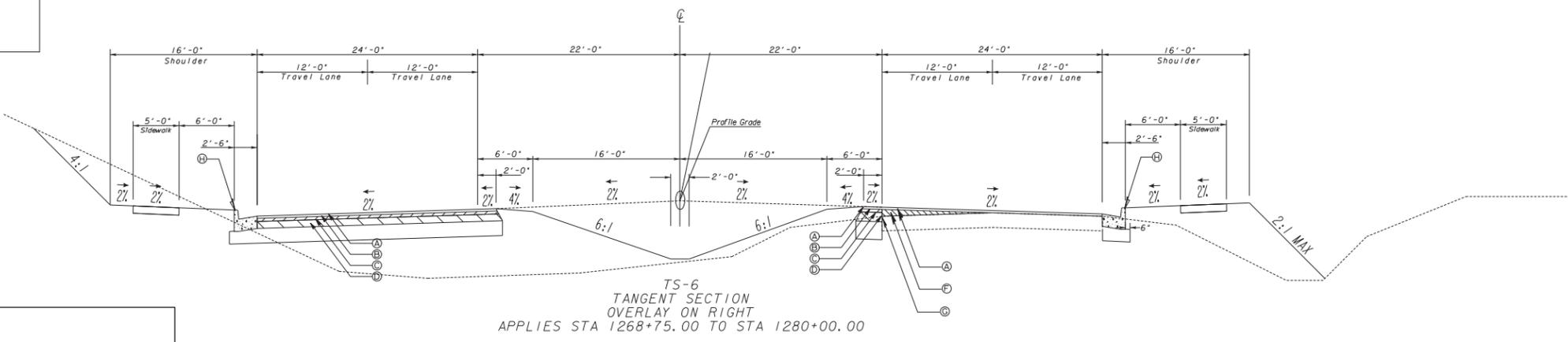
SR 20 BRIDGE OVER
 CHATTAHOOCHEE RIVER

DRAWING No.
5-01



PAVEMENT AND MATERIAL SCHEDULE	
A	RECYCLED ASPHALTIC CONCRETE, 12.5mm SUPERPAVE, 165 LBS/SY
B	RECYCLED ASPHALTIC CONCRETE, 19mm SUPERPAVE, 220 LBS/SY
C	RECYCLED ASPHALTIC CONCRETE, 25mm SUPERPAVE, 880 LBS/SY
D	GRADED AGGREGATE BASE COURSE, 12"
E	GRADED AGGREGATE BASE COURSE, 6"
F	RECYCLED ASPHALTIC CONCRETE LEVELING, AS REQUIRED
G	PAVEMENT REINFORCEMENT FABRIC, 18" WIDE
H	CURB AND GUTTER, TYPE 2

NOTE:
 1. SEE ROADWAY PLANS FOR LOCATION OF GUARDRAIL.
 2. SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITION LOCATIONS.



In excavated areas between the existing paving and new curb and gutter that are 5'-0" or less in width, Class 'B' concrete shall be placed in lieu of the base and paving specified by the typical section. Payment will be made under 'Class B Concrete Base and Pavement Widening'.

In excavated areas greater than 5'-0" in width, the Contractor shall place base and paving as specified on the typical section.

See plans for details of curb and gutter construction.

