

# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

## INTERDEPARTMENT CORRESPONDENCE

**FILE**      **NH000-0003-03(053), CLARKE COUNTY**  
SR 10 Loop/Atlanta Highway Interchange.  
P.I. No. 122890

**OFFICE**      Atlanta  
**DATE**        July 11, 2008

**FROM**      Mohamed (Babs) Abubakari P.E., State Consultant Design Engineer

**TO**         Genetha Rice-Singleton., Assistant Director of Preconstruction

**SUBJECT**   **REVISED PROJECT CONCEPT REPORT**

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

The revised concept dated February 11, 2007 is revised to include the following:

- A typical section that includes eleven foot lanes and removes bikes lanes for SR 10/US 78 (Atlanta Highway).
- Typical sections that include ten foot wide shoulders along Huntington Road, Jennings Mill Road and all minor side roads.

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

*Distribution:*

Project Review Engineer  
State Environmental/Location Engineer  
State Traffic Safety & Design Engineer  
State Transportation Planning Administrator  
State Transportation Financial Management Administrator  
District 1 Engineer  
State Bridge Design Engineer  
Consultant Design Office

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**REVISED PROJECT CONCEPT REPORT**

**Need & Purpose:** The proposed project was identified by and is a component of the Madison-Athens-Clarke County-Oconee Regional Transportation Study (MACORTS) adopted in September 1997. This interchange is significant regionally in that it provides access to and between SR 10 Loop, which is a perimeter route around the city of Athens, from Atlanta Highway (SR 10/US 78), which provides access to the Georgia Square Mall located west of the interchange. It also serves a wide variety of other shopping, eating, and employment opportunities in the immediate vicinity. The primary need of the project is mobility; however, a secondary need of safety would also be addressed by the proposed project.

Roadways are rated for operational effectiveness using a level-of-service (LOS). LOS is a standard means of classifying traffic conditions associated with various traffic volume levels and traffic flow conditions. There are six levels of service at which a roadway can operate, represented by the letters "A" through "F". Each level is defined by a maximum value for the ratio of traffic volume (V) to facility capacity (C). A LOS of A is when volume is well below capacity and traffic is flowing freely. LOS of "B" is when traffic flow is steady but the presence of other vehicles begins to be noticeable. A LOS of "C" allows for steady traffic flow, but speeds and maneuverability are more closely controlled by the higher volumes. LOS of "D" is approaching an unsteady flow in which speed and maneuverability are severely restricted. LOS of "E" is when traffic flow is reduced to a slow but relatively uniform speed, and traffic volume is equal to or nearly equal to capacity and maneuverability is extremely difficult. The lowest LOS of "F" is when the volume greatly exceeds the capacity and lengthy delays occur.

The build year (2011) average daily traffic (ADT) is 56,150 along Atlanta Highway. The projected ADT for design year (2031) is 78,250. This is an increase of 22,100 vehicles per day, a 28 percent increase in traffic volume. SR 10 Loop would see an increase to 50,500 VPD by 2031, from 2011 projected counts of 36,000 VPD. The current LOS, no build LOS, and Build LOS is shown in the below table for each intersection.

**Weekday Peak Hour Levels of Service**

Intersection	No-Build 2011		No-Build 2031		Build 2011		Build 2031	
	AM	PM	AM	PM	AM	PM	AM	PM
Huntington Road at Atlanta Highway	B	D	C	F	E	C	D	C
Southbound Loop Ramp at Atlanta Highway	B	D	D	F	A	B	A	B
Northbound Loop Ramp at Atlanta Highway	A	C	D	F	A	A	A	A
Jennings Mill Road at Atlanta Highway	F/B*	F/E*	F*	F*	A	B	A	B

\*Northbound/westbound left-turn movements for Stop sign control

Significant accident issues also exist at this interchange. In 2003, 2004, and 2005 there were 103, 63, and 67 accidents respectively. While there have been no fatalities there have been

many injuries. In 2003, 2004, and 2005 there were 28, 27, and 20 injuries respectively. Below the Accident Rates per 100 Million Vehicle Miles table shows that accident rates and injury rates at SR 10 Loop and Atlanta Highway are higher than the statewide averages for similar roadways in Georgia.

