

D.O.T. 66

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 333176-, Coweta County **OFFICE** Preconstruction
BRST-074-2(42)
SR 74 over Southern Railroad **DATE** February 28, 2006

FROM *for* *John Kunkle* Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

TO SEE DISTRIBUTION

SUBJECT APPROVED REVISED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

MBP/cj

Attachment

DISTRIBUTION:

Brian Summers
Harvey Keepler
Ken Thompson
Jamie Simpson
Michael Henry
Keith Golden
Joe Palladi (file copy)
Babs Abubakari
Thomas Howell
BOARD MEMBER

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE **BRST-074-2(42) Coweta County** **OFFICE** Atlanta
SR 74 over Southern Railroad(718831X) in Senoia
P.I. No. 333176-
DATE February 7, 2006

FROM *M. Babs Abubakari*
Mohammed (Babs) Abubakari, State Program Delivery and Consultant Design Engineer

TO Margaret B. Pirkle, Assistant Director of Preconstruction

SUBJECT **REVISED PROJECT CONCEPT REPORT**

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

The typical section on this project is being changed from a rural to an urban section based on input from the City of Senoia and increasing development in the area. Accordingly, the design speed is also being reduced to 45 mph from 55 mph.

If you have any questions or require further information please call (404)463-6135 or Guan Ellis of Transportation Systems Design, Inc. at (404) 255-2220.

Date: 2/15/06

Joseph P. Palladi

State Transportation Planning Administrator

Distribution:

Brian Summers, Project Review Engineer
Harvey Keepler, State Environmental/Location Engineer
Keith Golden, State Traffic Safety and Design Engineer
Joe Palladi, State Transportation Planning Administrator
Jamie Simpson, State Financial Management Administrator
Thomas Howell, District Engineer – Thomaston
Paul Liles, State Bridge & Structural Engineer

MBA:MAH:EJC

cc: Transportation Systems Design, Inc.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA OFFICE OF CONSULTANT DESIGN**

REVISED PROJECT CONCEPT REPORT

Project Number: BRST-074-2(42)

County: Coweta

P.I. Number: 333176

Federal Route Number: N/A

State Route Number: 74

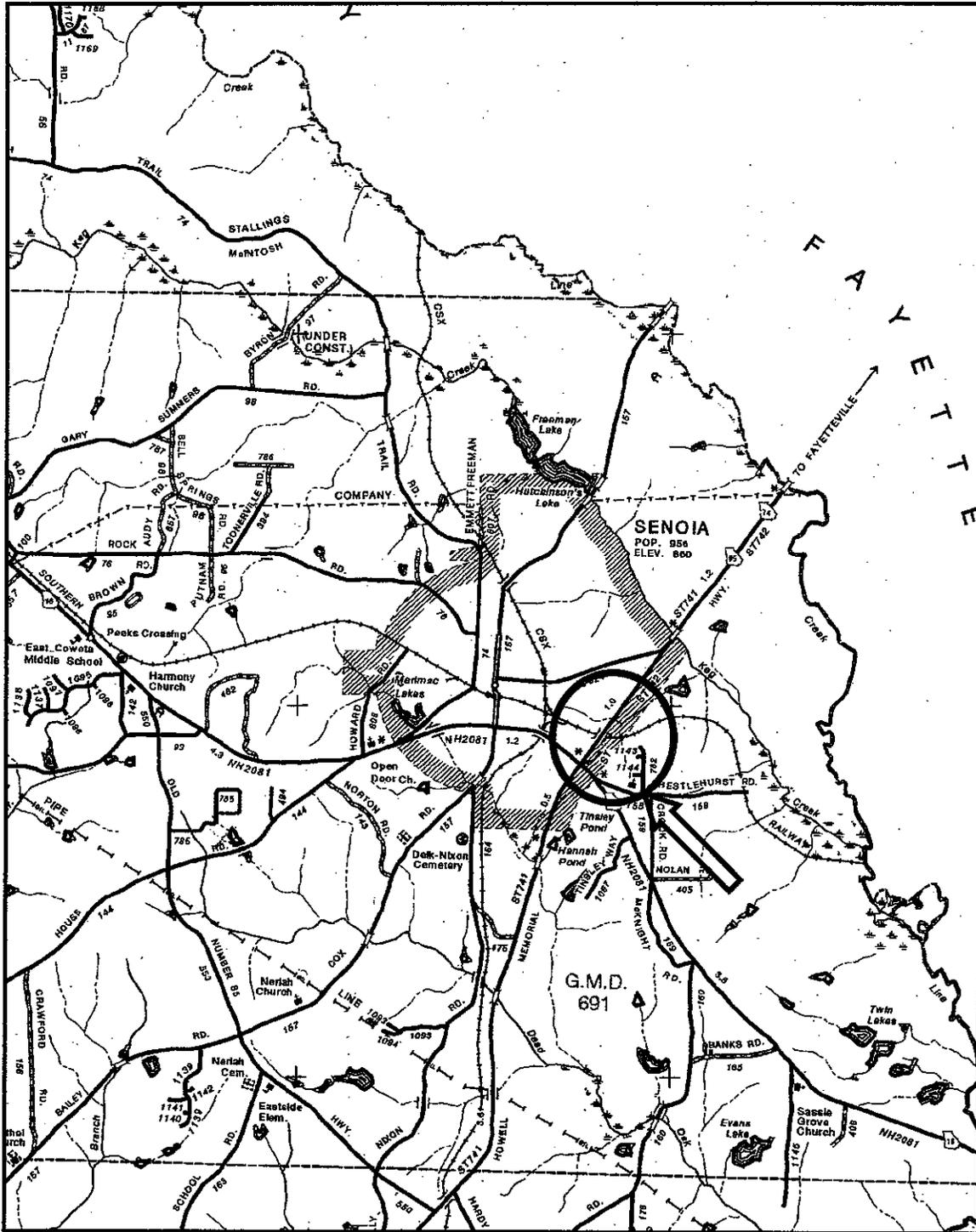
Need and Purpose:

Project BRST-074-2 (42) consists of the replacement of the bridge on SR 74/Clark Howell Memorial Highway over the Southern Railroad in Senoia in Coweta County, just south of the Coweta/Fayette County line in southeast Coweta County. This route serves commuter traffic traveling north to Fayetteville in Fayette County. SR 74/Clark Howell Memorial Highway is classified as a Rural Minor Arterial and is not a designated bike route.

This bridge was constructed in 1950 and consists of concrete bents, steel beam superstructure, and a concrete deck. The original design load capacity is H-15. The sufficiency rating on the structure is 57.5, and the bridge is classified as Functionally Obsolete and requires widening. The sufficiency rating is a number from 0 to 100 and is a method of evaluating structural adequacy and safety, serviceability, and functional obsolescence. The Office of Bridge Maintenance has determined that any structure with a sufficiency rating less than 50 should be replaced rather than improved. However, in accordance with DOT policy 2405-1, the policy recommends that this bridge be replaced due to the unacceptable load capacity.

Existing 2000 traffic volumes along this section of roadway are approximately 5,900 vehicles per day (VPD). Future volumes are expected to be approximately 12,600 VPD in 2006; and 20,700 VPD in 2026 with 13 % trucks.

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



Scale: 1 inch = 1 mile

N

Location Map

Project: BRST-074-2(42) Coweta County PI No.: 333176

Description: SR 74 over Southern Railroad (718831X) in Senoia

Project location:

The proposed project is located in Coweta County on SR 74/Clark Howell memorial Highway. The project consists of replacing the structurally deficient bridge over Southern Railroad on its existing location. An onsite detour will be constructed to handle traffic during construction of the new bridge. The proposed project length is 0.38 miles.

Description of the approved concept:

PDP Classification: Major _____ Minor X

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

Functional Classification: *Rural Minor Arterial*

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

State Route Number(s): 74/85

Traffic (AADT) as shown in the approved concept:

Current Year: (2006) 12,600

Design Year: (2026) 20,700

Proposed features to be revised:

Typical Section:

- Proposed typical section(s): *The original proposed roadway consisted of two 12' lanes with 2' paved shoulder and 8' grassed shoulders with side slopes.*

Describe the revised feature(s) to be approved:

Typical Section:

- Revised Typical Section: *The revised roadway section consists of 2- 12' lanes with 2.5' curb and gutter and 5' sidewalk. The City Manager of Senoia requested an urban section as the project area is currently experiencing significant development and increased traffic. Based on the change from rural to urban conditions, this change in concept is deemed appropriate. The speed limit will be reduced to 45 mph since the section is no longer rural.*

Updated traffic data (AADT):

Current Year: (2006) 12,600 Design Year: (2026) 20,700

Programmed/Schedule:

P.E.: 2000 R/W: 2007 Construction: 2009

Revised cost estimates:

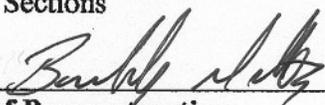
1. The construction costs for implementing an urban section including inflation and E&C has increased from \$1.42 million to \$2.26 million since the approval of the original concept of September 6, 2002 (see attached)

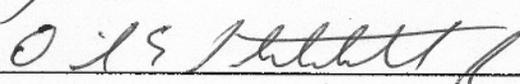
Is the project located in a Non-attainment area? Yes

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

Attachments:

1. Cost Estimate
2. Sketch Location Map (included in the body of the report)
3. Typical Sections

Concur: 
Director of Preconstruction

Approve: 
Chief Engineer

ALLOWABLE RANGES TABLE

FOR THIS PROJECT, CROSS SLOPES THAT ARE ADJUSTED TO 0.00% FT. EXISTING PAVED SURFACES ARE SUBJECT TO THE FOLLOWING LIMITS:

NORMAL CROWN	SECTION WITH BRAKES 0.5% OR GREATER	SECTION WITH GRADES LESS THAN 0.5%
	0.0150 FT/FT - MINIMUM 0.0000 FT/FT - DESIRABLE 0.0000 FT/FT - MAXIMUM	0.0150 FT/FT - MINIMUM 0.0000 FT/FT - DESIRABLE 0.0000 FT/FT - MAXIMUM

A SUPERELEVATION RATE

S.F.E. RATE SHOWS OF PLUS OR SE RATE EXISTING IN FIELD.

WHICHEVER IS GREATER

SUPERELEVATION TRANSITION LENGTH (LEARN FROM FLAT POINT TO FULL SE)

RATE OF CHANGE

MINIMUM DESIRABLE MAXIMUM	1:150	1:200	1:300
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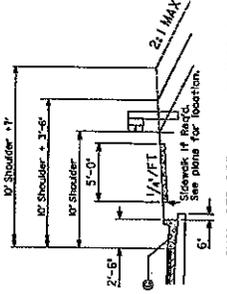
NOTE: CORN WIDE-OUT SHALL BE AT THE SAME RATE AS THE SE TRANSITION

SMOOTHING OF BREAKS IN EDGE PROFILE AT BEGIN AND END OF TRANSITION SHALL BE ACCORDING TO THE FOLLOWING: (1) FEET) EQUAL TO THE SPEED DESIGN (1.8 MPH)

SLOPE CONTROLS

SLOPE	CUT	FILL
4:1	0-4'	0-10'
3:1	4'-6'	--*
2:1	OVER 10'	OVER 104'

* REQ'S GUARDRAIL



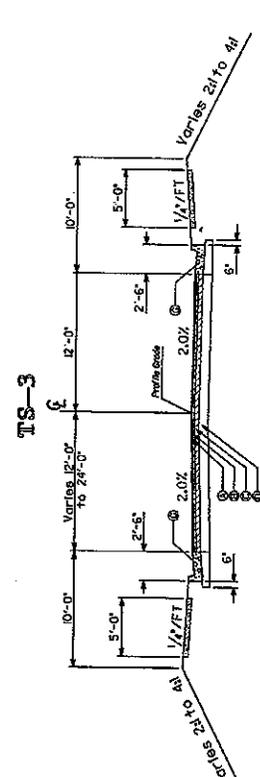
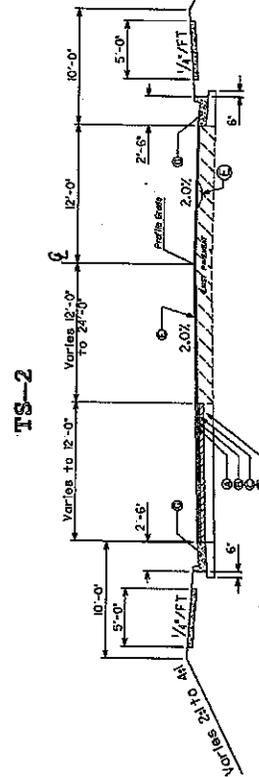
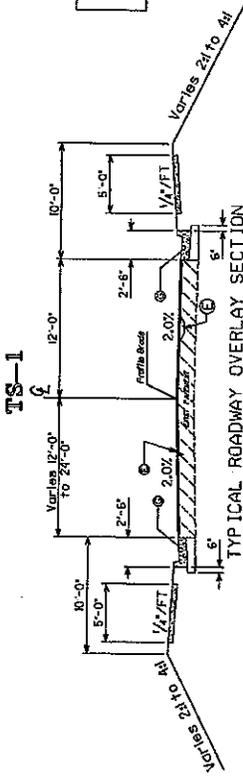
SHOULDER DETAIL FOR GUARDRAIL