CLASS "B" CONCRETE BASE OR WIDENING DETAIL



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REVISION DATES	

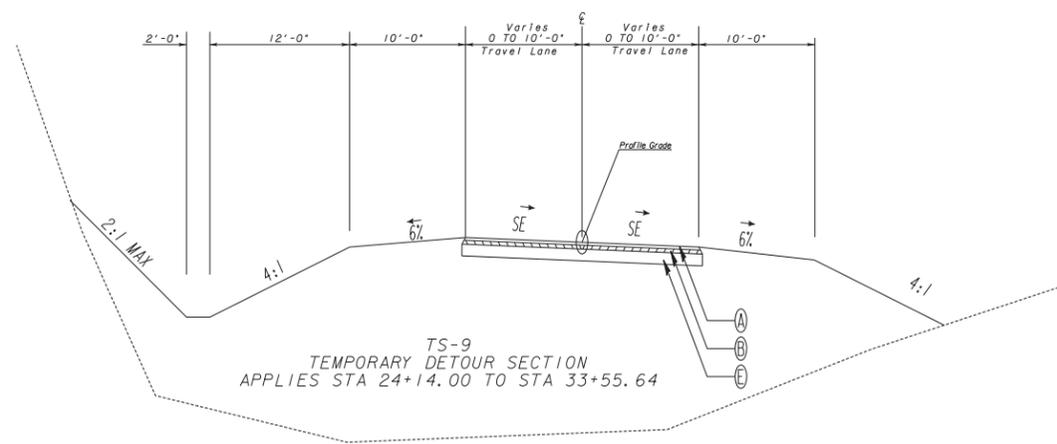
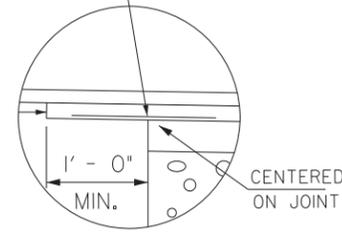
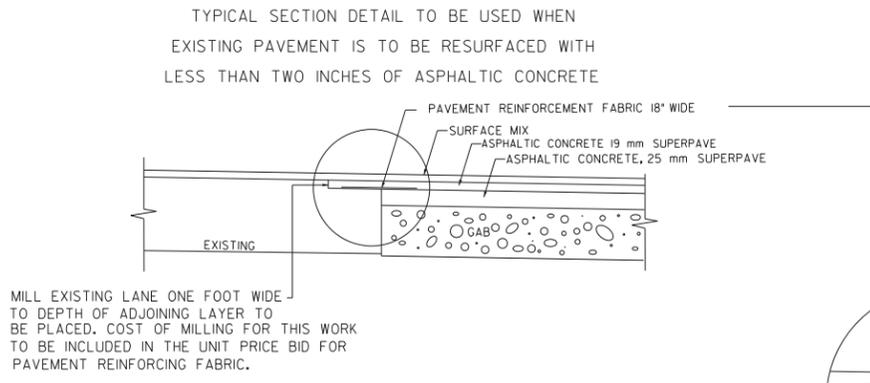
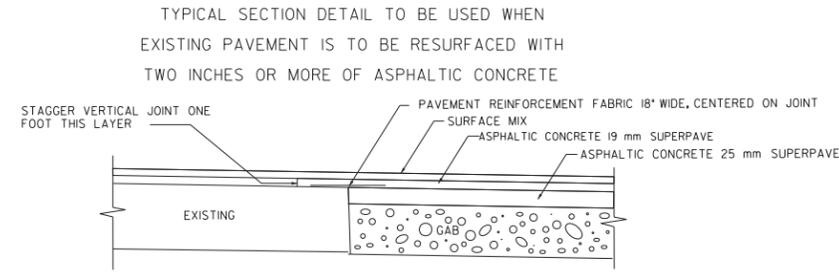
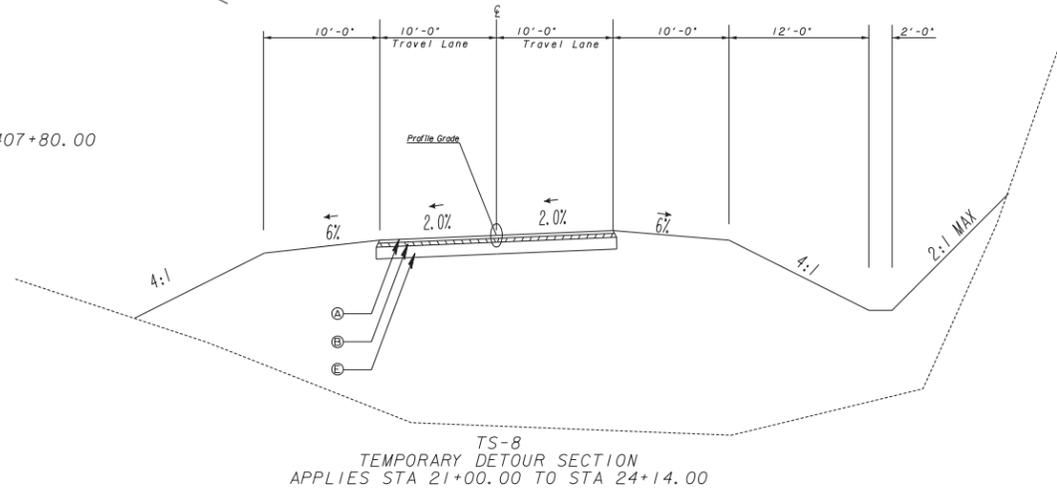
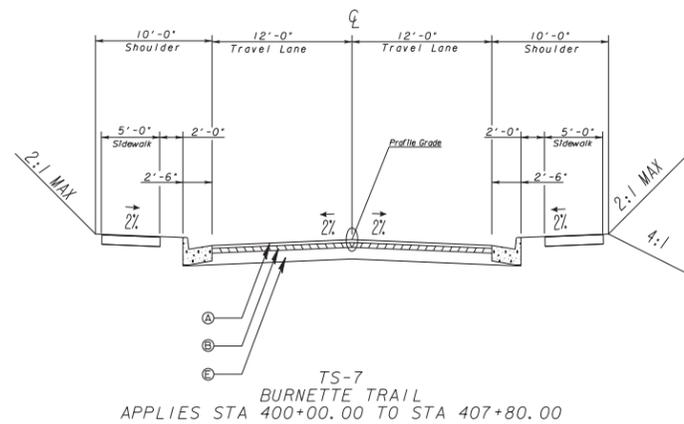
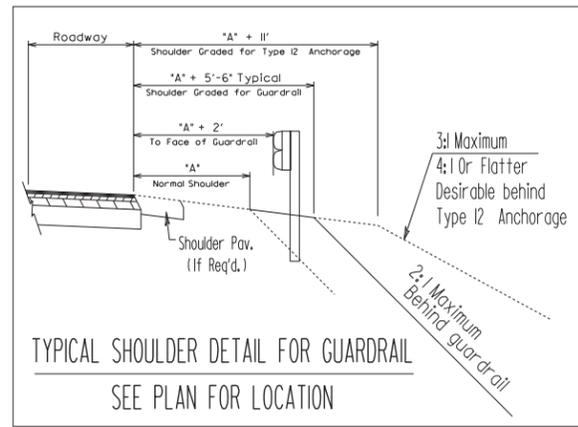
STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: ROAD DESIGN
TYPICAL SECTIONS