**Accident Rates per 100 Million Vehicle Miles**

Year	SR 10/ Atlanta Hwy Accident Rate	SR 10/ Atlanta Hwy Injury Rate	SR 10/ Atlanta Hwy Fatality Rate	Statewide Accident Rate	Statewide Injury Rate	Statewide Fatality Rate
2003	1,648	448	0.00	613	243	1.27
2004	921	395	0.00	637	247	1.31
2005	987	295	0.00	727	278	1.87

The SR 10 & US 78 (Eastbound) over SR 10 Loop (structure ID 059-0020-0) has a sufficiency rating of 83.32. This bridge should be replaced because:

1. There is shear cracking in the three intermediate bents. These bents were repaired previously and must now be replaced.
2. The deck has cracking and deterioration throughout the structure. The metal stay in place forms under the widening section have severe rust, indicating problems within the deck near these rusted areas.
3. The edge beams are shallow and need to be replaced throughout the structure.

The SR 10 & US 78 (Westbound) over SR 10 Loop (structure ID 059-0021-0) has a sufficiency rating of 44.66. This bridge should be replaced because:

1. There is shear cracking in the three intermediate bents. The bents were repaired previously and must now be replaced.
2. The deck has cracking and deterioration throughout the structure and should be replaced.
3. The edge beams are shallow and need to be replaced throughout the structure.

The new loop ramps and additional lanes provided by this project would facilitate the flow of traffic to and from SR 10 Loop to Atlanta Highway as well as the through traffic on Atlanta Highway by eliminating many conflicting turning movements. The relocated Jennings Mill Road provided by this project would improve traffic safety and will facilitate the flow of traffic to and from Jennings Mill Road and a large shopping center to Atlanta Highway by adding a traffic signal and increasing the distance between the intersection of the northbound exit ramp and the Jennings Mill Road along Atlanta Highway.

**Project Location:** This project is located in the city of Athens in southwest Clark County.

**Description of the original approved concept:** The approved concept consists of improvements to the SR 10 Loop/Atlanta Highway (SR 10/US 78) interchange in Athens, Georgia and the widening of Atlanta Highway in the interchange vicinity for a total project length of .82 mile.

SR 10 Loop is a four lane facility with a forty-foot depressed median and a 55 mph posted speed limit. Atlanta Highway (SR 10/US 78) consists of 4 to 6 lanes, urban shoulders and a variable width raised median and depressed median. The medians range from 8' to 40' wide. The posted speed limit on Atlanta Highway (SR 10/US 78) is 45 mph.

Huntington Road and Jennings Mill Road have posted speeds of 25 mph and 35 mph, respectively, with Huntington Road being 2 to 4 lanes, with urban shoulder and a variable width raised median and Jennings Mill Road being a 2 lane roadway with six foot rural shoulders.

Accident data within the limits of the project indicate a significant problem on Atlanta Highway. Continuous commercial development along Atlanta Highway corridor will increase traffic volumes to 78,250 vehicles per day (VPD) by the year 2031, from year 2011 counts of 56,150 VPD. SR 10 Loop will see an increase of nearly 14,500 VPD to 50,500 VPD by year 2031.

The approved concept proposes construction of a new loop ramp from Atlanta Highway westbound to SR 10 Loop southbound, realigning the existing loop ramp from Atlanta Highway eastbound to SR 10 Loop northbound, and widening Atlanta Highway by adding four lanes and lengthening several turn lanes. In addition, the project includes improvements to the Huntington Road and Atlanta Highway intersection and relocating the Jennings Mill Road intersection.