SEE PLAN FOR LOCATION

SEE GA STD 409 OR 408 FOR DETAILS

NOT TO SCALE

A MINIMUM CLEAR ZONE OF 24' MUST BE MAINTAINED THROUGHOUT THE LENGTH OF THIS PROJECT



- REQUIRED PAVEMENT**
- ① RECYCLED ASPH CONC 9.5mm SUPERPAVE, GRI OR 2, INCL BITUM & H LIME (SUPERPAVE MIX DESIGN LEVEL BJ-135) 1b/yd²
 - ② RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME-220 1b/yd²
 - ③ RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME -660 1b/yd²
 - ④ GRADED AGGREGATE BASE, 10"
 - ⑤ RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME, AS REQ'D

- DETOUR PAVEMENT**
- ① RECYCLED ASPH CONC 9.5mm SUPERPAVE, GRI OR 2, INCL BITUM & H LIME (SUPERPAVE MIX DESIGN LEVEL AJ-135) 1b/yd²
 - ② RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME-220 1b/yd²
 - ③ GRADED AGGREGATE BASE, 6"
 - ④ RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME, AS REQ'D

NOT TO SCALE

GEORGIA
 DEPARTMENT OF TRANSPORTATION
 CONCEPT TYPICAL SECTIONS
 PROJECT BRST-074-21(42)
 COUNTY: COWETA

DATE	REVISIONS	DATE	REVISIONS

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE OF CONSULTANT TASK FORCE

ES&P
 TRANSPORTATION DESIGN, INC.
 ENGINEERS & SURVEYORS
 550 GARDNER AVENUE, SUITE 2000
 ATLANTA, GA 30328
 (770) 366-4877

REVISED PRELIMINARY COST ESTIMATE

PROJECT NUMBER: BR-074-2(42)

COUNTY: Coweta

DATE: 2.03.2005

ESTIMATED LETTING DATE: FY-09

PREPARED BY: Transportation Systems Design, Inc

PROJECT LENGTH: 0.38 miles

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

PROJECT COST		
A. RIGHT-OF-WAY:		
1. PROPERTY (LAND & EASEMENT) 2.8 AC ASSUMED \$1.50/SF		\$ 180,000
2. DISPLACEMENTS; RES: 0, BUS: 0, M.H.: 0		\$ -
3. OTHER COST (ADM./COST, INFLATION)		\$ 18,450
NUMBER OF YEARS	2	
	SUBTOTAL: A	\$ 198,450
B. REIMBURSABLE UTILITIES:		
1. RAILROAD		\$ 0
2. TRANSMISSION LINES		\$ 0
3. SERVICES (6 utility poles)		\$ LGPA
	SUBTOTAL: B	\$ -
C. CONSTRUCTION:		
1. MAJOR STRUCTURES		
a. BRIDGES (178.5' X 42.4' X \$75)	7568.4 SF @ \$75	\$ 567,630
		\$ 0
	SUBTOTAL: C-1.a	\$ 567,630
b. OTHER		\$ -
		\$ -
	SUBTOTAL: C-1	\$ 567,630
2. GRADING AND DRAINAGE:		
a. EARTHWORK (Mainline)		
Borrow	6880 CY @ \$6	\$ 41,280
Excavation	3360 CY @ \$5	\$ 16,800
	SUBTOTAL: C-2a	\$ 58,080
b. EARTHWORK (Detour)		
Borrow	23450 CY @ \$6	\$ 140,700
Excavation	3920 CY @ \$5	\$ 19,600
	SUBTOTAL: C-2b	\$ 160,300