SR 20 BRIDGE OVER
 CHATTAHOOCHEE RIVER

DRAWING No.
5-02

PAVEMENT AND MATERIAL SCHEDULE	
A	RECYCLED ASPHALTIC CONCRETE, 12.5mm SUPERPAVE, 165 LBS/SY
B	RECYCLED ASPHALTIC CONCRETE, 19mm SUPERPAVE, 220 LBS/SY
C	RECYCLED ASPHALTIC CONCRETE, 25mm SUPERPAVE, 880 LBS/SY
D	GRADED AGGREGATE BASE COURSE, 12"
E	GRADED AGGREGATE BASE COURSE, 6"
F	RECYCLED ASPHALTIC CONCRETE LEVELING, AS REQUIRED
G	PAVEMENT REINFORCEMENT FABRIC, 18" WIDE
H	CURB AND GUTTER, TYPE 2

NOTE:
 1. SEE ROADWAY PLANS FOR LOCATION OF GUARDRAIL.
 2. SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITION LOCATIONS.

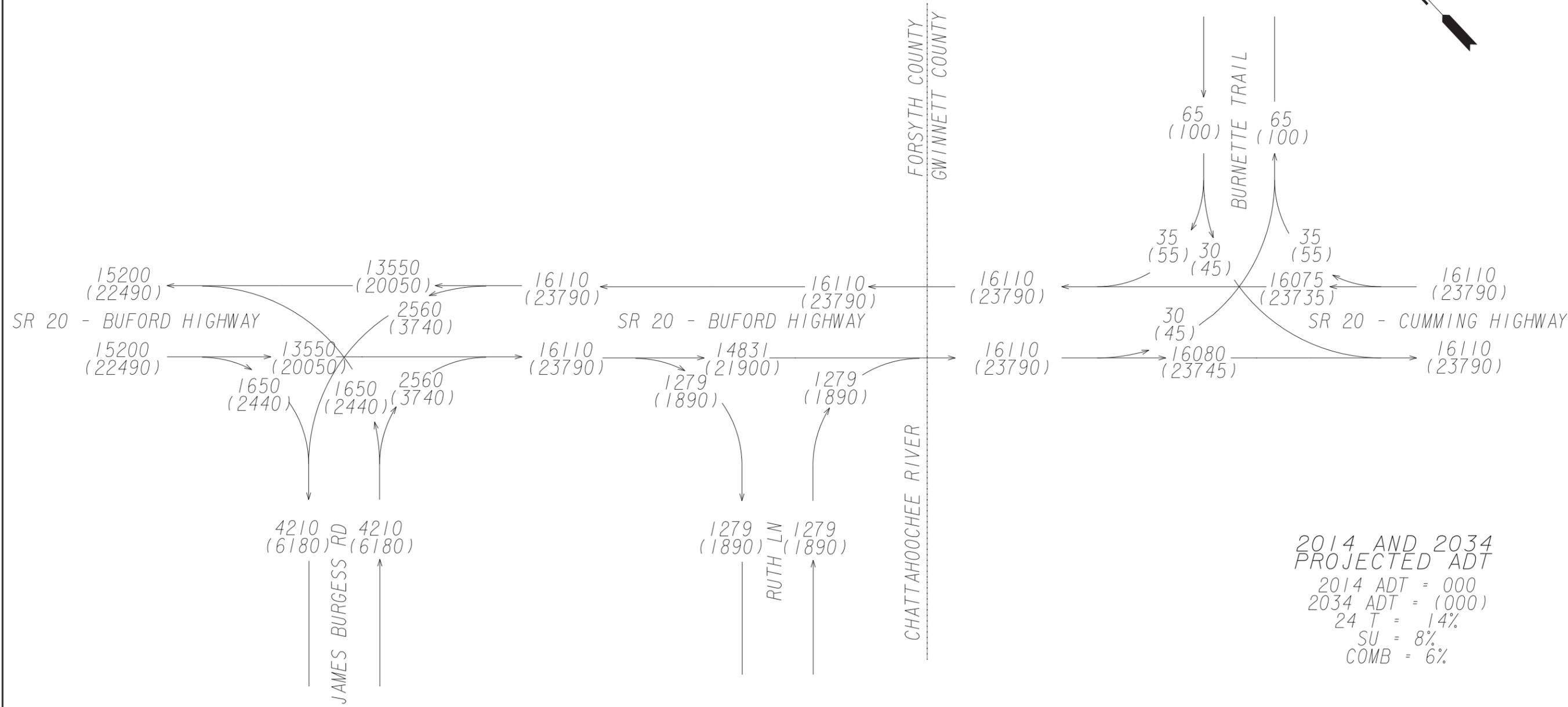


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REVISION DATES

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: ROAD DESIGN
TYPICAL SECTIONS
 SR 20 BRIDGE OVER
 CHATTAHOOCHEE RIVER

DRAWING No.
5-03



SECTION
 10-01
 10-01
 10-01

SECTION
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SECTION
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LOWE

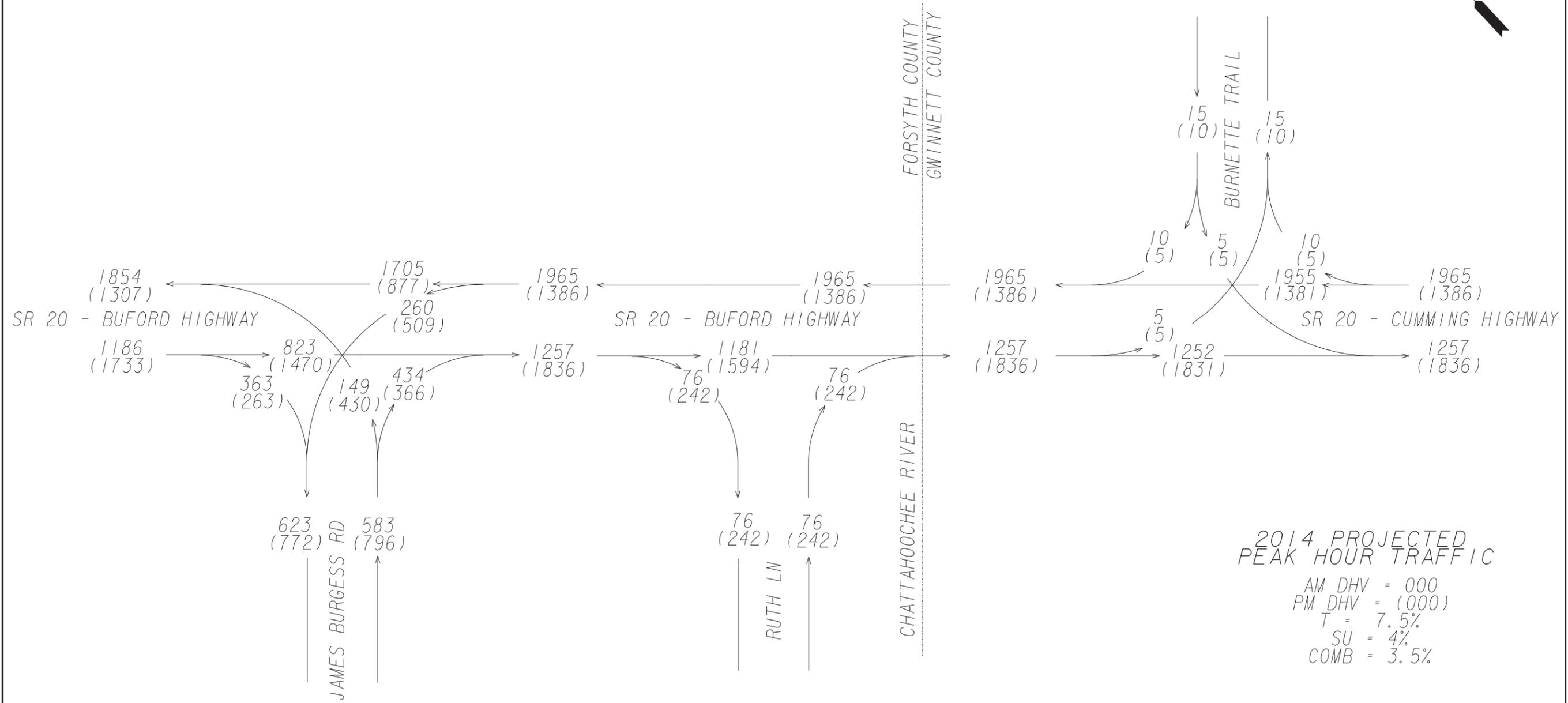
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REVISION DATES		