Atlanta Highway will be widened to a 7 to 8 lane urban facility with 8' to 40' raised median, 4' bike lanes, 5' sidewalks, 16' shoulders and left turn lanes added or modified at various locations. SR 10 Loop will remain four lanes with a 40' depressed median. Improvements to SR 10 Loop include adding a deceleration / storage lane to the southbound exit ramp, adding a southbound entrance loop ramp with an acceleration lane on SR 10 Loop, and realigning the northbound loop ramp and the acceleration lane on SR 10 Loop. Huntington Road will be widened to add left and right turn lanes in both directions with 5' sidewalks and 16' shoulders. Jennings Mill Road intersection with Atlanta Highway will be relocated approximately 300' east of its current location. Relocated Jennings Mill Road will consist of 2 lanes with curb and gutter, 5' sidewalks, and 16' shoulders. All lanes within the project are to be designed 12 ft wide.

DESIGN SPEEDS	
Atlanta Highway	45 mph
Jennings Mill Road	35 mph
Huntington Road	25 mph
SR 10 Loop	55 mph
SR 10 Loop - Entrance Loop Ramps	30 mph
SR 10 Loop - Exit Ramps	45 mph

**PDP Classification:** Full Oversight ( ), Exempt (X), SF ( ), Other ( )

**Functional Classification:** Urban Principal Arterial

**U. S. Route Number(s):** 78

**State Route Number(s):** 10

**Traffic (AADT) as shown in the approved concept:**

Atlanta Hwy Current Year: (2011) - 56,150

Design Year: (2031) - 78,250

SR 10 Loop Current Year: (2011) - 36,000

Design Year: (2031) - 50,500

**Proposed features to be revised:** Typical Sections.

**Describe the revised feature(s) to be approved:**

Typical Sections: The typical section for Atlanta Highway is to be revised to remove 4 ft bike lanes and reduce the lane widths to 11 ft. The typical section for Huntington Road, Jennings Mill Road and all minor side road will be revised to have 10 ft urban shoulders. These were recommendations from the approved Value Engineering Study for this project.

**Programmed/Schedule:**

P.E. 2000 R/W 2009 Construction 2010

**Revised cost estimates:**

- |    |  |               |
|----|--|---------------|
| 1. | Construction cost including inflation and E&C, | \$ 24,059,000 |
| 2. | Right-of-way, and                              | \$ 11,533,400 |
| 3. | Utilities                                      | \$ 5,420,000  |

The revised typical sections for Atlanta Hwy, Jennings Mill Road, Huntington Road and the bridge across the SR 10 Loop have resulted in a overall cost savings of \$718,900 to the project. The revised estimated cost increase of \$12,262,400 compared to the February 2007 costs is due completed preliminary quantities, an updated right of way costs and the use of current mean item unit prices.