c.. DRAINAGE			
1) Storm Drain Pipe 24" RCP	1640 LF @ \$33	\$	54,120
2) Storm Drain Pipe 42" CMP	15 LF @ \$89	\$	1,335
3) Longitudinal System (catch basins)	15 EA @ \$2000	\$	30,000
4) Headwalls (based on class B conc.)	4 EA @ \$2000	\$	8,000
5) Box Culvert Extension	35 LF @ \$170	\$	5,950
6) Temporary Pipe Slope Drain	1350 LF @ \$12	\$	16,200
SUBTOTAL: C-2.c		\$	115,605
SUBTOTAL: C-2		\$	333,985
3. BASE AND PAVING:			
a. AGGREGATE BASE CRS	400 TN @ \$14	\$	5,600
b. ASPHALT PAVING (Mainline & Cross-Roads):			
12.5 mm Superpave	100 Tons @ \$63	\$	6,300
19 mm Superpave	300 Tons @ \$46	\$	13,800
25 mm Superpave	380 Tons @ \$46	\$	17,480
Tack Coat	110 Gallons @ \$1	\$	110
SUBTOTAL: C-3.b		\$	37,690
c. ASPHALT PAVING (Onsite detour):			
19 mm Superpave	175 Tons @ \$46	\$	8,050
25 mm Superpave	520 Tons @ \$46	\$	23,920
9.5 mm Superpave	150 Tons @ \$39	\$	5,850
Tack Coat	170 Gallons @ \$1	\$	170
d. AGGREGATE BASE CRS	710 TN @ \$14	\$	9,940
SUBTOTAL: C-3.c		\$	47,930
e. OTHER (Leveling, Milling, etc.)			\$ 2000
f. AGGREGATE SURFACE COURSE	Tons @ \$16	\$	-
SUBTOTAL: C-3		\$	93,220

4. EROSION CONTROL (Mainline)			
a. SILT FENCE			
1. TYPE A	1700 LF @ \$3	\$	5,100
2. TYPE B	0 LF @ \$3	\$	-
3. TYPE C	2260 LF @ \$4.5	\$	10,170
			\$
b. RIP RAP	100 SY @ \$35	\$	3,500
c. PLASTIC FILTER FABRIC	100 SY @ \$4	\$	400
d. PERMANENT SOIL REINFORCING MAT	1400 SY @ \$5	\$	7,000
e. MULCH	70 TN @ \$433	\$	30,310
f. PERMANENT GRASS	8 AC @ \$755	\$	6,040
h. TEMPORARY GRASS	17 AC @ \$460	\$	7,820
SUBTOTAL: C-4a		\$	70,340
EROSION CONTROL (Detour)			
e. SILT FENCE			
1. TYPE A	1100 LF @ \$3	\$	3,300
2. TYPE B	0 LF @ \$3	\$	-
3. TYPE C	1400 LF @ \$4.5	\$	6,300
			\$
f. RIP RAP	100 SY @ \$35	\$	3,500
g. PLASTIC FILTER FABRIC	100 SY @ \$4	\$	400
h. PERMANENT SOIL REINFORCING MAT	1400 SY @ \$5	\$	7,000
SUBTOTAL: C-4b			30,100
SUBTOTAL: C-4		\$	100,440
5 TRAFFIC CONTROL			\$ 20000
CLEARING&GRUBBING			10000
SUBTOTAL: C-5		\$	30,000
6. MISCELLANEOUS:			
a. LIGHTING			\$ 0
b. SIGNING - MARKING			\$ 2000
c. GUARDRAIL			
W Beam	2290 LF @ \$12	\$	27,480
T Beam	120 LF @ \$29	\$	3,480
Anchors	TYPE 12	4 ea @ \$1430	\$ 5,720
	TYPE 1	4 ea @ \$450	\$ 1,800
SUBTOTAL: C-6.c		\$	38,480
d. SIDEWALK	4050 LF @ \$23	\$	93,150
e. CONC CURB & GUTTER	4050 LF @ \$12	\$	48,600
f. APPROACH SLABS	293 SY @ \$90	\$	26,370
g. REMOVAL			
Bridges		\$	20,000
SUBTOTAL: C-6.g		\$	20,000
h. Detour bridge	8032.5 SF @ \$21	\$	168,683
SUBTOTAL: C-6		\$	417,283
7. SPECIAL FEATURES			
SUBTOTAL: C-7		\$	-

SUMMARY

A. RIGHT-OF-WAY	\$ 198,450
B. REIMBURSABLE UTILITIES	\$ -
C. CONSTRUCTION	
1. MAJOR STRUCTURES	\$ 567,630
2. GRADING AND DRAINAGE	\$ 333,985
3. BASE AND PAVING	\$ 93,220
4. EROSION CONTROL	\$ 100,440
5. LUMP ITEMS	\$ 30,000
6. MISCELLANEOUS	\$ 417,283
7. SPECIAL FEATURES	\$ -
SUBTOTAL CONSTRUCTION COST	\$ 1,542,558
INFLATION (5% PER YEAR)	\$ 332,431
NUMBER OF YEARS	4
E. & C. (10%)	\$ 187,499
TOTAL CONSTRUCTION COST	\$ 2,062,488
DETOUR COST (for information only)	\$ 409,013
GRAND TOTAL PROJECT COST	\$ 2,260,938