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: ROAD DESIGN
TRAFFIC DIAGRAM
 SR 20 BRIDGE OVER
 CHATTAHOOCHEE RIVER

DRAWING No.
10-01



SECTION
 10-01
 10-02
 10-03
 10-04
 10-05

SECTION
 10-06
 10-07
 10-08
 10-09
 10-10

SECTION
 10-11
 10-12
 10-13
 10-14
 10-15

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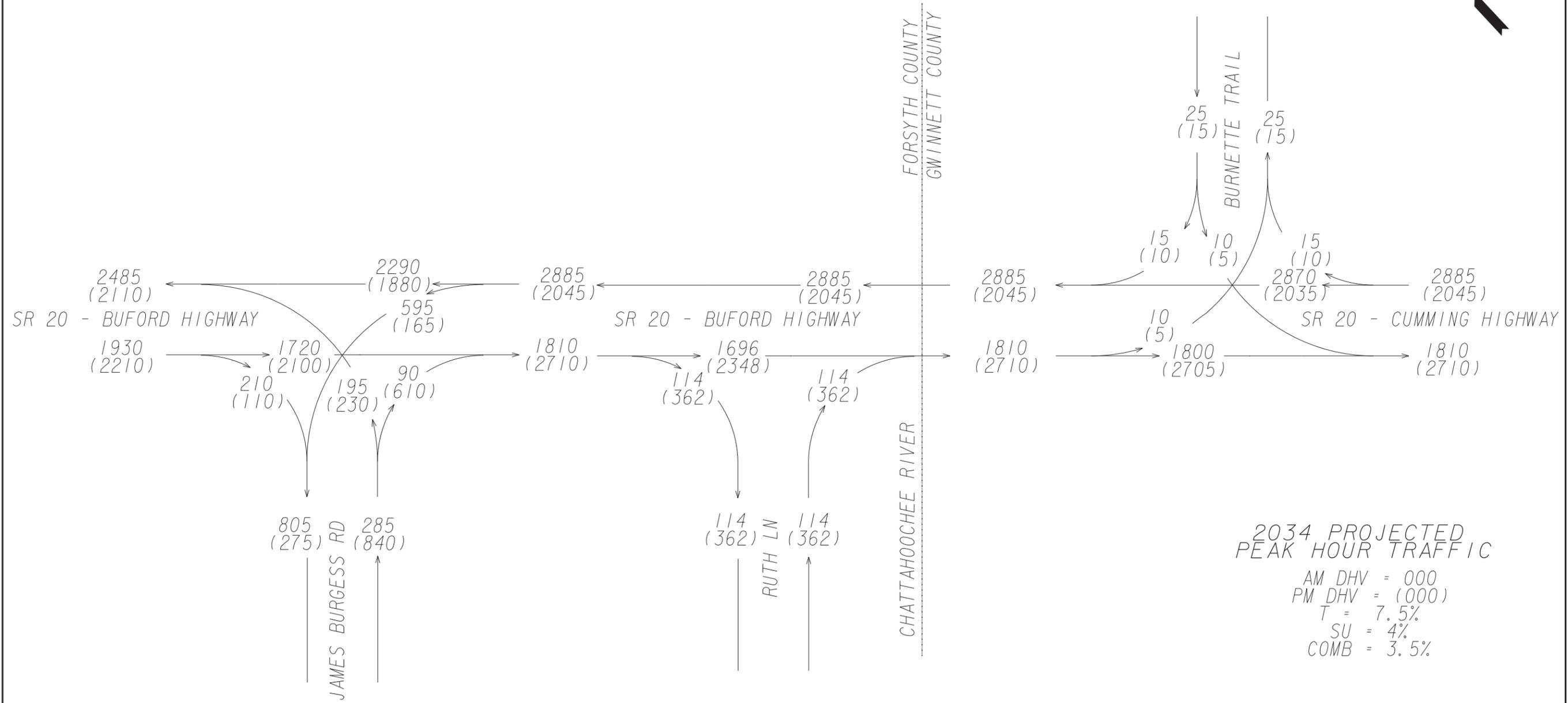
REVISION DATES		