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

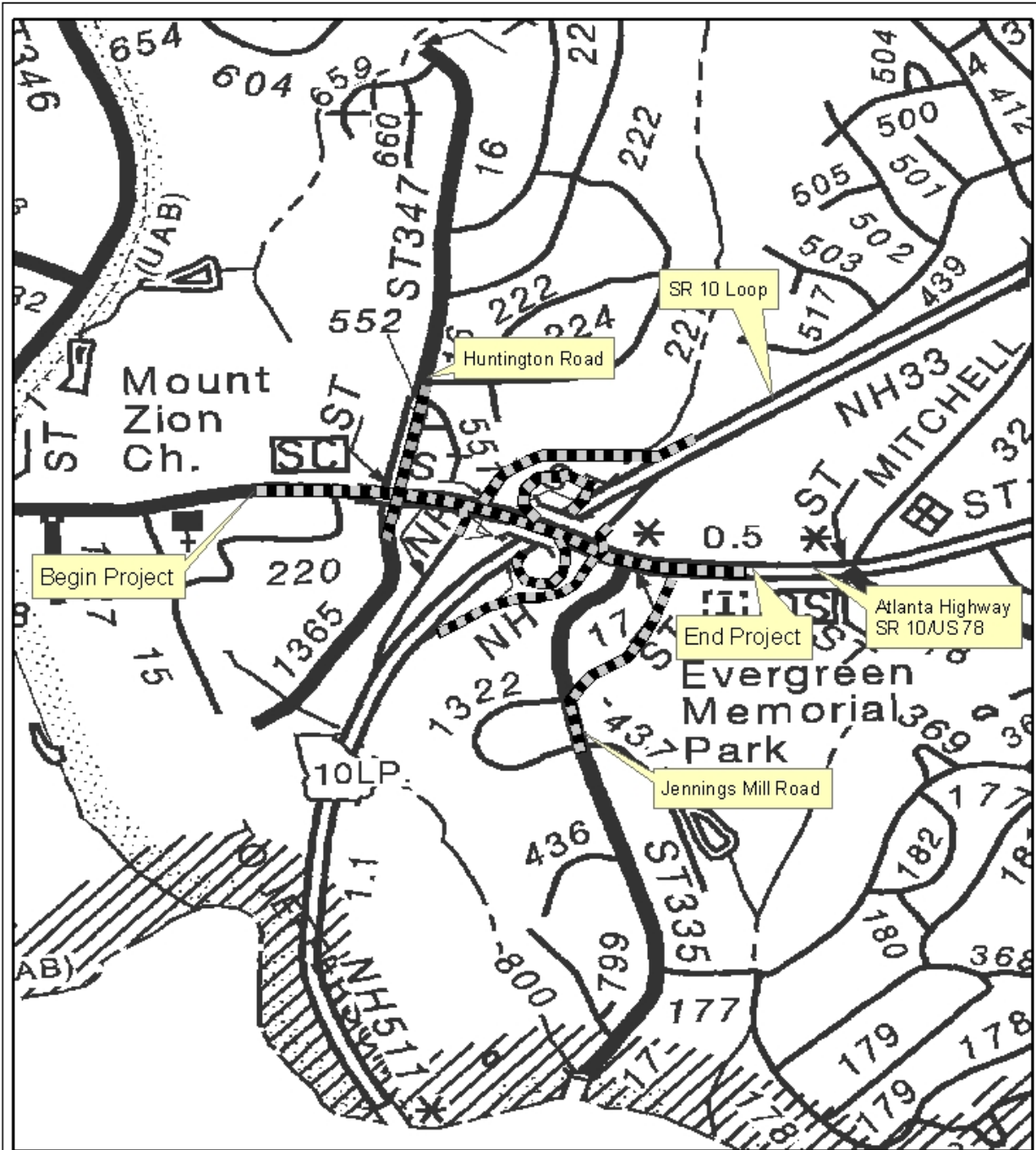
**Recommendation:** The Consultant Design Office recommends that the proposed revision to the concept be approved for implementation.

Attachments:

1. Location Map
2. Cost Estimate
3. Revised Typical Sections

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

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



	Clarke County Project NH-003-3(53) PI No. 122890	<b>Project Location Map</b>  Scale 0 570 1,140 1,710  Feet	
	SR 10 Loop/Atlanta Highway Interchange Improvements		

## Estimate Report for file "122890"

### Section Roadway

Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	250000.00	TRAFFIC CONTROL -	250000.00
153-1300	1	EA	79134.11	FIELD ENGINEERS OFFICE TP 3	79134.11
201-1500	1	LS	300000.00	CLEARING & GRUBBING -	300000.00
208-0100	125114	CY	10.20	IN PLACE EMBANKMENT	1276162.80
318-3000	3000	TN	19.38	AGGR SURF CRS	58140.00
433-1100	824	SY	78.46	REINF CONC APPROACH SLAB, INCL CURB	64651.04
441-0104	9263	SY	39.88	CONC SIDEWALK, 4 IN	369408.44
441-0302	1	EA	2695.51	CONC SPILLWAY, TP 2	2695.51
441-0740	8368	SY	30.57	CONCRETE MEDIAN, 4 IN	255809.76
441-4020	114	SY	41.37	CONC VALLEY GUTTER, 6 IN	4716.18
441-6222	20430	LF	19.31	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	394503.30
456-2012	1	GLM	863.79	INDENTATION RUMBLE STRIPS - GROUND-IN-PLACE (CONTINUOUS)	863.79
610-2401	6457	LF	1.83	REM WOVEN WIRE FENCE, INCL POSTS	11816.31
611-4890	6457	LF	7.91	RESET FENCE -	51074.87
620-0100	6000	LF	33.95	TEMPORARY BARRIER, METHOD NO. 1	203700.00
634-1200	150	EA	105.44	RIGHT OF WAY MARKERS	15816.00
641-1100	151	LF	54.82	GUARDRAIL, TP T	8277.82
641-1200	7838	LF	18.05	GUARDRAIL, TP W	141475.90
641-5001	9	EA	653.72	GUARDRAIL ANCHORAGE, TP 1	5883.48
641-5012	9	EA	1811.86	GUARDRAIL ANCHORAGE, TP 12	16306.74
643-8200	1375	LF	3.57	BARRIER FENCE (ORANGE), 4 FT	4908.75