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: ROAD DESIGN

TRAFFIC DIAGRAM

SR 20 BRIDGE OVER
 CHATTAHOOCHEE RIVER

DRAWING No.
10-02



SECTION
10-03

SECTION
10-03

SECTION
10-03

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REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: ROAD DESIGN

TRAFFIC DIAGRAM

SR 20 BRIDGE OVER
CHATTAHOOCHEE RIVER

DRAWING No.
10-03

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: MSL-0004-00(430), STP-0002-00(392) Gwinnett **OFFICE:** Engineering Services
BRST-054-1(63) Gwinnett
P. I. Nos.: 0004430, 0002392, & 132985
S.R. 20 Widening/Reconstruction

DATE: June 26, 2008

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

TO: Brent Story, P.E. State Road and Airport Design Engineer

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. Incorporate alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT No.	Description	Savings PW & LCC	Implement	Comments
RIGHT OF WAY				
A-2.1	Reduce Right of Way to the back of shoulder (P.I. No. 0002392)	\$2,414,000	Yes	This should be done.
A-2.2	Reduce Right of Way to the back of shoulder (P.I. No. 132985)	\$339,200	Yes	This should be done.
A-2.3	Reduce Right of Way to the back of shoulder (P.I. No. 0004430)	\$4,973,000	Yes	This should be done.

RIGHT OF WAY - continued				
A-4.1	Reduce shoulder width (P.I. No. 0002392)	\$1,868,000	No	There are more than 34 driveways on this project where the sidewalk would have to be wrapped around the back of the driveway for ADA compliance. In addition there are numerous utilities located along the corridor such as Sawnee EMC, Ga. Power, AT&T, Atlanta Gas, Comcast, Forsyth Co. Water, City of Cumming Water and Sewer, etc.
A-4.2	Reduce shoulder width (P.I. No. 132985)	\$260,000	No	There are numerous driveways along this project where the sidewalk would have to be wrapped around the back of the driveway for ADA compliance. In addition there are numerous utilities located along the corridor such as Gwinnett County Water and Sewer, Sawnee EMC, Atlanta Gas, Bellsouth, Forsyth Co. Water, City of Sugar Hill Gas, Charter Communications, etc.
A-4.3	Reduce shoulder width (P.I. No. 0004430)	\$2,371,000	No	There are more than 89 driveways along this project where the sidewalk would have to be wrapped around the back for ADA compliance. In addition there are numerous utilities located along the corridor such as Gwinnett County Water and Sewer, Ga. Power, Sawnee EMC, City of Sugar Hill Gas, Bellsouth, Prestige Cable, etc.