**Section Sub Total: \$3,515,344.80**

### Section Culvert

Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-3002	20	CY	538.61	CLASS AA CONCRETE	10772.20
511-1000	1229	LB	0.86	BAR REINF STEEL	1056.94

**Section Sub Total: \$11,829.14**

### Section Drainage

Item Number	Quantity	Units	Unit Price	Item Description	Cost
550-1150	48	LF	49.93	STORM DRAIN PIPE, 15 IN, H 1-10	2396.64
550-1180	9197	LF	42.82	STORM DRAIN PIPE, 18 IN, H 1-10	393815.54
550-1240	2479	LF	54.32	STORM DRAIN PIPE, 24 IN, H 1-10	134659.28
550-1300	851	LF	72.14	STORM DRAIN PIPE, 30 IN, H 1-10	61391.14
550-1360	279	LF	83.75	STORM DRAIN PIPE, 36 IN, H 1-10	23366.25
550-4215	3	EA	636.94	FLARED END SECTION 15 IN, STORM DRAIN	1910.82
550-4218	20	EA	672.09	FLARED END SECTION 18 IN, STORM DRAIN	13441.80
550-4224	11	EA	815.70	FLARED END SECTION 24 IN, STORM DRAIN	8972.70
550-4230	4	EA	906.24	FLARED END SECTION 30 IN, STORM DRAIN	3624.96
550-4236	1	EA	1227.33	FLARED END SECTION 36 IN, STORM DRAIN	1227.33
668-1100	108	EA	2891.31	CATCH BASIN, GP 1	312261.48
668-1110	278	LF	297.51	CATCH BASIN, GP 1, ADDL DEPTH	82707.78
668-2100	50	EA	4239.62	DROP INLET, GP 1	211981.00
668-2110	117	LF	334.44	DROP INLET, GP 1, ADDL DEPTH	39129.48
668-4300	19	EA	2584.32	STORM SEWER MANHOLE, TP 1	49102.08
668-4311	37	LF	321.62	STORM SEWER MANHOLE, TP 1, ADDL DEPTH, CL 1	11899.94

**Section Sub Total: \$1,351,888.22**

### Section Required Pavement

Item Number	Quantity	Units	Unit Price	Item Description	Cost
310-1101	34011	TN	18.89	GR AGGR BASE CRS, INCL MATL	642467.79
400-3206	1884	TN	85.00	ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	160140.00
402-1812	50831	TN	85.00	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	4320635.00
402-3121	18708	TN	80.00	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	1496640.00
402-3130	8775	TN	85.00	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	745875.00
402-3190	14186	TN	90.00	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	1276740.00
413-1000	17806	GL	2.05	BITUM TACK COAT	36502.30
432-0206	5200	SY	1.65	MILL ASPH CONC PVMT, 1 1/2 IN DEPTH	8580.00
446-1100	14744	LF	5.00	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	73720.00
500-0100	910	SY	4.03	GROOVED CONCRETE	3667.30

**Section Sub Total: \$8,764,967.39**

**Section Bridge**

Item Number	Quantity	Units	Unit Price	Item Description	Cost
100-1004	40925	SF	80.00	BRIDGE OVER SR10	3274000.00
<b>Section Sub Total:</b>					<b>\$3,274,000.00</b>