ALT No.	Description	Savings PW & LCC	Implement	Comments
ASPHALTIC CONCRETE PAVEMENT				
B-1.1	Reduce lane width (P.I. No. 0002392)	\$724,600	No	Based on the traffic volumes (43,665 A. D. T.) and 7.5% trucks.
B-1.2	Reduce lane width (P.I. No. 132985)	\$96,700	No	Based on the traffic volumes (43,665 A. D. T.) and 7.5% trucks.
B-1.3	Reduce lane width (P.I. No. 0004430)	\$923,300	No	Based on the traffic volumes (43,665 A. D. T.) and 7.5% trucks.
B-2.1	Realign Burnette Trail	\$258,800	Yes	Burnette Trail will be re-aligned as much as possible; however, the exact location will be determined after a more intensive engineering study has been finalized.
B-3.1	Retain Echols Road/Holly Court alignment	\$610,000	No	Would require the two intersections be offset by 465'± and would result in a median opening at only one location which would require vehicles to make a U-turn to access the other intersecting side road. Holly Court currently has a 60°± skew.
BRIDGE				
C-1	Optimize the S.R. 20 bridge alignment to reduce bridge length	\$110,000	No	This would result in additional impacts to a Rainbow Trout Farm, a Car Wash and/or 4f Parklands.
C-2	Reduce travel lane width from 12' to 11'	\$301,000	Yes	This should be done.
C-3A	Reduce sidewalk width to 6' on the bridge	\$602,000	Yes	This should be done.
C-3B	Eliminate the sidewalk on one bridge and reduce it to 6' on the other	\$1,053,000	No	This no longer applies since VE Alternative "C-3A" will be implemented.
C-5	Reduce/eliminate spanning the flood plain	\$2,200,000	Yes	This should be done.

ALT No.	Description	Savings PW & LCC	Implement	Comments
BRIDGE - continued				
C-7	Use high strength concrete girders	\$1,209,000 (proposed) \$1,000,000 (actual)	Yes/partial	While high strength concrete girders will not be used, it has been determined that a center pier can be placed in the Chattahoochee River which still results in a cost savings from what was originally proposed.
C-8A	Reduce the inside shoulder width to 4'; retain the two sidewalks at 6'	\$1,505,000 (proposed) \$601,200 (actual)	Yes/partial	The sidewalks will be reduced to 6'; however, the inside shoulder will be kept at 10' to provide a refuge area in case a vehicle becomes disabled. The bridge is 800'± long.
C-8B	Reduce the inside shoulder to 2' and remove the sidewalks on both bridges	\$2,709,000	No	This no longer applies since VE Alternative "C-8A" will be implemented.
C-11	Lower road profile at bridge location	\$288,000	No	This would result in additional staging issues. In addition, as part of the mitigation for utilizing National Park Service property an access trail is to be built under the bridge which would not be feasible if the profile was lowered.
C-13	Use drain scupper where allowed	\$232,000	No	This is part of the mitigation required for utilizing National Park Service property for this project.
DRAINAGE				
G-1.1 G-1.3	Optimize storm drainage layout	\$569,400	Yes	This should be done.
G-2.3	Do not use a bottomless culvert	Design Suggestion	Yes	This should be done.

A meeting was held on May 5, 2008 to discuss the above recommendations. Alan Chapman and John Ray with Gwinnett County, Tim Allen with Forsyth County, Shrujal Amin, Jimmy Vaughan, and Chris Parypinski with Moreland Altobelli, Richard Meehan with Lowe Engineers, Asad Hadadzadeh with Precision Planning, Brent Story, Jason

McCook, and Brad McManus with Road Design and Brian Summers, Ron Wishon and Lisa Myers with Engineering Services were in attendance.

Additional information was provided by the Project Manager on June 23, 2008.

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

Approved:  Date: 6/26/08
Gerald M. Ross, P. E., Chief Engineer

BKS/REW

Attachments

c: Gus Shanine
Todd Long
Brent Story
Jason McCook
Brad McManus
Nasser Rad
James Magnus
Randy Davis
Brandon Kirby
Paul Liles
Bill Ingalsbe
Bill Duvall
Jack Muirhead
Paul Alimia
Ken Werho
Nabil Raad
Lisa Myers

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA



INTERDEPARTMENT CORRESPONDENCE

FILE BRST0-0054-01(063)
Gwinnett/Forsyth Counties
P.I. No. 132985

OFFICE Road Design

DATE August 7, 2008

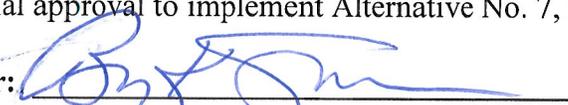
FROM 
Brent A. Story, P.E., State Road Design Engineer

TO Brian Summers, P.E., Project Review Engineer

SUBJECT REVISION OF VALUE ENGINEERING STUDY ALTERNATIVE
IMPLEMENTATION

A value engineering study was performed on three projects along the SR 20 corridor from Samples Road to Peachtree Industrial Blvd. The project noted above lies between the other projects and provides the crossing of the Chattahoochee River. The study began on December 4 and ended on December 7, 2007. Several alternatives to the design were proposed that had a significant cost savings associated with them. One of those recommendations was to reduce the lane width on the bridges over the Chattahoochee River. This was labeled as alternative C-2 and the VE team estimated the savings as \$301,000. Based on the cost savings this recommendation was approved to be implemented on June 26th 2008.