**Section Erosion Control**

Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	25	AC	728.93	TEMPORARY GRASSING	18223.25
163-0240	676	TN	181.22	MULCH	122504.72
163-0300	24	EA	1807.17	CONSTRUCTION EXIT	43372.08
163-0503	8	EA	532.21	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 3	4257.68
163-0520	954	LF	16.64	CONSTRUCT AND REMOVE TEMPORARY PIPE SLOPE DRAIN	15874.56
163-0523	721	EA	151.01	CONSTRUCT AND REMOVE TEMPORARY DITCH CHECKS - TYPE C SILT FENCE	108878.21
163-0550	158	EA	230.68	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	36447.44
165-0030	6346	LF	1.32	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	8376.72
165-0040	721	EA	102.10	MAINTENANCE OF EROSION CONTROL CHECKDAMS/DITCH CHECKS	73614.10
165-0070	2047	LF	1.72	MAINTENANCE OF BALED STRAW EROSION CHECK	3520.84
165-0101	24	EA	531.92	MAINTENANCE OF CONSTRUCTION EXIT	12766.08
165-0105	158	EA	81.41	MAINTENANCE OF INLET SEDIMENT TRAP	12862.78
167-1000	1	EA	1087.83	WATER QUALITY MONITORING AND SAMPLING	1087.83
167-1500	12	MO	973.27	WATER QUALITY INSPECTIONS	11679.24
171-0030	12692	LF	3.73	TEMPORARY SILT FENCE, TYPE C	47341.16
603-2180	539	SY	37.61	STN DUMPED RIP RAP, TP 3, 12 IN	20271.79
603-7000	539	SY	5.23	PLASTIC FILTER FABRIC	2818.97
700-6910	22	AC	1022.21	PERMANENT GRASSING	22488.62
700-7000	66	TN	48.56	AGRICULTURAL LIME	3204.96
700-7010	121	GL	21.47	LIQUID LIME	2597.87
700-8000	49	TN	291.02	FERTILIZER MIXED GRADE	14259.98
700-8100	2427	LB	2.40	FERTILIZER NITROGEN CONTENT	5824.80
710-9000	12	SY	4.63	PERMANENT SOIL REINFORCING MAT	55.56
715-2200	551	SY	2.11	BITUMINOUS TREATED ROVING, WATERWAYS	1162.61
716-2000	20226	SY	1.09	EROSION CONTROL MATS, SLOPES	22046.34
<b>Section Sub Total:</b>					<b>\$615,538.19</b>

**Section Signing & Marking**

Item Number	Quantity	Units	Unit Price	Item Description	Cost
100-1001	1	Lump Sum	400000.00	SIGNING AND MARKING	400000.00
100-1002	4	Lump Sum	130000.00	SIGNALS AND INTERCONNECT FIBER CABLE	520000.00
<b>Section Sub Total:</b>					<b>\$920,000.00</b>

**Section Walls**

Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-2110	656	LF	374.81	CONCRETE PARAPET, STD DESIGN	245875.36
500-3115	485	LF	475.00	MORTAR RUBBLE WALL	230375.00
515-2020	485	LF	35.12	GALV STEEL PIPE HANDRAIL, 2 IN, ROUND	17033.20
516-1100	700	LF	86.19	ALUM HANDRAIL, STD 3626	60333.00
621-3021	334	LF	184.00	CONCRETE BARRIER, TYPE 21	61456.00
621-3022	538	LF	362.00	CONCRETE BARRIER, TYPE 22	194756.00
621-4021	656	LF	441.23	CONCRETE SIDE BARRIER, TYPE 2A	289446.88
621-4022	226	LF	579.20	CONCRETE SIDE BARRIER, TYPE 2B	130899.20
621-4023	210	LF	736.23	CONCRETE SIDE BARRIER, TYPE 2C	154608.30
<b>Section Sub Total:</b>					<b>\$1,384,782.94</b>

**Total Estimated Cost: \$19,838,350.68****Subtotal Construction Cost \$19,838,350.68**

E&amp;C Rate 10.0 % \$1,983,835.07

Inflation Rate 5.0 % @ 2 Years \$2,236,774.04

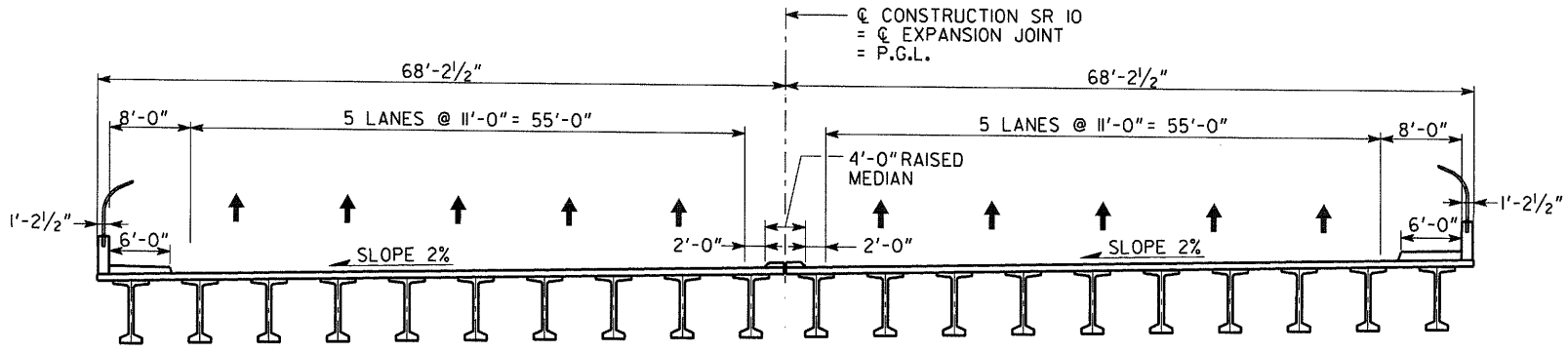
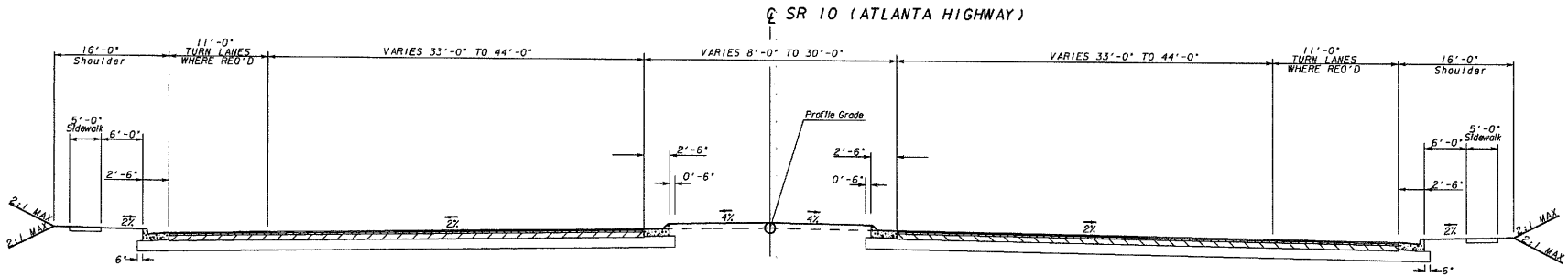
**Total Construction Cost \$24,058,959.79**



Right Of Way	\$11,533,400.00
ReImb. Utilities	\$5,420,000.00

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**Grand Total Project Cost \$41,012,359.79**