This letter is written to request that the decision to use 11' lanes on the bridge be reversed and 12' lanes be used instead. Justification for using 12' lanes on the bridge include: high traffic 43,665 ADT with 7.5% trucks, no designated bike lanes bringing bicycles closer to traffic, and the fact that 12' lanes will be used on both adjacent projects and on the bridge approaches (alternatives B-1.1, 1.2, and 1.3 to use 11' lanes were all rejected for implementation). Gwinnett County has stated that they wish for 12' lanes throughout the projects in their county. For the reasons stated above the Office of Road Design recommends that approval be given to overturn the initial approval to implement Alternative No. 7, reducing the lane width to 11' on the bridge.

Concur: 
Brian K. Summers, P.E., Project Review Engineer

Date: 8/12/08

Approved: 
Gerald Ross, P.E. Chief Engineer

Date: 9/14/08

BAS:JLM:MBM

Attachments

cc: Gus Shanine
Genetha Rice Singleton
Brent Story
Brad McManus
Nasser Rad
James Magnus
Randy Davis
Brandon Kirby
Paul Liles
Bill Ingalsbe
Jack Muirhead
Paul Alimia
Ken Wherho
Nabil Raad
Lisa Myers
Bill Duvall

**Benefit Cost Analysis Work Sheet
CONGESTION Projects**

BRST0-0054-01(063)

P.I. 132985

GWINNETT/FORSYTH COUNTY

SR 20 Bridge over Chattahoochee River

Congestion Benefit = Tb + CMb + Fb

Person Time Savings Benefit (Tb)

*Db (hrs)	0.0094
ADT	47,580.00
Tb (\$s)	\$15,374,287.50

Commercial or Truck Time Savings Benefit (CMb)

Db (hrs)	0.0094
% Truck Traffic	0.14
ADT	47,580.00
CMb	\$11,372,500.23

Fuel Savings Benefit (Fb)

ADT	47,580.00
Fb (\$s)	\$5,357,706.25

Total Congestion Benefit	\$32,104,493.98
Total Project Cost	\$12,896,000.00
B/C Ratio	2.49

Posey, Keith

From: L.N. Manchi [lmanchi@maai.net]
Sent: Wednesday, March 09, 2011 12:10 PM
To: Nathan Laird
Cc: 'Stacy Stewart'; 'Sharon Downs'; 'Hank Collins'; Chris Parypinski
Subject: RE: SR 20 mitigation cost

Dear Nathan et.al.-

Upon reviewing your request and checking with Stacy Stewart (MA's Senior Ecologist), we believe that the bridge portion of the project will require 1 wetland credit, which is estimated at \$8,000.

Hope this is what you're looking for!!

Again, we apologize for the delay and any inconvenience this may have caused on your end as Sharon has been out all week not feeling well. Thanks for your understanding.

L.N. Manchi, P.E.
Vice President, Planning & Traffic Engineering
Moreland Altobelli Associates, Inc.
2211 Beaver Ruin Road, Suite 190
Norcross, GA 30071
Office Phone: (770) 263-5945
Direct Phone: (678) 728-9064
Cell Phone: (404) 931-3792
E-Mail: lmanchi@maai.net

From: Nathan Laird [mailto:Nathan.Laird@loweengineers.com]
Sent: Wednesday, March 09, 2011 9:15 AM
To: lmanchi@maai.net
Subject: SR 20 mitigation cost

Mr. Manchi,
The green sheet (pg 2 of 8) shows \$1,007,000.00 mitigation cost for all three projects combined.

I need to add the mitigation cost associated with my section to our revised cost estimate.

My section is BRST0-0054-01(063), P.I. 132985, the middle bridge section. I sent Sharon an email last week but didn't get a response. Please respond today if at all possible.

Thank you



Six Concourse Parkway
Suite 1000
Atlanta, Georgia 30328

Nathan Laird, PE
nathan.laird@loweengineers.com

770.857.8400 main
770.857.8439 direct

Atlanta, Dallas, Denver, Montgomery, Nashville, New Orleans,
Sandy Springs, Washington DC, West Palm Beach