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

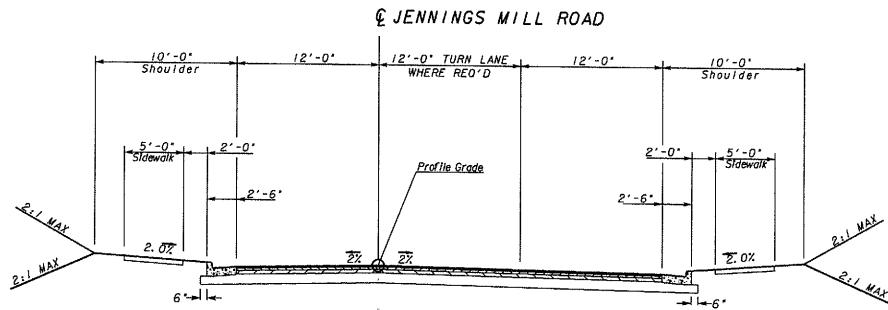
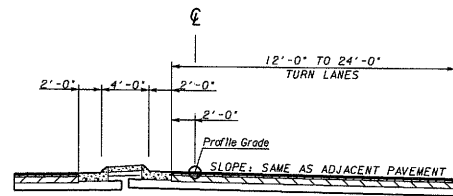
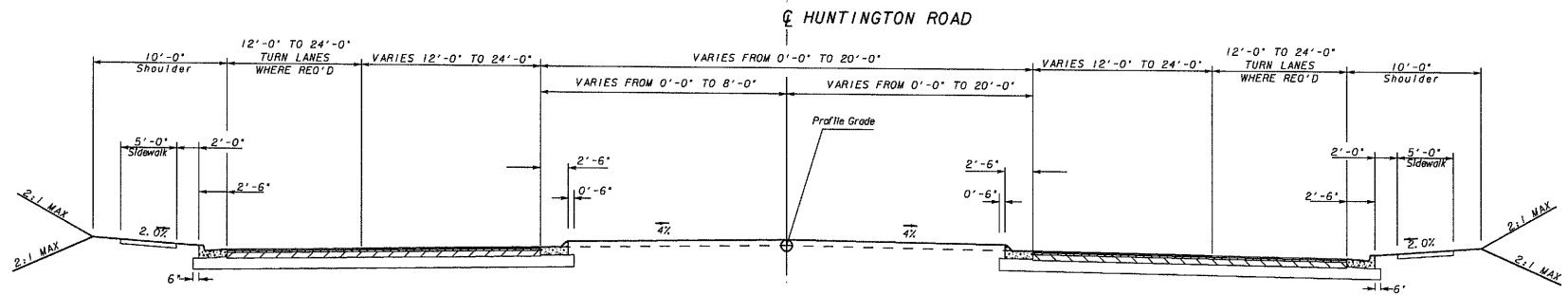
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 END LIMIT OF ACCESS.....ELA  
 LIMIT OF ACCESS ———  
 R/W AND LIMIT OF ACCESS ———  
 EXISTING R/W LINE - - - - -

Heath & Lineback Engineers  
 INCORPORATED  
 2300 CANTON ROAD, BUILDING 300  
 MARIETTA, GEORGIA 30066-1700

REVISION DATES


STATE OF GEORGIA  
 DEPARTMENT OF TRANSPORTATION  
 OFFICE: CONSULTANT DESIGN  
**TYPICAL SECTIONS**  
**ATLANTA HIGHWAY**  
 SR 10 LOOP/ATLANTA  
 HIGHWAY INTERCHANGE

DRAWING NO. 5-01



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

BEGIN LIMIT OF ACCESS.....BLA  
 END LIMIT OF ACCESS.....ELA  
 LIMIT OF ACCESS  
 R/W AND LIMIT OF ACCESS  
 EXISTING R/W LINE

Heath & Lineback Engineers  
 INCORPORATED  
 2300 CANTON ROAD, SUITE 200  
 MARIETTA, GEORGIA 30066-5393

REVISION DATES	

STATE OF GEORGIA  
 DEPARTMENT OF TRANSPORTATION  
 OFFICE: CONSULTANT DESIGN  
**TYPICAL SECTIONS**  
**SIDE ROADS**  
 SR 10 LOOP/ATLANTA  
 HIGHWAY INTERCHANGE

DRAWING NO.  
5-02